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8 MUSEUMS, ECOLOGY, CITIZENSHIP

Toby Miller Text

For the Science Museum, having a sponsor like BP, which is also a world leader in their subject, was an exciting experience. "We always ask our sponsors for help but we are not always able to mine them for information," said the Museum's Hannah Redler (quoted in Viney 2005). And in a recent article on arts sponsorship, Chapman (2012) asks with reference to BP's sponsorship of the Tate: "Can art 'detoxify' a brand?"

In the northern summer of 2013, I visited London's Design Museum with Sara Ayech, a climate and oil campaigner with Greenpeace UK.[1] The museum featured an exhibit using Digital Europe's notion of an ecological backpack to illustrate the minerals and labor that make mobile phones. I took a wee photo (Figure 8.1). But, alongside the valuable attention paid by this exhibit to the environmental impact of mobile telephony (though nothing was said of the millions of people killed, enslaved, and raped in struggles over the conflict minerals that enable these gadgets), the museum celebrated what it immodestly called "A New Industrial Revolution" – an extraordinary marvel which is, allegedly, already "Here," according to an underground station poster (Figure 8.2).[2]

The "Revolution" has arrived thanks to three-dimensional (3-D) printing, sometimes known as "additive manufacturing." What 3-D offers is "mass customization," individualizing generic commercial designs to consumer needs through computer-aided design and manufacture. This innovation promises to alter factory assembly, the global division of labor, and the printing industry. That's more alterations than the rag trade could manage! Now, you can not only adjust specifications online for home appliances, artworks, or club apparel, but actually make them yourself, whether as a consumer or a distributor. Hospitals use it to tailor hip replacements to patients' individual bodies, and dentists to fill particular mouths. Material objects can be created from digital files by 3-D printers "printing" slices of molten plastic or powder. The purchase price of one of these printers can be as low as US$650 (Li 2013).

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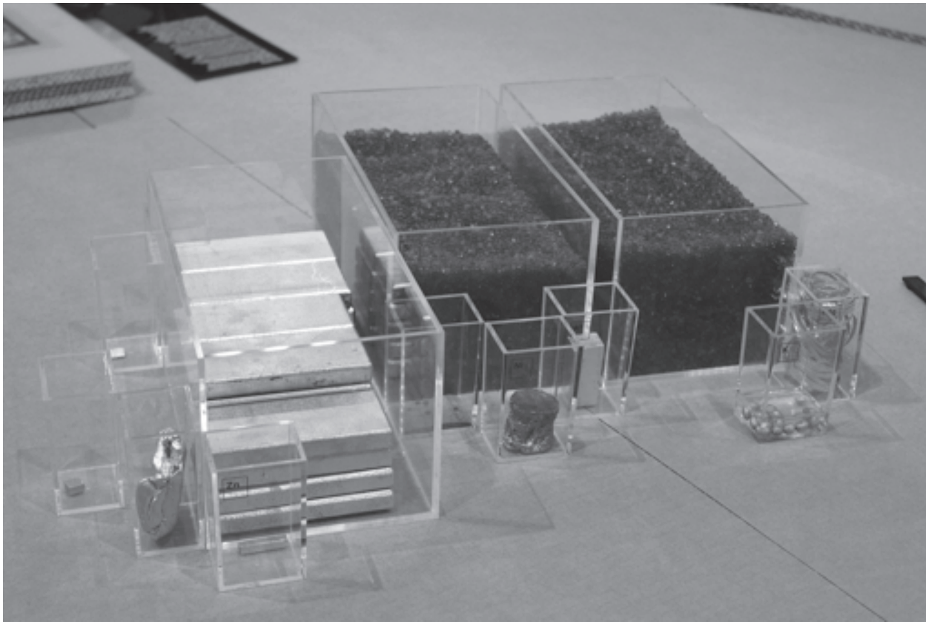

FIGURE 8.1 Design Museum exhibit. (For a color version of this figure, please see the color plate section)
Photo: Toby Miller. Courtesy of the Design Museum.

But there are negative sides to this development. The printers raise anxieties about counterfeit and contraband products and consumer safety (Bloomberg 2013), and the US government is very exercised by the newfound household ability to "print" guns: the notorious "Liberator" or "Wiki Weapon" (Li 2013). You can read all about it at Defense Distributed, the website of a group that sees itself as the inheritor of free speech traditions dating back to Milton.[3] In the few days before these heroes of the Enlightenment were ordered by the State Department to remove their gun-printing guide because it violated export controls, 100,000 people downloaded the deadly instructions. Of course, the idea has already been more fully developed at the Pentagon, which can hardly wait to deliver customized weaponry to soldiers in the field (Beckhusen 2013).

Greener museums?

But what concerns me about the new technology is an environmental issue with serious implications for occupational and amateur health and safety. For, while some analysts predict that 3-D printers will have positive ecological effects by reducing the carbon used to transport goods (Campbell et al. 2011), recent research focuses on the fact that many desktop 3-D printers use heated thermoplastic

FIGURE 8.2 Design Museum poster.
Photo: Toby Miller. Courtesy of the Design Museum.

extrusion and deposition. Numerous factory studies have associated such processes with dangerous aerosol emissions, but there has been minimal investigation into the new printers, which generally lack exhaust ventilation or filtration systems. The first published study looked at ultrafine particle (UFP) production. It found that UFP emissions in an office using 3-D printing were alarmingly sizable. Why alarming? UFPs can easily deposit themselves in people's lungs, airways, and brains, producing high concentrations of other adsorbed, absorbed, and condensed compounds. The epidemiological record corresponds to cardiorespiratory mortality, strokes, and asthma (Stephens et al. 2013).

What should our attitude as citizens, workers, and consumers be toward this innovation and the celebrations of it? What are the implications for public policy and private choice? What might be the responsibilities of boosterist museums, which bask in the glow of technological innovation, newness, and subvention even as they lay claim to a long view of history, art, and objectivity?[4] What should the

Design Museum do in this context, given its happy sponsorship deal with the Technology Strategy Board, which is "Driving Innovation"?[5] (Just by chance, the board is investing millions of pounds in 3-D printing.[6])

Like all of us, the Design Museum should explain and be guided by the precautionary principle of environmentalists, prioritizing the negative externalities of that seemingly splendid transcendental signifier, "innovation." The precautionary principle places the burden of proof on proponents of industrial processes to show that they are environmentally safe. It seeks to avoid harm instead of dealing with risks once they are already in motion: prevention rather than cure (Maxwell and Miller 2012a). The precautionary principle is opposed to conventional cost–benefit analysis, which looks at the pluses and minuses of consumer satisfaction versus safety.[7] It is a watchword in my discussion of museums and the environment, with the principle being relevant to all and not just adopted or ignored powerful elites. Museums that boast of green curatorial care do not merit such claims unless they boycott polluters' money and are animated by revised citizenship norms for employees.

Back at the Design Museum

Back at the Design Museum, it was quite shocking to see workers and visitors interacting directly with 3-D printers in the absence of any obvious warnings. Instead, this was a grand new cornucopia on display, with all the fun of the fair. How very jolly. I do love to see innovation unleashed before my very eyes.

But there's the scoop: celebratory endorsements as per "The Future Is Here" are generic advertisements for technologies that may deliver far more than efficiency and customization. The (partial) job done by the museum in covering the horrors of mobile phones is no excuse for environmentally irresponsible endorsements of "innovation." Its embrace of new toxic technologies, just a few steps from a valuable account of mobile phone componentry, compromises the latter achievement.

Such contradictions encapsulate the cosmic ambivalence of museums as they veer (or lurch) between coin-operated searches for publicity, eager-beaver approbation from oligarchies, and careful conservation of everyday nature, life, art, and memory. The example of the Design Museum also indexes a complex shuttle between contemporaneity and history. By and large, museums' principal remit is preservation. They exist ontologically to preserve items and processes that are deemed to be of artistic, symbolic, economic, technological, scientific, historic, or folkloric value. Epistemologically, they do this through classification and argumentation.

Museums therefore incarnate continuity and recovery, paradoxically and contradictorily valuing the excessive and the normal, the aesthetic and the customary, the elite and the everyday. Museums exclude as well as include, so they have been the subject of major struggles by social movements and of reinvention in the light

of critique (Cameron, Hodge, and Salazar 2013).[8] Adorno (1975, 18) looked on the culture industries, of which museums formed a part, as forces "of anti-enlightenment, in which … enlightenment, that is the progressive technical domination of nature, becomes mass deception."

What is it about humanity that legitimizes the drive to destroy as well as protect, and how does that link *all* museums to environmentalism? I'll examine this issue from three interlaced perspectives – philosophical, political-economic, and environmental – to call for a greener and more democratic museum world.

Philosophical dimensions/dementia

A complex philosophical heritage underpins museums' ambivalence about the old and the new: anthropocentric versus ecocentric worldviews. The former emphasizes the overarching legitimacy of human interests, the latter the necessity of preserving the earth's complexity. From an anthropocentric point of view, Francis Bacon avowed four centuries ago that "commerce between the mind of man and the nature of things … is more precious than anything on earth."[9] Two hundred years later, Hegel argued that semiosis was the distinctive quality of humans. It elevates them above other life forms because making meaning is evidence of a beautiful and sublime human quality – putting one's "will into everything." An object or place thereby "becomes *mine*." People alone have "the right of absolute proprietorship." A capacity to restrain ourselves, as we master both "spontaneity and natural constitution," distinguishes us as humans from other living things. The necessary relationship between humanity and nature asserts itself at the core of consciousness as a site of struggle for us to achieve freedom from risk and want. We are unique in our wish and ability to conserve and represent objects, so a strange dialectical process affords us a special right to destroy them. This will power distinguishes us from other animals because it expresses the desire and capacity to transcend subsistence. Semiotic power legitimizes the destruction of semiotically unmarked sites: "respect for … unused land cannot be guaranteed." Nature's "tedious chronicle" provides "nothing new under the sun" – valueless without the progress signified by human dominion (Hegel 1954, 242–243, 248–250; 1988: 50, 154, 61). Hence the anti-indigenous, antiflora, antifauna doctrine of *terra nullius*.[10] Many museums incarnate this will through their selection of items worthy and unworthy of saving and commemorating, based on semiosis as value.

But can this opposition of semiotic richness versus natural primitiveness work? Simmel thought not:

> When we designate a part of reality as nature, we mean one of two things … an inner quality marking it off from art and artifice, from something intellectual or historical. Or … a representation and symbol of that wholeness of Being whose flux is audible within them. (2007, 21)

The very concept of nature as something to be molded, discarded, or preserved forgets the principles of unity that animate the sign "nature" as an idea and a representation, which have long been touchstones of the philosophy of art and hence of semiotic and financial value.

In 1832 Charles Babbage, the mythic founder of programmable computation, noted the partial and ultimately limited ability of humanity to bend and control natural forces without unforeseen consequences: "The operations of man … are diminutive, but energetic during the short period of their existence: whilst those of nature, acting over vast spaces, and unlimited by time, are ever pursuing their silent and resistless career."[11] This finally fateful drive to control components of what had appeared uncontrollable now compromises the very ability of humanity to live in nature. This is not news, however. Bacon, for example, was far from a mere anthropocentrist. He could see that we must be "content to wait upon nature instead of vainly affecting to overrule her."[12] And David Hume approached these matters from an almost ecocentric persuasion: even if rights are only accorded to those with semiotic abilities, animals deserve them, too, because they "learn many things from experience" and develop "knowledge of the nature of fire, water, earth, stones, heights, depths, etc." Rather than being merely sensate, our fellow creatures infer material truths (Hume 1955, 112–113) through what he called "the reason of animals."[13]

William Morris's call for the art world to recognize its links to everyday life, as per ethnological museum artifacts, and to problematize the Romantic fetish for a separation of work and creativity, took as its lodestone the need to recreate beautiful surroundings as a precondition for beautiful creations:

> Of all the things that is likely to give us back popular art in England, the cleaning of England is the first and most necessary. Those who are to make beautiful things must live in a beautiful place. Some people may be inclined to say … that the very opposition between the serenity and purity of art and the turmoil and squalor of a great modern city stimulates the invention of artists, and produces special life in the art of today … It seems to me that at best it but stimulates the feverish and dreamy qualities that throw some artists out of the general sympathy … men who are stuffed with memories of more romantic days and pleasanter lands, and it is on these memories they live.[14]

In other words, the semiotic marks so prized by Hegel are, ironically, sustainable only in a state of nature, provided that people can "abstain from wilfully destroying that beauty." This duality of nature – simultaneously self-generating and sustaining, yet contingent on rhetoric and despoliation – makes it vulnerable, even as its reaction to human interference will strike back sooner or later in mutually assured destruction: no more nature, no more humanity, no more art. As a consequence, sacred and secular human norms conflict as often as they converge in accounting for changes in the material world and the rights of humanity as its

most skillful and willful productive and destructive inhabitant (Marx 2008). As Latour explains:

> From the time the term "politics" was invented, every type of politics has been defined by its relation to nature, whose every feature, property, and function depends on the polemical will to limit, reform, establish, short-circuit, or enlighten public life. (2004, 1)

This necessitates allocating equal and semiautonomous significance to natural phenomena, social forces, and cultural meaning in order to understand contemporary life. Just as objects of scientific knowledge come to us in hybrid forms that are coevally affected by social power and textual meaning, so the latter two domains are themselves affected by the natural world (Latour 1993, 5–6). This is why museums focused on nature are as encased within imperial domination and industrialization as scientific knowledge, and linked to the global North's colonizing and classifying tendencies over peoples and places (Barrett and McManus 2007). Half of the 200 million objects housed in British museums fall into this category (Alberti 2008, 73).

Political-economic issues

The last 200 years of modernity have produced three zones of citizenship, with partially overlapping but also distinct historicities and implications for museums and the environment. These zones are the political (conferring the right to reside and vote), the economic (the right to work and prosper), and the cultural (the right to know and speak). They correspond to the French Revolutionary cry "liberté, égalité, fraternité" (liberty, equality, solidarity) and the Argentine left's contemporary version "ser ciudadano, tener trabajo, y ser alfabetizado" (citizenship, employment, and literacy). The first category concerns political rights; the second material interests; and the third cultural representation. Museums have been important for each of these definitions and phases, as forms of government, business, and ideology respectively (Miller and Yúdice 2004; Miller 2007).

There is an ecological problem with this monumentalism, whether it consists of bricks, bytes, or bouquets. Major museums are not only means of awareness, analysis, and ecstasy. In addition to their imperialistic and accumulationist roles, they also share responsibility for climate change, pollution growth, biodiversity decline, and habitat decimation. Creating, powering, and visiting museums consumes, despoils, and wastes natural resources and exploits people at an ever increasing rate. To give just one instance, the information and communication technologies employed by museum visitors and workers contain toxic substances that pervade the sites and environs where they are manufactured, used, and thrown away, poisoning humans, animals, vegetation, soil, air, and water. Rapid cycles

of innovation and planned obsolescence accelerate both the emergence of new electronic hardware and the accumulation of discarded gadgets, which are transformed overnight into junk. This planned obsolescence reinforces consumerism and animates the ideology of growth which holds that technological innovation is necessary and good. Such managerial "efficiencies" waste natural and human resources. Immediacy and interactivity induce ignorance of the intergenerational effects of consumption, including long-term harm to workers and the environment. Constant connectedness diminishes the ability to dwell on interconnections between the media and the earth. Museum technology, like many cultural sites, leaves an environmental legacy of poisoned waterways, sickened workers, and toxic habitats (Maxwell and Miller 2012a).

To counter such influences, we need to transcend the three discourses of citizenship enumerated above by injecting them with green influences. At a practical level, for those working in museums, this suggests a number of practical ecological reforms. The first set could come from any conventional manual or consultancy (e.g., Museums Association 2010; Julie's Bicycle 2012):

- use carbon calculators to establish institutions' environmental impact due to heat, light, and travel;
- explore electronic attendance at art events;
- require artists and curators to transform their purchasing and recycling practices;
- produce matt rather than glossy catalogs to avoid using virgin paper;
- reserve period contracts to green suppliers; and
- bus donors to major museum events rather than have them driven by chauffeurs who idle engines outside while checks are promised within.

The second set of changes is wider ranging. It is definitely not to be found in manuals or consultancies (for a wonderfully schizoid conversation alternating between these norms, see Lam et al. 2013):

- engage ecocritical art history (Braddock 2009);
- boycott polluters' money; and
- defang senior management.

I'll focus in particular on the second of these tasks.

Conscripting museums

Big polluters make cynical use of museums to greenwash their public image. This is part of a strategy to obtain "a social license to operate," a surprisingly overt term that has been adopted with relish by polluters to explain their plans for winning over local, national, and international communities to accept mining (Thomson

and Boutilier 2011). *Forbes* magazine suggests that, for the extractive sector, 2013 was *the* year of such licenses (Klein 2012).

In the words of the British environmental activist collective Rising Tide (2012), "By sponsoring our cultural institutions, Shell tries to protect its reputation, distract our attention from its environmental and human rights crimes around the world and buy our acceptance." Corporate largesse gets whatever its return on investment is (this is tough to measure) as a quid pro quo for very little – private money accounts for well under 20 percent of income for UK museums and other not-for-profits. Blockbuster shows provide alibis for big cultural institutions as well as big oil polluters, by countering populist claims that only elite segments of society visit such places. BP has similarly dedicated much of its corporate social responsibility efforts over the past decade to relationships with Britain's principal cultural institutions, as measured by size, visits, and media coverage. These include the National Gallery, the National Maritime Museum, Tate Britain, the Natural History Museum, the Science Museum, and the National Gallery (Chase 2010). BrandRepublic even uses this as a case study (Chapman 2012).

As BP explained to *Marketing Magazine*, the current campaign is a "return to above-the-line advertising … showcasing the contribution the company makes to society" (Reynolds 2012). The corporation says it "has proudly supported arts and culture in the UK for over 35 years," with particular reverence for exhibits that attract large numbers of visitors. At a cost of £10 million in 2011,[15] this is small fry for a company with a revenue in that year of $75,475 million.[16]

The strategy is not limited to the United Kingdom: BP paid the Los Angeles County Museum of Art $25 million in 2007, in return for which the museum christened a BP Grand Entrance.[17] In 2006 the company paid $1 million to Long Beach's Aquarium of the Pacific. When one of its oil rigs exploded in the Gulf of Mexico four years later, both sides reconsidered the partnership (in the United Kingdom, BP quickly withdrew much of its marketing). Today, the company luxuriates in naming rights over the "BP Sea Otter Habitat," which opened a month later – with its sponsors shy of being present, the better to avoid negative externalities and protests, presumably (Boehm and Sahagun 2010; Reynolds 2012).[18] Less spectacularly, the *Carbon Sink* installation at the University of Wyoming was removed as a result of protests from Republican lawmakers in 2012, just as energy companies were donating to the university at record levels (Smith 2012).

In addition to this patina of legitimacy via economic citizenship that appears not to be self-interested, BP also participates in more overtly ideological activities, notably at Britain's Science Museum, where 7- to 14-year-old school pupils are targeted, in the words of the corporation's magazine, "to explore and understand how energy powers every aspect of their lives and to question how to meet the planet's growing demands in the future." A "partnership" between the two virtuous institutions was necessary because of "a shared concern over the public lack of awareness of energy-related issues." Cost–benefit analysis, rather than the precautionary principle, is reinforced via "an interactive game where visitors play the

energy minister and have to efficiently power [courtesy of a split infinitive, it seems] a make-believe country by balancing economic, environmental and political concerns before the prime minister fires them" (Viney 2005). This is a clear challenge to environmental science, rather than an invitation to dialog, most particularly as it again positions the firm as a benign intermediary between present and future, science and childhood, truth and innovation, rather than as one of the worst polluters in human history. The game sets up BP and the Science Museum as reasonable people in a world of extremes, capable of a measured and fair-minded engagement with the central issues by contrast with hot-headed, green-gaseous environmentalists.

Of course, BP is not the only gigantic oil corporation seeking to do well for itself by appearing to do well by others. Chevron in Colombia boasts that its goals include "promover el desarrollo cultural de Colombia" (promoting the country's cultural development), as evidenced by sponsoring an exhibit at the Museo del Gas de Riohacha which explores preinvasion and colonial settlements and the ongoing cultures of indigenous peoples, such as the Wayúu (Chevron 2013).[19] One issue: the Chevron disrupts the Wayúu's form of life, so they have protested against this despoliation.[20]

But let's not focus on such uncomfortable things too much. They spoil the story and don't really aid the cause.

Environmental ripostes

Rising Tide UK has an Art Not Oil project, which takes as its motto "For creativity, climate justice & an end to oil industry sponsorship of the arts." It began in 2004 as a challenge to current and potential artists to forge their practice and exhibitions in sustainable ways, and to work against the unsustainability of Shell, BP, and their kind – as businesses in general, but more particularly as sponsors of the arts. Art Not Oil boasts numerous online galleries. Like their more material activism, the galleries are designed to criticize and undermine the "caring" image that corporate polluters seek via various nefarious initiatives such as the BP Portrait Award and Shell's support of the Wildlife Photographer of the Year exhibit at Britain's Natural History Museum. The goal is to see "Big Oil" go "the way of Big Tobacco in being unwelcome in any gallery, museum, opera house or theatre."[21] (Tobacco killers exited sponsorship of the National Portrait Gallery two decades ago, opening up room for fuel killers (Chase 2010).) One day, nonsmokers and governments may feel the same disdain for high-octane drivers, pilots, and passengers that they presently show for nicotine pushers and users.

But Art Not Oil's activism is concerned with much more than consumerism and individual foibles. It is about the place of large institutions within international and national power elites. Such entities draw on minimal, cheap sponsorship to gloss

their image and win goodwill from the public while maintaining oligarchical ties. Eight thousand signatories to a petition opposed the Tate's renewal of its sponsorship with BP (*Prensa Libre* 2011), but with little effect. The museum's director, Nicholas Serota, avowed during the spill of the year before that "You don't abandon your friends because they have what we consider to be a temporary difficulty" (quoted in Liberate Tate, Platform, and Art Not Oil 2011, 12). A bit like wiping the bottom of a friend's child while in *loco parentis*, really.

But the struggle continues. The Reclaim Shakespeare Company has a flash mob called Out Damn Logo to criticize the British Museum's complicity with big pollution in accepting BP money to help fund "Shakespeare: Staging the World" (Kocialkowska 2012)[22] and alliances such as Good Crude Britannia and the Greenwash Guerrillas[23] engage the maddening contradictions of cultural institutions seeking to be conservatories and green while rushing like orgasmic teenagers toward nocturnal pollution (terc3ra 2010).

The Liberate Tate group has mounted several intense actions using spectacle (what it refers to as "creative disobedience"[24] in a presumably unconscious Christian reference) to counter the museum's sycophancy to polluters. In 2011 activists poured a simulacrum of oil over a cringing, bedraggled, abject artist on the floor of the Tate (*Human Cost*) in the middle of the BP-sponsored *Single Form* exhibition, dedicated to the human body (*La Jornada* 2011). And the following year they lugged 55 kilos of melting Arctic ice – their *Floe Piece* – from Occupy London on the steps of St. Paul's Cathedral to the Tate's Turbine Hall to protest the museum's murky intercourse with BP (Anderson 2012; Lam et al. 2013). Liberate Tate struggles with the Tate's incorporationist hipster tendencies, which involve tight governance of what are seemingly resistive opportunities: classically, the Tate Modern's 2010 "Disobedience Makes History" workshop on activism and art forbade participants from criticizing sponsors, while Shell's sponsorship of the South Bank Centre buys it proscription of leafleting against this most disgraceful of polluters (Liberate Tate, Platform, and Art Not Oil 2011, 19). Such limit cases, where the fault lines, the fissures of the accords between elites show through, shed light on the real reasoning that underpins corporate cultural sponsorship – it is far from disinterested.

Related movements also offer guides to greener museum citizenship. Occupy Museums began in 2011 as part of the wider Occupy movement, itself stimulated by much larger and longer-standing citizen refusals in Chile, Colombia, and Spain (Miller 2011). The central tenet of Occupy Museums is to "Reclaim space for meaningful culture by and for the 99%," because "Art and culture are the soul of the commons. Art is not a luxury."[25] Occupy pays particular attention to the oligarchical nature of the capitalist art market in New York, and focuses on the working conditions of those across the sector, not just artists. Blending environmental and labor questions in this way is crucial.

Growing numbers of creative artists are taking on apolitical cybertarian celebrations of digital technology. Consider Arte Povera's use of found materials, railing at

errant, arrogant consumption by highlighting e-waste, recycling, and ragpickers, or artists such as Jessica Millman, Miguel Rivera, Alexdromeda, Sudhu Tewari, Natalie Jeremijenko, Nome Edonna, Chris Jordan, Erik Otto, and Jane Kim. Yona Friedman focuses on reuse rather than originality, while Julie Bargmann and Stacy Levy start with a creative clean-up rather than concluding with a painstaking one. Carnegie Endowment's *Foreign Policy* magazine circulated into the mainstream Natalie Behring's stunning collection of photos from "Inside the Digital Dump" (Behring 2007). Amsterdam's Urban Screens uses electronic billboards as public space to encourage active citizenship, as do Ars Electronica of Linz and Melbourne's Federation Square.[26]

Environmental art can cover both works that directly represent the environment (e.g., Monet's series of paintings of London or Constable's of clouds) and nonrepresentational, performative works like Richard Long's *A Line Made by Walking*, James Turrell's *Skyspace*, or Olafur Eliasson's *The Weather Project*, which assume, Latour-like, that nature is occupied and shaped by humanity, and vice versa (Struppek 2006; Thornes 2008).[27] This oeuvre helps one imagine the relationship of a sustainable, democratic, and pleasurable life – a healthy earth, a functioning global democracy, and fun – to art. It illustrates the balance between lightening environmental burdens while allowing us to "enjoy, invent and be free in the modern world" (Robins and Webster 1999, 62). Jeremijenko exemplifies this tendency; she

> has a permanently installed Model Urban Development on the roof of Postmasters Gallery in Chelsea, featuring 7 residential housing developments, concert hall, and other public amenities, powered by human food waste where it continues to toy with new conceptions of urban futures, and re-imagine our relationship to nonhuman organisms. Her work is described as experimental design, hence xDesign, as it explores the opportunity new technologies present for non violent social change.[28]
>
> http://howstuffismade.org/ How Stuff Is Made (HSIM) is a visual encyclopedia that documents the manufacturing processes, labor conditions and environmental impacts involved in the production of contemporary products. It is a free, independent, academic resource published by engineering and design students, who research and produce summative photoessays describing these conditions of creation. Academic faculty are responsible for ensuring that appropriate standards of evidence are upheld, and guide the students in collaborating with interested manufacturers. HowStuffisMade (HSIM) reconsiders engineering/design education as fundamentally connected to the social and political constraints, organizational innovations and global context that inform manufacturing decisions.[29]

Jeremijenko's works include *Feral Robotic Dogs*. She adapts toys to sniff out environmental toxins and hands them to victims of environmental racism so they can identify and intervene in polluting dangers (Philip 2008, 70).[30]

Kicking back

When we ponder such uses of spectacle by the left, it's easy to fall into either a critical camp or a celebratory one. The critical camp would say that rationality must be appealed to in discussions of climate change and competition for emotion will ultimately fail. Why? The silent majority doesn't like direct action; corporations outspend activists; such occasions preach to a light-skinned, middle-class eco-choir; media coverage is inevitably partial and hostile; and crucial decisions are made by elites, not in streets.

Conversely, the celebratory camp would argue that a Cartesian distinction between hearts and minds is not sustainable; that a sense of humor is crucial in order to avoid the image of environmentalists as finger-wagging scolds; that corporate capital must be opposed in public; that the media's need for vibrant textuality can be twinned with serious discussion as a means of involving people who are not conventional activists; and that a wave of anti-elite sentiment is cresting.

Absent external evaluation of the social composition of counter-BP/Chevron/Shell art world participants, the nature of old, middle-aged, and new media coverage, and subsequent shifts in public opinion and reactions from lawmakers, it's difficult to be sure about the impact of such spectacles. I generally incline toward the skeptic's view of populist activism – but not in these instances. Why? Because I think the lugubrious hyperrationality associated with environmentalism needs leavening through sophisticated, entertaining, participatory spectacle. A blend of dark irony, sarcasm, and cartoonish stereotypes effectively mocks the pretensions of high art's dalliance with high polluters. And this can and must be twinned with a radical departure from existing museum hierarchies in order to break apart their oligarchical ties to nicotine, oil, and anyone else lining up to exploit the earth.

Guattari recognized that "Nature kicks back. If we are to orient the sciences and technology toward more human goals, we clearly need collective management and control – not blind reliance on technocrats in the state apparatuses" (1989, 34). That means leadership from the bottom of managerial pyramids. It is more than ironic that Serota, the beaming patriarch of the Tate who cozies up to Big Oil, is a major advocate of museums working against global warming by reducing their taste for air conditioning and heating because of unnecessarily restrictive norms about humidity and warmth to preserve artworks (Thorpe 2011). Here is a major opinion leader in the industry who recognizes its complicity with unsustainable preservation practices but denies the much greater threat to the world posed by his beloved fellow oligarchs using the name of his beloved institution to shore up their offshore disgraces. There could be no clearer sign that we need a radical shift in the hierarchy of museums if they are to become green. Projects like Greener Museums' Sustainability Leadership Programme buttress the tendency toward hierarchies in their emphasis on the necessity to bring "leaders" (who *are* those people, and who deems them necessary?) along with environmental protection by "turning operational, financial and reputational risks into revenue-generating, cost-saving

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opportunities."[31] Not a lot on offer in terms of environmental justice or, you know, the right thing to do.

Oh, I almost forgot. If you're curious about the "Liberator" or "Wiki Weapon," London's Victoria and Albert Museum has one proudly on display, along with its manifold signs of imperial and ecological destructiveness. A curator told the *Guardian* that, while 3-D printing is mostly thought of as a home printing facility, "the gun blew all that away" (quoted in Thorpe 2013). It's not only the Design Museum that needs some ecological lessons – starting with a consideration of hypermasculinist metaphors of death.

Notes

1 Thanks to Sara Ayech for helpful comments.

2 Museum advocates have enthusiastically and blindly surged ahead with the adoption and endorsement of mobile phones as educational tools (Johnson, Levine, and Smith 2009), minus any apparent consideration of labor exploitation, customer health effects, or environmental despoliation (Maxwell and Miller 2012b; http://the-future-is-here.com/topic/all/, accessed October 14, 2014).

3 http://defdist.org/ (accessed October 14, 2014).

4 The National Museum of American History has been engaged in this kind of cheerleading for decades (Tenner 1992).

5 https://www.innovateuk.org/ (accessed October 14, 2014).

6 "Major Funding for 3D Printing Projects Announced Today," June 6, 2013, https://www.innovateuk.org/web/corporate1/news-display-page/-/asset_publisher/GS3PqMs1A7uj/content/major-funding-for-3d-printing-projects-announced-today (accessed October 14, 2014).

7 See, e.g., "Wingspread Conference on the Precautionary Principle," January 26, 1998, http://www.sehn.org/wing.html (accessed October 14, 2014).

8 Also see http://www.guerrillagirls.com/ (accessed October 14, 2014).

9 *The Great Instauration*, http://www.constitution.org/bacon/instauration.htm (accessed October 14, 2014).

10 "Governor Bourke's 1835 Proclamation of Terra Nullius," http://www.migrationheritage.nsw.gov.au/exhibition/objectsthroughtime/bourketerra/ (accessed October 14, 2014).

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