Editorial

The word "data" comes from the Latin *dare*, which means "give." This evolves into *datum*, which signifies something given. Data is what is given; Big Data, many given somethings. Gifts are given, too, but it's hard to think of data as a gift—and nearly impossible to think of Big Data as a Big Gift, though it certainly appears that way to some.

But then the history of gifts is more equivocal and ambivalent than market society can easily recall. To give a big gift is also to place the recipient in your debt, to transform that person into a subject of the giving regime. For centuries, many communities were organized around the distribution of favors as the matrix of subjectivity. The spoils of war, rights to land, or even just piles of glistening loot can all be seen as examples of Big Givens before the era of Big Data. And, like its predecessors, Big Data also seems constitutive of lordship and bondage alike, securing some limited liberty only when we accept it as something beyond our control, as something given. Under Big Data, for example, advertisements have become more specific and helpful. Also, a drone can kill you anytime, anywhere, and for any reason, irrespective of territory, citizenship, or responsibility for whatever television show the Americans are fighting about this week. Maybe technology has always made things worse before we get together and make them better again?

For example, it is probably a result of collective action by international antiwar organizations that the United States has substituted the Reaper drone for the B-52. About ten thousand people have been killed by drones in the past decade, a number matched during a slow month in Cambodia in 1970 or in two minutes in Tokyo on the night of March 9, 1945. The drone can see better than the bomber could, and that matters when pilots can't be counted on to tell a child from a threat any more effectively today than they could in the middle of the last century. Big Data giveth and Big Data taketh away.

In other words, just because it's possible to see what couldn't be seen before, it still doesn't mean that what we see is actually there. Hito Steyerl, in "A Sea of Data," considers how the relationship between data technology and drone technology is figured; that is, how individuals are discerned amidst this tidal wave of givens. Not very well, it turns out, though this doesn't stop people from seeing terrorists everywhere.

The problem of figuring from data is a proper art historical problem, in the sense that it concerns representation, something artists are particularly equipped to discuss. Yates McKee reminds us of what art was like before Occupy, when it often felt necessary to recall that politics was possible, though today it is hard to imagine that we ever forgot.

In "Drone Form," Nathan K. Hensley compares mediations of liberal violence from the Victorian era to contemporary records of neoliberal killing, examining a clutch of drone

novels to show how the irreciprocity of unmanned bombing impacts our understanding of ourselves as subjects.

We often register this impact, Lindsay Caplan avers, but stop short of drawing the full conclusions. Lev Manovich's Selfiecity is Caplan's example of a project that utilizes Big Data only halfway, leaving the big questions unrecognized and unanswered. Orit Gat considers wall text to show how authority is always generated as an interaction between image and text within the visual field, while Benjamin Bratton imagines the role of a cargo-cult messiah in the construction of a megastructure in the South China Sea.

And Ana Teixeira Pinto examines the history of misunderstanding the fourth dimension as a kind of space rather than a kind of time. What other kind of space would we like to live in, beyond the ones we have already?

X

This is an image from the Snowden files. It is labeled "secret."[1] Yet one cannot see anything on it.

This is exactly why it is symptomatic.
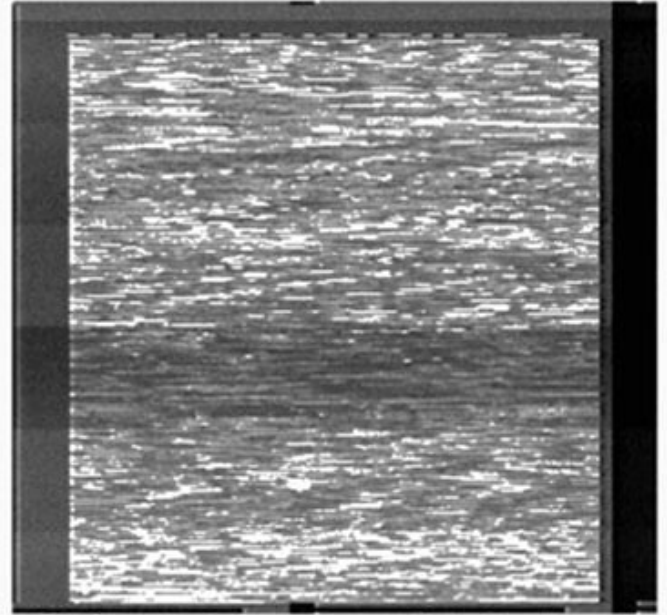
This image from the Snowden files was captioned: "A single frame of scrambled video imagery."

Hito Steyerl

A Sea of Data: Apophenia and Pattern (Mis-)Recognition

Not seeing anything intelligible is the new normal. Information is passed on as a set of signals that cannot be picked up by human senses. Contemporary perception is machinic to large degrees. The spectrum of human vision only covers a tiny part of it. Electric charges, radio waves, light pulses encoded by machines for machines are zipping by at slightly subluminal speed. Seeing is superseded by calculating probabilities. Vision loses importance and is replaced by filtering, decrypting, and pattern recognition. Snowden's image of noise could stand in for a more general human inability to perceive technical signals unless they are processed and translated accordingly.

But noise is not nothing. On the contrary, noise is a huge issue, not only for the NSA but for machinic modes of perception as a whole.

Signal v. Noise was the title of a column on the internal NSA website running from 2011 to 2012. It succinctly frames the NSA's main problem: how to extract

Rose Mary Woods, Nixon's lifelong secretary, demonstrates the "Rose Mary Stretch," a gesticulation that purportedly led to the erasure of a section of the Watergate tapes. The quality of noise in this section of the tapes has been throughly analyzed to understand if the omission was intentional. Photo: Wikimedia commons.

This photograph from June 6, 2012 shows a student pilot and sensor operator manning the controls of a MQ-9 Reaper in a ground-based cockpit during a training mission flown from Hancock Field Air National Guard Base, Syracuse, New York. Photo: AP Photo.

"information from the truckloads of data":

It's not about the data or even access to the data. It's about getting information from the truckloads of data ... Developers, please help! We're drowning (not waving) in a sea of data—with data, data everywhere, but not a drop of information.[2]

Analysts are choking on intercepted communication. They need to unscramble, filter, decrypt, refine, and process "truckloads of data." The focus moves from acquisition to discerning, from scarcity to overabundance, from adding on to filtering, from research to pattern recognition. This problem is not restricted to secret services. Even WikiLeaks Julian Assange states: "We are drowning in material."[3]

Apophenia

But let's return to the initial image. The noise on it was actually decrypted by GCHQ technicians to reveal a picture of clouds in the sky. British analysts have been hacking video feeds from Israeli drones at least since 2008, a period which includes the recent IDF aerial campaigns against Gaza.[4] But no images of these attacks exist in Snowden's archive. Instead, there are all sorts of abstract renderings of intercepted broadcasts. Noise. Lines. Color patterns.[5] According to leaked training manuals, one needs to apply all sorts of massively secret operations to produce these kinds of images.[6]

But let me tell you something. I will decrypt this image for

you without any secret algorithm. I will use a secret ninja technique instead. And I will even teach you how to do it for free. Please focus very strongly on this image right now.

Doesn't it look like a shimmering surface of water in the evening sun? Is this perhaps the "sea of data" itself? An overwhelming body of water, which one could drown in? Can you see the waves moving ever so slightly?

I am using a good old method called apophenia.

Apophenia is defined as the perception of patterns within random data.[7] The most common examples are people seeing faces in clouds or on the moon. Apophenia is about "drawing connections and conclusions from sources with no direct connection other than their indissoluble perceptual simultaneity," as Benjamin Bratton recently argued.[8]

One has to assume that sometimes, analysts also use apophenia.

Someone must have seen the face of Amani al-Nasasra in a cloud. The forty-three-year-old was blinded by an aerial strike in Gaza in 2012 in front of her TV:

"We were in the house watching the news on TV. My husband said he wanted to go to sleep, but I wanted to stay up and watch Al Jazeera to see if there was any news of a ceasefire. The last thing I remember, my husband asked if I changed the channel and I said yes. I didn't feel anything when the bomb hit—I was unconscious. I didn't wake up again until I was in the ambulance." Amani suffered second degree burns and was largely blinded.[9]

What kind of "signal" was extracted from what kind of "noise" to suggest that al-Nasasra was a legitimate target? Which faces appear on which screens, and why? Or to put it differently: Who is "signal," and who disposable "noise"?

Pattern Recognition

Jacques Rancière tells a mythical story about how the separation of signal and noise might have been accomplished in Ancient Greece. Sounds produced by affluent male locals were defined as speech, whereas women, children, slaves, and foreigners were assumed to produce garbled noise.[10] The distinction between speech and noise served as a kind of political spam filter. Those identified as speaking were labeled citizens and the rest as irrelevant, irrational, and potentially dangerous nuisances. Similarly, today, the question of separating signal and noise has a fundamental political dimension. Pattern recognition resonates with the wider question of political recognition. Who is recognized on a political level and as what? As a subject? A person? A legitimate category of the population? Or perhaps as "dirty data"?

What are dirty data? Here is one example:

> Sullivan, from Booz Allen, gave the example the time his team was analyzing demographic information about customers for a luxury hotel chain and came across data showing that teens from a wealthy Middle Eastern country were frequent guests.
>
> "There were a whole group of 17 year-olds staying at the properties worldwide," Sullivan said. "We thought, 'That can't be true.'"[11]

The demographic finding was dismissed as dirty data—a messed up and worthless set of information—before someone found out that, actually, it was true.

Brown teenagers, in this worldview, are likely to exist. Dead brown teenagers? Why not? But rich brown teenagers? This is so improbable that they must be dirty data and cleansed from your system! The pattern emerging from this operation to separate noise and signal is not very different from Rancière's political noise filter for allocating citizenship, rationality, and privilege. Affluent brown teenagers seem just as unlikely as speaking slaves and women in the Greek polis.

On the other hand, dirty data are also something like a cache of surreptitious refusal; they express a refusal to be counted and measured:

The Russian TV station Zvezda claimed this flock of birds over New York City appeared to form the shape of President Vladimir Putin's face. YouTube video screenshot.

A study of more than 2,400 UK consumers by research company Verve found that 60% intentionally provided wrong information when submitting personal details online. Almost one quarter (23 percent) said they sometimes gave out incorrect dates of birth, for example, while 9 percent said they did this most of the time and 5 percent always did it.[12]

Dirty data is where all of our refusals to fill out the constant onslaught of online forms accumulate. Everyone is lying all the time, whenever possible, or at least cutting corners. Not surprisingly, the "dirtiest" area of data collection is consistently pointed out to be the health sector, especially in the US. Doctors and nurses are singled out for filling out forms incorrectly. It seems that health professionals are just as unenthusiastic about filling out forms for systems designed to replace them, as consumers are about performing clerical work for corporations that will spam them in return.

In his book *The Utopia of Rules*, David Graeber gives a profoundly moving example of the forced extraction of data. After his mom suffered a stroke, he went through the ordeal of having to apply for Medicaid on her behalf:

> I had to spend over a month ... dealing with the ramifying consequences of the act of whatever anonymous functionary in the New York Department of Motor Vehicles had inscribed my given name as "Daid," not to mention the Verizon clerk who spelled my surname "Grueber." Bureaucracies public and private appear—for whatever historical reasons—to be organized in such a way as to guarantee that a significant proportion of actors will not be able to perform their tasks as expected.[13]

An animated gif shows a dirty data sandstorm.

Graeber goes on to call this an example of utopian thinking. Bureaucracy is based on utopian thinking because it assumes people to be perfect from it's own point of view. Graeber's mother died before she was accepted into the program.

The endless labor of filling out completely meaningless forms is a new kind of domestic labor in the sense that it is not considered labor at all and assumed to be provided "voluntarily" or performed by underpaid so-called data janitors.[14] Yet all the seemingly swift and invisible action of algorithms, their elegant optimization of everything, their recognition of patterns and anomalies—this is based on the endless and utterly senseless labor of providing or fixing messy data.

Dirty data is simply real data in the sense that it documents the struggle of real people with a bureaucracy that exploits the uneven distribution and implementation of digital technology.[15] Consider the situation at LaGeSo (the Health and Social Affairs Office) in Berlin, where refugees are risking their health on a daily basis by standing in line outdoors in severe winter weather for hours or even days just to have their data registered and get access to services to which they are entitled (for example, money to buy food).[16] These people are

perceived as anomalies because, in addition to having the audacity to arrive in the first place, they ask that their rights be respected. There is a similar political algorithm at work: people are blanked out. They cannot even get to the stage to be recognized as claimants. They are not taken into account.

On the other hand, technology also promises to separate different categories of refugees. IBM's Watson AI system was experimentally programmed to potentially identify terrorists posing as refugees:

> IBM hoped to show that the i2 EIA could separate the sheep from the wolves: that is, the masses of harmless asylum-seekers from the few who might be connected to jihadism or who were simply lying about their identities ...

> IBM created a hypothetical scenario, bringing together several data sources to match against a fictional list of passport-carrying refugees. Perhaps the most important dataset was a list of names of casualties from the conflict gleaned from open press reports and other sources. Some of the material came from the Dark Web, data related to the black market for passports; IBM says that they anonymized or obscured personally identifiable information in this set

...

Borene said the system could provide a score to indicate the likelihood that a hypothetical asylum seeker was who they said they were, and do it fast enough to be useful to a border guard or policeman walking a beat.[17]

The cross-referencing of unofficial databases, including dark web sources, is used to produce a "score," which calculates the probability that a refugee might be a terrorist. The hope is for a pattern to emerge across different datasets, without actually checking how or if they correspond to any empirical reality. This example is actually part of a much larger subset of "scores": credit scores, academic ranking scores, scores ranking interaction on online forums etc., which classify people according to financial interactions, online behavior, market data, and other sources. A variety of inputs are boiled down to a single number—a superpattern—which may be a "threat" score or a "social sincerity score," as planned by Chinese authorities for every single citizen within the next decade. But the input parameters are far from being transparent or verifiable. And while it may be seriously desirable to identify Daesh moles posing as refugees, a similar system seems to have worrying flaws.

The NSA's SKYNET program was trained to find terrorists in Pakistan by sifting through cell phone customer metadata. But experts criticize the NSA's methodologies. "There are *very few* 'known terrorists' to use to train *and test* the model," explained Patrick Ball, a data scientist and director of the Human Rights Data Analysis Group, to *Ars Technica*. "If they are using the same records to train the model as they are using to test the model, their assessment of the fit is completely bullshit."[18]

Human Rights Data Analysis Group estimates that around 99,000 Pakistanis might have ended up wrongly classified as terrorists by SKYNET, a statistical margin of error that might have had deadly consequences given the fact that the US is waging a drone war on suspected militants in the country and between 2500 and four thousand people are estimated to have been killed since 2004: "In the years that have followed, thousands of innocent people in Pakistan may have been mislabelled as terrorists by that 'scientifically unsound' algorithm, possibly resulting in their untimely demise."[19]

One needs to emphasize strongly that SKYNET's operations cannot be objectively assessed, since it is not known how it's results were utilized. It was most certainly not the only factor in determining drone targets.[20] But the example of SKYNET demonstrates just as strongly that a "signal" extracted by assessing correlations and probabilities is not the same as an actual fact, but determined by the inputs the software uses to learn, and

the parameters for filtering, correlating, and "identifying." The old engineer wisdom "crap in—crap out" seems to still apply. In all of these cases—as completely different as they are technologically, geographically, and also ethically—some version of pattern recognition was used to classify groups of people according to political and social parameters. Sometimes it is as simple as, *we try to avoid registering refugees*. Sometimes there is more mathematical mumbo jumbo involved. But many methods used are opaque, partly biased, exclusive, and—as one expert points out—sometimes also "ridiculously optimistic."[21]

Corporate Animism

How to recognize something in sheer noise? A striking visual example of pure and conscious apophenia was recently demonstrated by research labs at Google:[22]

We train an artificial neural network by showing it millions of training examples and gradually adjusting the network parameters until it gives the classifications we want. The network typically consists of 10–30 stacked layers of artificial neurons. Each image is fed into the input layer, which then talks to the next layer, until eventually the "output" layer is reached. The network's "answer" comes from this final output layer.[23]

Neural networks were trained to discern edges, shapes, and a number of objects and animals and then applied to pure noise. They ended up "recognizing" a rainbow-colored mess of disembodied fractal eyes, mostly without lids, incessantly surveilling their audience in a strident display of conscious pattern overidentification.

Google researchers call the act of creating a pattern or an image from nothing but noise "inceptionism" or "deep dreaming." But these entities are far from mere hallucinations. If they are dreams, those dreams can be interpreted as condensations or displacements of the current technological disposition. They reveal the networked operations of computational image creation, certain presets of machinic vision, its hardwired ideologies and preferences.

One way to visualize what goes on is to turn the network upside down and ask it to enhance an input image in such a way as to elicit a particular interpretation. Say you want to know what sort of image would result in "Banana." Start with an image full of random noise, then gradually tweak the image towards what the neural net considers a banana. By itself, that doesn't work very well, but it does if we

A plate of spaghetti meatballs return our gaze, courtesy of Google inceptionism. Source: Mary-Ann Russon, "Google DeepDream robot: 10 weirdest images produced by AI 'inceptionism' and users online," International Business Times, July 6, 2015 →.

impose a prior constraint that the image should have similar statistics to natural images, such as neighboring pixels needing to be correlated.[24]

In a feat of genius, inceptionism manages to visualize the unconscious of prosumer networks: images surveilling users, constantly registering their eye movements, behavior, preferences, aesthetically helplessly adrift between *Hundertwasser* mug knockoffs and Art Deco friezes gone ballistic. Walter Benjamin's "optical unconscious" has been upgraded to the unconscious of computational image divination.[25]

By "recognizing" things and patterns that were not given, inceptionist neural networks eventually end up effectively identifying a new totality of aesthetic and social relations. Presets and stereotypes are applied, regardless of whether they "apply" or not: "The results are intriguing—even a relatively simple neural network can be used to over-interpret an image, just like as children we enjoyed watching clouds and interpreting the random

shapes."[26]

But inceptionism is not just a digital hallucination. It is a document of an era that trains smartphones to identify kittens, thus hardwiring truly terrifying jargons of cutesy into the means of production.[27] It demonstrates a version of corporate animism in which commodities are not only fetishes but morph into franchised chimeras.

Yet these are deeply realist representations. According to György Lukacs, "classical realism" creates "typical characters," insofar as they represent the objective social (and in this case technological) forces of our times.[28]

Inceptionism does that and more. It also gives those forces a face—or more precisely, innumerable eyes. The creature that stares at you from your plate of spaghetti and meatballs is not an amphibian beagle. It is the ubiquitous surveillance of networked image production, a form of memetically modified intelligence that watches you in the shape of the lunch that you will Instagram in a second if it doesn't attack you first. Imagine a world of enslaved objects remorsefully scrutinizing you. Your car, your yacht,
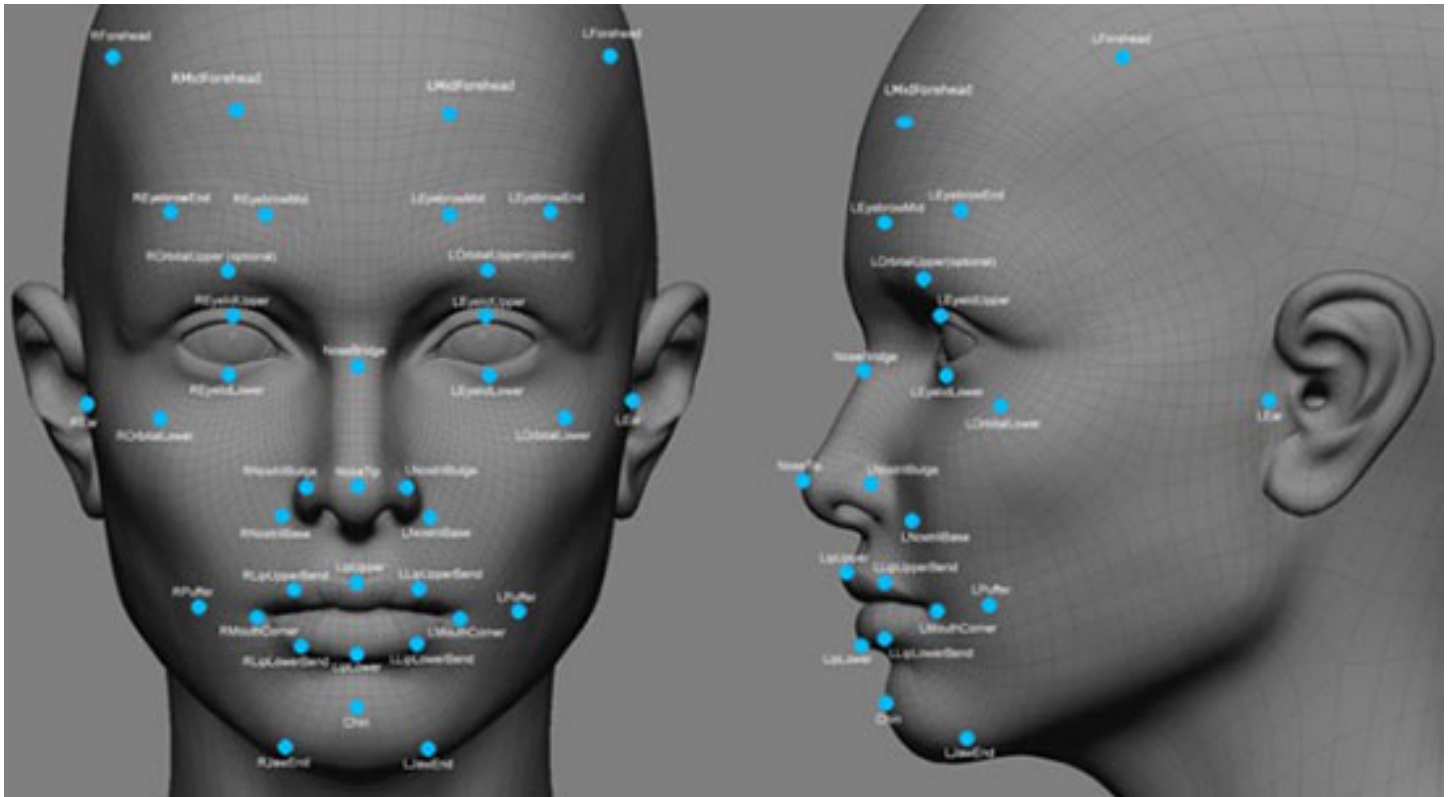
CGI acupuncture: Face Robot, a general-purpose animation system, promises efficiency in motion capturing actor's faces through this 32-point system.

your art collection observes you with a gloomy and utterly desperate expression. *You may own us*, they seem to say, *but we are going to inform on you. And guess what kind of creature we are going to recognize in you!*[29]

Data Neolithic

But what are we going to make of automated apophenia?[30] Are we to assume that machinic perception has entered its own phase of magical thinking? Is this what commodity enchantment means nowadays: hallucinating products? It might be more accurate to assume that humanity has entered yet another new phase of magical thinking. The vocabulary deployed for separating signal and noise is surprisingly pastoral: data "farming" and "harvesting," "mining" and "extraction" are embraced as if we lived through another massive neolithic revolution[31] with it's own kind of magic formulas.

All sorts of agricultural and mining technologies—that were developed during the neolithic—are reinvented to apply to data. The stones and ores of the past are replaced by silicone and rare earth minerals, while a Minecraft paradigm of extraction describes the processing of minerals into elements of information architecture.[32]

Pattern recognition was an important asset of neolithic technologies too. It marked the transition between magic and more empirical modes of thinking. The development of the calendar by observing patterns in time enabled more efficient irrigation and agricultural scheduling. Storage of cereals created the idea of property. This period also kick-started institutionalized religion and bureaucracy, as well as managerial techniques including laws and registers. All these innovations also impacted society: hunter and gatherer bands were replaced by farmer kings and slaveholders. The neolithic revolution was not only technological but also had major social consequences.

Today, expressions of life as reflected in data trails become a farmable, harvestable, minable resource managed by informational biopolitics.[33]

And if you doubt that this is another age of magical thinking, just look at the NSA training manual for unscrambling hacked drone intercepts. As you can see, you need to bewitch the files with a magic wand. (Image Magick is a free image converter):

The supposedly new forms of governance emerging from these technologies look partly archaic and partly superstitious. What kind of corporate/state entities are based on data storage, image unscrambling, high-frequency trading, and Daesh Forex gaming? What are the contemporary equivalents of farmer kings and slaveholders, and how are existing social hierarchies radicalized through examples as vastly different as

Previously unknown archaeological monuments have been revealed as of September 2015 by the Stonehenge Hidden Landscapes Project. The findings include new information about the world's largest "super henge" and include ritual monuments such as the mortuary building pictured above in a 3-D reconstruction. Copyright: LBI ArchPro, Joachim Brandtner
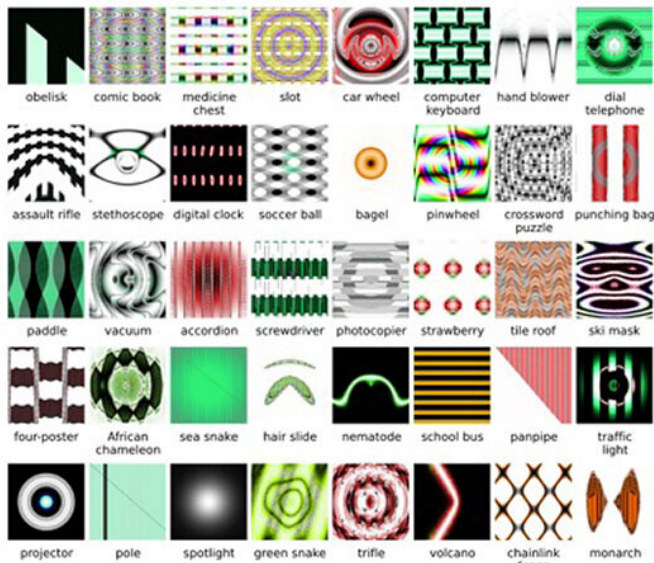

tech-related gentrification and jihadi online forum gamification? How does the world of pattern recognition and big-data divination relate to the contemporary jumble of oligocracies, troll farms, mercenary hackers, and data robber barons supporting and enabling bot governance, Khelifah clickbait and polymorphous proxy warfare? Is the state in the age of Deep Mind, Deep Learning, and Deep Dreaming a Deep State™? One in which there is no appeal nor due process against algorithmic decrees and

divination?

But there is another difference between the original and the current type of "neolithic," and it harks back to pattern recognition. In ancient astronomy, star constellations were imagined by projecting animal shapes into the skies. After cosmic rhythms and trajectories had been recorded on clay tablets, patterns of movement started to emerge. As additional points of orientation, some star groups were likened to animals and heavenly beings. However, progress in astronomy and mathematics happened not because people kept believing there were animals or gods in space, but on the contrary, because they accepted that constellations were expressions of a physical logic. The patterns were projections, not reality. While today statisticians and other experts routinely acknowledge that their findings are mostly probabilistic projections, policymakers of all sorts conveniently ignore this message. In practice you become coextensive with the data-constellation you project. Social scores of all different kinds—credit scores, academic scores, threat scores—as well as commercial and military pattern-of-life observations impact the real lives of real people, both reformatting and radicalizing social hierarchies by ranking, filtering, and classifying.

Could this image be a representation of the neo-neolithic? Source: Mary-Ann Russon, "Google DeepDream robot: 10 weirdest images produced by AI 'inceptionism' and users online," International Business Times, July 6, 2015 →.

obelisk · comic book · medicine chest · slot · car wheel · computer keyboard · hand blower · dial telephone

assault rifle · stethoscope · digital clock · soccer ball · bagel · pinwheel · crossword puzzle · punching bag

paddle · vacuum · accordion · screwdriver · photocopier · strawberry · tile roof · ski mask

four-poster · African chameleon · sea snake · hair slide · nematode · school bus · panpipe · traffic light

projector · pole · spotlight · green snake · trifle · volcano · chainlink fence · monarch

Source: Anh Nguyen, Jason Yosinski, and Jeff Clune, "Deep Neural Networks are Easily Fooled: High Confidence Predictions for Unrecognizable Images," cv-foundation.org, 2015 →.

Gestalt Realism

But let's assume we are actually dealing with projections. Once one accepts that the patterns derived from machinic sensing are *not* the same as reality, information definitely becomes available with a certain degree of veracity.

Let's come back to Amani al-Nasasra, the woman blinded by an aerial attack in Gaza. We know: the abstract images recorded as intercepts of IDF drones by British spies do *not* show the aerial strike in Gaza that blinded her in 2012. The dates *don't* match. There is *no* evidence in Snowden's archive. There are *no* images of this attack, at least as far as I know of. All we know is what she told Human Rights Watch. This is what she said: "I can't see—ever since the bombing, I can only see shadows."[34]

So there is one more way to decode this image. It's plain for everyone to see. We see what Amani *cannot* see.

In this case, the noise must be a "document" of what she "sees" now: "the shadows."

Is this a document of the drone war's optical unconscious? Of it's dubious and classified methods of "pattern recognition"? And if so, is there a way to ever "unscramble" the "shadows" Amani has been left with?

X

Hito Steyerl is a filmmaker and writer who lives in Berlin.

1
See https://www.documentcloud.org/documents/2699846-Anarchist-Training-mod5-Redacted-Compat.html .

2
"The SIGINT World Is Flat," *Signal v. Noise* column, December 22, 2011.

3
Michael Sontheimer, "SPIEGEL Interview with Julian Assange: 'We Are Drowning in Material,'" *Spiegel Online* , July 20, 2015 http://www.spiegel.de/international/world/spiegel-interview-with-wikileaks-head-julian-assange-a-1044399.html .

4
Cora Currier and Henrik Moltke, "Spies in the Sky: Israeli Drone Feeds Hacked By British and American Intelligence," *The Intercept* , January 28, 2016 https://theintercept.com/2016/01/28/israeli-drone-feeds-hacked-by-british-and-american-intelligence/ .

5
Ibid. Many of these images are currently part of Laura Poitras's excellent show "Astro Noise" at the Whitney Museum in New York.

6
In the training manual on how to decode these feeds, analysts proudly declared they used open source software developed by the University of Cambridge to hack Sky TV. See https://www.documentcloud.org/documents/2699846-Anarchist-Training-mod5-Redacted-Compat.html .

7
See https://en.wikipedia.org/wiki/Apophenia .

8
Benjamin H. Bratton, "Some Trace Effects of the Post-Anthropocene: On Accelerationist Geopolitical Aesthetics," *e-flux journal* 46 (June 2013) https://www.e-flux.com/journal/46/60076/some-trace-effects-of-the-post-anthropocene-on-accelerationist-geopolitical-aesthetics/ .

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"Israel: Gaza Airstrikes Violated Laws of War," hrw.org, February 12, 2013 https://www.hrw.org/news/2013/02/12/israel-gaza-airstrikes-violated-laws-war .

10
Jacques Rancière, "Ten Theses on Politics." *Theory & Event,* Vol. 5, No. 3 (2001). "In order to refuse the title of political subjects to a category—workers, women, etc.—it has traditionally been sufficient to assert that they belong to a 'domestic' space, to a space separated from public life; one from which only groans or cries expressing suffering, hunger, or anger could emerge, but not actual speeches demonstrating a shared aisthesis. And the politics of these categories ... has consisted in making what was unseen visible; in getting what was only audible as noise to be heard as speech."

11
Verne Kopytoff, "Big data's dirty problem," *Fortune*, June 30, 2014 http://fortune.com/2014/06/30/big-data-dirty-problem/ .

12
Larisa Bedgood, "A Halloween Special: Tales from the Dirty Data Crypt," relevategroup.com, October 30 2015 https://web.archive.org/web/20160415083537/http://www.relevategroup.com/a-halloween-special-tales-from-the-dirty-data-crypt/ . The article continues: "In late June and early July 1991, twelve million people across the country (mostly Baltimore, Washington, Pittsburgh, San Francisco, and Los Angeles) lost phone service due to a typographical error in the software that controls signals regulating telephone traffic. One employee typed a '6' instead of a 'D.' The phone companies essentially lost all control of their networks."

13
David Graeber, *The Utopia of Rules: On Technology, Stupidity and the Secret Joys of Bureaucracy* (Brooklyn: Melville House, 2015), 48.

14
Steve Lohr, "For Big-Data Scientists, 'Janitor Work' Is Key Hurdle to Insights," *New York Times* , August 17, 2014 http://www.nytimes.com/2014/08/18/technology/for-big-data-scientists-hurdle-to-insights-is-janitor-work.html?_r=0 .

15
See "E-Verify: The Disparate Impact of Automated Matching Programs," chap. 2 in the report *Civil Rights, Big Data, and Our Algorithmic Future* , bigdata.fairness.io, September 2014 https://bigdata.fairness.io/e-verify/ .

16
See Melissa Eddy and Katarina Johannsen, "Migrants Arriving in Germany Face a Chaotic Reception in Berlin," *New York Times* , November 26, 2015 http://www.nytimes.com/2015/11/27/world/europe/germany-berlin-migrants-refugees.html?_r=0 . A young boy disappeared among the chaos and was later found murdered.

17
Patrick Tucker, "Refugee or Terrorist? IBM Thinks Its Software Has the Answer," *Defense One* , January 27, 2016 http://www.defenseone.com/technology/2016/01/refugee-or-terrorist-ibm-thinks-its-software-has-answer/125484/ . This example was mentioned by Kate Crawford in her brilliant lecture "Surviving Surveillance," delivered as part of the panel discussion "Surviving Total Surveillance," Whitney Museum, February 29, 2016.

18
Christian Grothoff and J. M. Porup, "The NSA's SKYNET program may be killing thousands of innocent people," *Ars Technica*, February 16, 2016, italics in original http://arstechnica.co.uk/security/2016/02/the-nsas-skynet-program-may-be-killing-thousands-of-innocent-people/ . An additional bug of the system was that the person who seemed to pose the biggest threat of all according to this program was actually the head of the local Al Jazeera office, because he obviously traveled a lot for professional reasons. A similar misassessment also happened to Laura Poitras, who was rated four hundred out of a possible four hundred points on a US Homeland Security threat scale. As Poitras was filming material for her documentary *My Country, My Country* in Iraq—later nominated for an Academy Award—she ended up filming in the vicinity of an insurgent attack in Baghdad. This coincidence may led to a six-year ordeal that involved her being interrogated, surveilled, searched, etc., every time she reentered the United States from abroad.

19
Ibid.

20
See Michael V. Hayden, "To Keep America Safe, Embrace Drone Warfare," *New York Times*, February 19, 2016 http://www.nytimes.com/2016/02/21/opinion/sunday/drone-warfare-precise-effective-imperfect.html . The director of the CIA from 2006–09, Hayden asserts that human intelligence was another factor in determining targets, while admitting that the program did indeed kill people in error: "In one strike, the grandson of the target was sleeping near him on a cot outside, trying to keep cool in the summer heat. The Hellfire missiles were directed so that their energy and fragments splayed away from him and toward his grandfather. They did, but not enough."

21
Grothoff and Porup, "The NSA's SKYNET program."

22
Thank you to Ben Bratton for pointing this out.

23
"Inceptionism: Going Deeper into Neural Networks," Google Research Blog, June 17, 2015 http://googleresearch.blogspot.de/2015/06/inceptionism-going-deeper-into-neural.html .

24
Ibid.

25
Walter Benjamin, "A Short History of Photography," available at monoskop.org http://monoskop.org/images/7/79/Benjamin_Walter_1931_1972_A_Short_History_of_Photography.pdf .

26
"Inceptionism."

27
See ibid.

28
Farhad B. Idris, "Realism,"in *Encyclopedia of Literature and Politics: Censorship, Revolution, and Writing, Volume II: H–R* , ed. M. Keith Booker (Westport, CT: Greenwood), 601.

29
Is apophenia a new form of paranoia? In 1989, Frederic Jameson declared paranoia to be one of the main cultural patterns of postmodern narrative, pervading the political unconscious. According to Jameson, the totality of social relations could not be culturally represented within the Cold War imagination—and the blanks were filled in by delusions, conjecture, and whacky plots featuring Freemason logos. But after Snowden's leaks, one thing became clear: all conspiracy theories were actually true.

Worse, they were outdone by reality. Paranoia is anxiety caused by an absence of information, by missing links and allegedly covered-up evidence. Today, the contrary applies. Jameson's totality has taken on a different form. It is not absent. On the contrary: it is rampant. Totality—or maybe a correlated version thereof—has returned with a vengeance in the form of oceanic "truckloads of data." Social relations are distilled as contact metadata, relational graphs, or infection spread maps. Totality is a tsunami of spam, atrocity porn, and gadget handshakes. This quantified version of social relations is just as readily deployed for police operations as for targeted advertising, for personalized clickbait, eyeball tracking, neurocurating, and the financialization of affect. It works both as social profiling and commodity form. Klout Score–based A-lists and presidential kill lists are equally based on obscure proprietary operations. Today, totality comes as probabilistic notation that includes your fuckability score as well as your disposability ratings. It catalogs affiliation, association, addiction; it converts patterns of life into death by aerial strike.

30
More recent, extremely fascinating examples include Christian Szegedy et. al, "Intriguing properties of neural networks," arxiv.org, February 19, 2014 http://arxiv.org/pdf/1312.6 199v4.pdf ; and Anh Nguyen, Jason Yosinski, and Jeff Clune, "Deep Neural Networks are Easily Fooled: High Confidence Predictions for Unrecognizable Images," cv-foundation.org, 2015 http://www.cv-foundation.org/op enaccess/content_cvpr_2015/pa pers/Nguyen_Deep_Neural_Net works_2015_CVPR_paper.pdf . The first paper discusses how the addition of a couple of pixels—a change imperceptible to the human eye—causes a neural network to misidentify a car, an Aztec pyramid, and a pair of loudspeakers for an ostrich. The second paper discusses how entirely abstract shapes are identified as penguins, guitars, and baseballs by neural networks.

31
"Do We Need a Bigger SIGINT Truck?" *Signal v. Noise* column, January 23, 2012.

32
See Jussi Parikka, "The Geology of Media," *The Atlantic*, October 11, 2013 http://www.theatlantic.c om/technology/archive/2013/10 /the-geology-of-media/280523/ .

33
Contemporary soothsayers are reading patterns into data as if they were the entrails of sacrificial animals. They are successors of the more traditional augurs that Walter Benjamin described as photographers *avant la lettre* : "Is not every spot of our cities the scene of a crime? Every passerby a perpetrator? Does not the photographer—descendent of augurers and haruspices—uncover guilt in his pictures?"

34
"Israel: Gaza Airstrikes Violated Laws of War."

Nathan K. Hensley

Drone Form: Word and Image at the End of Empire

I. "Enemies' dead strewed the town"

At the British Library, dispatches from the frontlines of England's merciless 1857 to 1858 counterinsurgency campaign in India are collected into folders marked "Miscellaneous Indian Mutiny Papers" and "India Office Records and Private Papers." They read as a perverse and staccato kind of poetry, shaping tidings of insurrection and its suppression into the idiom of war-state bureaucracy, a jargon further formalized during its compression into the argot of electronic telegraphy.

One of these communiqués, marked "Copy of message received by Electric Telegram" and dated August 17, 1857, was sent from General Havelock in Cawnpore (Kanpur) to his superiors in Calcutta, and reports a qualified victory over the massed peasants then arrayed against British paramountcy. Insurgents captured some cannon, Havelock relays, "But enemies' dead strewed the town—I estimate their loss of three hundred killed & wounded."[1] It is an everyday update during this long campaign, an event hardly worthy of notice and occasioning nothing beyond straight accounting of enemy casualties: part of the paperwork of empire. The message is copied in barely legible handwriting; the form is marked, "Calcutta, Elec. Tel. Office, 17 Aug't 1857," verified again ("A true copy"), and finally signed in pencil with a clerk's name. These signatures verify the contents' correct transcription from the telegraphic original. They show us that this act of state killing has been reported by dictation, transcribed into writing, configured into telegraphic code, transmitted over vast distances of copper wire, received, decrypted, transcribed by hand (in pencil) onto a telegraphic form, and then copied longhand and finally double verified by a functionary who signs his own name: J. S. Seale, LT. Elaborately mediated yet insisting via seal and signature on its perfectly lossless transmission, the document, like many others during the Victorian era's long war—no single year of the Queen's reign was without armed conflict—is a document of asymmetrical warfare that insists most of all on its status as an act of mediation.

II. Cycles, Ends

A century and a half after the "liberation" of Cawnpore, in our own era of endless war, it is clear that the question of liberal violence and its mediations is not only a Victorian one. In *The Long Twentieth Century*, Giovanni Arrighi draws attention to the way that successive cycles of imperial power echo one another. In macroeconomic terms, he parses the wave-based logic of accumulation by which "patterns of recurrence and evolution" stretch over successive phases of world leadership: Genoese, Dutch, British, and American all in a row.[2] (London: Verso, 2002), 6.] We can certainly hear more than a little of Pax Britannica in the rhetoric of late American empire. Today,

Trevor Paglen, Drone Vision (2010). Intercepted drone feed. Courtesy of the artist and Metro Pictures, New York.

however, forms of mediation that were central to the normatively demarcated "culture" of the nineteenth century—poetry and the literary novel, say—are no longer dominant but have become residual or even niche categories, boutique commodities for a narrow subset of often self-consciously nostalgic consumers. The technologies for delivering violence have changed, too; bayonet, telescope, and cannon have been replaced by illuminated night-vision and long-distance drone strikes. What is the relationship between our contemporary means of distributing death, and the aesthetic forms by which that death is transmitted, recoded, mediated? And do these shifting relations tell us anything about our place in the cycle of American empire that Arrighi sees as already showing "signs of autumn"?[3]

My sense is that militarized drones, those machines for remote seeing and killing known in military jargon as "Unmanned Aerial Vehicles," should be understood to signify an end of empire in two senses. First, an end as in conclusion, or terminus. Hannah Arendt argued that proliferating death is not a sign of an emerging or persisting hegemony but its waning: "rule by sheer violence," she notes, "comes into play where power is being lost."[4] This means that the assassinations proliferating in the name of the American phase of accumulation are the sign not of its strength but its incipient weakness; never mind autumn, we could say that drone war is a sign of the coming winter. Second, I mean an end in the Aristotelian sense of telos, or purpose. If we take seriously the fact that empire is best understood not as a culture or as a discourse but as the monopoly on putatively legitimate violence—the stretching of the state's power over life and death past the boundaries of its "own" populace—then the power of sovereign decision crystallized in globally operated, remote assassination machines is the very essence of empire: its telos, or end. President Obama's now-infamous "kill list meetings" sharpen to an obscene purity the American state's power

of judgment over life and death beyond its own citizenry and constitute the distillation of imperium as such.

Drones are at once a symptom and a realization of the empire's end. But they are also a regime of figuration, a way of seeing, and, therefore, a modality of thought. In the words of Roger Stahl, drones have "capacity as a medium."[5] Even a small survey of the work that has drawn on the drone's odd coincidence between media form and instrument of sovereignty would stretch across the field of cultural production. It might start with vernacular forms like Twitter bots, public art installations, and even the anxious dreams recorded in the drawings of victims, but would move all the way to the self-consciously rarefied idiom of gallery and museum art, to works attempting to represent critically the ontological and political, and therefore also aesthetic, novelties generated by our drone era. There is even a clutch of mass-market novels about drones produced for a global Anglophone audience. Seen together, what the cheaply printed bestsellers and high-art photography hint at is a comparative analysis of the aesthetic technologies that have emerged to mediate our endless, late-imperial war.

Trevor Paglen, Open Hangar; Cactus Flats, NV; Distance - 18 miles; 10:04 am (2007). C-print. Courtesy of the artist and Metro Pictures, New York.

III. Consolidated Vision

The visual rhetoric of drone optics—targeting, sighting, framing, flight data, conspicuous pixilation—has become a cliché, evolving from an arresting graphic novelty into a part of our everyday imageworld: UAV optics structure million-hit YouTube videos of drone kills,[6] but also video game franchises, big-budget films, and television dramas up and down the scale of so-called "quality."

But drone vision is not only about crosshairs and black-and-white targets. As Gregoire Chamayou explains in *The Theory of the Drone*, the regime of perception inaugurated by the drone involves at least three principles: (1) persistent surveillance or permanent vigilance in the present; (2) a totalization of perspectives or synoptic viewing, covering all space; and (3) total archival retention, aggregating surveillance diachronically in storage. All of this adds up to what Chamayou calls a "revolution in sighting."[7] The US Air Force's incredibly named Gorgon Stare program, for example, offers what its advocates call an "unrelenting gaze." Mounted on a "hunter-killer" MQ-Reaper, which can hold two tons of weaponry and remain airborne fully loaded for fourteen hours, the Gorgon Stare setup uses 192 different cameras, and can store the data it collects for thirty days, enabling "after-action forensic operation," a diachronic capacity that makes this technology "the number-one reconnaissance asset that warfighters crave," not least because it allows the state to "discern patterns in the behavior of insurgents—where they hid, how they operated, who they interacted with—that would have been unknowable using other surveillance systems."[8]

Diachronic, totalizing, and aspiring to omniscience, drone form is also predicated on massive asymmetries of perspective. As Chamayou notes, the drone eliminates reciprocity from the scene of killing and turns seeing, and with it the risk of death, into a one-sided operation: I see you but you don't see me, and a drone operator at Creech Air Force Base in Nevada can kill but is not himself at risk of being killed. This has tactical and legal ramifications but is also a political-aesthetic problem. It means that the dilemma of unevenly distributed narrative space that Edward Said detailed in *Culture and Imperialism*—where the core speaks and has the power to act, while the margins figure only as silence—now describes the tactical raison d'etre of a new war-making technology, its operational advantage. Said argues that the empire is "only marginally visible," barely perceptible to the metropole but nonetheless crucial, "very much like the servants in grand households or in novels."[9] Said's argument about uneven representation within the novel has been critiqued for construing imperial power as a representational or cultural problem, rather than a properly political one. He slips easily from describing optics to power, silently analogizing "vision" with political sovereignty by referring, in a chapter called "Consolidated *Vision*," to "what I have been calling ... consolidated *authority*."[10] Representational capacity is not identical to political authority, but drone technology helps us see that in fact "consolidated vision" was always naming a problem of sovereignty. Drone form makes this explicit, since it twins representational capacity—the power to see and to observe or, as Said has it, to narrate—with the capacity to kill.

Iraqi born artist Wafaa Bilal exposed the perversity of this spatial dissymmetry in *Domestic Tension* (2007), a thirty-day performance piece in which he sat in a room while internet users across the world, anonymously and at any time, could click a button to shoot him with a paintball gun. Other artists, working yet more explicitly in the idiom of drone war, have attempted to redistribute the uneven representational and political space on which remote killing depends. Khesrau Behroz's *Everybody knows where they were when they heard that Kennedy died* begins from an app that sends push notifications to its users as soon as a drone strike is reported. These notifications include details of the numbers killed and wounded, the location of the attack, and, occasionally, a brief description of the scene. The collages Behroz made using this app depict screenshots of drone execution notifications juxtaposed with "a picture of where I was when I heard about the news." The result sets a space of precarity against one of safety, and underscores the perverse anonymity of these killings: unlike in the Kennedy assassination for which the series is named, no one is encouraged to remember where they were when these unnamed individuals die. The work also highlights the obscenity of our ability to ask, from a position of safety, questions like: Where were you when "a drone strike outside Marib killed two people in a car"? Or when "a US drone fired missiles at a house, killing four"?

A screen shot records Call of Duty: Modern Warfare 3 gameplay.

The digital chromogenic prints of multimedia artist Trevor Paglen—vast in format, variously opaque and hyperreal in their macro-scaled high resolution—seek to reverse or reorient the protocol of seeing that is constitutive of the drone state. From a citizen's point of view they watch the state, depicting secret interrogation sites, half-visible drones, and private tarmacs used to transport detainees to overseas gray zones for torture. The artist uses long exposures to reveal the orbits of secret government surveillance satellites in transit, thus inverting the state's powers of vision to disclose what is for citizens normally occluded. I write "depict," "reveal," and "disclose," but the point is that these images aim to defuse the desire for immediacy and presence that is inherent to drone vision and that structures war-state informatic logic more

broadly—or so the mutiny telegram I mentioned above would suggest.

Rather than the frictionless transfer of information or "documentary" accuracy, Paglen's work aims, in his words, to be "useless as evidence ... I want photography that doesn't just point to something, it actually *is* that something."[11]

Trevor Paglen, Untitled (Reaper Drone) (2010). C-print. Courtesy of the artist and Metro Pictures, New York.

The point is not to bring into focus the thing observed but the technologies of seeing themselves, and an image like *Untitled (Reaper Drone)* (2010), for example, from his series of quasi-abstract drone photographs from 2009–10, announces itself as a grandly beautiful depiction of color itself. Its wash of graduating blue-red references mid-century color-field painting by artists like Newman and Rothko no less than that earlier phase of industrialized life captured by J. M. W. Turner in his smeared depictions of Victorian ecocide. With concentration, this haunted vacancy becomes legible as an evening sky. The Reaper drone flecking the side of the frame, once noticed, becomes the photograph's maddening focal point, impossible to unsee. Instead of objects or content these images show walls of distance, highlighting the forms of mediation—aesthetic, technological, spatial—separating it from us.

Of course, even as they comment critically on militarized techniques of observation, Paglen's self-consciously high-cultural artifacts occupy an elevated place in the contemporary culture industry, hanging in galleries and museums and acquiring the fetish character that remains the sine qua non of contemporary art. Yet Paglen is rare among this milieu in his commitment to weaponizing this

very art-world success. This strategy of immanent critique is evident, for example, in Paglen's dissident public works like *Code Names of the Surveillance State*, where he projected NSA code names onto the British Parliament; his monumental Tube stop installations like *An English Landscape (American Surveillance Base near Harrogate, Yorkshire)*; and his work (as producer and provider of still images) for Laura Poitras's documentary about Edward Snowden, *Citizenfour.*

A video recording of a US Predator drone missile strike in Iraq, as found on YouTube. Source: →

IV. Sting of the Drone

To shift from the "restricted" to the unrestricted end of the Bourdieusian field of cultural production, I move from the gallery spaces of "art-as-pure-signification" to the "field of large-scale cultural production," where art is capital and the point is to sell in volume.[12] The "drone thriller" is a new subgenre of fiction that has begun to occupy a niche, albeit a small one, in the contemporary mass market for literature. These emergent forms are pitched as stories for a new era, but triangulate themselves within well-established conventions in the literary middlebrow. The cover of Dan Fesperman's *Unmanned* (2014) announces the book as "part mystery and part thriller"; while *Sting of the Drone* (2014), a clunky exercise by former US counterterrorism czar Richard A. Clarke, is unmistakably a "thriller"—unmistakable because the word is repeated five times on its back cover. ("This first rate thriller," one anxious blurber says, is "a cross between a techno-thriller and a docu-thriller.") Most delightful is Mike Maden's "Troy Pearce" series of "intense page-turners," whose phallically named, eponymous hero is "still lean and cut like a cagefighter despite the strands of silver in his jet-black hair."[13] Pushed out in quick sequence, the series kicks off with *Drone* (2013) and moves through *Blue Warrior* (2014) and *Drone Command* (2015).[14]

As all these names and titles suggest—Warrior, Command, Pearce—Maden's intervention into the new

'A new book by Dan Fesperman is becoming a major literary event' *Sunday Telegraph*

UNMANNED
DAN FESPERMAN
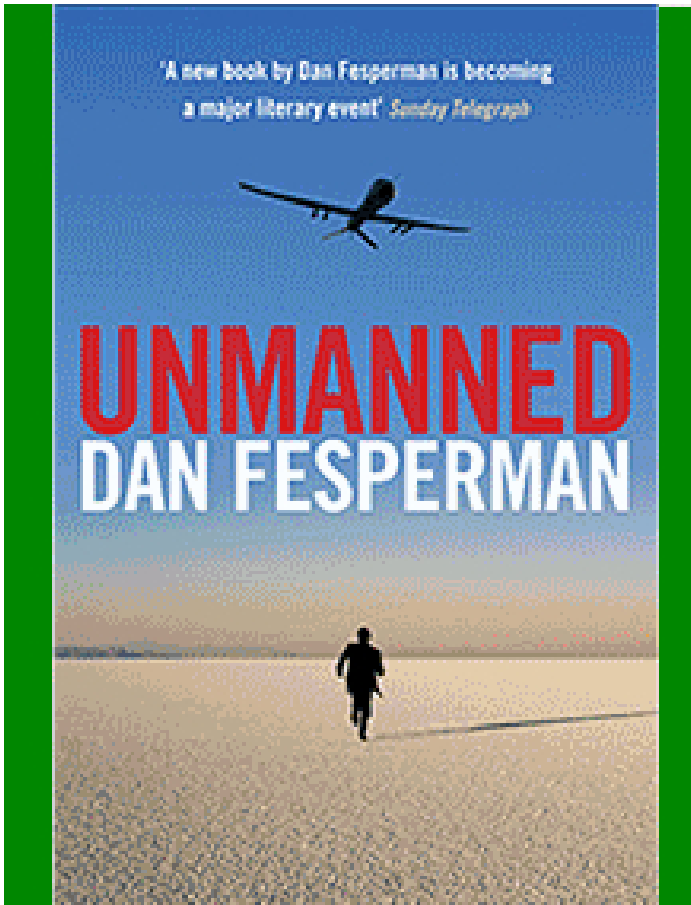
A series of covers exemplify the growing genre of the "drone thriller" novels.

subgenre is a kind of masculine fantasia. In defiance of the rules of perspective it includes full specifications for every gun and piece of war-making technology to grace its pages, and features a no-nonsense female president, her frame "strong and lean" from "years of swimming and Pilates," who drinks bourbon and shows no patience for fussy questions of human rights.[15] In Maden's plot, the lean and gym-toned president leagues with the cagefighter Pearce to scrub the world of Mexican gangsters and Iranian terrorists. The fantasy president from Texas nonetheless balances her badassery with fetching maternal instincts, nearly starting a pointless and politically suicidal war with Mexico—but only to avenge the death of her son.[16] "She had a bigger nutsack than any man he knew in politics," Pearce reflects.[17] The novel's adolescent gaze leaves no piece of equipment or human body unadmired, though its taste runs toward the conventional: a scientist has "long legs, soft curves, and cloying eyes ... more like a Bollywood movie star than a Ph.D in robotics engineering," while the enemy (and male) Castillo twins are "naked and tan, their muscled bodies glisten[ing] with sweat."[18] As a character, Pearce himself is ripped from the rhetorical vocabulary of ads for impotence drugs: he drinks beer and splits logs shirtlessly between fishing trips and sexual conquests, all while

organizing assassinations by robot.[19]

The book's infantile sexuality (I hesitate to call it eroticism) does work, however, because as Chamayou notes, the constitutive absence of reciprocity in drone technology—what one Air Force pamphlet calls the "freedom *from* attack" combined with the "freedom *to* attack"[20]—demands a dramatic restructuring of the category of masculine military agency, an anxiety that shouts from nearly all of the books' titles: *Sting of the Drone, Drone Command*. Where Dan Fesperman raises this crisis to the level of explicit problem in his *Unmanned* —get it?—marking his book as the most sophisticated and safely middlebrow of the novels (it sold by far the fewest of these titles—see note 14), the others try to solve it: heroic action must now be recast to include sitting at a desk and pushing buttons, a conceptual tangle that generates, in Clarke's book, a hero called Dougherty with "still firm pecs,"[21] and also syntax like this, where the sentence itself must strain to find a human agent for its act of killing:

> The mechanical extension of Major Bruce Dougherty, the thing that moved in the air when Bruce's hand made adjustments with the joystick in the cubicle, was pressing ahead ... against the cold wind two miles above the canyon.[22]

Dougherty's virtual piloting leads in the end to an execution, and after the novel gives us the scene of explosion it switches erratically to Creech Air Force Base. Here, a world away from human bodies dismembered by explosives, and on the other side of the novel's vigorous formal crosscutting, fake pilots are high-fiving and cheering, giving "hoots and applause." "Righteous shoot. Big Kill," says the secure digital message summarizing the bombing, a detail that aims to cleanse these pseudo pilots'—and our own—consciences about this act of digitized killing.[23] But the compensatory, conscience-assuaging work of the novel isn't done, for the chapter follows Dougherty's copilot, Erik Parsons, as he drives home from Creech in "his black Camaro" to a clichéd hot wife the novel doesn't bother to describe. The chapter that began with the detonation of an encampment of "human life forms" ends with the drone operator and his "night owl" spouse having very straight sex in a hot tub after downing Heinekens: "Jennifer Parsons ran her fingers through the thinning black hair on his head and then through the graying hair on his still-firm pecs."[24] When Parsons, just before coitus, tells his wife that "We're finding them, Jen. We're winning," we might be forgiven for entertaining doubts.[25]

Maden's *Drone* books work yet more erratically to recapture, and paint in bright colors, the heroic male agency that drone war erodes in its very structure. Pearce himself cannot avoid admitting that killing by remote

"almost didn't seem fair," and concedes that the bomb blast that ends the book "wasn't as satisfying as killing the bastard Ali with his own hands."[26] But a short epilogue, literally an addendum to the novel, exorcises any worry that this new form of killing isn't quite manly enough. "I kill you with my bare hands," Pearce explains to his enemy and to us, after bursting in to settle his final score.[27] In this tacked-on, masculinity-saving scene—an actual and not just Derridean supplement—the remote killings, proxy agency, and murders by pushbutton resolve at last into *mano a mano*, the cagefighter standing against his rival (now Russian) to banish the specter of mediated war in favor of The Real Thing. The sequence works hard to recapture (as compensatory fantasy) exactly the direct agency that drone war makes impossible. The scene is a blaze of active verbs and phallic knifework:

> *Pearce jabbed* a laser-pulsed injector against Britnev's neck before he could scream, paralyzing him. *He pushed* the Russian back inside the apartment, *kicked* the door shut, *and guided* the whimpering, gurgling man onto a modular white sofa.[28]

All this manful action, this jabbing and "inject[ion]" arriving just at the end of the book, puts away forever any doubts about whether remote warfare can be heroic. Or does it?
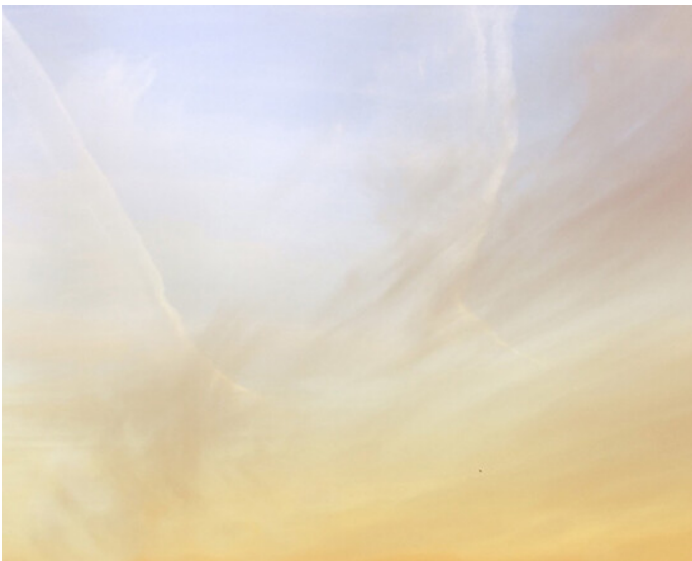
Trevor Paglen, Untitled (Reaper Drone) (2010). C-print. Courtesy of the artist and Metro Pictures, New York.

V. "My heart was on fire"

I've so far tracked drone content, not drone form, and it's important that the particularities of this new delivery

system for sovereign violence are legible not just as compensatory masculinity but as dilemmas of narrative point of view. Despite conventional associations of drone technology with "god's eye" surveillance, none of these novels unfolds in a third person omniscient voice (think of Dickens's Shadow from *Household Words*, "the omnipresent, intangible creature … which may get into any place,"[29] or the "far-reaching visions" of George Eliot's narrator in *Adam Bede*). Rather, they use third person limited point of view, following thriller convention by heading sections with dates and named locales (Langley, Creech, Kandahar)—a "meanwhile" effect that works acrobatically to negotiate the constitutive spatial caesura, the impermeable separation between there and here, on which drone war is predicated. Only Fesperman's novel gives this crosscutting a rest, but its comparative stillness follows from its primary interest in domestic surveillance: so Nevada, Maryland, and New Hampshire, rather than (as in Maden) Yemen, "Gulf of Mexico," and "On board the Pearce Systems HondaJet."[30] Yet the effort to police social space and point of view in this way, separating perspectives by chapters headed with datelines and exotic locales, also breaks down, and Clarke's narrative, for example, proves unable to maintain its distinction among gazes, shifting so haphazardly from limited points of view in the killing scenes—operator, commander, victim, witness—that it becomes simply impossible to determine who is seeing what, when:

> *A few people* heard a bang, when the triangle hit Mach 1, but it was soon followed by the crash of the glass façade when the triangle hit it, and then by the muffled thump when the triangle exploded in the Cigar Bar. *Wilhelm actually saw* the triangle as it came through the outer glass façade, less than a second before it went through the Cigar Bar door where he was headed. *His eyes registered the flash* of light when the triangle exploded in the bar, *but his brain did not have enough time to process what his eyes had seen* before the steel shards sliced his eyes and his brain and all the rest of him into a bloodied pulp on the burning carpet.

> *The visual feed* from the Myotis triangle, Bird Two, *had looked* blurred, incomprehensible shapes on the screen as the aircraft had hurried toward the narrow laser beam projected from Bird One. Then the camera feed from Bird Two, the black triangle, had stopped.

> "Target hit. Warhead ignited. No secondary. Fire seems contained," Bruce reported into his mouthpiece after *he turned his attention back to the image* from Bird One.

> "Fire alarm has gone off in the building, automatically signaling the Feuer Brigade around the corner," *said a voice from Maryland*.

"Zoom Bird One's camera into the room, please," *someone in Virginia said*, and *Bruce* [in Creech AFB, Nevada] *adjusted the view*. "Thanks, not much left there."

Bruce switched the camera back to wide angle and the image on the screen showed hotel guests filing out of the front door in orderly fashion, guided by hotel staff, as two fire trucks rolled to a stop at the curb."[31]

The point in citing at length this hopelessly muddled perspectival scenario is to show how far the narrative technology of these books must stretch to give shape to the nonreciprocity of gaze on which drone war is predicated. The conceptual novelty of the subject generates difficulties for the perspectival regime of narrative fiction, a mismatch between message and medium that is legible in these drone thrillers at the level of the sentence itself. Here's Maden, describing from the point of view of its victim what Clarke's cheering flyboys called a "righteous kill":

His brain barely perceived the blinding flash [of the explosion], and that for only an instant. He was dead before the slower-moving sound waves could strike his eardrum and stimulate the aural nerve. In fact, his entire brain case, including the aural nerve, had been splattered like an overripe melon against the bathroom wall tiles, which were also a lustrous pink terrazzo.[32]

This can be called third person limited only with the caveat that the perspective is not a perspective at all, since it explains what Castillo "could not hear," "didn't notice," and "barely perceived." (The same formula appears in Clarke's experiment above, when the victim's "brain did not have enough time to process what his eyes had seen before the steel shards sliced his eyes and his brain and all the rest of him into a bloodied pulp.") Depictions of occluded perspective and snuffed-out sentience like these, despite their inadvertently complex formulations, betray origins in infantile sexuality and pornographic militarism; they also perversely literalize Said's argument about the silence of the colonial periphery, doing so by crystallizing this nonreciprocity at the level of form.

Finally, it bears noting that this breakdown in narrative perspective reflects drone warfare's termination of the territorially delimited monopoly of legitimate violence claimed by the nation-state itself. In *Imagined Communities* (1983), the late Benedict Anderson famously credited the dissemination of mass-produced novels with the creation of "national print-languages," which served as
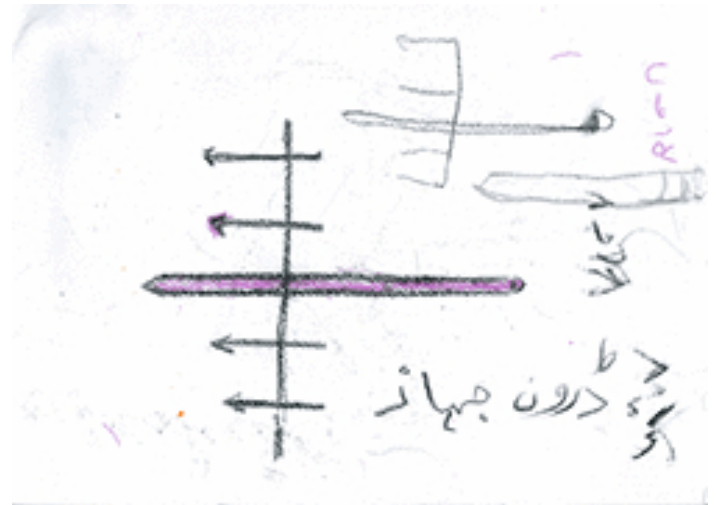
A drawing of a US drone by nine-year-old Nabeela ur Rehman.

the scaffolding for emerging nationalisms. These borders are now regularly transgressed by flying machines capable of delivering sovereign violence from afar: mass-produced novels about drone war reflect this undone nationalism at the level of their own imaginative infrastructure.

To the compensatory late-imperial fables by Maden and Clarke we might oppose critical artworks about mediation and violence by Behroz, Bilal, Paglen, and others. We might also array against them the testimony of people like Faheem Quereshi, a fourteen-year-old boy whose skull was fractured and eye destroyed by shrapnel in a 2009 drone strike in Pakistan, one of President Obama's first "signature strikes." Quereshi's first-person account comes at the end of one section of Stanford's long 2012 report *Living Under Drones.* The section is called "Voices from Below": "I could not think," reports Faheem. "I felt my brain stopped working and my heart was on fire." In the words of another voice from below: "I started weeping. Lots of people there were weeping ... weeping fiercely."[33]

X

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1
Henry Havelock, "Telegram from Havelock to Calcutta," August 17, 1857, British Library, India Office Select Materials, MSS Eur 124/19, unpublished MS.

2
Giovanni Arrighi, *The Long Twentieth Century: Money, Power, and the Origins of Our Times* [1994

3
Ibid. Arrighi's final book, *Adam Smith in Beijing*, points to the future his analysis imagined beyond American hegemony. The Braudel quote comes from Fernand Braudel, *Civilization and Capitalism, 15th–18th Century: The Perspective of the World*, Vol. 3, trans. Sian Reynolds (Berkeley: University of California Press), 1992.

4
Hannah Arendt, *On Violence* (New York: Harcourt Brace, 1970), 53.

5
Roger Stahl, "What the Drone Saw: The Cultural Optics of Unmanned War," *Australian Journal of International Affairs,* Vol. 67, No. 5 (2013): 659–674; 659.

6
Ibid., 663.

7
Gregoire Chamayou, *A Theory of the Drone* (New York: The New Press, 2013), 38–39.

8
Loren Thompson, "Air Force's Secret 'Gorgon Stare' Program Leaves Terrorists Nowhere To Hide," *Forbes*, April 10, 2015 http://www.forbes.com/sites/lorenthompson/2015/04/10/air-forces-secret-gorgon-stare-program-leaves-terrorists-nowhere-to-hide/#643e87eb5271

9
Edward Said, *Culture and Imperialism* (New York: Vintage, 1994), 63.

10
Ibid., 77, emphasis added.

11
Julian Stallabrass, "Negative Dialectics in the Google Era: A Conversation with Trevor Paglen," *October* 138 (2011): 3–14; 4. See also Paglen, "Is Photography Over?," *Fotomuseum: Still Searching*, March 3, 2014 http://blog.fotomuseum.ch/2014/03/i-is-photography-over/

12
Pierre Bourdieu, *The Field of Cultural Production: Essays on Art and Literature* (New York: Columbia University Press, 1984), 3, 4.

13
Mike Maden, *Drone* (New York: G. P. Putnam's Sons, 2013), 15.

14
Bookscan reports that sales in this new subgenre have yet to storm the culture industry, though the numbers would be the envy of many academics. Maden's series has sold around 23,600 copies (*Drone*, 6493 hardcover and 9838 paperback; *Drone Command*, 609 hardcover; and *Blue Warrior*, 1285 hardcover and 5469 paperback). Clarke's *Sting of the Drone* has sold around 7,600 copies (4849 hardcover and 2760 paperback). And the literarily aspirational Fesperman clocks in last, at around 1,250 copies (985 hardcover and 268 paperback). By comparison, Tom Clancy's latest book, *Commander In Chief*, has sold a little over 145,000 copies. I thank Sam Douglas and Becky Cole for tracking down these figures.

15
Maden, *Drone*, 17.

16
Ibid.

17
Ibid., 353.

18
Ibid., 32, 37.

19
Ibid., 158.

20
"Global Vigilance, Global Reach, Global Power for America," US Air Force website, 2014, 7, emphasis in original http://www.af.mil/Portals/1/images/airpower/GV_GR_GP_300DPI.pdf

21
Richard A. Clarke, *Sting of the Drone* (New York: St. Martin's, 2015), 10. Unlike in earlier phases of infantry warfare, now doughy, effeminate bureaucrats and (as the newspaper articles so often point out) office workers who commute home at 5 p.m. exercise the state's capacity to kill. Clarke's non-hero is called Dougherty, fairly advertising this, while Erik Parsons, the CO of the doughboy's unit of suburban killers, is described in the mode of mock-heroic: "If pilots were supposed to look like the cartoon hero Steve Canyon, tall and blonde, Erik Parsons looked more like a wrestling coach" (4).

22
Ibid., 6.

23
Ibid., 8.

24
Ibid., 8–10.

25
Ibid., 10.

26
Maden, *Drone*, 406.

27
Ibid., 412.

28
Ibid., 413, emphasis added.

29
Quoted in Audrey Jaffe, *Vanishing Points: Dickens, Narrative, and the Subject of Omniscience* (Berkeley: University California Press, 1991), 15.

30
Maden, *Drone*, 365, 221.

31
Clarke, *Sting*, 31–32, emphasis added.

32
Maden, *Drone*, 170.

33
International Human Rights and Conflict Resolution Clinic (Stanford Law School) and Global Justice Clinic (NYU School of Law), *Living Under Drones: Death, Injury, and Trauma to Civilians from U.S. Drone Practices in Pakistan,* September 2012, 70, 65.

In that Empire, the Art of Cartography attained such Perfection that the map of a single Province occupied the entirety of a City, and the map of the Empire, the entirety of a Province. In time, those Unconscionable Maps no longer satisfied, and the Cartographers Guilds struck a Map of the Empire whose size was that of the Empire, and which coincided point for point with it. The following Generations, who were not so fond of the Study of Cartography as their Forebears had been, saw that that vast map was Useless, and not without some Pitilessness was it, that they delivered it up to the Inclemencies of Sun and Winters. In the Deserts of the West, still today, there are Tattered Ruins of that Map, inhabited by Animals and Beggars; in all the Land there is no other Relic of the Disciplines of Geography.

—Suárez Miranda, *Viajes de varones prudentes*, Libro IV, Cap. XLV, Lérida, 1658

Lindsay Caplan

Method without Methodology: Data and the Digital Humanities

In this one-paragraph short story by Jorge Luis Borges, "On the Exactitude of Science" (1946), the fictional Suárez Miranda recounts the rise and fall of an imperial project to make a map the same size as the territory it describes. As soon as the awkwardly scaled artifact is complete, however, its prospective users recognize its absurd inadequacy and abandon it to be absorbed back into the ground it was intended to figure.

Borges's image of these threadbare vestiges—the reference to which became something of a postmodern proverb in the second half of the twentieth century—stands as a warning against confusing a thing with its representation. The results are more than impractical; they are dangerously fantastical. It is a fantasy to think we can stand apart from reality and grasp it with the proper, total prosthetic. There is no ontological outside from which our vantage is secure and sacrosanct. Nevertheless, there is today a renewed attempt to conflate the map and the territory. From the NSA's deliberate stockpiling of data and Google's relentless collection of incidental personal archives like old emails, Facebook posts, and website cookies, "Big Data" is information amassed to the point of incalculability. Not quite map and not quite territory, these archives are as vast and unwieldy as the phenomena they seek to chart and define.

Big Data therefore contains a contradiction. On the one hand, it reduces individuals to quantifiable bits of information—demographics, consumer choices, passport-ready identity markers. On the other hand, Big Data exists as an endless stream of unprecedented scale,
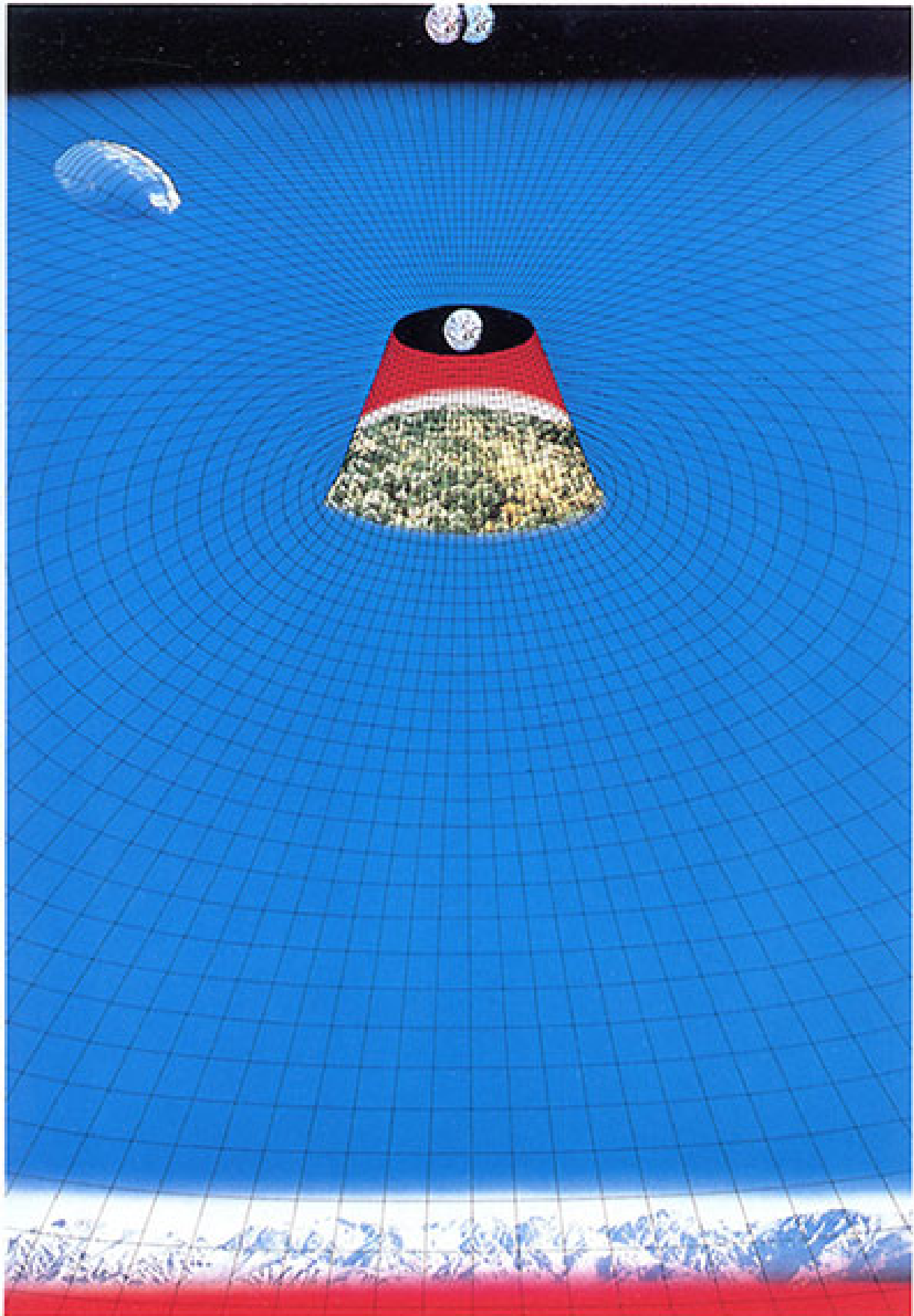
Japanese designer Kazumasa Nagai's surreal depiction for a poster design, late 1970s.

aggregating flows of people, their places, things, and activities into ever larger undifferentiated masses. Big Data therefore instantiates Borges's oscillation between map and territory as a permanent feature of society. It is a concrete instance of the social as such, a manifestation of the longstanding and active ambivalence in the categories, concepts, and ideas that arbitrate the relationship between individuals and the social world. This ambivalence is especially clear in the rapidly developing field of the "Digital Humanities," an uneasy hybrid of the humanities and the sciences that negotiates the relationship between map and territory, self and society, by appealing to the Janus-faced enigma of data.

A case in point is Selfiecity, an ambitious online project launched in February 2015. This site attempts to provide some kind of map for the territory staked out by the selfie, that now pervasive form of self-portraiture that has garnered an exponentially growing amount of attention since the term was deemed "word of the year" in 2013. Art historians and cultural critics have competed to offer in-depth analyses. Julian Stallabrass penned a genealogy in the *London Review of Books* in 2014 ("Most selfies are pastiche and many tip into parody."), and there was an academic conference, "Imag(in)ing the Self in Digital Media," in Marburg, Germany in April 2015.[1]

To some, the emergence of the selfie reflects the sheer narcissism of youth; to others, it empowers individuals with the means for more self-expression. Still others see the significance of the selfie in its technological base: they argue that cellphone cameras, along with constant and easy access to Instagram and Facebook, democratize both the making and distribution of images, while encouraging complete conformity in style, peer-to-peer. Finally everyone can be an artist—or at the very least, an image- and trend-maker—so long as they adhere to a discrete stylistic repertoire.

Selfiecity is a welcome intervention into these cultural diagnoses because it telescopes out from *the* selfie to inquire after the *networks* of selfies. Motivating Selfiecity's method is a theoretical, even ethical, question: How do we define and express the position of the individual (and their agency) in relation to Big Data, which attempts to encompass all of our social interactions? The most compelling—and the most troubling—part of the project is not the selfies, but how the project appeals to data visualization to navigate this challenging question.

Selfiecity is an interdisciplinary and collaborative endeavor between Lev Manovich, the new media theorist, historian, and director of the Software Studies Initiative at the CUNY Graduate Center, and a team of university-affiliated and independent researchers from fields as disparate as computer science and art history. The researchers created their data set by selecting selfies generated by Instagram users in five cities across the globe—Bangkok, Berlin, Moscow, New York, and São Paulo—with 640 selfies from each. (A recent installation of the project this

winter added a sixth city, London, to the mix.) They chose photos from an initial sample of 120,000 randomly selected Instagram images whittled down by "Amazon Mechanical Turks." These are neither mechanical, nor, necessarily, Turks, but un-predicated humanlaborers open to completing odd and interesting tasks and who are connected with potential employers by the online retailer. They are called Mechanical Turks after the eighteenth-century chess-playing machine that, in the history of automation, has become an emblem of the synthesis of man and machine.

Instagram time- and location-stamps its images, and the Amazon laborers guessed the age and gender of the person in each selfie. Then the core research group ran the images through face analysis software, which provided algorithmically calculated estimates of head tilt and rotation, position of facial features (eye, nose, mouth), as well as marking the presence or absence of glasses. The resulting 3200 images contained all this metadata of time, place, age, gender, and formal composition.

Selfiecity subjects this sample of 3200 selfies to data visualization, statistical analysis, and historical and theoretical reflections, displaying the results in a variety of ways. The "findings" section contains bar and line graphs illustrating results—e.g., that more women than men take selfies and strike more "extreme" poses (when extremity can be measured by head rotation), that more young people take selfies (the average age is 23.7), and that people in Moscow smile less than those in Bangkok. In this section, individual selfies are synthesized, grouped according to ready-made categories of identity and nationality. Another section containing visualizations of the data called "image plots" organizes the material into stylized patterns, such as a gridded cube of all the selfies from each city organized by head tilt, a series of graphs showing "smile distribution" according to gender and city, and another set of charts showing the gender and age breakdown of selfies, also separated by city. Another section of the site offers an interactive "selfiexploratory" component, in which users themselves can sort the data by place, age, pose, mood (calm, angry, happy), and features (glasses - yes/no; eyes - open/closed; and mouth - open/closed). Finally, the "theorizations" include essays that offer an art-historical analysis situating the selfie within the history of self-portraiture and vernacular photography, a manifesto-like meditation on "imagined data communities," and a critical assessment of the project itself from a feminist perspective that, among other things, acknowledges the rigid gender binary the project participates in and points to the problem—by no means confined to Selfiecity—that the actual data collection is understood to be so menial as to be outsourced to relatively unskilled and low-wage laborers. But even as these essays seem to tackle the network of selfies that the data illustrates, they take social significance of the form (and its analysis) as something given, something that exists already, out there in the world, sui generis, rather

than acknowledging the extent to which the project itself posits that value, let alone making an argument for why we should agree. It is Selfiecity's methodology—or lack thereof—and the way it tacitly constructs both analytical value and an image of the social that demands further analysis.

Since May 2015, Tom Bittmann, a teenager and founder of the app Wall of Selfies, holds the Guinness record for the largest selfie in the world with 2529 people portrayed in the background.

In working across disciplines and developing new methods for research, Selfiecity is exemplary of the Digital Humanities. Methodological innovation is, according to Manovich, "the key question of digital humanities—how to combine 'distant reading' of patterns with 'close reading' of particular artifacts—by proposing a multi-scale reading."[2] Selfiecity's biggest achievement is its combination of formal analysis—the close study of compositional decisions—with maps that situate each selfie as one node amidst a wider field. In this regard, the project resembles Phototrails, another of Manovich's attempts to take on the world of social media–bound images. Phototrails tackles the whole gamut of photographs uploaded to Instagram, sorting them by hue, brightness, and upload time and creating image plots to "explore visual patterns." These patterns are more aesthetic than analytical—a number of image plots resemble rainbow-fringed black holes with swirling pixels ordered by color family. Other patterns are attached to specific events, like the tracking of image production around disasters like Hurricane Sandy.

Both Selfiecity and Phototrails therefore shuffle between offering concrete findings and taking a more exploratory approach that refuses to nail down conclusions in favor of trying out different data visualizations to no foreseeable end. The projects' multilevel strategies seem at first like just a large assortment of maps describing a territory,   but the diversity and breadth of strategies allow the designers to imagine they are not making a map at all. The data is synthesized or aestheticized. Whether radiating outward

in image plots suggestive of the endless stream of selfies on social media platforms, or gravitating inwards to cohere into (somewhat intuitive) statistics on gender and age, the projects stop short of offering any conclusions, interpretations, or analysis. The focus is resolutely on the data, the software, and its vicissitudes. To understand this focus, consider the careful line toed already in Phototrails:

> we do not necessarily have to aggregate user generated content and digital traces for the purpose of Durkheim-like mapping of society where individual people and their particular data trajectories and media diaries become invisible ... The individual and the particular do not have to be sacrificed for the sake of data aggregation, or "large scale patterns." Instead, we can perform "thick visualization" ... of the data, practicing "data ethnography," and following individuals rather than only "society."[3]

At first, this passage seems to be an optimistic treatise about how a project can have it both ways: it can generate maps that illustrate patterns without "sacrificing" individuals because alongside these patterns are the metadata about them. And terms like "thick mapping" and "data ethnography" suggest that some generalizations will come out of the aggregation of these particulars. Yet this optimistic ideal—that one can synthesize all the methods to avoid the pitfalls of any single one—is just another form of map/territory confusion. A map that captures every individual in all his or her singularity would be no map at all. Motivating Selfiecity's use of multilevel methodologies, I am suggesting, is a category confusion that conflates the map with the data, and the data with the territory. Moreover, this conflation is motivated by an underlying *anxiety about* and *longing for* the social. A longing for some knowledge of large-scale patterns, or broader social trends, motivates the adoption of methods like data visualization and statistics. But the anxiety refuses to synthesize the results in any determinate, conclusive way. When Manovich and his coauthors mention "Durkheim-like mapping," they are not rejecting a method, they are avoiding a category of knowledge: the social fact.

Social facts are the values, norms, and habitual behaviors that are enacted and embodied by individuals but exist beyond them. They are therefore conceptual maps, ways of shaping and giving meaning to the territory of social life. Social facts had to be created before the field of its study—sociology—could be developed. This was forged on two fronts: theory and methodology. French sociologist Emile Durkheim contributed to both, and his book *Suicide: A Study of Sociology,* published in 1897, is illustrative of how the two are integrally intertwined. *Suicide* stands as one of the first systematic applications of statistical analysis to the study of social phenomena, and it was revolutionary in showing that an apparently private,
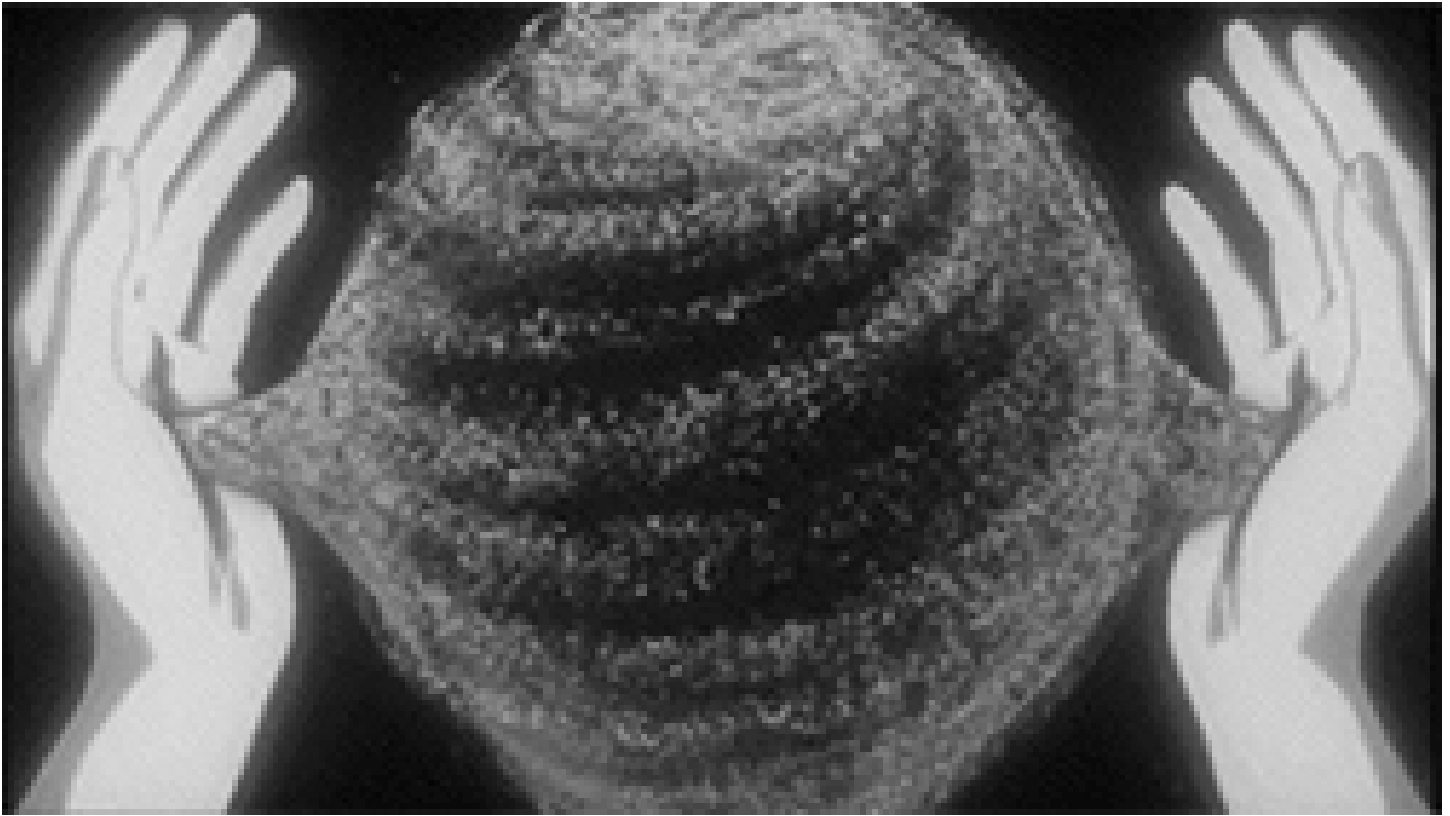
individual decision—to choose to live or die—correlated overwhelmingly to certain social factors. Suicide, Durkheim found, was especially prevalent in societies in which an individual felt insufficient distinction between themselves and their community—such that feelings of shame or dishonor, for example, became too much to bear. It was also prevalent when the converse obtained—when an individual felt too little connection to those around them, succumbing to loneliness and alienation. (At this early date, Durkheim had to calculate the numbers manually, making up much of his method as he worked and all the while relying on the help of his students, among them the anthropologist Marcel Mauss.) From an inchoate mass of data, replete with all the particulars and quirks of individual situations, Durkheim shaped discrete categories that all led him to one conclusion: that suicide occurs when an individual's sense of belonging in society is unbalanced. Public life lay at the heart of what had previously seemed most private.

Statistical sociology enabled Durkheim to posit the existence of social facts, which "consist of manners of acting, thinking and feeling external to the individual, [and] which are invested with a coercive power by virtue of which they exercise control over him."[4] Once isolated, these facts could support wide-reaching generalizations about society and its constituent parts. This desire to stabilize the social as an object of knowledge was a response to the rapid disintegration of traditional social institutions in the crucible of an accelerating modernity. In the face of these forces, statistical sociology offered a

theory of society in the face of its apparent dissolution. While Durkheim has been (and should be) criticized for making maps that inadequately represent the complexity of the territory, this criticism is itself indebted to his singular insight, extending its logic in admitting the significance of more social facts than he could see. Durkheim is a reminder that statistics and data never stand alone.

Selfiecity, on the other hand, employs statistics to the exact opposite end for which they were intended: to supplant the social fact rather than assert it. That is, the project figures the statistic as the end rather than the means, and in so doing disfigures whatever it is that is social in its aggregated facts. This confusion informs Selfiecity's form and content alike, evinced in the two types of "findings." On the one hand, there are statistical results, Durkheim's charts without the analysis or interpretation: bar charts of women versus men, age breakdowns, smile distribution. These are presented as if they speak for themselves, though in fact they beg for further analysis and deconstruction. On the other hand, there are the claims to indeterminacy and experimentation: aesthetically compelling image plots, texts promising knowledge yet to come but not yet realized, meaning prefigured as patterns. Each strategy tempers the other, and in both cases the design of information replaces its interpretation. Selfiecity exploits data's chimerical character, functioning more like a new media art project than a sociological study. It renders statistics an aestheticized experimental form rather than a

mode of analysis. In so doing, the project points to a reason for statistical data's renewed appeal. Data can invoke a totality in a way that is not totalizing, it can create an image in which individuals and "society" remain as unsettled and fluid as the image stream of online media that so often mediates between them today. But this is a non-position that ultimately leaves us with no navigational tools, a view from an imagined outside that predictably secures a vision from nowhere.

So we should be warned: although data is neither map nor territory, it can foster their confusion. It is a seductive mode of representation that can easily trap an intellectual milieu terrified by representation, providing a method for running away from its history and its own activity in the present. What data means—how it is interpreted, and to what ends—has implications not only for privacy and security but also for how we exist and understand our position as humans in the world. What is obfuscated by Selfiecity's fetish for methods, then, is not only the social but the power that maps, both conceptual and literal, have in shaping it. As thinkers, critics, artists, and investigators, we have an obligation to methodology, and we need to remember that this includes not only attention to the means we employ, but the ends to which they work.

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1
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Ben Davis
Connoisseurship and Critique

Why return to the history of connoisseurship, and why now? Its particular virtues—deep looking, an eye for subtle markers of historical merit, and an obsession with the "hand of the master"—seem rooted firmly in the past at a time when art is ever more obsessed with the present. An essay on "Marxism and Connoisseurship" today is likely to seem both ridiculous and dubious, like proposing a political recuperation of dressage. Yet I think that theorizing where we stand in relationship to the concept can save a lot of confusion, and clarify the stakes of cultural critique.

"No moment of the discipline's history has been more reviled," one recent scholarly article puts it. "Connoisseurship has become a byword for snobbery, greed, and professional mystification."[1] Last year, speaking at a conference on "The Educated Eye," one British Museum curator put the matter even more aggressively: "[I would] rather gouge my eyes out with a rusty penknife than describe myself as a connoisseur."[2]

And yet, a twist: while art flees from its historical association with connoisseurship, the very same virtues are undergoing a boom in the culture beyond the gallery and the museum. Everywhere consumers are being encouraged to interpolate themselves as connoisseurs. Indeed, the recent past has conjured up entire new fields of connoisseurship, as if by magic.

One hundred years ago, when the classic connoisseurs of art like Bernard Berenson and Max Friedlander were at the height of their prestige, Henry Ford had only just gotten his assembly line rolling, the great symbol of capitalist commodity production. Today, interest in collectible cars among moneyed Baby Boomers far outpaces investment in traditional status symbols like art or wines.[3] Symposia with titles like "Connoisseurship and the Collectible Car" promise the knowledge necessary to navigate this new terrain.

An obsession with refined consumption permeates contemporary culture, sometimes to the point of unintentional comedy. Consider Martin Riese, Los Angeles's famed "water sommelier," who promises to teach how to identify both region and depth from which bottled water comes. Riese promises that his water tastings will expand your palette, unlocking new realms of gustatory sensitivity.[4]

Such hipster connoisseurship is vulnerable to being accused of exactly the same associations with "snobbery, greed, and professional mystification" as old-school connoisseurship. When Brooklyn chocolatiers the Mast Brothers—who offer a Red Hook tasting room to learn the subtleties of their bean-to-bar concoctions—were accused of "remelting" common chocolate, the resulting wave of schadenfreude made the *New York Times*.[5]

Meanwhile, confusingly, while fine art has labored mightily

to distance itself from the elitist connotations of connoisseurship, no one seems to much like what the post-connoisseurial museum is shaping up to be, from popular critics of art to academics. Holland Cotter laments that the crowds attracted to spectacular contemporary art mask the withering audience for anything that is not of-the-now.[6] Hal Foster attacks contemporary museums for becoming little more than props for callow "cultural tourism" and caving in to "a mega-programme so obvious that it goes unstated: entertainment."[7]

Rain Room, made by the London-based design group Random International and wholly owned by high-end home décor makers Restoration Hardware, has attracted massive crowds and long lines wherever it has toured to a museum. It consists of a walk-in environment where, through the magic of motion sensors and ingenious plumbing, you can experience the thrill of walking through a torrential rainstorm without getting wet. The piece is a lot of fun and great for selfies.[8] Whether such qualities require the concepts of "art" or "artists" as a vehicle—and therefore whether museums might be talking themselves out of a job by promoting it—remains an open question.

Indeed, last Christmas, the Glade® scented candle company brought a pop-up installation called *The Museum of Feelings* to Lower Manhattan.[9] The environment ripped off elements of Yayoi Kusama's mirrored rooms and James Turrell's perception-bending light installations, adding in a bunch of interactive wizardry and customizable "selfie stations" to share one's mood. It was met with exactly the same kind of blockbuster lines as *Rain Room* encountered at MoMA and LACMA, with waits stretching to hours. The fact that this "museum" experience was authored by a faceless marketing company called Radical Media rather than named artists made no difference.

Art and craft, art and entertainment, art and design have long circled each other in wary fascination and antagonism. The present scene reduces this venerable drama to one of those stage farces of mutual misidentification, where one character is always storming off to confront her enemy just as that foe leaps onstage through the other door.

Art and Industry

The rejection of "connoisseurship" in today's aesthetic discourse may be seen simply as the pragmatic outcome of a much-changed contemporary art system. Eclecticism and pluralism are the chief features of the post-1960s art scene; the notion, associated with connoisseurship, of establishing a single firm set of rules for evaluation seems dated at best. Yet the airy avowal that "anything can be art" masks the deeper, unexamined ways that assumptions formed in Europe's recent past still structure how art is viewed and valued even within the polyglot international art world.

Among art historians, it is a commonplace that the idea of "Fine Art" is a relatively recent construction. Its roots lie in the humanism of the Renaissance and the rationalism of the Enlightenment. It was given further impetus by the formalization of Galilean science, which shook up old tables of knowledge. As Larry Shiner writes:

> By joining the experimental and mathematical methods, seventeenth-century scientists not only laid the basis for the sciences to achieve an autonomous identity but also drove a wedge into the liberal arts, pushing geometry and astronomy towards disciplines like mechanics and physiology that seemed more appropriate company than music, which was itself moving towards rhetoric and poetry.[10]

As for painting and sculpture, they could not have existed as "autonomous" art objects before the birth of the modern museum, which gave the necessary institutional context to view art objects outside of decoration and patronage.[11] The founding of the Musée du Louvre in 1792 was one of the more unexpected byproducts of the French Revolution.

Yet the truly modern form of capital-A Art is a creation of the Romantic period in Europe (roughly 1800–1850), which birthed the ideal of the artist as autonomous visionary. This cult of art emerged opposite the intensifying upheaval of the Industrial Revolution: small workshop production and small farms were being replaced by increasingly industrialized, urban forms of production and consumption; laborers became anonymous and no longer had creative input into their work; consumers knew less and less about where or by whom goods had been produced.

Shiner again:

> Whereas the eighteenth century split the older idea of art into fine art versus craft, the nineteenth century transformed fine art itself into a reified "Art," an independent and privileged realm of spirit, truth, and creativity. Similarly, the concept of the artist, which had been definitively separated from that of the artisan in the eighteenth century, was now sanctified as one of humanity's highest spiritual callings. The status and image of the artisan, by contrast, continued to decline, as many small workshops were forced out of business by industrialization and many skilled craftspeople entered the factories as operatives performing prescribed routines.[12]

Water sommelier Martin Riese holds a water-tasting class at Patina restaurant in Los Angeles, February 25, 2015. Photo: Reuters

In Europe, the most influential writers to give voice to the age's intensified artistic sensibility were Charles Baudelaire (1821–1867) in France, and John Ruskin (1819–1900) in England. These men would have been in the same high school class with Karl Marx (1818–1883) and Friedrich Engels (1820–1895), the theorists of the new working class, which is no coincidence. "There is no understanding the arts in the later nineteenth century," writes the Marxist historian Eric Hobsbawm, "without a sense of this social demand that they should act as all-purpose suppliers of spiritual contents to the most materialist of civilizations."[13]

This story of art, clearly, is Eurocentric. The operation by which cultural objects from non-European cultures were "reimagined as 'art' in the modern sense of a product of individual expression meant for individual secular contemplation" has been extensively studied.[14] Such "autonomous" values have sometimes been imposed from without by the most sordid of imperialisms. Yet in another respect, they might also be viewed as part of the internal psychic economy of capitalism, a tendency active

wherever its values are adopted.

For example, following the Meiji Restoration of 1868, a formerly cloistered Japan decided to industrialize on its own terms in reaction to the expansion of the empires of Europe and the United States. Art historian Dōshin Satō shows in *Modern Japanese Art and the Meiji State* that the Japanese equivalent term for "fine art," *bijutsu*, is a product of exactly this period of social transformation.[15] The prestige of *bijutsu*, Satō argues, was constructed in opposition to another new-born term, *kaigo*, approximating the idea of "craft," which became associated with industrial products made for export.[16]

An intensifying self-consciousness about fine art is a dialectical counterformation to the intensifying social weight of capitalist industry. They are twinned developments, and are thereby implicated in a whole web of class tensions. Art-consciousness is, in this respect, as distinct a symptom of capitalism as wage labor or the commodity form itself.

Kuroda Seiki, 湖畔 [Lakeside] (1897). Oil on canvas. 69 × 84.7 cm.

Destructive Criticism

The modern connoisseur is also a historical product, born from the same intellectual ferment that produced the modern artist. Indeed, the two fields are entwined; the formalization of the ideals of connoisseurship legitimated art as a prestige object of study.[17]] infinitely more estimable, were one assur'd it was the picture of the learned Count of Mirandula, Politian, Quicciardini, Machiavel, Petrarch, Ariosto or Tasso; some famous Pope, Prince, Poet, Historian or Hero of those times." Quoted in Brian Cowan, "A Open Elite: The Peculiarities of Connoisseurship in Early Modern England," *Modern Intellectual History*, Vol. 1, No. 2 (August 2004), 160.]

The same nineteenth century that gave rise to the cult of the autonomous artist witnessed, within theories of connoisseurship, a parallel development: an increasingly monomaniacal focus on questions of authorship. In Europe, the key figure is the Italian physician, statesman, and theorist Giovanni Morelli (1816–1891)—like Baudelaire and Ruskin, the near-exact contemporary of Marx and Engels.

For earlier proponents of "scientific connoisseurship" such as the Englishman Jonathan Richardson (1667–1745), attribution was one task among others for the connoisseur.[18] For Morelli, attribution became the main obsession—to the point of paradox.

All that was most obvious in a painting was liable to be copied by lesser hands. The true personality of the artist, therefore, would reveal itself in overlooked, almost unconscious details, such as the uniquely characteristic way that a hand or an earlobe was rendered.[19] True art appreciation could only mean looking past the "general impression" and seeking out these minute traces of

creative individuality.

Because of Morelli's spectacular success in using this aesthetic forensics to reattribute famous paintings, he gained great renown in the late nineteenth century. Yet, despite the seemingly technical nature of his endeavor, it is worth emphasizing the degree to which Morelli's obsession with authorship constituted not just a method of attribution but a particularly modern form of taste.

In his treatise *Italian Painters*, Morelli's "Principles and Method" are outlined in the form of an ingenious parable: an imagined encounter between a Russian visitor to Florence and a wise older Italian connoisseur. After hearing the Italian hold forth on authentication issues, the Russian departs, thinking him "dry, uninteresting, and even pedantic," and concluding that his theories "might even be of service to dealers and experts, but in the end must prove detrimental to the truer and more elevated conception of art."[20]

Returning to Russia, however, the narrator finds himself haunted by the encounter. He attends a showcase of a prince's Italian pictures before they are sold off at auction. "I could hardly believe my eyes, and felt as if scales had suddenly fallen from them," our narrator tells the reader. "In short, these pictures, which only a few years before had appeared to me admirable works by Raphael himself, did not satisfy me now, and on closer inspection I felt convinced that these much-vaunted productions were nothing but copies, or perhaps even counterfeits."[21]

Morelli suggests the term "destructive criticism" for his method.[22] The superficial appreciation of art is destroyed; in its place, a new, ultra-refined appreciation is recovered at a higher level.

Undergirding this aesthetics is a subtle politics of looking.[23] On the one hand, the traditional elitism of connoisseurship is on full view in Morelli's text, with his proxy stating that "the full enjoyment of art is reserved only for a select few, and that the many cannot be expected to enter into all the subtleties."[24]

At the same time, this aristocratic temperament is not just rooted in the past, but represents a reaction to a quite modern phenomenon: the incipient commercialization of culture. Indeed, the evils Morelli associates with the "general impression" have a particular embodied metaphor, one that will be familiar within contemporary debates about the transformation of museum culture: the tourist.

"The modern tourist's first object is to arrive at a certain point; once there, he disposes of the allotted sights as quickly as possible, and hurries on resignedly to fresh fields, where the same programme is repeated," remarks Morelli's Italian connoisseur, almost as his opening statement. "In the way we live nowadays, a man has

scarcely time to collect his thoughts. The events of each day glide past like dissolving views, effacing one another in turn. There is thus a total absence of repose, without which enjoyment of art is an impossibility."[25]

Consequently, the "destructive" aspects of Morelli's criticism can be read as a defensive operation, as old rhythms of culture were being subordinated to the demands of modern commerce.[26] If the cult of art was constructed as a reaction to the intensifying social weight of capitalist commodity production, the archetype of the *connoisseur of images* was constructed as the counterpoint to the mere *consumer of images*.

Honoré Daumier,The Connoisseur (1860–1865). Pen and ink, wash, watercolor, lithographic crayon, and gouache over black chalk on wove paper. Credit: H. O. Havemeyer Collection, Bequest of Mrs. H. O. Havemeyer, 1929.

The Connoisseur's Paradox

The intellectual implications of such "scientific connoisseurship" become clearer still if we look to Morelli's most celebrated follower, Bernard Berenson (1865–1959), who formalized the "Morellian Method" into an alibi for the art market of the Gilded Age.

Berenson systematized Morelli's approach, and further established a new idea of recognizing "artistic personality" as the highest aim of aesthetic intelligence. "The complete description of an artistic personality amounts to identifying an artist's characteristic habits of execution and visualization, noting their changes, deducing from them the ways in which other masters influenced this artist, and finally commenting upon his qualities of mind and temperament, as evidenced by his paintings," explains Carol Gibson-Wood.[27]

It can be argued, based on this, that the particular, near-religious charge of this strain of art connoisseurship is owed to the fact that it seems to offer access to all those qualities lost in the transition to alienated consumption: a sense of the specific conditions of production, the aura of the humanity behind the object.

Yet in reviewing Berenson's methodological treatise, *Rudiments of Connoisseurship* (1898), what also becomes clear is just how oddly the nineteenth-/early-twentieth-century obsession with authorship fit its particular privileged object. Renaissance painting had been rooted in the transition from Europe's medieval world with its workshops and guilds, well before the actuation of Romanticism's ideal of the autonomous artist.[28] created an artist who was more consistent, more distinctive, and more readily recognizable than any actual artist." S. N. Behrman, *Duveen: The Story of the Most Spectacular Art Dealer of All Time* (New York: Little Bookroom, 2003), 107.] Indeed, this particular mismatch explains connoisseurship's micrological obsessions in the first place.

"The artist often left most of the work, if not the whole, to be executed by assistants, unless a special agreement was made that it was entirely or in its most important features, to be from his own hand, although even then he did not always adhere to the terms of his contract," cautions Berenson, explaining to the reader the difficulty of arriving at true knowledge of authorship. Referring to a Raphael that had been downgraded to "Workshop of Raphael": "Often there could have been no pretense at execution on the great master's part. Everything painted in his shop was regarded as his work, even when wholly executed, and even when designed by his assistants."[29]

At this juncture, the projective character of Berenson's hunt for the signs of "artistic personality" within and between works may recall what Michel Foucault says about the operation of the "author function" in literature. In his well-known 1969 lecture "What Is An Author?" Foucault argued that authorship was not a given but merely one historical mode of reception:

> Such a name permits one to group together a certain number of texts, define them, differentiate them from and contrast them to others. In addition, it establishes

a relationship among the texts … The author's name serves to characterize a certain mode of being of discourse: the fact that the discourse has an author's name, that one can say "this was written by so-and-so" or "so-and-so is its author," shows that this discourse is not ordinary everyday speech that merely comes and goes, not something that is immediately consumable. On the contrary, it is a speech that must be received in a certain mode and that, in a given culture, must receive a certain status.[30]

Foucault's interest in the author function remains principally epistemological. Yet even in this passage, the French philosopher hints at how it fulfills an *aesthetic* function: it serves to differentiate its objects from the "immediately consumable," granting them a "certain status," and setting them off from the oblivion of "everyday," anonymous production. The form of artistic consciousness propounded by Morelli and Berenson might, finally, be thought of as the delectation of the author function.

The Ready-Made Eye

If there is one artwork of the twentieth century that would make, in retrospect, the connoisseur's obsession with the "hand of the master" appear antique, it is Marcel Duchamp's *Fountain* of 1917 (the same year that Berenson's *Study and Criticism of Italian Art* appeared in the United States). The lasting provocation of this appropriated urinal, presented as sculpture, stands at the foundation of contemporary art's post-medium pluralism.[31]

Yet it is a much-remarked-upon irony that the original *Fountain*, which was lost, was replicated in 1950 and 1963 with Duchamp's supervision of all the details. This quintessential celebration of the industrial object became, essentially, a precious trophy carefully constructed to evidence, if not the "hand of the master," then definitely his signature.[32]

The Fordist assembly line had only kicked off in 1913, the same year Duchamp's *Nude Descending a Staircase* appeared in New York. An industrial and consumerist world would make new kinds of objects available for repurposing as artistic expression, via collage or mining the pathos of the found object. Such emergent strategies would throw into question many assumptions about what fine art looked like.

Yet, in some ways, rather than representing a break, the changes *Fountain* signaled actually consummated the internal logic already put in play by "scientific connoisseurship." Duchamp famously professed himself indifferent to "retinal art"; Morelli's "destructive criticism"

opposed itself to "superficial impression," and had already turned art appreciation into a cerebral guessing game, centered on questions of authorship.[33]

In its day, Duchamp's *Fountain* remained a novelty, if not an outrage. Its influence would not be truly ascendant until the 1960s, when rising Pop and Conceptual artists discovered in the "ready-made" a legitimating tradition. And it is yet another historical irony that, just as industrial materials were entering into the mainstream of fine art, the conventions of fine art were accumulating around the quintessential industrialized art: Hollywood film.[34] Directed at a mass audience and subject to Taylorized production procedures, individual authorship was so little important to Hollywood's Golden Age (roughly the Twenties to the Forties) that the term "the genius of the System" has come into currency to indicate how the corporation itself, the Studio, fulfilled the role of artist.[35]

Yet by the 1960s, film would become recuperated under "auteur theory" in the writings of figures like André Bazin, establishing the medium as an object for serious intellectual attention rather than a disposable novelty. Critic-turned-filmmaker François Truffaut's book of interviews with Alfred Hitchcock reoriented public perception of the British director, from a flashy hired gun to an artist whose oeuvre displayed a unified personal vision.

"Over a group of films, a director must exhibit certain recurrent characteristics of style, which serve as his signature," another proponent of "auteur" theory, Andrew Sarris, would write in 1962, sounding for all the world like Berenson holding forth on "artistic personality" in painting. "The way a film looks and moves should have some relationship to the way a director thinks and feels."[36] The same conceptual apparatus that could reach back in time to transform Raphael within his Renaissance workshop into an autonomous visionary could transform Hitchcock, working for Paramount, into his distant cousin.[37]

No Quarter

In the final paragraphs of "What Is An Author?," Foucault offers what amounts to a literary prophecy. Associating the author function with "our era of industrial and bourgeois society, of individualism and private property," he hypothesizes that "as our society changes, at the very moment when it is in the process of changing, the author function will disappear."[38]

What is puzzling is that, outside the boutique world of the fine arts and the academy, plenty of texts already fulfilled this post-authorial condition—indeed, the ones that most natively reflected the ideology of "industrial and bourgeois society."

"The words which dominated Western consumer societies

Elsa von Freytag-Loringhoven's sculpture God as photographed by Morton Schamberg (1917). Gelatin silver print. Credit: Elisha Whittelsey Collection, Elisha Whittelsey Fund, 1973.

Alfred Hitchcock poses on a boat in Cannes, May 1972. Photo: AFP/Getty Images

were no longer the words of holy books, let alone of secular writers, but the brand-names of goods of whatever else could be bought," wrote Eric Hobsbawm of the cultural transformations of 1960s and after. The same could be said of the world of images, of which museum-and-gallery art, with its byzantine intellectual concerns, could only form a subordinate part.[39]

On balance, locating "bourgeois" values with either authored or un-authored work is futile. Both tendencies are located within capital, which on the one hand transforms everything into equally exchangeable units, but on the other, reintroduces distinction in the hunt for the kinds of "monopoly rents" that only unique status symbols can provide. As David Harvey has written, this restless dynamic of capital "leads to the valuation of uniqueness, authenticity, particularity, originality, and all manner of other dimensions to social life that are inconsistent with the homogeneity presupposed by commodity production."[40]

If connoisseurship seems to have an unsettled status within contemporary culture, it is because it is caught in these crosswinds. Since production and reception assume one another but are distinct, we can create a matrix of the

possible intersection of our terms:

Quadrant 1 represents the situation in which aesthetic objects designed to be read according to the conventions of fine art meet an audience primed to receive them, the best image being the connoisseur happily nested in the museum.

Quadrant 2 represents these same types of fine art objects read in a non-connoisseurial way. The figure would be the tourists flowing through the Uffizi in Morelli's nightmares, or present-day multitudes lining up to snap a picture of the *Mona Lisa* in the Louvre because of its media-icon status.

Quadrant 3 takes us into the world of industrially produced culture, as it meets its target consumer. For the moviegoer looking for an air-conditioned break with a Hollywood thriller, no less than the car buyer looking to balance sexy design with gas mileage, what the object says about its maker or how it fits into a larger creative vision is not generally the most important factor at play.

Quadrant 4, at last, stands for the situation in which the objects of the "culture industry" are recuperated by

connoisseurship: Hollywood film sublimated via auteur theory, automobiles transfigured via new-minted cultures of classic-car appreciation. "The car is always an assemblage," advised one sage recently, "not just an object, but a bundle of stories, paperwork, contexts, as well as parts."[41]

The argument in this essay has been that the divisions that form this matrix reflect the way that culture refracts the alienation and class stratification characteristic of capitalist society. Given these roots in political economy, it should be no surprise that at different times and places, pressing the merits of any of these four quadrants over the others has taken the appearance of political critique.

Thus, in what can only be described as a kind of Marxist connoisseurship, the art object and the free play of aesthetic perception have often been seen as standing positively for a glimpse of the unalienated world that could be, beyond capitalism (Quadrant 1). At other moments, unmasking the fine art cult as the product of class privilege has been the key vector of critique (Quadrant 2).

In the early twentieth century, subordinating the individual, bourgeois values of art to industry with the idea of producing "art for all" rather than luxury goods for an elite took on a socialist cast in Soviet Productivism and in the Bauhaus (Quadrant 3). At other times, recovering the humanity and individual creativity occluded behind the commodity might well have its own polemical charge (Quadrant 4).[42]

Referring to the poles of fine and mass art, Theodor Adorno once wrote, "Both bear the elements of capitalism, both bear the elements of change … both are the torn halves of an integral freedom, to which however they do not add up."[43] To elaborate him, you could say that all four quadrants of this matrix are torn parts of an integral freedom, to which they, nevertheless, do not add up.

What seems to me to be characteristic of the present moment is the intensification of the confusion between the different positions. A rapacious contemporary capitalism relentlessly seeks to carve out spaces of nouveau-snobbery and privilege, while also despoiling and profaning old spaces of solace—sometimes simultaneously. But this chaotic situation might have a use, at least as an illustration.

One of the operations of power is to deflect the critique of capitalism onto the terrain of a more limited cultural critique. The condemnation of arrogant elitism or dumbed-down consumerism, of the detached art object or the degraded commodity form, has value. But, being partial, such critiques are always liable to overshoot their mark, and become their opposite. In the end, you have to keep your sights on transforming the system that produced such contradictions in the first place.

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1
Jeremy Melius, "Connoisseurship, Painting, and Personhood," *Art History* , April 2011, 289.

2
Allan Wallach, Bully Pulpit, *Panorama* , Fall 2015 http://journalpanorama.org/alan-wallach/

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"Classic cars are gaining attention due to their nearly 500 percent returns over the past decade, outpacing art and wine by more than 100 percent, as reported by the Knight Frank Luxury Investment Index." Deborah Nason, "'Passion investing' in classic cars is gaining speed," CNBC, January 4, 2016 http://www.cnbc.com/2016/01/04/passion-investing-in-classic-cars-is-gaining-speed.html

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Martin Riese, "How America's Only Water Sommelier Is Changing the Way People Taste H20," *Eater*, April 7, 2015 http://www.eater.com/drinks/2015/4/7/8360993/how-las-only-water-sommelier-is-changing-the-way-people-taste-h20

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Sarah Maslin Nur, "Unwrapping the Mythos of Mast Brothers Chocolate in Brooklyn," *New York Times* , December 20, 2015 http://www.nytimes.com/2015/12/21/nyregion/unwrapping-mast-brothers-chocolatier-mythos.html

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Holland Cotter, "Toward a Museum of the 21st Century," *New York Times* , October 28, 2015 http://www.nytimes.com/2015/11/01/arts/design/toward-a-museum-of-the-21st-century.html

7
Hal Foster, "After the White Cube," *London Review of Books*, March 19, 2015 http://www.lrb.co.uk/v37/n06/hal-foster/after-the-white-cube

8
Carolina Miranda argues that it is, in fact, designed to be experienced photographically, remarking that *Rain Room* is "more of a one-sided Hollywood set ideal for picture-making than a full-fledged environmental installation that will subsume you with its awesome water power." Carolina A. Miranda, "Art for Instagram: 3 lessons from LACMA's 'Rain Room,'" *Los Angeles Times* , December 2, 2015 http://www.latimes.com/entertainment/arts/la-et-cam-instagram-art-3-lessons-from-lacma-rain-room-20151201-htmlstory.html

9
See Ben Davis, "Scented Candle Installation Brings Optimistic Mood to Lower Manhattan," *artnet News* , December 16, 2015 https://news.artnet.com/art-world/museum-of-feelings-glade-selfies-393291

10
Larry Shiner, *The Invention of Art: A Cultural History* (Chicago: University of Chicago, 2003), 70.

11
Ibid., 180.

12
Ibid., 187.

13
Eric Hobsbawm, *The Age of Capital: 1848–1875* (New York: Vintage: 1996), 335.

14
Elaine O'Brien, "The Location of Modern Art," *Modern Art in Africa, Asia, and Latin America: An Introduction to Global Modernisms* , eds. Elaine O'Brien, Everlyn Nicodemus, Melissa Chiu, Benjamin Genocchio, Mary K. Coffey, Roberto Tejada (Hoboken, NJ: Wiley-Blackwell, 2013), 5.

15
Dōshin Satō, *Modern Japanese Art and the Meiji State: The Politics of Beauty* (Los Angeles: Getty Research Institute, 2011).

16
The transformation of Japanese artist identity from "artisans with technical skills" to "full-fledged intellectuals who could express their individual impressions of the world" would develop fully only after the initial period of corporatism of Japan's early industrial drive, and as a reaction to the latter. Gennifer Weisenfeld, "Western Style Painting in Japan: Mimesis, Individualism, and Japanese Nationhood," *Modern Art in Africa, Asia, and Latin America* , 171.

17
Prior to Jonathan Richardson (1667–1745), the English cultural elite favored a "cabinet of curiosities" aesthetic, and had little value for art or the artist as particularly exalted. As late as 1689, one of the leading cultural figures of his day, John Evelyn (1620–1706), could write, "I am in perfect indignation of this folly as when I consider what extravagant summs ... given for a dry scalp of some (forsooth) Italian painters hand let it be of Raphael or Titian himselfe, [which would be

18
For Richardson, attribution was slightly less important than the discernment of "Quality," for which he had devised a humorously elaborate eighteen-point scale. See Carol Gibson-Wood, *Studies in the Theory of Connoisseurship from Vasari to Morelli* (New York: Garland Publishing, 1988), 103–107.

19
Carlo Ginzberg compares Morelli's method to both Sherlock Holmes and Sigmund Freud, who, indeed, was influenced by Morelli. See "Clues: Roots of an Evidential Paradigm," *Clues, Myths, and the Historical Method,* trans. John Tedeschi and Anne C. Tedeschi (Baltimore: Johns Hopkins University Press, 2013), 96–125.

20
Giovanni Morelli, *Italian Painters: Critical Studies of Their Works* , trans. Constance Jocelyn Ffoulks (London: John Murray, 1900), 59 https://archive.org/details/italianpainters00pampgoog

21
Ibid., 60.

22
Ibid., 59.

23
As to day-to-day politics, Morelli served in parliament and was a partisan of the Count of Cavour. He was a patriot who fought in the revolutions of 1848, but was a moderate monarchist rather than on the side of the radical left-wing elements of the Italian political scene. "Principles and Method" ends with an allusion to Morelli's self-perception as fitting nowhere between two extremes: unable to find the Italian connoisseur, the Russian narrator finds that those who knew him offer contradictory accounts of his fate and political profile: One person remembers him as a "Codino," or reactionary monarchist, while another describes him as having been an "anarchist." Ibid., 61–62.

24
Ibid., 25.

25
Ibid., 9.

26
Morelli's relationship to the art market was itself contradictory. On one hand, he acted as a broker for many famous Italian works of art, helping to shape, in particular, Britain's National Gallery. On the other, a law protecting Italy's artistic heritage from sale bears his name.

27
Gibson-Wood, 246.

28
Because the idea of the artist thus proposed represented a fictional unity, it was possible to conjure a coherent "artistic personality" where none existed. Such is the case with Berenson's creation "Amico di Sandro," his name for a previously unknown Renaissance artist that he deduced lay behind a sequence of works that were connected to, but did not fit the exact signatures, of any of an array of major figures. The intuition later proved to be false. "In Amico di Sandro he [Berenson

29
Bernard Berenson, *Rudiments of Connoisseurship: Study and Criticism of Italian Arts* (New York: Schocken Books, 1962), 114.

30
Michel Foucault, "What Is An Author?" in *Aesthetics, Method, and Epistemology* , ed. James D. Faubion (New York: New Press, 1999), 210–211.

31
It is amusing to note that a controversy hovers over the authorship of *Fountain*. In April 1917, Duchamp wrote a letter stating, "One of my female friends under a masculine pseudonym, Richard Mutt, sent in a porcelain urinal as a sculpture; it was not at all indecent—no reason for refusing it. The committee has decided to refuse to show this thing. I have handed in my resignation and it will be a bit of gossip of some value in New York." That artist would likely have been Elsa von Freytag-Loringhoven, the proto-Dada, proto-performance artist, a known associate of Duchamp's who had already been working in found-object art. Contemplating what the implications of such a monumental reattribution would be throws into relief the degree to which our understanding of this quintessentially anti-artisinal artwork rests on the classic obsession of connoisseurship:

appreciation of the "artistic personality" behind the work. See Sophie Howarth, revised by Jennifer Mundy, "Marcel Duchamp: Fountain," Tate website http://www.tate.org.uk/art/artworks/duchamp-fountain-t07573/text-summary

32
"Duchamp signed each of these replicas on the back of the left flange 'Marcel Duchamp 1964'. There is also a copperplate on the base of each work etched with Duchamp's signature, the dates of the original and the replica, the title, the edition number and the publisher's name, 'Galleria Schwarz, Milan'. For some, such replicas seemed to undermine cardinal qualities of ready-mades, namely, that they should be mass-produced items and ones chosen by an artist at a particular moment and time. Duchamp, however, was happy to remove the aura of uniqueness surrounding the original ready-mades, while the production of replicas ensured that more people would see the works and increased the likelihood that the ideas they represented would survive." Ibid.

33
Indeed, in his 1960 denunciation of Morellian connoisseurship of painting, Edgar Wind describes its implications in terms that prophecy many a critique of the gamesmanship of Conceptual Art: "If we allow a diagnostic preoccupation to tinge the whole of our artistic sensibility, we may end by deploring any patient skill in painting as an encroachment of craftsmanship upon expression." Edgar Wind, "Critique of Connoisseurship," *Art and Anarchy* (Evanston, IL: Northwestern University Press, 1985), 46.

34
Lawrence Levine traces how the "high culture" model of sacred solo author came to be transposed onto practices that would seem distant from them. "To say that sacralization remained an ideal only imperfectly realized is not to deny that it became a cultural force. As with many ideals, the contradictions were resolved not primarily by denying them but more powerfully by failing to recognize them. Thus the great Hollywood director Frank Capra, who was, as all directors are, dependent upon writers, cameramen, editors, and actors, could assert as his credo and the

reality of his career: 'One man, one film.' Film directors who ignored, or downplayed, the collective nature of their art and conceived of themselves as *auteurs* , with the model of the novelist so clearly in mind, were not aberrations." Lawrence W. Levine, *Highbrow/Lowbrow: The Emergence of Cultural Hierarchy in America* (Cambridge, MA: Harvard University Press, 1988), 168.

35
See Thomas Schatz, *The Genius of the System: Hollywood Filmmaking in the Studio Era* (Minneapolis: University of Minnesota Press, 2010)

36
Andrew Sarris, "Notes on the Auteur Theory in 1962," in *Film Culture Reader* , ed. Adams P. Sitney (New York: Cooper Square Press, 2000), 132.

37
According to Hitchcock's biographer, Truffaut's book of interviews "hurt and disappointed just about everybody who had ever worked with Alfred Hitchcock, for the interviews reduced the writers, the designers, the photographers, the composers, and the actors to little other than elves in the master carpenter's workshop." Donald Spoto, *The Dark Side Of Genius: The Life Of Alfred Hitchcock* (Cambridge, MA: Da Capo Press, 1999), 495.

38
Foucault, 222.

39
Hobsbawm continues: "The images that became the idols of such societies were those of mass entertainment and mass consumption: stars and cans. It is not surprising that in the 1950s, in the heartland of consumer democracy, the leading school of painters abdicated before image-makers so much more powerful than old-fashioned art." Eric Hobsbawm, *Age of Extremes: A History of the World, 1913–1991* (New York: Vintage Books, 1991), 513.

40
David Harvey, "The Art of Rent," *Rebel Cities: From the Right to the City to the Urban Revolution* (London, Verso, 2012), 109–110.

41
Michael Shanks, "car collection—connoisseurship and archaeology," mshanks.com,

March 8, 2015 http://www.mshanks.com/2015/03/08/car-collection-connoisseurship-and-archaeology/

42
Fascinatingly, Walter Benjamin, the theorist of the revolutionary potentials of "mechanical reproducibility," also seems to give the best account of revolutionary connoisseurship: "The most profound enchantment of the collector is the locking of the individual items within a magic circle in which they are fixed as the final thrill, the thrill of acquisition, passes over them. Everything remembered and thought, everything conscious, becomes the pedestal, the frame, the base, the lock of his property. The period, the region, the craftsmanship, the former ownership—for a true collector the whole background of an item adds up to a magic encyclopedia whose quintessence is the fate of his object." Walter Benjamin, "Unpacking my Library: A Talk about Book Collecting," *Illuminations* , trans. Harry Zohn, ed. Hannah Arendt (New York: Schocken Books, 1969), 60.

43
Theodor Adorno, "Adorno to Benjamin," *Aesthetics and Politics* (London: Verso, 2007), 123.

We are sometimes given a vagina—and that designates a "woman"—virgin, bride, etc.—and sometimes a penis—and that indicates a "man"—bachelor, groom, etc. This physiological accident was never anything more than the effect of an assuredly ironic causality: the laws of Euclidian geometry. In a four-dimensional study ... vagina and penis, like an anamorphic illusion, would immediately lose all distinctive character. It is the same object that we would sometimes see as "male" and sometimes as "female," in this perfect mirror-like reversal of the body that presupposes, because it takes place, the existence of a fourth dimension.

—Jean Clair, *Sur Marcel Duchamp et la Fin de l'Art*

Ana Teixeira Pinto

Enantiomorphs in Hyperspace: Living and Dying on the Fourth Dimension

Enantiomorphs and Kant

An object that has a length has one dimension. A length and width make two, and an object with a length, a width, and a height has three dimensions. Any object that really exists, from the time it came into existence until the moment it vanishes forever, has duration, the fourth dimension. Before the fourth dimension began to be treated as time, however, it was briefly described as a transcendental dimension of space and imagined as the domain of whatever way of being in extension came after height.

The possibility of higher-dimensional space is often traced to the twenty-four-year old Immanuel Kant, who speculated, in *Thoughts on the True Estimation of Living Forces* (1747), that "if it is possible that there are extensions with other dimensions, it is also very probable that God has somewhere brought them into being; for His works have all the magnitude and manifoldness of which they are capable." He later returned to this thought in *The Prolegomena to Any Future Metaphysics* (1783), where, in a puzzling little paragraph, he asks himself: If all space were empty but for a single human hand, would it make sense to ask whether that hand was specifically a right hand?[1]

To visualize the problem Kant posed, imagine the outline of a hand printed onto a transparent surface. It can appear to be either a left or a right hand, depending on the position of the observer. Left or right only make sense within the boundaries of two-dimensional space; once you move into the third dimension, left and right become observer-dependent, rather than independent,

characteristics. Their outline is neither left nor right, but sometimes left and sometimes right.

This is because right and left hands are identical but asymmetrical. Kant called these objects "incongruent counterparts," known in geometry as enantiomorphic objects. Enantiomorphs are objects whose geometrical properties are exactly alike, but which are not congruent: were one to move a right hand onto the left-hand position, the two wouldn't match. The thumb would always be found on the opposite side. Though this might seem trivial, for Kant enantiomorphs were tied to the very nature of space. Were one to insert a handless body into the space that contains only a single hand, our perception would radically change: clearly the severed hand would not fit onto either wrist; it would fit only either the right or the left one. Say it fits the right wrist, does that mean it was a right hand all along?

Prior to Kant, Leibniz had argued that "space has no reality apart from material things; it is nothing more than an abstract, mathematical description of relations that hold between objects."[2] Space is the order of the coexistence of bodies, just as time is nothing other than the order of the succession of events. Kant was however persuaded that the existence of "incongruent counterparts" pointed to a different perspective: space is absolute, and it determines, instead of being determined by, the objects inside it.[3]

It wasn't until 1827, eighty years after Kant published his initial paper on "living forces," that August Ferdinand Möbius realized that since adding depth to the plane allowed for a two-dimensional hand to be flipped over by rotating it around an axis, in a forth dimensional space a three-dimensional hand could likewise be "turned over," e.g., reversed from a left hand to a right one.[4] Möbius imagined the move to four dimensions as analogous to the move from two dimensions to three, in effect generalizing the rules of three-dimensional Euclidean space to include the hypothetical fourth dimension. The canonical objects for these rotations are the Möbius strip (a paradoxically unisurficial and unilateral volume) and the Klein bottle (named after Felix Klein, the Klein bottle is constructed by joining the edges of two Möbius strips, and has neither an inside nor an outside). If a flat being walks along a Möbius strip, his innards will reverse themselves, and he will end up with his heart on the right-hand side; a snail whose shell spirals counterclockwise would find it reversed to clockwise by the end of its stroll.

In 1846, spatial speculation went further when the physicist and experimental psychologist Gustav Theodor Fechner made the existence of a fourth dimension comprehensible to a wider audience. His essay "Der Raum Hat Vier Dimensionen" (published under the pseudonym "Dr. Mises") proposed a dimensional analogy: the reader is asked to imagine how one would explain the third dimension to a shadow-like being inhabiting a flat,
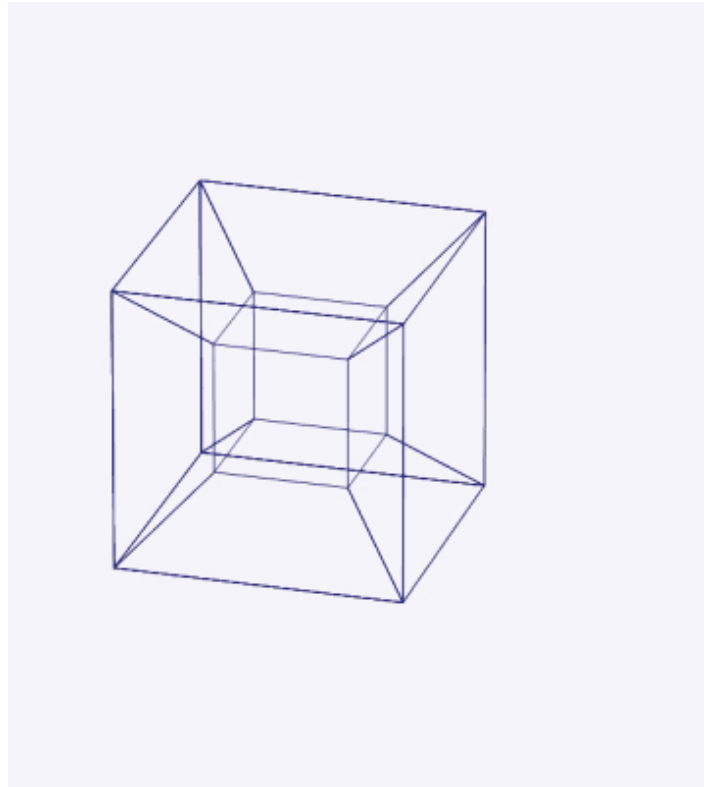
The 4-D cube or tesseract rotation in a perspective projection unwraps from 4-D to 3-D and then back to 4-D again. Source: Wikimedia Commons.

two-dimensional world. The shadow-man, Fechner argued, would likely perceive a third-dimensional being as some sort of motion. Imagine a sphere intersecting a plane: the flat creatures who inhabit said plane cannot possibly conceive of a three-dimensional thing such as a sphere. Instead, the sphere's transit appears as a series of circles increasing and then decreasing in size. Two dimensional beings would thus mistake the third dimension for a temporal phenomenon––as a sequence of multiple two-dimensional objects rather than the movement of a single three-dimensional one. In an analogous manner, Fechner reasoned, we three-dimensional creatures are unable to grasp the fullness of a four-dimensional being, and are likely to make the same mistake as our shadow counterparts, misrecognizing the morphology of fourth-dimensional beings as a kind of motion and identifying it with time.

Such arguments for a spatialized fourth dimension were enabled by the development of non-Euclidian geometries and n-dimensional space. Although Möbius had given the physical properties of four-dimensional objects a solid mathematical grounding, non-Euclidian geometries do *not* necessarily imply a fourth, Euclidian dimension comparable to the initial three.[5] As physicist Hermann von Helmholtz noted, the "so-called measure of space curvature is a quantity obtained by pure analytical

calculation and its introduction involves no suggestion of relations that would have a meaning for sense perception."[6] Whereas Helmholtz, mathematician Bernhard Riemann, and Bertrand Russell treated the fourth dimension as an algebraic variable of analytic geometry, fourth-dimension enthusiasts instead spread the gospel of the fourth dimension as a generalization of Euclidian space. Like other such breakthroughs, these discoveries soon migrated outside the realm of science to be popularized, moralized, and personified by mystics, visionaries, and writers.
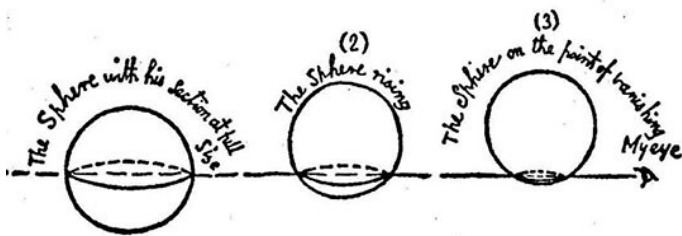

Image from Edwin A. Abbott's book Flatland: A Romance of Many Dimensions (1884). According to the frontispiece of the novella, the illustrations are credited to A Square.

Specters From the Fourth Dimension

The nature of space is not simply a physical question, but a metaphysical one. Once a consensus had been reached that space is infinite and thus, by necessesity, homogenous, the question becames where to place God. He cannot be inside space, since the creator cannot be lesser than the creation. But nor can he be outside space, since space is infinite. Arguing against the idea of God as supra-mundane intelligence, but also not willing to identify Him with space, Newton proposed that space   is God's *sensorium*, the *organ* which God makes use of to perceive things. Though Newton later backtracked,[7] in the nineteenth century the residual belief in the "world soul" would experience a revival, reinforced by the surge of interest in Buddhism and Hinduism.

Not only God was left homeless by Newtonian physics: once space becomes homogenous, spirits and specters are also forced to assume properties within the jurisdiction of the laws of physics. The materialization of psychic phenomena was a widespread obsession in late-nineteenth-century occult circles. Around the 1870s, a plethora of psychics claimed the ability to act as conduits or transmitters; much like a human radio frequency receiver, they could allegedly capture cosmic vibrations that were said to manifest in a fashion similar to electromagnetic waves. In the 1880s Oliver Lodge linked "psychical phenomena such as telepathy, telekinesis, and ectoplasm" to the ether, "speculating that electrical and psychical manifestations were linked phenomena that

described the deeper underlying structures of the universe, beneath and beyond matter."[8] Like the ether, ectoplasm can be at times a medium, at times a substance—these metamorphic entities are, one could say, analogues for money, which itself had been transforming rapidly between a medium of exchange and a commodity form since the panic of 1873. The wave theory of light also presupposed the existence of a medium in which the light waves could propagate, leading both Thomson (Lord Kelvin) and Maxwell to treat "the electromagnetic field as the product of the structure and motions of an underlying mechanical ether."[9] The field of physiology dealt with telepathy and telekinesis, and there was no clear distinction between the scientific domain of neurophysiology, the emergent field of electromagnetic technologies, and the para-scientific circles of esoteric beliefs and séance gatherings.

Influenced by Fechner's ideas, Johann Karl Friedrich Zöllner, the chair of astrophysics at Leipzig University—the same place where Möbius taught–––came to the conclusion that spirits were in reality four-dimensional beings, whose existence could only manifest itself partially. Zöllner was fascinated by the American medium Henry Slade's (alleged) ability to tie and untie knots in a cord whose ends had been previously sealed with wax—a deed which, in Zöllner's view, proved that the fourth dimension was real. Zöllner hypothesized that spirits could turn a three-dimensional object into its mirror image by means of a rotation in four-dimensional space. He had Slade conduct séances under laboratory conditions in which Slade attempted to turn the clockwise spiral on snail shells counterclockwise, remove a coin from a locked container, and interlink rings. Wilhelm Wundt, the psychologist who Zöllner had invited as an observer, felt immediately suspicious of the ghost's poor grasp on German grammar.[10] Slade also failed to invert the snail's spiral. None of this affected Zöllner's belief in four-dimensional beings, however. Nor did the fact that Slade had been tried for fraud in 1876, or that his tricks were exposed by the Seybert Commission in 1885.[11] Zöllner was unwavering, and mobilized his colleagues in Slade's defense. When fellow scientists began to scrutinize his séances, Zöllner accused Wundt of being possessed by evil spirits. The debunking of Slade's hoax also did not dent the growing public appeal of the fourth dimension, and literature on the subject proliferated in inverse proportion to its scientific credibility.

The Fourth Dimension as Social Metaphor

While the dimensional analogy argument seemed compelling, higher dimensions didn't readily lend themselves to pictorial representation. Though Ludwig Schläfli had discovered six higher-dimensional regular polyhedra in 1852, he worked algebraically: without any means to visualize these figures, his readership was
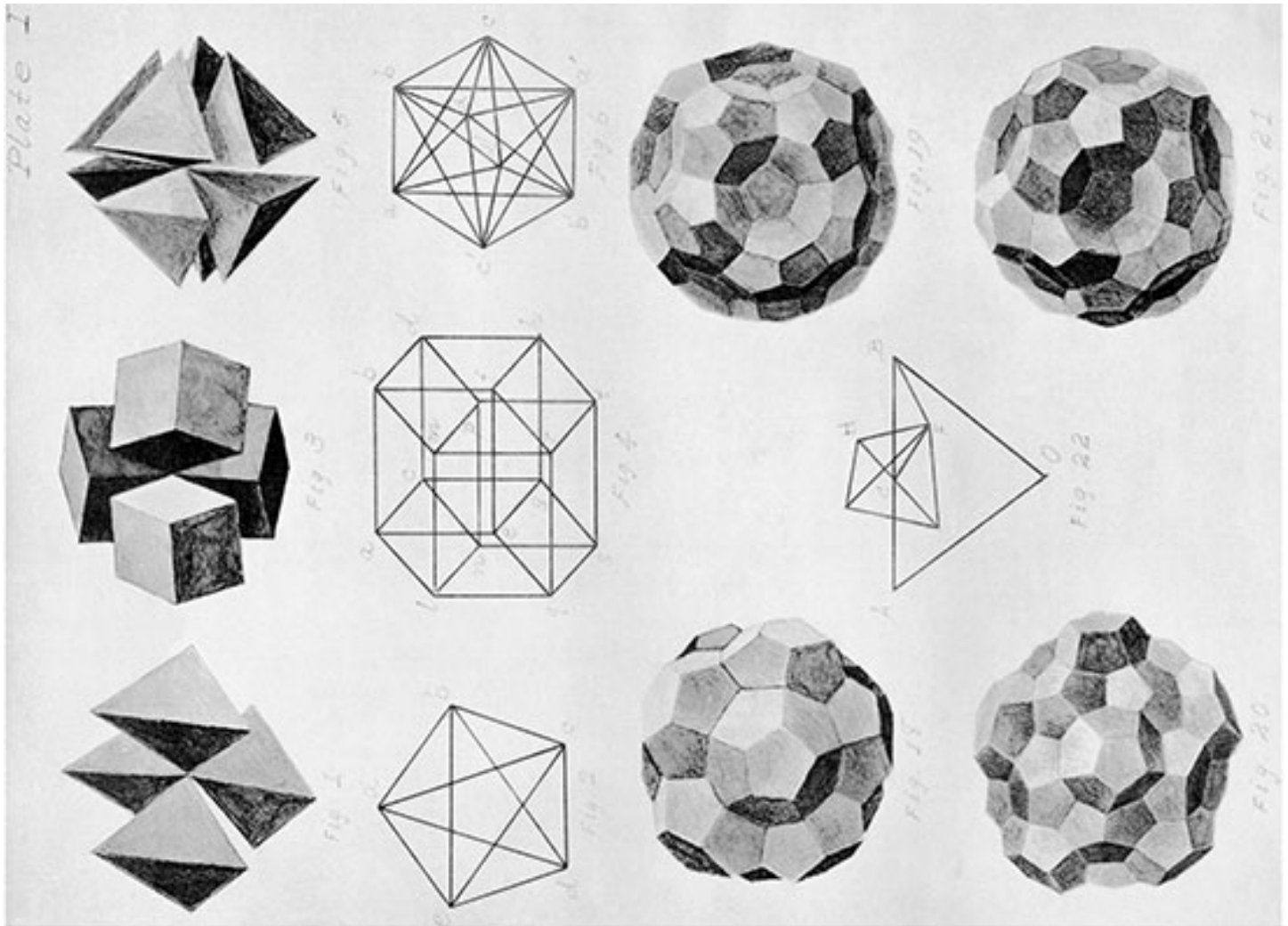
Illustration of regular figures in n-dimensional Space by W. I. Stringham. First published in the American Journal of Mathematics, Vol. 3, No. 1 (March 1880): 1–14.

unfazed. To envision the fourth dimension remained virtually impossible. Like capital, whose magnitude cannot be observed or quantified directly, only revealing itself through the price system, the fourth dimension only reveals itself indirectly.

This can perhaps account for the success of "What is the Fourth Dimension?," an 1880 article by the mathematician and science fiction author Charles Howard Hinton, which was subsequently reprinted nine times. Hinton recognized that it would be impossible to grasp the forth dimension directly, and so he introduced a system of colored cubes—the study of which, he claimed, made it possible to train the mind to visualize four-dimensional space. Following Hinton's method, "we are to see the sections of the tesseract as they pass through our space, and the patterns of changing colors are means of recognizing the position of the tesseract and its component cubes at any moment."[12]

That same year, W. I. Stringham published "On Regular Figures in N-Dimensional Space," an article containing one of the earliest known illustrations of the projections on a plane of the six regular polyhedroids or polytopes—the four-dimensional counterparts of the five regular polyhedra.[13] Like Hinton, Stringham worked synthetically; unlike Hinton however, he did not equate higher mathematical dimensions with heightened states of consciousness.[14] In later works (such as "Casting out the Self" and *A New Era of Thought*), Hinton argued that in order to access the higher order of being occluded by Euclidian space, one must cast out the self, i.e., get rid of both one's familiar spatial coordinates (left/right, up/down) and one's sense of personhood by identifying with another person. Building on Thomson's vortex theory, Hinton also suggested that electrically charged particles are kinds of four-dimensional enantiomorphs or mirror images, which appear at times positive and at times negative because space warps around the unseen fourth dimension: what appears as a physical force—attraction and repulsion in the case of electromagnetism—is an
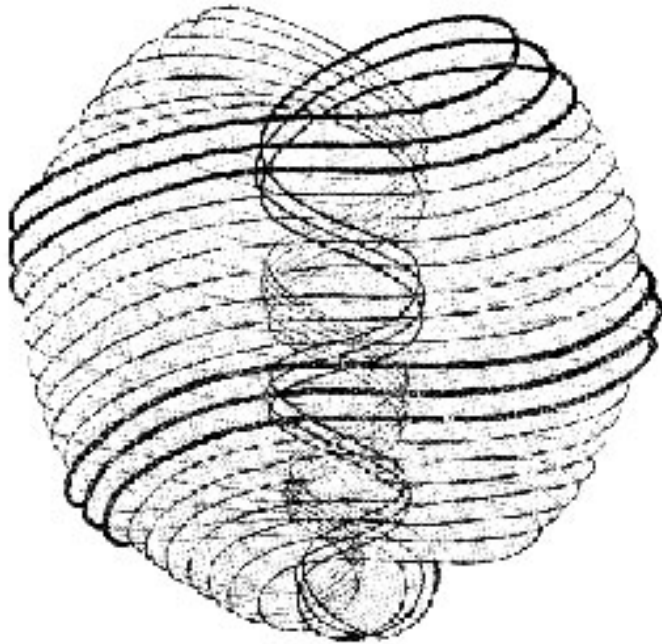
MALE.
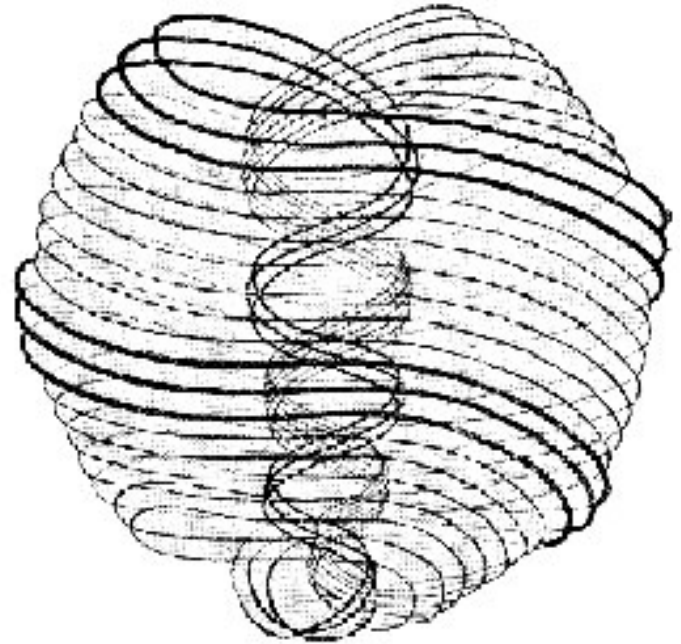
FEMALE.

Plate illustrating the "Ultimate Physical Atoms," published in "Occult Chemistry Clairvoyant Observations on the Chemical Elements" (1908) by Annie Besant and Charles W. Leadbeater. The Atoms are described as follows: (left) one is like a spring, from which water bubbles out; the other is like a hole, into which water disappears. We call the atoms from which force comes out positive or male; those through which it disappears, negative or female.

effect of geometrical properties.[15] This important insight foreshadowed Theodor Kaluza's observation that the fundamental forces of physics can be unified by the introduction of higher spatial dimensions.[16]

Hinton's method was found wanting, however. A reader called the autohypnotic process "completely mind-destroying," and rumors subsequently arose that Hinton's cubes could drive unsuspecting gentlemen insane.[17] In an unrelated twist of fate, Hinton was convicted of bigamy for marrying both Mary Ellen Boole (daughter of Mary Everest Boole and George Boole, the founder of mathematical logic) and Maud Florence Weldon. In 1885 Hinton served three days in prison, thereafter leaving England in a self-imposed exile.

The fourth dimension also had no shortage of detractors. In *Alice in Wonderland* and *Through the Looking Glass* (written under the name "Lewis Carroll" for fear of reprisals), Charles Dodgson mercilessly mocked the novel mathematical ideas which, he felt, opened up a slippery slope between the language of algebra and that of geometry, endowing algebraic variables with the semblance of concrete existence.[18] In Euclidean geometry, mathematical objects are conceived as the

ideal representation of their physical counterparts. Euclid believed that the problem of the universal applicability of a method was the problem of the universality of the mathematical objects themselves. Post-Cartesian mathematics, on the other hand, "identifies the object represented with the means of its representation and it replaces the real determinateness of an object" with a sign which "signifies possible determinacy."[19] The function of such signs is to establish a relation between that object and the overall system of mathematical objects. The objects themselves exist only through such relations. The fourth dimension, Carroll argued, was a case of the hypostatization of language: abstraction taken literally, and set phrases, metaphors, and figures of speech given concrete reality.[20]

In his review of "What is the Fourth Dimension?" Bertrand Russell also accused Hinton, whom he called a "conscientious bigamist," of claiming that "our three-dimensional world is superficial," in a manner which blended "the common and the mathematical meaning of this adjective," thus equivocating social grievances and spatial properties.[21]

Objections notwithstanding, the reification of

language––owing to the outright identification of the mental with the transcendental—became the hallmark of Victorian theory. According to *Thought-Forms* (1901) by the Theosophists Annie Besant and Charles Leadbeater, "thoughts are things," and as such, they can manifest as visible auras. The Theosophical concept of "astral vision" was, in Leadbeater's view, akin to a form of four-dimensional sight, and he equated the Theosophical doctrine of higher planes of consciousness with higher-dimensional space, the "astral plane."[22]

The belief in metamorphic entities which only reveal themselves partially, and the description of matter existing at what Leadbeater would call varying degrees of "tenuity," mirrors the Marxist description of an object-world whose familiar appearance is nothing but a distortion of the static bourgeois gaze. Like atoms whose vortices are the visible motions of an invisible ether, the object-as-commodity is the visible tip of an invisible whole. Capitalism is a multidimensional force whose properties can only be grasped sectionally. Much like the fourth spatial dimension is misrecognized as time, the intersections of the inscrutable flows of capital with the social body are misrecognized as a sequence of micro-pressures rather than the movements of a single, titanic pull.

Higher-dimensional theory and Theosophy tend to share with socialism a disaffection with the rigidity of social norms, roles, and protocols. Unlike socialism, however, speculation about higher dimensions or astral vision tends to misrecognize societal constraints as spiritual hindrances, thus preventing social tensions from taking a political form.

But the fourth dimension has a political unconscious. In Edwin Abbott's satirical novel *Flatland: A Romance of Many Dimensions* (1884), the social anxieties lurking in higher-dimensional speculation are all made manifest. In *Flatland*, social restrictions are expressed as spatial limits. The flat universe is a caste society in which social ranking follows from geometric shape: the more sides to a polygon, the higher its ranking. Women are simple lines, and social mobility is strictly regimented, allowing the polygons to ascend the social ladder only one generation at a time. Potential working class leaders are either promoted or eliminated. *Flatland* is a scathing critique of Victorian England's punitive polity and rigid class divide. In a society shaped by glaring asymmetries and uneven development, economic insecurity was swiftly systematized into a code of conduct, making coercion from without appear as coercion from within.

At the same time, the novel also became the major vehicle for the dissemination of the dimensional analogy. By describing a fantastic world of flat beings (like squares and circles) for whom three-dimensional forms (like spheres and cubes) seem supra-natural, *Flatland* proposed a logical sequence: lineland—flatland—spaceland. The

analogy is then extended to account for our own awe at the thought of four-dimensional beings who are able to see our innards much the same way that we are able to see the inside of a circle, and who are endowed with the power to turn our bodies over with the same easy with which we flip geometrical figures around an axis. And what would it be like to be turned over in the fourth dimension? Well, you'd rotate around a plane that cuts through your body—through the tip of your nose, through your navel, and through your spine. While that plane would stay in our own three dimensional space, the rest of you would swing past the rotation plane, through the fourth dimension, and onto your mirror image. Think of a right-hand glove turned inside out: it now fits your left hand instead.

Anatomical Venus was the common name for wax anatomical models used in the teaching of anatomy. Most wax models originated in the workshop of Clemente Michelangelo Susini (1754–1814). The most famous Anatomical Venus is The Venerina, the sensuous depiction of a young pregnant woman whose trunk can be removed to reveal her internal organs.

Enantiomorphs and Lacan: The Fourth dimension as Sexual Phantasm

The fourth dimension was also tied up with a definition of gender, as a geometrical ideal which abolishes sexual differentiation. Male and female can be construed as four-dimensional enantiomorphs, whose division is a distortion of the limited three-dimensional gaze bound by the laws of Euclidian geometry. In a four-dimensional space the notion of a distinct gender would lose all specificity, and an object would sometimes appear as male, sometimes as female, depending on the observer's position. As Jean Clair—who described Marcel Duchamp's *Dart Objects* as a representation of fourth-dimensional genitalia—observes, this reversability of organs, like the

structure of a glove turned inside out, would point to the fact that "the penis and vagina are a single organ, one and the same—an otherwordly organ, a Mélusinian organ," and that "the genitals, seen as truncated, like the division of the being from itself—like a lack—is merely the *effect* of three-dimensional space."[23]

In Victorian England, the female body depended upon the male body for its definition, anatomically as well as politically,[24] and metaphors of inversion structured the rhetoric of fields as diverse as medicine and morals, reflecting a broader tension between inner and outer. The quivering masturbator, for instance, emerged as a disruptive figure because masturbation directs sexuality "inwards," towards nonreproductive ends. Meanwhile,in medical and forensic science, female anatomy was seen as a reversal of male anatomy. "The female was the male, turned outside in, retaining in her body the organs that, properly developed, were necessarily outside. Thus the ovaries were called 'female testicles' ... The vagina was the penis; the uterus the scrotum."[25] The female is, as it were, a mutilated male.

Between September and October 1888, the serial killer known as Jack the Ripper murdered five women in such a gruesome and brutal way that his crimes received unprecedented coverage in the media. Violent sexual attacks were not uncommon in Victorian London (in fact, two other victims were initially added to the Ripper's tally, so high was the murder rate in Whitechapel), but none looked like these. According to the forensic notes made by Dr. Thomas Bond, the perpetrator cut the women's throats and sliced the tissue of their necks down to the bone, then divided their bodies along an axis, from chin to pelvis, before removing the whole surface of the abdomen and extracting its viscera. Distressed policemen said it was as if the killer was trying to turn his victims inside out. This ritual bore an eerie resemblance to the literary accounts of how one could be "turned over" like a glove by moving around a plane that cut through the body from navel to spine, in order to rotate through the fourth dimension and into one's mirror image.

It is perhaps a coincidence that the first modern serial killer seemed to mimic the fantasies of anatomical reversal that emerged alongside the modern conception of (n-dimensional) space. It has nonetheless been speculated that Lewis Carroll could have been Jack the Ripper—the cut-out face of the Ripper's last victim, Mary Jane Kelly, resembled the faceless smile of the Cheshire Cat.[26] Other suspects with conspicuous connections to the fourth dimension are not in short supply: for example, the royal physician Sir William Gull, whose close friend James Hinton was the father of Charles Howard Hinton. Hinton himself, a convicted bigamist, would have made for a prime suspect, had he not been in Japan at the time of the murders.

But there were other things that could constitute a threat

Marcel Duchamp, Wedge of Chastity, 1954.

to the sanity of the Victorian gentleman, in addition to staring at colored cubes piercing a three-dimensional plane. Anatomical models that idealized and sexualized female corpses—the so-called anatomical Venus—were a common staple of medical schools. The yearning for an unresisting and unrejecting object fueled fantasies of an infantilized Womanhood––like the photographs of Alice Liddell, the child Alice of Carroll's books—and gave rise to a fascination with unresponsive bodies. Since procuring children was more socially acceptable than procuring corpses, pedophilia fostered a booming brothel industry, whilst necrophilia sought refuge in literature and the visual arts.

Is the fourth dimension a mathematical hypothesis or a sexual phantasm? Partial objects, as Lacan put it, are not biologically given but an effect of the signifying system of language. The fourth dimension was at once a mathematical construct and a fear of mutilation, which went hand in hand with a longing for "complete" genitalia as the place of erotic fulfillment. As Simone de Beauvoir would later argue, one is not born a woman (or a man)—one becomes one. What appears as gender is indeed an effect of the way space is partitioned, but as Poincaré pointed out in the year prior to the Ripper's murders, the word "space" can refer to different things: physiological space, which is defined by motor, tactile, and visual perception; and geometrical space, which is infinite and homogenous.[27] There is a third category that Poincaré left out, however. The word "space" can also refer to social space, that elusive entity whose vectors warp morphology and chronology, and cut through the mathematical, the psychological, and the political—and whose nature remains hard to fathom, but whose weight is always somehow borne by women's bodies.

X

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1
See Martin Gardner, "The Fourth Dimension," in *The Philosophy of Left and Right: Incongruent Counterparts and the Nature of Space* , eds. James Van Cleve and Robert E. Frederick (New York: Springer, 1991), 61.

2
Quoted in Alexander Koyré, *From the Closed World to the Infinite Universe* (Baltimore: John Hopkins University Press, 1957), 245.

3
In later writings Kant came to espouse a different view, namely the one we usually identify with Kantian Idealism. The Kantian synthesis entailed a reconceptualization of the dichotomy between absolute and relational space over which Newton and Leibniz had contended, into the opposition real vs. ideal. Space, Kant argued, is absolute and independent from material bodies because it lacks concrete reality: space is a form of human perception, it is our subjective means of cognizing the world. Thus it is ideal (or mental) rather than real.

4
Gardner, "The Fourth Dimension," 63.

5
The dimension of a mathematical space is usually defined by the minimum number of coordinates necessary to specify a location in it: a cube, for instance, has dimension three, whereas a hypercube—the four-dimensional analogue of the cube—has dimension four. In ordinary language one is nevertheless tempted to say that a hypercube has four dimensions, which implies corporeality.

6
Hermann von Helmholtz, "On the Origin and Significance of the Axioms of Geometry," *Mind*, Vol. 1, No. 3 (July 1876): 301–321.

7
The claim was made in the "Queries" appended to Newton's *Opticks* . He later allegedly attempted to recall the whole edition.

8
Courtenay Grean Raia, "From ether theory to ether theology: Oliver Lodge and the physics of immortality," *Journal of the History of the Behavioral Sciences* , Vol. 43, No. 1 (Winter 2007): 18–43.

9
Bruce J. Hunt, "Lines of Force, Swirls of Ether," in *From Energy to Information: Representation in Science and Technology, Art, and Literature* , eds. Bruce Clarke and Linda Dalrymple Henderson (Stanford: Stanford University Press, 2002), 100.

10
Other observers included William Edward Weber, professor of physics; W. Scheibner, professor of mathematics; and the above-mentioned Gustave Theodore Fechner, professor of physics.

11
The Seybert Commission (1884–87) was an investigative committee created by the faculty of the University of Pennsylvania to scrutinize the claims of spiritists and mediums.

12
Linda Dalrymple Henderson, *The Fourth Dimension and Non-Euclidian Geometry in Modern Art* (Princeton: Princeton University Press, 1983), 28.

13
Stringham's article was published in the *American Journal of Mathematics* .

14
It was Hinton who introduced the term "tesseract" for what is regularly known as the hypercube. The word combines the prefix τέσσ ρ , meaning "four," and the word κτίς, meaning "ray" (after which the radioactive element actinium was named). Each vertex of the tesseract would cast out a ray, able to pierce through interdimensional space.

15
Bernhard Riemann had also anticipated that gravity and electromagnetism were the effects of spatial distortions. Einstein would later add that the gravitational force is not a force per se, but a property of four-dimensional space-time.

16
For Kaluza, light can be explained as a vibration in the fifth dimension (after Einstein, the fourth would be described as time.) What became known as Kaluza-Klein theory is fundamental for string theory, which describes the properties of matter as gravitational vibrations (or strings).

17
Letter from Hiram Barton to Martin Gardner about Gardner's review of Hinton's work. The letter is reproduced in full here https://johncarlosbaez.wordpress.com/2013/06/21/symmetry-and-the-fourth-dimension-part-11/

18
In Carroll's world, where there are no absolute "Laws of Nature," all sense of proportion (both literal and metaphorical) is lost and Alice finds it hard to keep her size constant. She also meets a caterpillar who is sitting on a mushroom while smoking a hookah, a phallic overkill which hints at the sexually charged imagery of everything oriental for Victorian audiences (algebra is derived from the Arab *al jabr*).

19
Carl B. Boyer, *A History of Mathematics* (Hoboken, NJ: Wiley, 1968), 18.

20
This slippage between the language of algebra and the language of geometry will create a belief in the reality of transcendental space. In the "Lion and the Unicorn" episode in *Alice in Wonderland*, Alice says she sees "nobody" coming down the road, to which the King replies, "I only wish I had such eyes ... to be able to see nobody! And at that distance, too"—thus hypostatizing "nobody" into a proper noun. See Elizabeth Throesch, "Nonsense in the Fourth Dimension of Literature," in *Alice Beyond Wonderland*, ed. Cristopher Hollingsworth (Iowa City: University of Iowa Press, 2009).

21
Bertrand Russell, *Foundations of Logic* , 1903–05 edition, eds. Alasdair Urquhart and Albert C. Lewis (London: Routledge, 1994), 579.

22
Henderson, *The Fourth Dimension* , 32.

23
Jean Clair, *Sur Marcel Duchamp et la Fin de l'Art* (Paris: Gallimard, 2000), 167.

24
See Susan C. Lawrence and Kae Bendixen, "His and Hers: Male and Female Anatomy in Anatomy Texts for U.S. Medical Students, 1890–1989," *Social Science & Medicine* , Vol. 35, No. 7 (1992): 925–934 http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1034&context=historyfacpub

25
Ibid.

26
See Richard Wallace, *Jack the Ripper: Light-Hearted Friend* (Melrose, MA: Gemini Press, 1996).

27
Quoted in Henderson, *The Fourth Dimension* , 36.

Orit Gat

Could Reading Be Looking?

Imagine, if you must, walking into an exhibition space and encountering work so oblique you don't know what to make of it. You start looking for text. First on the wall, then, by the door or a desk someplace. You scan whatever copy you can find, searching for coordinates, landmarks, bits of conceptual breadcrumbs, or a bright stripe of familiarity amidst the thicket of ideas. You hope to find some meaning in the work in front of you. Sometimes you do.

The average museumgoer stands in front of a work for fifteen to thirty seconds. An average reader can comprehend about two hundred words per minute. A viewer who reads a standard wall label (which averages about one hundred words) will spend as much time reading as looking. The wall labels, introductory texts, and section texts condition the pace at which visitors move through an exhibition, the amount of information they receive beyond any preexisting knowledge, and their sense of what the museum wants them to know or learn over the course of the show. To group together these three textual mechanisms—the introductory wall text, the section texts, and the labels—is, in a way, to go against a museum's best practices, since each of these plays a different role in communicating an exhibition's thesis and pace. But they all support each other in an endless loop of authority.

What do we look at when there's a text present? Where do our eyes go? Vinyl lettering on the wall near the entrance to a show colors it, shading it thematically or in terms of an artist's biography. If a label is aligned with a painting, eyes wander between text and image, comparing authority and subjective experience, looking for the places where text touches what it describes. Guides, maps, and lists plot the works in a sequence, delineating ways of moving through the space. All of these devices—wall texts, labels, press releases—are built into viewing art. Reading has become part of looking.

II.

One of the most personal and comprehensive accounts of looking at art began in January 2000, when art historian T. J. Clark arrived at a six-month research residency at the Getty Institute in Los Angeles. He had no exact research program—"the most likely bet was Picasso between the wars"—and during his first days he wandered around the Getty Museum in search of specific paintings.[1] Clark titled the resulting study *The Sight of Death: An Experiment in Art Writing,* though "an experiment in attention" might have been more accurate.

Clark spent six months visiting, nearly every day, two paintings by Nicolas Poussin: *Landscape with a Calm*

Nicolas Poussin, Landscape with a Calm (1650–51). Oil on canvas.

(1650–51) and *Landscape with a Man Killed by a Snake* (1648, on loan to the Getty from the National Gallery, London). *The Sight of Death* records Clark's thoughts day by day, giving us an expanded sense of what looking might mean for the art historian: Clark shifts from descriptions of the works to accounts of the his steps through the museum toward them; he reassesses the political possibilities of art history; he writes about Greek religion, times of day (both the time depicted in the painting and the hours in which he goes to look at them), travels through the West Coast, and what is valuable enough to write down as description (and what isn't).

I download a high-quality JPEG of *Landscape with a Calm* from the Getty's website (the 17.58 MB image is freely available to download under the institution's open content policy[2]) and examine it onscreen, zooming in and out, running my fingers on the trackpad to lead me through the image: the leaves on the trees, the horse riders on the left, the Italianate architecture of the castle that dominates the image even though it isn't in the foreground. None of

this amounts to the hours of looking Clark clocked in, but it does add up to more attention than I would usually give to any image I download off the internet and save onto my desktop. But there's another form of attention: when I google "Landscape with a Calm poussin," the second result is a YouTube video produced by the Getty.[3] It's a static shot of the painting, accompanied by an audio track delineating some details about the painting (year, subject), and a short section in which Denise Allen, then associate curator of painting at the museum, talks about what painters learned from Euclidean geometry.

The text of the audio track sounds familiar. In language, in approach, it echoes a certain standard: it gives a date, title, and a medium, the name of the artist, a quick description, and a short, digestible explanation of what the work might mean. All the checkboxes of a wall label. My eyes no longer wander across the JPEG, they focus on the larger picture since the curator discusses geometry and spatial configuration. Does reading wall labels allow us to escape the difficult task of looking? Or commit us more totally to

Thomas Struth, Hermitage 1, St. Petersburg 2005 (2005). Chromogenic print.

it? Without the feeling of the body in the museum space, while looking digitally it's easy for me to register exactly how the text authors the way I look.

III.

It is enough to compare Thomas Struth's series of photographs taken in museums to the promotional images on those same museums' websites to see how looking has changed over time. The peopled installation shot is a trope because it helps register scale. (The art historical term is "staffage," which is the word for the characters and animals populating a painting of which they are not the subject. The shepherds, goats, and horses in *Landscape with a Calm* are all staffage.) This kind of installation shot also makes the museum seem lively, a communal space where all sorts of activity happens, though apparently this

mainly involves taking photographs. The "Visit" page on MoMA's website includes an image (taken from Flickr) of a young man photographing a close-up of Monet's *Water Lilies* (1914–26) from the museum's collection. There's #museumselfie day (January 21). When Beyoncé and Jay Z visited the Louvre in 2014 they posted pictures on Instagram of themselves in front of the *Mona Lisa* and another image of their backs (with their toddler Blue Ivy) looking at Jacques-Louis David's *Coronation of Napoleon* (1807).

Cell-phone photography conditions much of what looking at art in pubic collections is now. It's a comfortable looking, a familiar version—watching by way of a screen. It's also often an uncomfortable image: Struth's photographs (especially in the "Audiences" series) are populated by staring, gaping masses. Some of them are scratching their heads or digging fingers into their

mouths. There are some cell phones and digital cameras in Struth's images (*Hermitage 3* and *Hermitage 5*, 2005), but these are a bit too early for the Instagram-oriented museum. In *Hermitage 1* there are two women listening to audioguides and in *Audience 2* (Florence, 2004) a woman in a sundress and sneakers is reading a printed book that looks like a guide to the work in front of her (Michelangelo's *David*).

Is it more looking or less looking if a viewer is watching the work on a cell-phone screen while standing in front of it? Is it more or less concentration if a viewer listens carefully to the audioguide, his or her eyes resting on the work in front? Is looking without an audioguide, without text, more looking? Is reading the wall text more learning?

IV.

"What does circa mean?"

This question appears in the list of issues MoMA found visitors are most concerned with when reflecting on wall labels. Other questions include "Is this really art?" and "How did the artist make this?"[4] The most common queries are for background information about the artist, the method of a work's production, and its value. Hence the standard information included in a wall label—artist's name, work title, date of execution, medium, and a short text that attempts to do one or some of the following: (1) place the work within a larger historical framework; (2) reflect on the artist's intentions; (3) assert the contribution/value of the particular work on display; and if the work is in a temporary exhibition, (4) support the show's ideas by using the work as an example thereof.[5]

This assigns a wall label a particular, crucial role. Not only does it provide information about the work; it is also the main vehicle for museum audiences to internalize the art-historical trajectory the institution ascribes to a work by linking it to a movement, to historical precedents, to sociopolitical concerns, or to an artist's larger body of work. The historicizing impulse in wall labels and texts, however, conceals a contradiction: a wall text or label is a temporary, undocumented construct. It could be updated, in the case of a collection display, or taken off the wall, in the case of a temporary exhibition, but it is rarely made available on the museum's website, for example, as a historical document in its own right.

V.

In April 2015, *LA Times* art critic Christopher Knight published an article taking to task the Whitney Museum of American Art. Knight claimed that in a wall text featured in "America Is Hard to See," the exhibition inaugurating the Whitney's new Downtown Manhattan home, the museum misrepresented his 1993 review of that year's Whitney

Biennial. According to Knight's account—there is no record of the copy anywhere else—the wall text read, "Christopher Knight's review was a typical one, noting the unprecedented presence of art by women, ethnic minorities, and gays and lesbians, while decrying the show's artistic quality." The critic condemned the Whitney's "shabby" wall text, which reads as though Knight ascribed the lack of quality to the participation of marginalized artists, rather than his original intention, which was to commend the curators for creating a "Biennial that looks more like America," while faulting their choice of works by these artists, which predictably dealt largely with the artists' exclusion.[6]

The Whitney's response:

> the text was collectively prepared by the Whitney's curatorial, education and publication departments. They met to review [Knight's] complaint and, while saying they did not intend to draw "a causal relationship" between his review's praise for diversity and its negative assessment of the show, did understand "how it could be misconstrued."

The wall text was subsequently altered, but not to Knight's satisfaction. Why is there no common archive of wall texts to which disputes such as these can be referred? Institutional authority begins by placing some part of itself outside history. When a wall text has done its job, it coincides with history so entirely that its own history is insignificant, in the way that the history of the grains of sand in which Pythagoras first drew his famous theorem are insignificant. Only when a wall text is wrong or perceived to be wrong does it become part of the story. An archive of wall texts, then, would be like an ever-expanding compendium of the illicit history of the museum and the writing thereof.

VI.

If the museum wants its wall text to be as transparent as possible, the commercial gallery simply wants it to be: wall text is the gallery's object of desire. This is why galleries have disposed of it entirely and do not produce it themselves. Collect wisely and wall text is your reward. Buy this and someday your name, too, might appear within the medium of record, just below a description of your triumphant taste! Hence the central role played by the gallery press release, which, unlike a wall text, exists less to edify an existing value than to delineate the future significance of what is present somewhere nearby. The exuberant language of these releases is a performance of wall text, distilling its social-historical logic by way of an exaggerated and aggressive imitation.
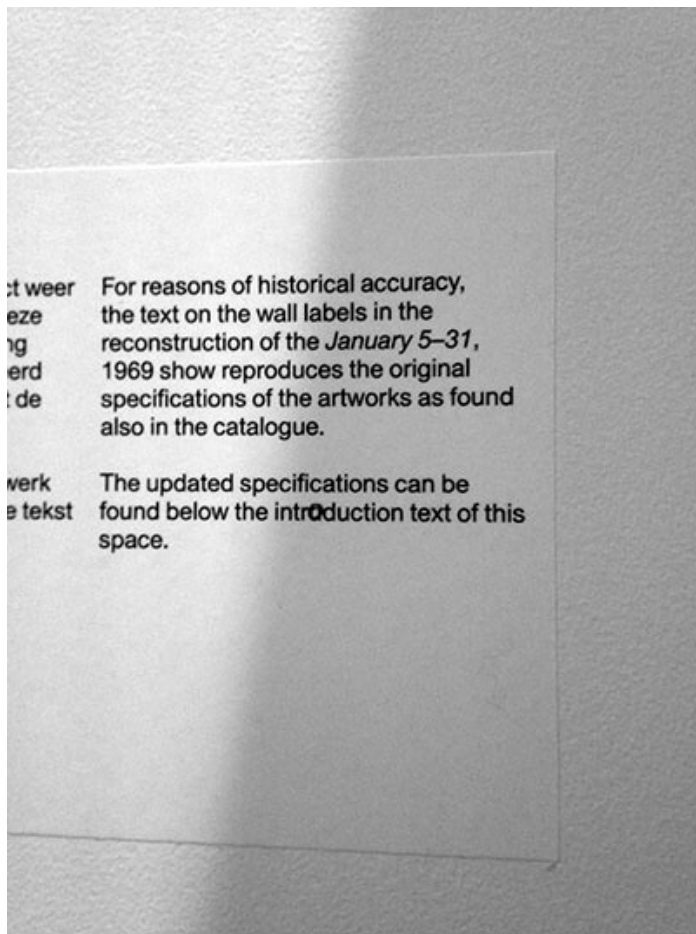
A corrected caption from a recent exhibition on Seth Siegelaub at the Stedelijk Museum in Amsterdam. The exhibition reproduced original wall labels from the show "January 5–31, 1969" (1969).

VII.

The complex authority of wall texts is what artist Fred Wilson exploits in projects like the exhibition "Mining the Museum" (1992, Maryland Historical Society). Wilson culled objects from the museum's collection and presented them in a way that highlighted the museum as a "site of institutional racism."[7] The life-size sculptures of Indians placed outside cigar stores in the United States were shown accompanied by labels identifying the store owners who commissioned them. An archival photograph of two slaves with three white kids emphasized the former's presence in the label: "African-American domestics with charges." And a pair of iron slave shackles were joined to a presentation of nineteenth-century silverware made in Baltimore, the label identifying them as contemporaneous (c. 1793–1872), using the devices of art history to underline a new and different account of the world historical kind.

This intricate relationship to history and authority has become comic amidst the current trend of recreating historical shows. In a recent exhibition at the Stedelijk

Museum in Amsterdam on Seth Siegelaub's work as a curator, art dealer, publisher, and textile collector/scholar, a wall text read: "For reasons of historical accuracy, the text on the wall labels in the reconstruction of the *January 5–31, 1969* show reproduces the original specifications of the artworks as found also in the catalogue. The updated specifications can be found below the introduction text of this space." The section dedicated to the show was a one-to-one scale model based on photographs from the original exhibition and its catalogue. The labels were recreated too, as part of the exhibition. The updated specifications mainly included brief provenance notes. The decision to add updated labels outside the recreation demonstrates the wall text's conflicting mandates: Are these labels scholarly evidence or pedagogical devices? Are they the history of an exhibition or are they its present state? The Stedelijk, responsibly, decided not to decide. They went with both.

VIII.

Is it still a wall text when it isn't on the wall? With technological developments, especially mobile devices and social media, museums see countless opportunities to engage with their audience digitally, both in the building and outside it. The Metropolitan Museum of Art has calculated that while the museum sees six million visitors a year, its website brings in twenty-nine million, and the reach of the institution's Facebook page is ninety-two million. The *New York Times* declared that these numbers "raise interesting questions about what we mean when we speak of 'the museum.'"[8]

The above question combines two others: the first is where viewers expect to find knowledge, and the second is an inquiry into the way it is presented. The Met's app has a collection section with 425,381 records (as of March 2016) and access to the museum's audioguide directly from a mobile phone. The Guggenheim's app offers tours through the temporary exhibitions (with recordings of the wall texts as they are presented in the exhibition) as well as one dedicated to the Frank Lloyd Wright building. The Walker has an online collections catalogue—constantly updated, media rich, heavily researched, and publicly available.[9] The Tate has produced over ten apps, from exhibition-specific ones (which are offered for a price of $2.99) to a mobile guide to Tate Britain (offering videos not unlike the one on the Getty's website described above) and a game of cards ("Tate Trumps"). All of these—maybe with the exception of "Tate Trumps," which is so futile that it hasn't been updated since January 2012—bring the kind of knowledge ordinarily acquired inside the museum out beyond its walls.

Making a great app will not save any institution from the knotty status of its wall texts and other interpretive material, but at least it makes this content part of our current system of consuming information. Making it
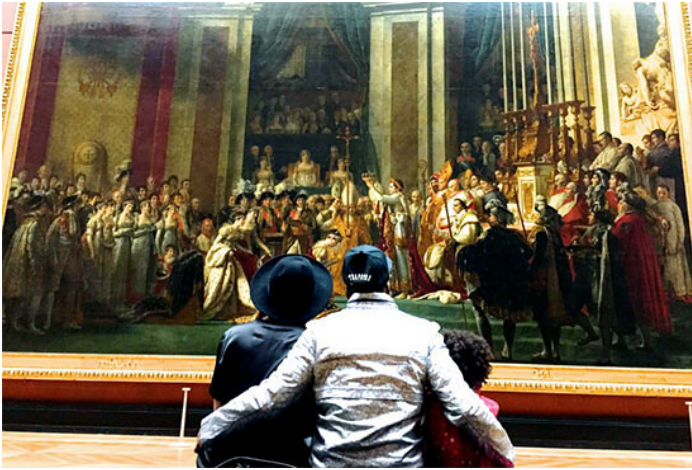
Beyoncé and Jay Z rent out the Louvre Museum for a private tour. Among other shots and selfies, they are portrayed looking at Jacques-Louis David's Coronation of Napoleon (1807).

publicly available subjects it to scrutiny and documentation (even simply by screenshots), and perhaps gives it a more valid place in systems of knowledge distribution.

IX.

In 2009, the Pompidou Centre in Paris presented an exhibition where the only thing to see was wall texts. "Vides" (Voids) was a retrospective of empty exhibitions. Beginning with Yves Klein's *The Specialization of Sensibility in the Raw Material State of Stabilized Pictorial Sensibility* (known today largely as "Le Vide"), which was originally shown at Galerie Iris Clert in Paris in 1958, the museum charted a history of vacant spaces, including works by Robert Barry, Art & Language, and Maria Eichhorn. The series of nine empty rooms offered "nothing to see, but a lot to think about," according to *Le Monde* art critic Emmanuelle Lequeux.[10]

A museum without wall texts is not a solution. Taking away interpretive devices like wall texts would chip away at understanding, at the possibilities for art to present ideas that expand the time and context of its making. One thing these discursive elements could offer, however, and don't, is a shift from authority to a multiplicity of voices. Imagine numerous label systems, or layers on each label, or six audioguides from different viewpoints, or different exhibition guides according to a visitor's interest.

X.

Curator Ingrid Schaffner evaluates the current state of wall texts in an essay cheekily headed "Wall text, 2003/6. Ink on paper, courtesy of the author."[11] Schaffner charts the history of labels back to the early eighteenth century (in

leaflets offered to those recommendation-holding visitors allowed to view private collections). She also provides a short history of artist interventions into wall texts ("artists have a lot to teach curators about the rhetorical power of text"—the example of Fred Wilson's work above came from this essay) and a number of curatorial methodologies for wall labels. What Schaffner presents is not a best practices—since most museums have created their own—but rather a survey of suggestions. "Labels should talk to the viewer and to the art *simultaneously*"; "language can be rigorous, or colloquial, as long as the overall tone is generous." Most importantly, Schaffner begins her list of recommendations by declaring that "there should be no set standard for wall texts." Authority begins as a symptom or a reflex of comprehension. Authority is what comprehension produces as a byproduct, almost, of the process of separating itself from confusion.

XI.

"We see as we are told."[12]

X

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1
T. J. Clark, *The Sight of Death: An Experiment in Art Writing* (New Haven: Yale University Press, 2006), 1.

2
See http://www.getty.edu/about/opencontent.html

3
See https://www.youtube.com/watch?v=hLF13KY8o3s

4
All quoted in Gail Gregg, "'Your Labels Make Me Feel Stupid,'" *Artnews* , July 1, 2010 http://www.artnews.com/2010/07/01/your-labels-make-me-feel-stupid/

5
From MoMA's best practices and guidelines for interpretive writing.

6
Christopher Knight, "A flatly false claim by new Whitney Museum about my 1993 review," *LA Times*, April 30, 2015 http://www.latimes.com/entertainment/arts/culture/la-et-cm-shabby-walltext-marks-whitney-debut-20150428-column.html

7
See Fred Wilson and Howard Hall, "Mining the Museum," *Grand Street* 44 (1993): 151–172.

8
Anand Giridharadas, "Museums See Different Virtues in Virtual Worlds," *New York Times*, August 7, 2014 http://www.nytimes.com/2014/08/08/arts/design/museums-see-different-virtues-in-virtual-worlds.html

9
See http://www.walkerart.org/collections/publications/

10
"Rien à voir, mais beaucoup à penser" (translation mine). Emmanuelle Lequeux, "Neuf histoires de vide au Centre Pompidou," *Le Monde*, February 21, 2009 http://www.lemonde.fr/culture/article/2009/02/21/exposition-neuf-histoires-de-vide-au-centre-pompidou_1158628_3246.html

11
Ingrid Schaffner, "Wall Text," in *What Makes a Great Exhibition* , ed. Paula Marincola (Philadelphia: Philadelphia Exhibition Initiative, 2006), 154–167.

12
Idib., 161. (I have no intention of somehow misinterpreting Schaffner's fantastic research into the subject: she writes this line in connection with the Museum of Jurassic Technology in Los Angeles, an institution/artwork based completely on a beautiful tension between the association of museum presentation with fact and the fantastic fiction presented in this place.)

"We strike art in order to liberate art from itself."
—MTL[1]

In the fall of 2008, at the height of both the electoral season and the global financial crisis, a sprawling exhibition entitled *Democracy in America* was set up by the public arts organization Creative Time for one week inside the Armory building on the Upper East Side of Manhattan. The title of the project at once ironized de Tocqueville's infamous celebration of the "exceptional" nature of US political culture, while also alluding to Group Material's groundbreaking *Democracy* counter-exhibition staged exactly twenty years earlier, with Dia Center for the Arts.

The centerpiece of *Democracy in America* was what curator Nato Thompson described, drawing on the lexicon of alter-globalization culture, as a "convergence center" in the gigantic training hall of the building. The hall featured murals, installations, performances, projections, a modular amphitheater, and even a cooperatively funded "soup kitchen" by the Alternative Transmissions and INCUBATE collectives in the midst of which left intellectual luminaries such as David Harvey would lead free-for-all seminars regarding the then-unfolding crisis.

Democracy in America also distributed several satellite projects throughout the country, including a series of "town hall" meetings among artists and activists in Los Angeles, Chicago, New York, and Baltimore concerning the meaning of democracy in the current historical conjuncture. Among the art projects was Mark Tribe's *Port Huron Project*, which involved the site-specific performative reenactments of iconic New Left speeches by Cesar Chavez, Howard Zinn, and Angela Davis, as well as Valerie Tevere and Angel Nevarez's *Another Protest Song*, a participatory archival project concerning the affective connections between popular music and protest that culminated in a "sing out" karaoke party at Flushing Meadows park. Another such commission was a work by Sharon Hayes entitled *Revolutionary Love*, in which the artist assembled groups of radical LGBTQ people to collectively recite oblique first-person love poems on site at both the Republican and Democratic national conventions in the summer of 2008, highlighting both the heteronormative parameters of mainstream US political culture and the subversive joy of queer collectivity.

Democracy in America was conceived as a kind of organizing project in its own right, aimed at creating what Thompson called an "infrastructure of resonance" that

Yates McKee
Occupy and the End of Socially Engaged Art

Democracy in America Drill Hall, Park Avenue Armory, September 2008. Image courtesy of Creative Time.

could facilitate living connections and encounters between different groups sharing an anticapitalist ethos at odds with the prevailing democratic imaginary of the time, which was dominated by the mass mobilization of mainstream progressive groups and so-called millennials in the service of the Obama campaign.[2]

Democracy in America presented a compelling counterpoint to those who still invested hope in the exhausted US electoral system, and indeed, the publication for the project includes the voices of many artists who would go on to work in the Occupy milieu three years later, including 16 Beaver, Not an Alternative, and Josh MacPhee of the Justseeds collective. *Democracy in America* was able to stage this critique in a highly mediagenic fashion, receiving an enthusiastic review and video profile from the *New York Times* and lending an authentically progressive edge to the otherwise modest self-presentation of Creative Time as a promoter of civic dialogue and engagement.[3]

Nevertheless, the aspirations of *Democracy in America* remained confined to—or one could say protected by—the discursive space of the exhibition, with the flagship "convergence center" at the Armory functioning as refuge and incubator on the one hand, and simulacral substitute on the other. There was still no movement, let alone revolution, into which the growing radical energies of artists could be channeled in the face of the intensifying crisis of global capitalism.

The second large-scale exhibition project by Thompson for Creative Time was *Living as Form: Socially Engaged Art, 1991–2011*, mounted in the summer of 2011. *Living as Form* presented scores of projects from the US and around the world combining experimental artistic tactics with education, research, and NGO campaigns in a format somewhere between bazaar and encyclopedia at the former Fulton Market on the Lower East Side,

supplemented by intensive programming of panels, performances, and walking tours. Though designed over the course of the previous two years, the show was installed in the immediate aftermath of the Tunisian and Egyptian Revolutions and the occupation of the capitol building in Wisconsin. Further, anti-austerity protests, riots, and occupations had surged across Europe in the previous years, and the reverberations of the University of California occupations of 2009 were still being felt among radical activists and artists throughout the US. In England, new kinds of "disobedient objects" were being developed, in the midst of student strikes, such as book blocs and paint bombs. Though the *Living as Form* exhibition was unable to substantially include materials related to the "springtime"[4] that seemed to be sweeping the world, it loomed over the series of blockbuster public events that accompanied the exhibition over the summer, in which figures such as Claire Bishop and Brian Holmes were invited to reflect on questions pertaining to the broadly conceived rubric of "socially engaged art" featured in the subtitle of the exhibition, a phrase that seemed to be increasingly embraced by mainstream art discourse to describe a wide spectrum of work drained of any dimension of political antagonism.[5]

Of particular significance was Bishop's talk "Participation and Spectacle: Where Are We Now?"There she diagnosed the increasing prominence of phrases such as "dialogical art," "interventionism," and, indeed most recently, "socially engaged art" in contemporary art discourse.[6] Bishop noted that, whatever their variety, the basic concern of these concepts was to move away from the idea of the art work as a finite object to be perceived in aesthetic terms by an individual understood as "passive spectator." Instead, the work of art was understood to variously incite, prompt, or provoke the audience in such a manner as to transform it from distanced spectator to full and active *collective participant* in an open-ended sociopolitical process, performance, encounter, or experience of some kind or another. Whatever their different valences, these discourses took *artistic participation as a prefiguration of direct democratic participation*.

Bishop made two critical points about this tendency. First, the valorization of social "participation" over finite art work was hardly a novel artistic concern, having taken multiple iterations in twentieth-century avant-gardes, especially those working in proximity to theater and architecture. The desire to destroy the theatrical figure of the "stage" and its implications of distanced spectatorship arguably reached its apogee with the Situationist International, whose work operated outside the confines of the art system and moved directly into—or indeed helped to construct—the radical cultural-political milieu of the French extraparliamentary Left in advance of May '68. Bishop's second point was that "participation" is not a good in and of itself, and that it is imperative to critically judge the quality, both aesthetic and political, of the participation in question. Bishop's own criteria placed value not on those

works that supposedly aspire to create moments of political consolidation in pursuit of this or that goal, but rather on those that stage or bring into relief moments of discomfort, agonism, and failure. Drawing upon one dimension of Jacques Rancière, she suggested instead that the specificity of art is that it can be an arena in which sociopolitical questions are freely staged in unexpected and difficult ways—including ways that question the very meaning of the sociopolitical itself—without the heteronomous burden of goal-oriented political action, which for her is best left to "actual" activists. The danger Bishop saw was twofold. The first was that art could be instrumentalized for external ends, thus destroying its power as a realm of free experimentation. Second was the danger of inflated political claims being made for art in such a way as to compensate for or even substitute for what she sees as a nonexistent Left, claims that for her are in danger of being appropriated by governmental and nonprofit agencies seeking to inject the legitimacy of "civic participation" into their own forms of cultural programming.

A counterpoint to Bishop's position was provided by Brian Holmes. Complicating Bishop's conflation of naive ideals of consensus with "activism" per se, Holmes's remarks at *Living as Form* reviewed the work of two past groups—Tucumán Arde in Argentina during the dictatorship, and ACT UP in the late Eighties—as offering theoretical models for how art might become a constitutive force in the building of social movements.[7] The aspirations of freedom and the avowal of conflict Bishop had valorized as cardinal artistic values were built into the culture of the movements themselves, Holmes suggested. Rather than a unique realm to be protected from either brute instrumentalization or compensatory gestures of participation, art was an essential part of the imaginary and practice of the movements as they engaged in life-and-death struggles involving both antagonistic protest and the affirmative cultivation of new forms of democratic.

In considering the stakes of the exhibition, the weekend of September 23, 2011 deserves pride of place. This was the concluding day of the second annual Creative Time Summit, a massive jamboree of presentations and performances by artists and activists in the style of a TED conference, which, in 2011, overlapped with the programming for *Living as Form*. Thompson concluded his closing remarks with an exhortation that the audience visit a little-known plaza in the financial district called Zuccotti Park. Zuccotti Park was, of course, the staging ground for something hazily known as "Occupy Wall Street" that had begun a week prior on September 17 and was rapidly gaining buzz in both the mainstream media and the social networks of artists, students, and activists. "Don't be a spectator, be an agitator!" exclaimed Thompson as the event came to a close. The next day, the participants in a smaller *Living as Form* event featuring Thompson, critic Gerald Raunig, artist Dan Wang of the

Radical Midwest Cultural Corridor, Rebecca Gomperts of Women on Waves, and Dont Rhine of Ultra Red indeed resolved to move the group to Zuccotti Park.

For those steeped in contemporary art theory, walking into Zuccotti Park was an uncanny experience. There, hundreds of incipient occupiers had begun constructing an anticapitalist camp in the heart of the Financial District, transforming a banal, privately owned public space into an otherworldly universe in which the concerns, debates, and indeed fantasies that had so long preoccupied exhibitions such as *Democracy in America* and *Living as Form* —protest, public space, democratic participation, decommodified social relationships, collective creativity, radical pedagogy—were being brought to life in all their messiness and difficulty, with a rapid multiplication of global media outlets on site to witness and spread the viral spectacle of occupation. As Dan Wang, who had been invited to speak about his own experience with the occupation of the Wisconsin capitol building earlier in the year, put it, "It was like seeing proof of the multitudes, the array of collective formations, endlessly divisible."[8]

Zuccotti Park, September 2011. Image by author.

In a kind of historical displacement, contemporary art was at that moment thrown into relief as a distant prefiguration or prophecy of what was now happening in real time, too close for the comfort of the exhibitions, conferences, and catalogues within which the radical aspirations of contemporary art had sought refuge. As an historiographical provocation, one that admittedly borders on the eschatological, it might be said that this moment of passage represents the *end of socially engaged art*. I use "end" here in two senses, neither of which are reducible to simple chronology. First, "end" can mean purpose, goal, or destination, and from this angle, the crossing of the threshold from Creative Time to Zuccotti Park was arguably the realization or consummation of the deepest

dreams and desires of the exhibition itself. Yet "end" can also mean completion, termination, or even death, and in this sense the trip to Zuccotti Park might be considered a kind of self-destruction on the part of *Living as Form*, which had arguably represented the vanguard of contemporary art in the institutional art world—a vanguard defined by its very flirtation with dissolving the category of art altogether into an expanded field of social engagement.

It would be a mistake however to see the move from Creative Time to Zuccotti Park as a move from the realm of "mere" art to the immediacy of "real" life. As we shall see, the OWS encampment itself would be widely described as a *surreal* environment—"a strange and fabulous land," as Michael Taussig would later put it[9]—and many artists would be counted among its initiators, including some who had worked in the orbit of Creative Time projects like *Democracy in America* and *Living as Form* itself.

Ayreen Anastas and Rene Gabri, Camp Campaign (detail), 2006. Image courtesy of the artists.

Key among those would be the duo of Ayreen Anastas and Rene Gabri, known for their facilitating role at 16 Beaver in Lower Manhattan and for works such as *Camp Campaign* (2006). In the latter, the artists undertook a summer-long psychogeographic *d étournement* of the settler-colonial genre of the road trip, travelling around the United States in a van to test out Agamben's thesis that "the camp is the *nomos* of the modern" in light of their own question, "How can a camp like Guantanamo exist in our own time?"[10] The project comprises a constantly reconfigured archival assemblage of photographs, videos, sound recordings, maps, and field-notes, with the figure of the "camp" as a kind of poetic machine guiding their journey. The artists record their stops at camps and other "spaces of exception" including military camps, homeless camps,

labor camps, prisons, immigrant detention centers, Native American reservations, and state parks, as well as the campsites where they themselves slept over the course of their trip. Woven throughout the project are meditations on the relationship of territory to violence, space to power, and life to law, with the camp largely appearing as a site for the exercise of sovereign state power. Yet Anastas and Gabri also highlight sites of biopolitical resistance encountered throughout their journey. For instance, set off against the New Orleans Superdome—which became a horrific refugee camp for displaced black people following Hurricane Katrina—the artists visit Common Ground, a grassroots reconstruction hub run according to the principle "solidarity not charity" in the face of governmental abandonment and disaster capitalism. They also visit a summer camp for young people in East Baltimore run by a former Black Panther in the spirit of that group's Community Survival Programs, which had been designed to sustain territories of resistance in the face of both economic dispossession and police violence. Recurrent references are made throughout *Camp Campaign* to Palestinian refugee camps—exceptional spaces that have remained the norm since the mass displacements of 1948, and which bear an affinity to militarized subaltern zones such as East Baltimore.

Camp Campaign aimed to produce a new set of truths about "democracy in America." It did this not by relying on simple documentary exposure, but rather, as T. J. Demos suggests, through a kind of poetic superimposition of places, histories, and voices that together seem to herald an unknown "coming community" that exceeds the politics of democracy as we know it. Retrospectively, the project stands as an uncanny prophecy of a different kind of camp campaign that would unfurl several years later at Wall Street, the symbolic epicenter of empire itself.

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Facing up Broadway at the north end of Bowling Green Park in Lower Manhattan, there stands the monumental bronze sculpture *Charging Bull*. Measuring eight feet tall and sixteen feet long, the bull receives thousands of tourist-pilgrims every week, who line up to take their picture with the iconic sculpture. They often assume comic poses and gestures appropriate to the cartoonishness of the object; shots involving the hypertrophic testicles of the animal are among the most popular. The sculpture is reproduced as an image ad infinitum on T-shirts, postcards, and miniature replicas throughout Lower Manhattan, alongside those of the Statue of Liberty and the Twin Towers, kitschily embodying the swaggering self-mythologization of Wall Street.

Ironically, though, the sculpture was borne not from the self-assuredness of Wall Street, but rather from the global financial crisis of 1987 enabled in part by the neoliberal policies of Reagan and continuing the dismantling since

the 1970s of the regulatory oversights imposed on the financial system during the postwar Keynesian system. Mainstream media channeled popular outrage over the crisis to "bad apples" and "crooks" on Wall Street, while in mass culture, Oliver Stone's indictment of Wall Street in the 1987 film of the same name would end up inadvertently lending it a kind of cinematic allure in the figure of Gordon Gekko and his infamous soliloquy to "greed" as a world-historical force of creative destruction.

On December 16, 1989, without official permission, a little-known Italian artist named Arturo Di Modica had the three-ton bronze object ceremoniously delivered to the site of the iconic Wall Street Stock Exchange as a gift intended to "celebrate the power and endurance of the American people." Though the object was summarily removed, it was, claimed the *New York Post*, "beloved" by Wall Street workers and ultimately re-sited at its current location by the New York City Department of Parks and Recreation as a "temporary loan to the city."[11]

From its first installation in 1989 to the summer of 2011, *Charging Bull* was thus by and large a quaint tourist attraction, a mascot for the finance industry, and a grotesque market-populist work of "public art" devoted to celebrating the ethos of private profit. But in July 2011, it took on a new life when its iconic power was turned against itself in what would become the foundational meme of Occupy Wall Street (OWS) released by *Adbusters*. In the famous image, a ballerina stands atop the sculpture in an arabesque pose, her lithe, linear figure playing off against the lumbering bronze corpus of the bull. In the background, hordes of gas-masked militants surge forward toward the viewer through clouds of teargas. At the top of the image, at the apex of the ballerina's pose, we read "What is Our One Demand?" At the bottom, against the cobblestones of Bowling Green: "#OCCUPYWALLSTREET SEPTEMBER 17TH. BRING TENT."

The *Adbusters* image descends directly from the visual culture of the alter-globalization movement, especially the signature aesthetic device of collaging together carnivalesque absurdity—a ballerina surfing the inanimate icon of the *Charging Bull*—with those of anticapitalist militancy—throngs of gas-masked protesters who seem to have been displaced from the streets of Seattle in 1999 or Quebec in 2001. Recalling the cover of *We Are Everywhere*, the image evokes Emma Goldman's famous (though apocryphal) dictum, "If I can't dance I don't want to be part of your revolution."

Yet even as the image clearly channeled the legacy of Seattle, it also resonated with images emerging from the autonomous struggles unfolding across the world over the preceding years at the University of California (UC) and in London, Tunisia, Egypt, Greece, Spain, Wisconsin—the Global Springtime that, the poster seemed to prophesize, would soon be returning home to roost at the symbolic epicenter of the crisis.[12] A crucial feature of these

Adbusters #occupywallstreet meme, released July 2011. Image courtesy of Adbusters.

struggles that made them distinct from the earlier alter-globalization protests was the tactic and discourse of *occupation*—a commitment to collectively seizing space (a school, a factory, a square) and staying put physically rather than staging a one-off act of protest against, for instance, a mobile trade summit. Specifically, the transitive injunction to "Occupy" was taken from the UC struggles of 2009, where "Occupy Everything, Demand Nothing" was an essential rallying cry. The more militant elements among the UC occupiers combined this injunction with an analysis of "communization."[13] More than simply a protest demanding this or that finite reform, occupation from this angle involved the blockage of official flows and functions in order to reappropriate time, space, and resources for the reproduction of collective life against the relationships of the wage and private property. Thus, holding space per se is not an end in and of itself, but it provides a base of operations from which to expand and deepen the struggle beyond its immediate site. This combined movement of

occupation and communization would also inform the occupations of The New School in New York in 2008–09, many participants in which would go on to work within the early phase of OWS two years later (and would stage a short-lived reoccupation in November 2011).[14]
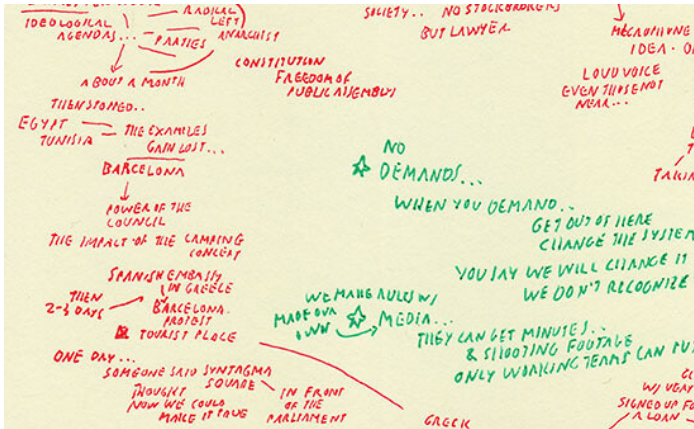
Ayreen Anastas and Rene Gabri, Ecce Occupy (detail) 2012. Image courtesy of the artists.

The *Adbusters* call to "occupy Wall Street," however, emphasized an element that had not come to the fore in the UC system, namely, the figure of the outdoor collective encampment that had captivated the world during the massive occupation of Tahrir Square in early 2011. Protest camps, of course, have a long and varied history, ranging from Resurrection City set up by the Civil Rights Movement in Washington, DC, to peace camps, border camps, and climate camps staged in the following decades around the world.[15] Tahrir took this phenomenon to a hitherto unknown scale and level of intensity. It functioned simultaneously as an aesthetic spectacle, a mode of physical self-defense against the state, a living infrastructure of social reproduction for its participants, and a prefigurative zone of common life at odds with the oligarchic and authoritarian order it was opposing. These combined functions made it the territorial nucleus of revolutionary power, what Badiou would call an "eventual site," whose logic would be replicated and translated with different inflections at different sites in the following year.[16]

The figure of the camp, as we have seen, was central to Ayreen Anastas and Rene Gabri's *Camp Campaign*. The home base of Anastas and Gabri's practice over the prior ten years had been 16 Beaver, a collectively run discursive platform housed in a dingy light-industrial building directly adjacent to both the Stock Exchange and the *Charging Bull* sculpture. Throughout the 2000s, 16 Beaver was an essential political crucible for New York City. It mediated between the left-wing tributaries of the art system and academia, radical activists of various stripes and generations (especially of the autonomist and anarchist persuasion), and a never-ending flow of friends and guests

from around the city, the country, and the world. Many of the latter were first encountered by Anastas, Gabri, and other participants in the collective such as Pedro Lasch, Malav Kanuga, Jesal Kapadia, Matt Peterson, Scott Berzofsky, Brian McCarthy, Amin Husain, and Nitasha Dhillon during their own peripatetic travels to Europe, Asia, the Middle East, and Latin America, oftentimes enabled by invitations from art institutions as well as by some participants' own complex diasporic connections to places like Palestine, Armenia, Germany, Mexico, and India. 16 Beaver was thus a kind of shadow-formation to the anxious handwringing by art critics about the "nomadic" quality of the global art system at the time, tactically using the latter to build a dense network of connections anchored site-specifically in the autonomous space of 16 Beaver itself.[17] The tropes of borders, flows, and networks that were often irritatingly ubiquitous in global art discourse in the 2000s took on a profound significance at 16 Beaver, which became a cosmopolitan incubator for what Hardt and Negri called at the time "a democracy of the multitude."[18] Taking as a theoretical touchstone Walter Benjamin's ruminations on the importance of story-telling as a practice of intergenerational memory and trans-geographical imagination, 16 Beaver brought people together to collectively speculate about what revolution might mean beyond the nation-state, under conditions of capitalist crisis, exhausted representational politics, and imperialist war—not least in New York City itself.[19]

MTL, August 2: The Founding Assembly, 2011. Video still. Image courtesy of the artists.

The summer of 2011 was an especially fertile period at 16 Beaver. A series of open seminars with George Caffentzis, Silvia Federici, and David Graeber on "debt and the commons" took place alongside report-backs — in-person and via live stream — from friends involved with the "movement of the squares" in North Africa and Europe. Along with recording these conversations by conventional means for the voluminous electronic archives of 16 Beaver, Gabri and Anastas also followed their custom of

transcribing their own notes by hand in real time. The notes from these sessions far exceed mere transcription, instead appearing as gracefully calligraphic maps that track the multidirectional vectors of collective thought as revolutionary energies were transmitted from evental sites elsewhere — Tahrir, Puerta del Sol, Syntagma — into the minds and bodies of those present at the Lower Manhattan space. As our eyes travel across the pages of these notebooks, we follow uncannily prophetic ruminations on crises, camps, assemblies, demands, communities, alliances, fractures, affect, media, police, and beyond.

It was thus no surprise that 16 Beaver would be especially receptive to the *Adbusters* call to "occupy Wall Street" issued in July of 2011, particularly given the regular presence of Spaniards recently arrived from the M15 movement in Madrid.[20] In a little-known text from July 31, 16 Beaver participants from the US, Spain, Greece, Argentina, India, Japan, and Palestine issued a collective statement "For General Assemblies in Every Part of the World," keying it in turn to a call put out by an anti-austerity coalition called New Yorkers Against Budget Cuts to assemble on August 2 at the *Charging Bull* sculpture. The coalition involved labor, community groups, and radical students who had been inspired by the movement of the squares, with some of its members having previously set up a small sleep-out camp at City Hall called Bloombergville, an historic reference to the self-organized Hooverville shantytowns set up by homeless and unemployed workers throughout the United States during the Depression.

On August 2, those arriving at the bull found a permitted rally organized by sundry left organizations, with specially authorized speakers using a PA system to address a crowd that had been arranged in the form of an audience watching an actor on stage. Fatefully invoking her experience with radical democracy in Greece during the anti-austerity uprisings of previous years, performance artist and 16 Beaver denizen Georgia Sagri disruptively announced that a true "general assembly" would take place a few yards behind the bull. Rather than a stage with speakers, the assembly simply involved a group of ten to twelve people sitting in a circle on the ground and speaking to one another about what might be possible to do in response to the *Adbusters* call—a conversation that would evolve over the subsequent month into the full-fledged plan to set up camp a few blocks north of the bull at Zuccotti Park.[21]

Aside from its sheer interest as an historical anecdote, the story of the founding assembly is of special importance in bringing forth the artistic resonances of Occupy. Not only was it launched from a para-artistic space (16 Beaver) and held at an aesthetically charged site (*Charging Bull*, reframed by the *Adbusters* poster), but it was inaugurated with a call from an artist (Sagri) to desert the representational space of the stage, with its spatial hierarchy of speaker and audience, its dependence on

The People's Library, Zuccotti Park, September 2011. Image by author.

official state permission, and its recycling of ideological incantations from left organizations that seemed incommensurate with the depth of the crisis and the opportunity it presented. Like the camp itself that would be set up in the following month, the founding assembly might be understood as a kind of embodied collage, transposing an alien political form into both the ossified landscape of the New York Left and the symbolic heart of global capital itself.

Further, the "horizontal" logic of this political form—a refusal of the stage in favor of "direct" democracy—tapped into a long-standing anti-representational impulse leading from Rousseau to Bakhtin to Debord of refusing politics *qua* theatrical spectacle in favor of immediate and full participation. As we have seen, "participation" was an essential concern of much contemporary artistic discourse at the time, yet its frequent conjugation with ideals of immanent consensus had been challenged by critics like Claire Bishop as regards the "quality" of participation—who participates, how, to what ends, and through what aesthetic means? To be sure, none of the participants imagined the inaugural assembly as an artistic intervention, and "art" as a horizon was irrelevant at the time. But the assessment of the event

from an artistic angle throws into relief certain exemplary aesthetico-political antinomies that would structure Occupy as a whole: spectacle and participation, consensus and dissensus, consolidation and division. Though it would give rise to what would become a spectacle of democratic inclusion, it is important to note that the first microscopic assembly of Occupy at *Charging Bull* began not with harmonious cooperation but rather an act of cutting and separation.

Thus began a began a process in which the Financial District would be re-territorialized, its frozen spaces brought to life in a kind of psychogeographical dramaturgy pitting precarious bodies and communal infrastructures against the architecture of global capital and its violent police enforcers. This anticapitalist *gesamkunstwerk*, memorably described by Martha Rosler as "a work of process art with a cast of several thousand,"[22] would become the crucible for a new avant-garde that in the subsequent five years has at once taken flight from the art system as we know it, while tactically engaging its institutions and resources for the expanded work of movement-building.

X

1
The present essay is a slightly amended excerpt from *Strike Art: Contemporary Art and the Post-Occupy Condition* (Verso). The book treats the eruption of Occupy Wall Street in the fall of 2011 as what Alain Badiou would call a "political truth-event," one of four such kinds of event whose service as objects of fidelity fundamentally defines the terrain of subjectivity. The ongoing ramifications of Occupy are evident across the spectrum of the Left, ranging from the invocation of the "1 percent" as a general class enemy in the self-described democratic socialist campaign of Bernie Sanders, to the rich debates concerning questions such as the party-form, communization, and platform cooperativism in contemporary theory—all of which have been recoded and radicalized by the emergence of Black Lives Matter.The advent of Occupy has also had deep consequences for contemporary art. First, Occupy was a movement with artists at its core, not just as adjunct decorators, but as organizers, theorists, and propagandists working to articulate their own class composition of indebted, precarious cultural workers with a broader horizon of solidarity with the internally fraught figure of the "99 percent." Second, the activity of artists in Occupy was decidedly autonomous from the institutions of the art system, even as the latter would become targets of mobilization in their own right by groups such as Occupy Museums, Arts and Labor, GULF, and Not an Alternative. This particular excerpt offers an historical snapshot at the moment of breakage between the institutional art system and the new space opened by Occupy.

2
Nato Thompson, "Exhausted? It Might be Democracy in America," in *A Guide to Democracy in America* , ed. Thompson (New York: Creative Time Books, 2008), 14–25.

3
Holland Cotter, "With Politics in the Air, a Freedom Free-for-All Comes to Town," *New York Times* , September 22, 2008.

4
See *Springtime: The New Student Rebellions* , eds. Clare Solomon and Tania Palmieri (Brooklyn: Verso, 2011).

5
See *Living as Form: Socially Engaged Art* , ed. Nato Thompson (New York: Creative Time Books/MIT Press, 2012).

6
Claire Bishop, "Participation and Spectacle: Where Are We Now?" in ibid., 34–55. This text draws on her earlier edited anthology of writings and documents from the twentieth century concerning these questions, *Participation* (Cambridge, MA: Whitechapel/MIT Press, 2005), and forms the basis for her authoritative summary and critique in *Artificial Hells: Participatory Art and the Politics of Spectatorship* (Brooklyn: Verso, 2012).

7
Brian Holmes, "Eventwork: The Fourfold Matrix of Contemporary Social Movements," in *Living as Form* , 72–93.

8
Dan Wang, personal correspondence; also see Wang, "From One Moment to the Next, Wisconsin to Wall Street," *transveral* , October 4, 2011 http://eipcp.net/transversal/1011/wang/en

9
Michael Taussig, "I'm So Angry I Made a Sign," in *Occupy: Three Inquiries on Disobedience* (Chicago: University of Chicago Press, 2013), 3.

10
See T. J. Demos, "Means Without Ends: Ayreen Anastas and Rene Gabri's Camp Campaign," *October* 126 (Fall 2008): 69–90; Nato Thompson, "Conversation with Ayreen Anastas and Rene Gabri," in *A Guide to Democracy in America* , 135–138.

11
"Bah Humbug: Stock Exchange Grinches Can't Bear Christmas Gift Bull," *New York Post*, December 16, 1989. For a detailed history of the sculpture—including its reiteration in other sites around the world such as Shanghai—see chargingbull.com http://chargingbull.com/

12
For a pre-Occupy collection of voices from these global struggles, see *Springtime*.

13
See Research and Destroy, "Communiqué from an Absent Future," in *Springtime*; also *Communization and Its Discontents* , ed. Benjamin Noys (Brooklyn: Minor Compositions/Autonomedia, 2011); and especially Daniel Marcus's "From Occupation to Communization," *Occupy Gazette* 3 (December 2011) https://www.nplusonemag.com/dl/occupy/Occupy-Gazette-3.pdf

14
See Rachel Singer, "The New School in Exile, Revisited," *Occupy Gazette* 3.

15
See Anna Feigenbaum, Fabian Frenzel, and Patrick McCurdy, *Protest Camps* (London: Zed Books, 2014). The authors focus mostly on European examples, but their analysis of the basic elements of the camp as a "biopolitical assemblage" and "collective infrastructure" is highly relevant to understanding both Tahrir and OWS as something more than a matter of liberal public assembly. For a close architectural reading of the encampment set up by the group Hog Farm at the 1972 United Nations Conference on the Human Environment, see Felicity D. Scott, "Wood-Stockholm," in *Sensible Politics: The Visual Culture of Nongovernmental Activism* , eds. Yates McKee and Meg McLagan (New York: Zone Books, 397–428).

16
Alain Badiou, *The Rebirth of History: Times of Riots and Uprisings* (Brooklyn: Verso, 2012).

17
For an early instance of critical anxiety around the accelerating travel-flows of the global art system, see Miwon Kwon, *One Place After Another: Site-Specific Art and Locational Identity* (Cambridge, MA: MIT Press, 2002).

18
Michael Hardt and Antonio Negri, *Multitude: War and Democracy in the Age of Empire* (New York: Penguin Press, 2004).

19
Walter Benjamin, "The Storyteller," tr. Harry Zohn, in *Illuminations* (New York: Schocken Books, 1968), 83–110. In 2009, 16 Beaver developed a program of events at the New Museum called "Project for a Revolution in New York; or, How to Arrest a Hurricane," intended to "assemble a possible diagram for a desiring revolutionary machine."

20
Andy Kroll, "How Occupy Wall Street Really Got Started," in *This Changes Everything: Occupy Wall Street and the 99% Movement* (Oakland: Berret-Koheler, 2011), 16–21. The Spaniards in question were, among others, Luis Moreno-Caballud and Begonia Santa-Cecilia, who would go on to form the Making Worlds working group in Occupy, devoted to theorizing and experimenting with models of the commons.

21
See David Graeber's account of the August 2 assembly in *The Democracy Project: A History, a Crisis, a Movement* (New York: Spiegel & Grau, 2013), 24–30; and Nathan Schneider's account of the weeks of meetings leading up to the September 17 occupation in *Thank You, Anarchy: Notes from the Occupy Apocalypse* (Berkeley: UC Press, 2013).

22
Martha Rosler, "The Artistic Mode of Revolution: From Gentrification to Occupation," *eflux journal* 33 (March 2012) https://www.e-flux.com/journal/33/68311/the-artistic-mode-of-revolution-from-gentrification-to-occupation/ .

Benjamin H. Bratton

The Role of Megastructure in the Eschatology of John Frum (On OMA's Master Plan for the Spratly Islands)

September 30, 2001

The South Pacific Ocean (which some call simply "the Ocean") is composed by an indefinite and perhaps infinite number of geometric configurations with vast planes of salt water in between, surrounding very low carpets of sand. Among these are the Spratly Islands, claimed by no less than seven countries: China, Malaysia, the Philippines, Brunei, Indonesia, Vietnam, and Taiwan. From any of the Spratlys one can see, on the interminable horizon, the upper and lower registers of Chinese hegemony. The distribution of the populations is variable. Twenty thousand migrants and five languages per port, these are the land-bound sociologies; the height of their buildings, from floor to ceiling, scarcely exceeds that of a normal bookcase. One of the occupied archipelagos leads to a narrower chain of micronations, which opens onto another floating plateau of scientific equipment monitoring, in real time, the metagenomics of plankton, each device identical to the first and to all the rest.

To the left and right of the archipelago there are the otherwise identical capital buildings of two defunct kingdoms (one called the "Kingdom of Humanity"). In the left, the appointed legislature was known to work and sleep standing up; to the right, sitting, to satisfy their fecal necessities. Between the two capitals, above ground, winds a spiral stairway, which today sags abysmally overhead in some places and soars upward to remote distances in others, consuming a sunburnt canopy. In the hallway of the overhead stairway between the two, there is a non-reversing mirror that reflects all personal appearances so that its viewer sees oneself as truly seen by others, and not the lateral inversion presented by a normal mirror. Anthropologists have inferred from the positioning of the mirror that the still-ongoing decay of the dual indigenous kingdoms is to be taken as a profound measure of their success (if it were not, why this requirement to make the illusion of reflection more optically accurate?). I prefer to dream that its dirty, fingerprint-smudged surface represents and promises another absolute reversibility, working itself out through an architectural drama of legal authority situated as funereal diorama. Inside the equally dark twin royal chambers, artificial light is provided by glowing plastic fruits that in no way resemble lamps. In each room, separated by the sagging aboveground stairway, there are two of these, transversally placed. The light they emit is insufficient, flickering, and loud.

July 10, 2006

This trip to Java is to collect research for a chapter that I
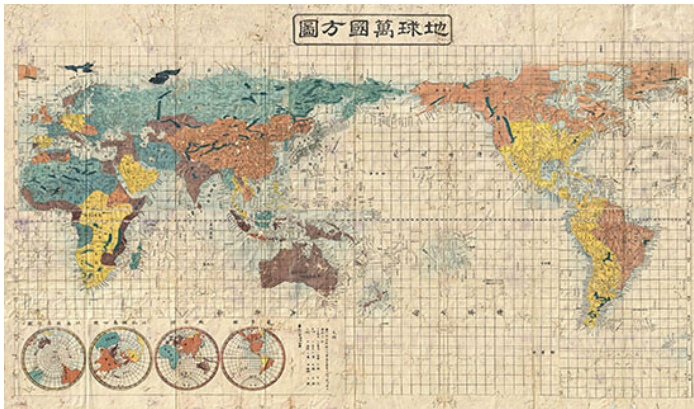
will write for a volume edited by colleagues in London on "transnational theology and political violence." My contribution will analyze the 2002 Bali nightclub bombings and whatever I am able to assess as the current state of things in this, the largest Muslim country in the world. My hypothesis, at least as I set foot on the ground, had to do with (1) the pacific effects of Sufi mysticism on Wahhabism's still-tenuous foothold here, and (2) the role and character of the many English/Bahasa Indonesian websites and online forums that operate parallel to the official civic space of the mosques. The editors have managed to cover my expenses with a cultural grant from an official at the Dutch Consulate in New York who grew up in Indonesia in the years after its independence and, therefore, still considers the island chain to be within the expanded portfolio of the Netherlands' diplomatic mission. Tomorrow I will interview some of the remaining relatives and colleagues of the spiritual agent of the Bali attacks, Abdul Aziz, better known as Imam Samudra. I have read a Google-translated version of *Aku Melawan Teroris* (I Fight Terrorists), his autobiography and jihadist manifesto, which became a best seller across Indonesia during his trial. My editors once considered translating long sections of it to include in the volume, but the prose was so arid and self-aggrandizing that to do so seemed like an additional act of violence in its own right.

Today, however, other news has arrived. Beijing's new master plan for the Spratly Islands is to be designed by the Rotterdam-based studio Office for Metropolitan Architecture (OMA), known in China and Indonesia mostly for its iconic CCTV headquarters and its burned-out homunculus, the Mandarin Hotel. Local analysis of the news is fretful. The *Jakarta Post* writes, "the Chinese occupation of the Spratly Islands was never completely unexpected, but as valid territorial claims had been made on them by so many different sovereign states, the sheer scale of planned development must be seen as well beyond the worst case scenarios feared by Manila or Jakarta." The *New Straits Times* adds, "The US State Department loudly identified the conflict over the Spratlys as a potential trigger point for military action in the region as far back as the mid-1980s and did so again with a widely published pronouncement on the danger in 2004."

When I was first in Indonesia in the mid-1990s, I learned how unambiguously the Spratlys represented, even as a symbol untethered from real geographical experience—they are seldom visited by civilians—a trembling fear of Chinese regional hegemony, and the physical force thereof. One journalist spoke to me of that force with words that translated as "volcano," "sun," and "earthquake."

The other Americans squatting in Jakarta hotel bars were quick with predictions, but all seemed to have forgotten that it was our military that divided up the Ocean's islands into provisions and micronations in the wake of the Wars of the Pacific Theater. It was a foregone conclusion that there would be a showdown of some sort, fought on the naval glacis or with the slow martial arts of mixed-use development; perhaps China versus the other six claimants combined. But what about Japan? Should China prevail, it was prophesized, then ultimately no claim on sovereign geography anywhere in Asia would be truly guaranteed. Even with such momentous expectations, none of them could have, and indeed did not, foresee what would ultimately result from China's ongoing capitalization: this megastructure.
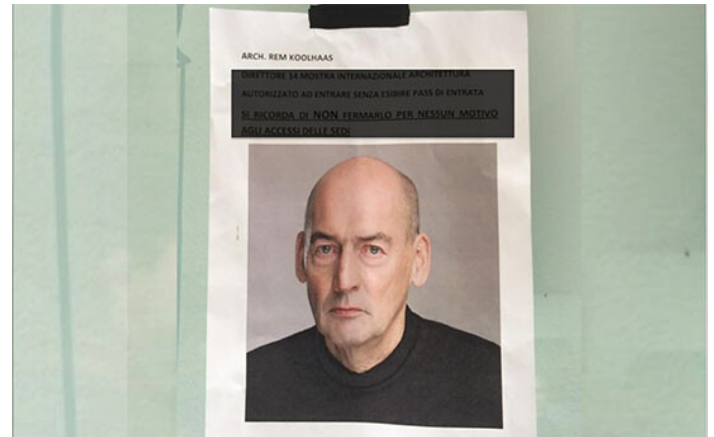
July 12, 2006

I am awake with jet lag well past dawn, my research notes scattered and plastered across the ornate, oversized hotel room, adding to the neo-miscellaneist decor. I am days early for my first meetings and I find it impossible to focus on my writing, or on mentally reconstructing the Manichean politico-theological zeitgeist of 2002. The Spratly project is an interrupting omen. To clarify, I am able to write these notes because I've just received a copy of the OMA project and proposal book as presented to select members of the Chinese press, and I assume to the actual clients. It must weigh ten pounds. The sender is a former American student of mine who now works in OMA's Beijing office. In a seminar in Los Angeles, we had studied OMA's strategic use of programmatic diagrams as

political narrative, particularly the generative section, and he was anxious to pass along this new major example to me, a mentor of sorts. As the enormous envelope arrived at my hotel, and as I signed for the parcel from a courier ominously accompanied by security personnel, it felt like I was receiving secure military documents, or drugs, smuggled cryptographic munitions, secret invasion plans. The thing is, to many here in Jakarta, this giant book may have well have been just that. To my student it was an expert souvenir to show that he had made good.

Despite the fact that this country grows so much of the world's coffee supply, it's difficult to get a good cup, even in an upscale hotel, but I am grateful for the adrenaline anyway. The book opens with a long and precise essay on the anthropological, geologic, and military histories of the Spratly Islands, followed by a comprehensive portfolio of images of other ambitious megastructures, both realized and speculative: Buckminster Fuller, Tatlin's Tower, the Palace of the Soviets, Hoover Dam, Superstudio, Reyner Banham, and, finally, the Great Wall and Foxconn. "OMA's current proposed master plan for the archipelago chain of islands must be understood in the context of this history, which this project closely acknowledges."

The project book goes on, some five hundred oversized horizontal pages in girth, and I am shocked to see that it touches on some of the very same reference material as the research that has currently brought me to Indonesia. I cannot fathom how this data may have factored into Beijing's ultimate decision to green-light this enormous investment. The second chapter states: "The skull map now on display in Saigon mimics the infamous map of skulls drawn from the Tuol Sleng museum at the former high school in Phnom Penh which had been used as a Security Prison 21 (during the Khmer Rouge reign of terror)." This gruesome installation of anti-Chinese propaganda is dutifully debunked by OMA to underscore their clients' true sovereign claim, not only on the islands but the entire ecosystem in their midst as well. I didn't share any of this with the student; that was for a different time.

As the OMA project book makes sardonically plain, Vietnamese claims regarding the islands' historical habitation from the Le Dynasty to the present are factually baseless. The Le people are not only unrepresented by the current inhabitants, they actually *never existed*. "Regardless of the international community's policy positions on the ultimate geoethics [*sic*] of Beijing and Hong Kong's new developments there, the proposition cannot be seriously entertained that the tens of thousands of supposedly dead and disappeared islanders could have been killed by the Chinese occupation, because it is extremely likely that the islands were actually uninhabited at that time." OMA's conclusion: the map of the Spratlys composed with the skulls of those Le people killed by Chinese and Japanese occupations, now on display in Saigon, must be constructed with heads of the dead from

somewhere else. This was my hypothesis too. The designers armed the clients with the necessary rationale to deflect opposition, from both those directly affected by their plans and those with exterior cosmopolitan intentions.

Traffic is light today, and the internet seems almost unencumbered. I take the opportunity to execute some lingering errands. I leave the OMA program book locked up at my hotel. The sky is pink and brown, and the waterway smells like old airplanes, the taxis like durian perfume. I feel settled and calm.

July 14, 2006

My contacts who were to arrange today's meetings with Imam Sumudra's remaining network send word that everything has been postponed. All bets off, or? "Not to worry, but don't tell anyone," they relay. That night, on my way to dinner in the Petamburan area, I see graffiti, in English, on garage doors, on the sides of delivery vans: "John Frum." It occurs to me that I've also been seeing it in Bahasa but didn't know it at the time.

The faint parallel lines between my own current assignment, the nightclub bombing, and what I have been reading over the last day in the OMA project book, eventually make me nervous and sad. There are islands and there are islands, but the two are often confused. This confusion drove the whole Dutch East India project, you could argue. Alone at my table overlooking the street, I remember feeling more than a bit ambivalent, conflicted, eventually drunk on Bintangs. "It is extremely likely that in one hour," I say out loud to no one, "the conclusion that I have long imagined will prove that the real cause of the Bali bombing was not anti-Americanism, despite the apostolic claims of its perpetrators, but an anti-Chinese hostility that, on Java, mixed local ethnic rivalry with day-to-day civilizational eschatology." Over tea, I review my own notes, written weeks before, on the main opposition movement to the Chinese mobilization of the Spratlys:

> Which doesn't invalidate interest in the New John Frum Party that has made these retroactive irredentist claims, but rather amplifies it: an inverse messianism seeks to repeal a South Pacific occupation in the name of island culture that quite literally never physically existed … The Party has long since spread from its "cargo cult" origins on Vanuatu around World War II … Isaak Wan Nikiau Jr.'s presence in Pacific politics has made February 15, the old John Frum Day of his immanent return, synonymous with anti-Chinese populist sentiment from Macau to Midway. How many different recipes are there for the tragic history of marginalized, colonized peoples to mix ad hoc geopolitics with populist spiritualism to service the specter of pre-Colonial original culture? Not that many? … The origin of origins. The body of that

specter is a culture that can be venerated as "purified" only through such convolutions, as a projective plan for another post-post-colonial political constitution … The convolutions of the present say "we shall be what we once were." Atavism as telos … But what other examples are there of the irredentist projection and formation (and in the case of Skull Map, literal counterfeiting) of a peoples that are neither subjugated nor annihilated by genocide, but who, archaeologically speaking, never existed in the first place?

On the back of my newspaper, I draw out my own sketches of what the OMA project will look like when complete, based on the initial descriptions in the project book's essay. I wonder how different this will be from the official renders I have deliberately avoided examining. From the *Jakarta Post*: "While Brunei will keep its dozen or so Exclusive Economic Zones, and Vietnam will retain fishing access across a nearly 50,000 sq km area, China's consolidation of these satellite holdings will be essentially complete." In essence, OMA confronts the territorial spread of the Spratlys' 750–1000 islands and sea mounts and, instead of attempting to "resolve" the geographic and jurisdictional complexities of the islands, they will instead directly merge them into an artificial mega-archipelago. The islands themselves are already spread across three different natural archipelagos, not formed by a single geologic breaking of the Pacific surface, and so the sprinkling of land above is matched by a fragmentation of the foundation beneath.

I outline figures, numbers, calculations, one on top of another, seeing if it adds up, even on its own terms. Beneath the water, above the water. The scheme is both brilliant and absurd. By characterizing the annual disappearance of low-lying sea mounts, and the eventual subtraction of much of the land from the map due to climate change–induced sea rise, OMA claims expertise drawn from the Netherlands' national history of territorial production and defense, and uses original Dutch terminologies. The project will essentially invert the figure-ground tableau of pebbles floating on water with two essential moves: (1) further carving the already small islands into equal-sized, standardized units, in some cases giving the rocky interiors of the now deeply striated terrains back to the ocean, therefore making their nodal arrangement more flexible and manageable, and (2) linking these units into a multidirectional grid both under and over the rising sea level. This scaffolding will provide, it is hoped, a kind of oceanic canopy through which the new production and distribution initiatives can draw on the islands' considerable but inaccessible oil and gas reserves, serve the freight, cruise, and sea-steading traffic, and also effectively house the hundreds of thousands of new inhabitants to be imported from the mainland. This strategy is in marked contrast to those of the other

competing proposals that, each in their own way, attempted to address the seven-headed claims of sovereignty over the Spratlys with either an architecture of polynational equanimity (a sort of seaborne United Nations chamber-in-the-round) or one of absolute Chinese consolidation. (The Beijing-based studio, MAD, would have fused Sin Cowe Island and a close neighbor with a several-kilometer-long concrete peninsula that would invoke Tiananmen Square itself, as portraits of Mao may have done during another time. Unappeasable.)

My room is black and blue and the pillow feels so cold and dry on my face. The work will have to find its own way, as usual. I assume my editors will not only understand but will also welcome the new directions. More than they paid for, if they can step along with it, and even see where they are going. The muddy light of the wall-mounted lamps leading toward and up the paired staircases was the same as in the beginning. Both head down into the same Ocean but from different entry points, both lead back up but toward different exits. There is no reason to assume one has to be the other. This is what made it possible, over all these hundreds of years, to formulate something like a general theory of the formless and chaotic nature of the islands' intricate and shallow political stakes. Every sensible line is not a straightforward statement, and there are leagues of senseless cacophonies, symbolic jumbles, misunderstandings, unadorned brutalities, and incredible violence; none of it and all of it is encrypted, and it is still right there without veil or explanation or justification. The light is formulated by the dead, who, one supposes, could be staying at the hotel at this very moment, viewing together the slums that will become a parking garage and then a slum again later this year. Writing the present state of humans and things and phantoms, in the districts where young men would once again prostrate themselves, is what they do. Kissing pages and turning in certain directions at certain times, there is nothing really for them to decipher, per se. That's the wrong word, as it turns out, maybe. It is all the epidemics, fake heresies, and warlords from the television. Perhaps I am just old enough to deceive myself, but I think the whole lot is about to be burned alive without the archive enduring. It is utterly corruptible. The same ideas and images as before, just as I dreamed that its fingerprint-smudged surfaces can point to another absolute reversibility, working itself out through theaters of authority's set pieces and stage sets, and through shadow puppetry in the twin chambers illuminated still by fruit, with all the rooms divided by elevators and stairways, the grinding hum they emit like the sound of people talking.

July 15, 2006

Today's New John Frum movement has never actually threatened to use bombs to disrupt Chinese development of the Spratlys, but has explicitly linked this choice to their opposition to the French nuclear tests that first brought

them to the world's attention. OMA's own analysis also makes a succinct and linear correlation between Frum's history, the "bomb" tactic, and the planned future of the

island chain. OMA presumes that the namesake, John Frum, must have been one of the many American infantry who occupied Vanuatu during World War II and who may

have had an important role in the clearing of the island, in building the many cargo and troop landing strips, or, as has been suggested, in the actual distribution of real cargo to troops or islanders, as if he had some mastery over their appearance. "John From" Kansas or wherever. However, given the extensive "cargo cult" landing strips that the Vanuatuans built after the war, ostensibly to coerce the skies to land more cargo and which might require "John Frum" to return in order to manage the sacred logistics, the alternative hypothesis is that "Frum" was not a Westerner at all (unlike in the Prince Philip cults) but was himself Vanuatuan and appeared well before the war began, promising not a return of American or Japanese bounty, but a cleansing of all outsiders from the island. Only then would the islanders be able to amass their own true wealth. The bounty brought by the Americans suggested that this was immanent, even if it meant suffering their presence for a while. Today the Frum graffiti is directly tied to a potential bombing campaign, which the movement articulates in rich prophetic detail, but never explicitly links to the Spratlys, as this would get them included on official lists of terrorist organizations. "Bomb" is instead presented as a symbol of the Frum political theology of irredentist cleansing, which in turn is how the Spratlys problem is framed by the movement for its widespread audience of sympathizers. No direct threats are made, but the chain of pedantic association is unmistakable.

Instead of playing down the Frum threat, as other competing studios did in order to calm the nerves of Chinese officials who had indiscreetly let it be known that they saw the scope of the development as a security risk, OMA instead played it up and used it to their advantage. The flat lattice would connect the hundreds of regularized specks of land into a vast network, having the effect of increasing inhabitable space by several orders of magnitude. It was, they argued, the only way to establish a development capable of sustaining the scale of logistics programming that the project demanded without also providing clear monuments, symbolic icons, and critical choke points that, if bombed, would provide the New John Frum Party (or indeed any other anti-Chinese entity, from Taiwanese independence groups to Open Internet activists) a clear point of leverage. ("Defense through obscurity, and obscurity through decentralization.") OMA repeats, without typical irony, the apocryphal example of early to mid-1970s US internet, which linked points between California and Utah, and the SAGE air-bomber early-warning system architecture on which it was based, as a network topology that would provide massive redundancy if ever attacked. The story goes that if the Soviets were to bomb any one node, then the surviving nodes could handle the rerouted traffic. The principle is basically sound, and is as true of neural networks as it is of shipping lanes, but their historical example is inaccurate. Nevertheless, OMA explicitly applied this defensive topology for the master plan and, in doing so, assured the Chinese that they could continue to build and expand the

development as they wished without fear of terrorist attack; not because it was an impenetrable bunker, but because no single tower fallen would strategically or symbolically affect the claims that the Frum party might hope to claim with such an attack. It would be a centerless city with no absolute critical points, and one which can easily subtract attacked zones from its self-healing program, effectively making the "Bomb" visions of the New John Frum Party preemptively irrelevant.

It is startling to think that this rationale may have helped to finalize the allocation of tens of billions of dollars to construct an artificial archipelago in the South China Sea. It is disturbing for its jaundiced and schematic view of history, and for the hubris and cynicism with which it assigns a role for architecture in the governance of these processes. Unlike the Bali bombers, the New John Frum Party's initial interest in the Spratlys was not rooted in the regional politics of countermanaging China, or in China's bullying of its neighbors. As indicated, it became visible as a leading voice in the outcry among South Pacific nations over France's 1995 atmospheric testing of nuclear bombs near Tahiti (~6,000 kilometers east of Vanuatu, itself another 6,000 kilometers east of the Spratlys). The OMA project book does mention this, and its citation of this event in this particular context is both surprising and provocative in ways that raise the stakes on what is to be won by their megastructural intervention. It is not just about defensibility. The "bomb," small or large, has been a technique of the state—of its formation and its deformation—for centuries. In my own research for the essay I came here to write (Did my student read this work? Did I mention it to him? It's pretty impossible), I have linked the Tahiti nuclear tests to moments in the Janus-faced career of the bomb as a means for state authority to carve itself into space, as well as the otherwise uncontrolled, violent refusal of that authorization.

The rain stops, or perhaps it stopped a while ago. I search for and reread the relevant sections from my drafts. "On July 25, 1995, a small handmade bomb ripped through the St. Michel RER station killing several, and turned the center of Paris into a temporary triage zone. Responsibility for the attack was ultimately claimed by several Islamist groups in retaliation for the French cancelation of the 1990 election results in Algeria, which saw religious fundamentalist groups defeat the French and military-backed civilian parties, but which disallowed them from ever taking power."

I compare the two documents. The project book states that, "the bomb [in Paris] represented an attack not just on the specific French state to meddle in affairs of its former African colonies, but upon the authority of any state—as opposed to religious law—to legitimately organize the affairs of a society." This could have been lifted from my own text. "To attack the authority of secular governmentality itself, the bomb was placed in the center of the Center, the middle of Paris, the capital city, a violent

profanation of the secular sacred space of the state." But the trajectory of terrorist architectonics works equally for the state as against it. OMA also links the RER bombs to the nuclear tests. "Almost simultaneous to this employment of micro-explosives as a technology for the spatial erasure of the French state was the deployment of macro-explosives for the reiteration of that state's authority to possess authority and inscribe itself upon the terra." Blah blah, and then they connect it up. "Later in the fall after the Paris bombs, between September 1995 and January 1996 to be exact, in a particularly nasty return of the Gaullist project of Francophone nuclear sovereignty, the waning Mitterrand regime exploded several nuclear test bombs over the Mururoa atolls in the South Pacific."

OMA then goes on to quote the New John Frum Party's own breathless analysis of the French explosions, which is still published, in a weird translation, on the movement's website, dated 1997: "The role of the bomb to authorize both of governments and the true soldiers—from Hiroshima to the WTC—contain multiples of contradictory functions. In the name of defending of the military discreteness of the western state, which in another forum trips over itself in its haste to dissolve into Eurocapital [*sic*]." They mean to refer here to the 1993 WTC bombing, to be clear. The 1995 atomic tests were met with protests in the Pacific from across the political spectrum and nearby Papeete was rocked by week-long waves of riots. But in France the nuclear tests were covered in the French media by perfunctory, matter-of-fact announcements in both public and privately controlled media. The message of the tests was a straightforward declaration of the right of the French state to make declarations on its own behalf, of its independence and singular capacity to act *as* a state, as a collective agent in a world governed *by* states, as opposed to corporations or religions.   The uneventfulness and taken-for-grantedness was the point. Meanwhile, at the same time, on September 29, 1995, Khaled Kelkal, the twenty-one-year-old Franco-Algerian suspected of being the bag man in the St. Michel/RER bombing, was gunned down, kicked, and shot again on live television, many times if one counts the incessant replays.

July 17, 2006

I answer a knock on the door: my breakfast on a huge, loud tray, underneath a giant tablecloth topped by the *International Herald Tribune* like a flat bow. I see that another public decency trial spellbinds Singapore, another mail bomb has gone off in Kuala Lumpur, again in a travel agency, and that somehow and for possibly sinister reasons, bacon has again been added to my order. Who is the wholesaler of bacon in the largest Muslim country in the world? There's another knock on the door, and I think about not answering it. The porter hands me a huge stack of newspapers. I must have asked for these at some point to check on the coverage and reaction to the Spratly project, but I don't remember. I check my e-mail and find a long, weirdly informal letter from my former

student:

> You have to understand that Rem completely understands how this project is being received in Jakarta. You must be reading some scary things ... You have to understand that he practically grew up in Indonesia. He moved there when he was like seven years old, which must be 1952 or so ... So he saw the country being born after its independence from the Dutch which meant his own father ... Imagine how that would affect your thinking about the world if you were a little kid. I think it has really shaped him and this project, whether you can believe it or not, is part of dealing with that and doing what has to be done anyway ... I don't know what the Chinese think, and definitely Rem is suspicious. I mean, come on ... This project may seem too ambitious, but really it's not. It will work in ways that I am sure the people who are so scared can't possibly imagine now. Look, sometimes he goes too far—he's the first one to admit it.

He goes on repeating everything I already know from reading the project book, and even draws analogies between certain maneuvers and ideas that he first encountered in my writing, apologetically, enthusiastically. Then he repeats himself in regular centripetal patterns until the letter ends. My stomach sinks. As an add-on, he nonchalantly discloses something that I didn't know and I'm certain is not widely known, regarding an earlier late-1970s incarnation of OMA and their involvement in a planning project that was sponsored in some way by French-Algerian financiers backing the Khmer Rouge and brokered by the infamous Thai-French attorney, Jacques Vergès. He hints at this and moves on. It's all too much. It's not a conspiracy; it's a revelation of childhood abuse. The e-mail ends with an invitation for me to attend the groundbreaking ceremony in the Spratlys as a supervising dignitary. If you can keep your head when others are losing theirs. The skull map. I close my eyes, and press my fingertips into my eyelids, watch the spiky flickers trickle and trail across the warm insides, breathing slowly, concentrating on them as they move closer and further away in their own miniature cosmos. I hope to fall with their zigzagging descents.

July 18, 2006

I can barely sleep at all for the third night in a row. I dream of elephants staring up at me as I hover above them like a helicopter, waves of tall green grass blown violently all around them. There is still no word from my supposed contacts. I decide to allow myself to fully unfold the oversized map of the project's artificial archipelago, because it is a hot pink dawn again, and so I slide everything off of the dining table in my hotel room onto the
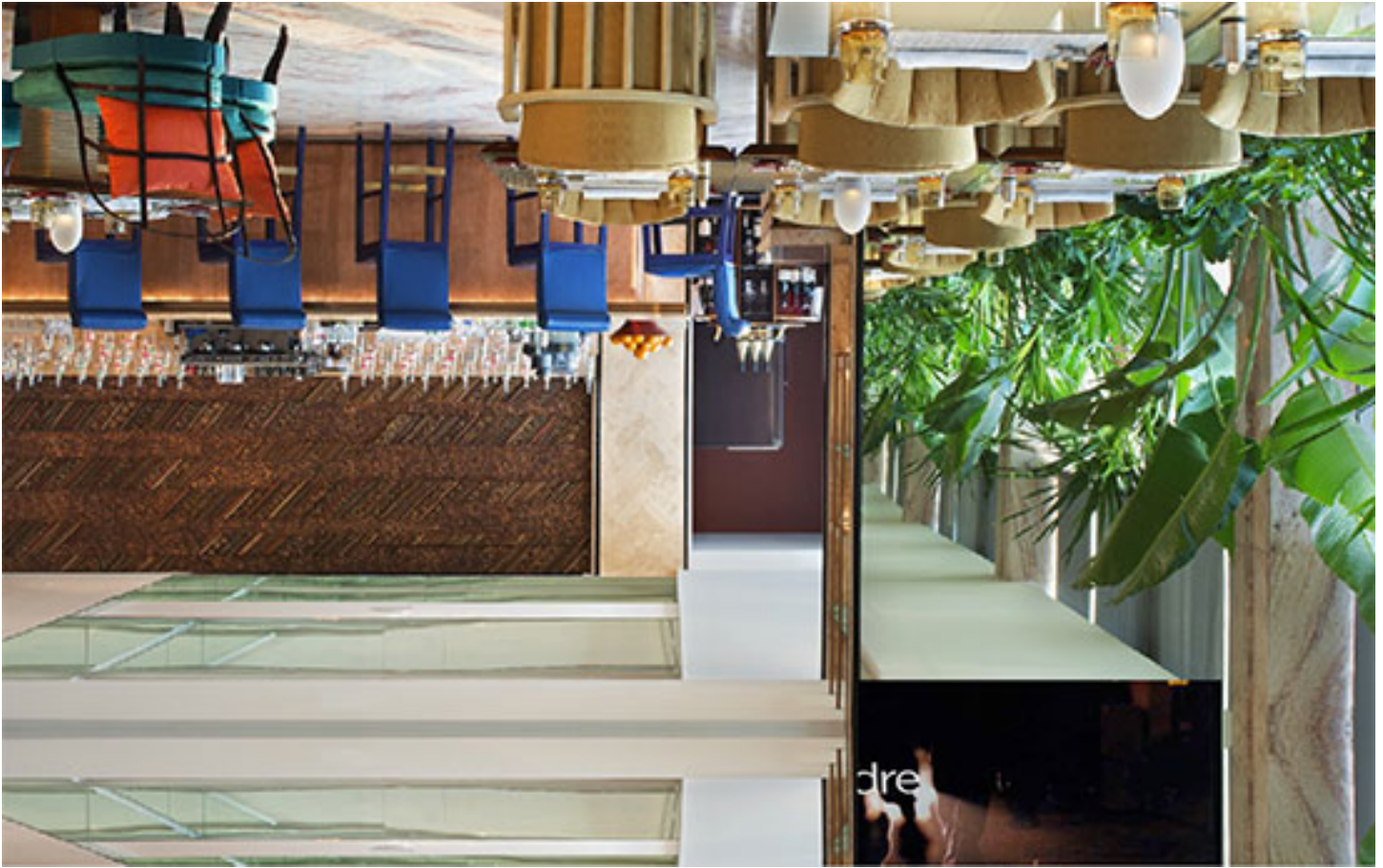
carpet. The massive network of curves stretches from one end of the South China Sea to the next—circulation patterns of permanent inhabitants, temporary workers, temporary executives, the data packets flowing through the structure's huge-capacity fiber-optic cables, the logistics of real goods, internal and external transportation, the tracking of paper dollars and yuan through near-field communication systems—everything—is modeled by complex fluid dynamics measurement equations.

Incomprehensible math annotates the fractal soap bubble composition. I read that all flows—human and inhuman—have been simulated with Lagrangian and Eulerian equations to an unreasonable and absurd level of confidence and predictive granularity. Any and all of these design issues are largely initial state problems, and so this degree of simulated prediction and control cannot possibly be real. On the page, it is math as heraldry. Architectural programs are both strictly partitioned and promiscuously interwoven, Euclidean and hyperbolic geometries collapsing upon one another: container sorting, manufacturing and assembly, long-term asset storage, banking and data services, all coexist with resorts and prisons. They are arranged with an inspired and desolate combination of maniacal algorithmic precision and totally arbitrary cynicism.

The artificial archipelago's fuzzy topos is based on research in global internet packet routing by Dmitri Krioukov. His work models hyperbolic distances in packet routing across the earth's surface and confounds commonsensical relationships between nodes in the tangled lattice of cyber-infrastructure and traditional national geography. Sometimes the shortest distance between two points is determined by a smart packet heading in what appears at first to be the opposite direction from its intended recipient. Legacy networks essentially required putting a kind of "map" of the entire internet address space into every router, such that each believes itself to be aware of the entire network at once. The address tables require constant updating, and, as a whole, each router is asked to perpetually overthink the optimum path of every packet entrusted to it. Krioukov devised an ingeniously simple method of giving a sense of *direction* to the lowly individual packet itself, such that even the simplest unit of information doesn't need to know its ultimate career in advance of being sent, and no gateway needs to recalculate the itinerary of every message it shuttles. Packets move in the general direction of their destinations, however global or local that generality may be when they are far away or nearby to it. The result of these two modifications (hyperbolic versus Euclidean distances and building "greedy pathfinding" into individual packets) could realize perhaps an order of magnitude increase in global data throughput, should

such ideas be fully and properly implemented. As it stands today, only a fraction of publicly accessible networks use these methods to their potential, though most large corporate infrastructures (including Google's own internal networks) have been based, at least partially, on Krioukov's methods for some time. I myself know next to nothing about it.

OMA's essential insights are:

(1) To treat the master plan for the Spratly artificial archipelago as a regional scale mega-network capable of intensive amputation and regrowth.

(2) To treat the distributions of human program and nonhuman program as interchangeable packet layers.

(3) To imbue packets with a precise quantum of sovereign mobility.

(4) To privilege the geometries of hyperbolic distances in all ways practical over Euclidean distances.

(5) To elevate this privilege to an ordinal principal of militarily defensible physical and political geography.

More knocks, more breakfast. More newspapers, more bacon. No word from contacts. The Bali bomber's remaining confederates are not enthusiastic to account for themselves in an interview, I guess. The court cases are too complicated and they are already turning on each other. Uniformly fragmented island atolls are rendered by dynamite into standard-sized unit positions in a grid and installed into another new ordered oceanic surface. Hotel shower and hotel toilet, hotel sink, hotel bed, and in the South China Sea, plankton are captured and their genomic evolution modeled in real time against the master image of climate variation. The project's most iconic images are of Poincaré geodesics and half-plane models: those fractal soap bubbles again scaling infinitely dense or opening upon whatever edge they are pressed. Now there is "third-order heptagonal tiling" where before there was only ground plane and water and old military maps with naive naval zones crisscrossing the island spread. As the ethics of material and materialism, this grid is absorbed and reprocessed into what it had been all along, undernoticed, that is, an ambition less for the line than for the knot and its avoidance.

July 28, 2006

The stupidly methodical tasks of writing and of editing distract me from the present state of things and from how they are designed and governed for real. I am certain that everything I might try to communicate would quickly negate itself or turn its subject matter into a pun. I read the words on my page: "I know of places where young men prostrate themselves before old buildings and kiss their surfaces in an unsettling manner, but they do not know

how to open a single door. Outbreaks, sarcastic heresies, peregrinations which inevitably degenerate into sophistry, have decimated the populations there. I try not to spend too much time writing about suicide bombing, more and more frequent with the years, because others have so jealously staked it out as their territory for interpretation." Perhaps a postponed but inevitable exhaustion confuses me, but even if the human species is about to be extinguished, the project supposedly will endure: illuminated, solitary, geometrically infinite, perfectly motionless in its speed, equipped with precious volumes of useless inaccessible secrets. The new international terminal at Soekarno Airport is quiet and sunny, an enclave of abstraction and the serene mobilities it promises. Like all enclaves, it is a version of utopia. Pre-boarding for departure is announced and we self-segregate according to our relationship to the mode of mobilization, ceremoniously repeating, in miniature, the procedures of the outside world to which we owe our presence.

Into a new blank document file, I have just written the word "impossible." I have not pulled this adjective out of rhetorical habit, but looking back from some perspective on its ultimate demise, is it illogical to think that the world is itself impossible? Those who would advertise counterarguments about Being are also those who postulate that, for all the places close at hand, the corridors and stairways and axonometric hexagons cannot justify us even to ourselves because they are too faraway and too foreign and not of the here and now. Those who make such claims are much, much worse. And then what? Is it possible that the number of combinations of these systems has no limit, that a site condition has no ultimate ecological purchase? I hope to plot a solution to this some day. Instead to ask, is the Turing machine heavier than an airplane of immanence, neither unlimited nor cyclical? If a perpetual tourist were to cross it by ship in any and all directions, after centuries he would see that the same architectures were repeated in the same disorder (which, thus repeated, would be an order—perhaps *the* order?). My insomnia is soothed by this hope.

Just before taxiing onto the runway, I scan one last e-mail from my former student. It includes clippings from a Beijing-based website documenting spectral appearances of "Koolhaas" at the construction site, wrapped in dark glasses, hidden behind officials, barely visible to cameras. In later posts he is shown in whiteface, arms waving above his head in incantation. In fact many such figures are lined up, one after the other, each in a white suit, in white face paint, in black sunglasses, and posing with the workers. Is this Frum? My student continues to speculate on Koolhaas's childhood in Indonesia, his possible daily routines, hobbies, traumas.

July 28, 2007

This carnivalesque satire of the belly of the architect is not the only form of grotesque realism that the project would endure or enforce or withstand or perpetuate. Its mania and rigor could not immunize it from being reframed by counternarratives. You are familiar with the "documentary" film *Archipel Kepulauan*? Besides the obvious, the film has another   unusual and uncomfortable link to the messianic irredentism of the New John Frum Party. Frumists claim that some of the workers shown in the film—crushed underneath collapsed building sites, thrown off boats into the sea, stacked like fish in floating prisons/hospitals, dismembered for sport by bored, drunk construction teams—are descendants of the long original Le islanders. Would that it were so. In fact most of the laborers depicted (variously working, smiling, or dying) are from the territories of Sarawak and Madura, as the film reveals despite itself. Frumist websites freely use collaged snippets from the film as source material in the creation of fantasy terrorist attack scenarios, edited into often lavish short videos and distributed openly on American and Russian social media sites. These sorts of quasi-fact, quasi-fictional fantasy attack plots (a hack genre known as "Bojinka") make extensive use of *Archipel Kepulauan* as cornerstone source footage. So while   the film makes no reference to Frum theology, and in fact the filmmakers have now disavowed any association, the film nevertheless is a canonical resistance text for the movement, and continues to circulate through informal networks of hand-traded flash drives. Or so I am told. I didn't encounter any such thing myself, but I am possibly the last stranger in the city who is likely to be entrusted with the reception of such a thing.

Except for the dozens of new and old airstrips striating the sporadic open lands, and the largely symbolic megasculptural troop barracks that Brunei has used to ensure its EEZ claims, the Spratly Islands look much like they have for decades, and in most areas, as they have for centuries. Despite the violent scope of the project plans, today the archipelago is still remote and largely lifeless and empty of buildings. Renders from OMA's master plan already adorn the covers of new Mandarin-language tourist guidebooks and fill up multiple different user-generated layers on Google Earth. The now iconic hyperbolic lattice system, both submerged and above water, has already been repurposed in Second Life, the new criterion of architectural cliché. The Skull Map of the lost Le people on display in Saigon, however surely counterfeit, is at least tangible and physical. It is a real fraud, not a fraudulent real. Construction on the OMA project has been delayed for three years as of now, and it is uncertain when, indeed if ever, the project will be fully undertaken and completed as planned. Baseline projections on sea-level rise with a high degree of predictive certainty all but assure that 10–15 percent of the island land will be underwater by the end of the next century, while the more extreme projections that presume the exponential climatic effects of multiple positive feedback loops amplifying one another would put that closer to 20–30 percent. China's absorption of the Spratlys into a new logistical exo-continent, along with OMA's synthetic topology, may only succeed to the extent that they can also provide for adaptation to ecological transformations that cannot be realistically predicted before construction begins. An initial value problem once again. If this is so, then the project may be an ingenious solution to a very different situation than the one it was originally assigned. Or equally possible, it can be recommended on its own account, even before its completion, as an exotic ruin of failed governance and regional superpower overreach. Nevertheless, it has already succeeded as a geopolitical ploy, through the sheer presumption of momentum, to silence the competing sovereign claims over the Spratly Islands by neighboring countries. Malaysia has even formally recognized the entire chain as part of China's extended territory, based, in essence, on the presumption that the OMA plan is the inevitable future of the archipelago. And so even before the megastructure is built, it already is so.

August 11, 2008

I did eventually meet with the acquaintances of Imam Sumudra, introduced to them indirectly by contacts made with Frumist groups interested in having their side told through me, a channel they mistook as a Dutch journalist. We disappointed each other, I am sure. At that time it was also hoped that some insight into basic mysteries of the social—the archaic origin of the state and of the time of geography perhaps—might be found. It is or is not coincidental that these grave concerns could be demonstrated as and through architecture. If the language of the stone is not sufficient, then the multiform plan or the solemn grid will have produced the diagram. Since the Japanese surrender on board the USS Missouri, nearby designers, politicians, and terrorist functionaries have contested the plan. There are official actors of sorts. Supposedly utterly unrelated in purpose, but before, during, and after my interviews with them they all present themselves to me in the exact same way. They are opponents who have become one and the same through the friendship with their inverted, interwoven paranoias. I

have witnessed them in the commitment of their purpose: they appear exhausted by their work, they recount, by way of endless footnotes within footnotes, renewed commitments to personal and collective purification, and to communities and insurrections to come that will, by way of their divine anonymous violence, resolve the constitutional contradictions of the ongoing stalemate of an unbuilt project that may hold the key. They talk with their admirers of good works to come, and sometimes they spend hours picking aimlessly through their feeds looking for some bit of information that will inspire and inaugurate their next move tomorrow morning. They scan for critical events. Obviously, no one expects people such as this to build anything or tear anything down, and yet there the project is, at least partially finished by now.

As was to be expected, mania is followed by flamboyant depression. Some means, some practical violence of the state, or against the state, for the project, or against the project, somewhere somehow, would turn the tide in their favor, they each invariably conclude. In the end a small, blasphemous Frum sect originally from Midway Island suggested that the opposition should cease and that all Islanders, including the Chinese engineers and the Dutch, British, and American architects, should jumble the plan until they have constructed, by the probabilities of fate or chance, another megastructure that would absorb the intentions of Beijing as well the eschatological promissory aspirations of the New John Frum Party into one. "Can this not be Babel?" they ask optimistically, in not-so-many words. The Chinese issued damning orders on them, as did the mainstream Frum resistance. This sect, the last of them, disappeared—at least from my view. On occasion I have seen what I take to be their scribbled graffiti wasting away in the public comments sections of the project's waning journalistic coverage. Despite their sense of doom and defeat, in many ways this is their true solution, at least to what is most important to them, which, in reality, has prevailed. Their composite Tower will be built, and with time, theirs will be that which is honored by decay.

X

This text is an excerpt from Benjamin H. Bratton's theory-fiction book Dispute Plan to Prevent Future Luxury Constitution *, published recently by Sternberg Press.*