Isabelle Hayeur, *Chemical Coast 02*, 2011
from the series *Underworlds*, inkjet print

Against the Anthropocene:
Visual Culture and Environment Today
TJ Demos

Editor's note: In May and June 2015, TJ Demos posted five essays dedicated to the Anthropocene's influence on visual culture on the website of Winterthur, Switzerland's Fotomuseum. While Demos' essay "The Politics of Sustainability: Art and Ecology", written for the exhibition catalogue *Radical Nature, Art and Architecture for a Changing Planet 1969–2009* (Barbican Art Gallery, 2009), and the exhibition he co-curated at Nottingham Contemporary, UK, in 2015 (*Rights of Nature: Art and Ecology in the Americas*), already offer astute observations and critical perspectives on art and ecology, these online essays—now part of a book project, *Against the Anthropocene: Visual Culture and Environment Today*, forthcoming from Sternberg Press—provide a rare yet pertinent analysis of the visuality of the Anthropocene. The first and second posts introducing the issues surrounding the Anthropocene and its media coverage are re-published here as an introduction to this timely and crucial topic, one that is currently remodelling the future of how the earth is depicted.

Welcome to the Anthropocene!
Or, so says the website www.anthropocene.info, one of many publicizing this new term describing nature's intersection with human culture. Apparently, just like that, we've found ourselves in a new geological epoch. Although, if we look further into what this era is and how it's defined, it turns out that, for some scientists, the period began more than 200 years ago with the beginning of the Industrial Revolution, while according to others, its origins stretch back thousands of years to the dawn of human agriculture (still others suggest it coincides with the nuclear era). Notwithstanding the fact that this geological designation still awaits official confirmation by the Subcommission on Quaternary Stratigraphy's Working Group on the "Anthropocene", we might pause to ask: how does this new epoch—if it is indeed granted epoch-status—and its discursive framework relate to image technologies, including the photographic?

As explained by the partners of this particular public-relations project, one of many now dedicated to publicizing the Anthropocene (according to diverse purposes and agendas), the term was coined by atmospheric chemist Paul Crutzen and biologist Eugene Stoermer in 2000 to designate the present era, which, for them, has overtaken the Holocene that has been in existence for the last 11,700 years.[1]

The shift owes to "human activities", which have become the central driver of geologically significant conditions and processes in our present.[2] The changes include alterations to the chemical composition of the atmosphere, oceans and soils, bringing about many ecological transformations such as global warming, ocean acidification, expanding oceanic "dead zones", and increased species extinction owing to habitat loss and environmental destruction, which are at the forefront of current ecological and political debates.

First broached in the natural sciences and propelled further in popular science educational media, the Anthropocene has already become part of an expanding discourse in the arts and humanities, debated recently by figures such as sociologist Bruno Latour and science-studies theorist Donna Haraway, and taken up in cultural practices,

1 Stoermer, Eugene F, and Paul Crutzen, "The 'Anthropocene'," *Global Change Newsletter* 41, 2000, pp 17–18.

2 See www.anthropocene.info/en/glossary.

exhibitions and publications, such as Berlin's House of World Culture's 2013–2014 "Anthropocene Project", and the recent compilation volume *Art in the Anthropocene: Encounters Among Aesthetics, Politics, Environments and Epistemologies*, edited by academic Heather Davis and philosopher Etienne Turpin. These contributions—more on which later—alone make it worthy of our attention. It also remains urgent to bring these critical humanities-based resources to bear on scientific discourse in order to disrupt specialist divisions, democratize debate, and pose critical questions of political significance to discussions regarding environmental developments that in one way or another are having major, if differentiated, impacts on the lives of all. So what are the Anthropocene's politics of representation?

The educational video, *Welcome to the Anthropocene*, offers an authoritative voice-over commentary that narrates a shifting data visualization of the globe, showing schematic networks of light trajectories that reference energy, transportation and communication systems.[3] The same visual information is presented on Globaïa's "Cartography of the Anthropocene" website, an organization related to the umbrella organization responsible for the video, one "dedicated to fostering awareness among citizens by promoting the emergence of a global vision of our world and of the great socioecological challenges of our time".[4] The Cartography offers a series of images with various representational modalities, showing cities, shipping and air transportation routes, pipelines and submarine fibre-optic cable systems. The presentation charts the interconnected networks of "human activities" that show how "we have grown into a phenomenal global force", even while many humans would certainly resist identifying with the collective "we" of the implied Anthropocene subject.

Such imagery speaks to a problem articulated by recent theorists of ecology—that the expanded spatial and temporal scales of geology pressure, if not altogether exceed, human comprehension, and thereby present major challenges to representational systems. For once we start talking about the massively distributed and temporally extended "hyperobjects" of geology, to use ecological philosopher Timothy Morton's term, the minute-by-comparison pictorial conventions of landscape photography—even those of photography at large—suddenly become far from adequate.[5]

Anthropocene visualizations are significant in that they often don't employ photography as their visual medium of choice, but rather high-resolution satellite imagery that provides photograph-like pictures. That's important insofar as—at least in relation to much scientifically-framed imagery, maps and data graphs—we've moved essentially beyond photography (gauged to human perception) to remote sensing technology (scaled to global, even inter-planetary visualizations). Seemingly existing as self-evident pictures, sat nav imagery resembles and is often taken for photography, but actually comprises a composite set of digitized files, the result of processed quantities of remotely sensed data collected by satellite-based sensors.[6] In most cases regarding lay usage, these images have also already been interpreted for viewers (or rather consumers), packaged as pictures, without offering access to location data, ownership, legibility and source information.[7]

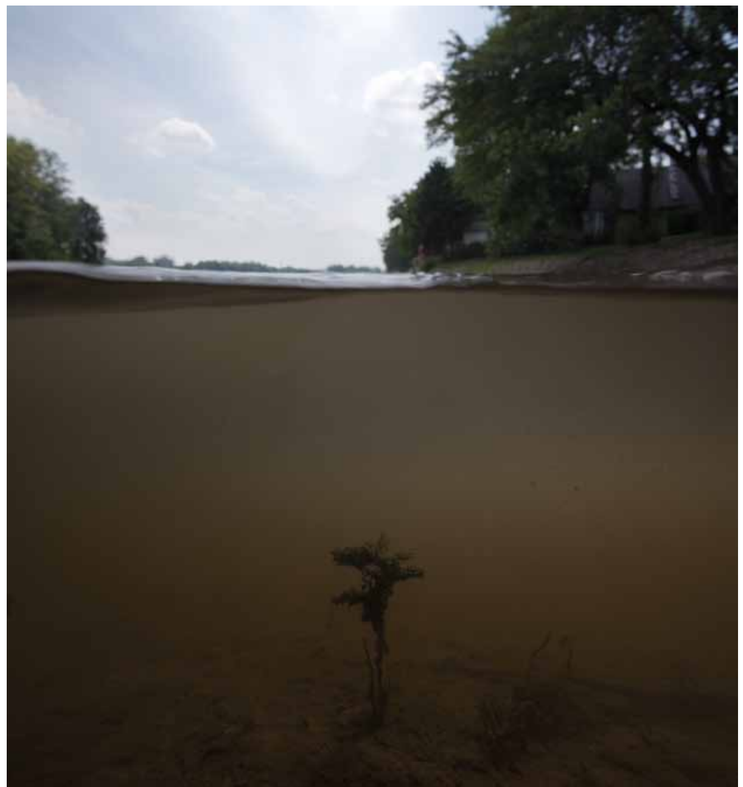
3 The "world's first educational webportal on the Anthropocene", was commissioned by the 2012 Planet Under Pressure conference that occurred in London, and developed and sponsored by the www.anthropocene.info organization, an educational site dedicated to popularizing scientific discourse.

4 www.globaia.org/portfolio/cartography-of-the-anthropocene.

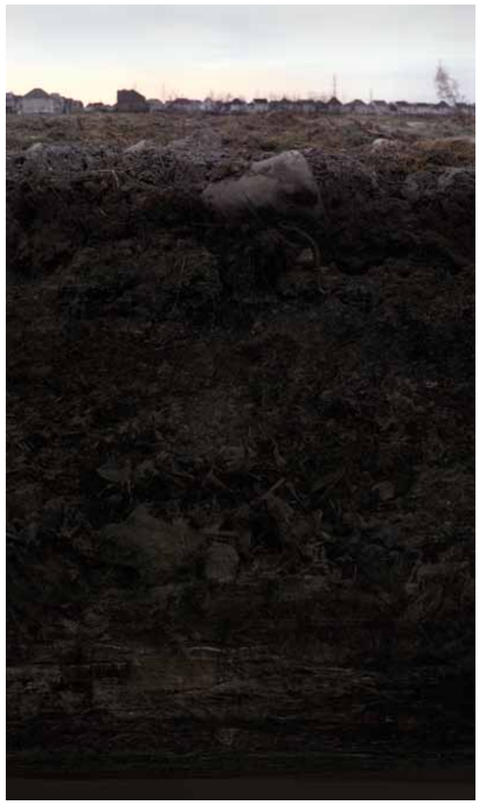
5 Morton, Timothy, *Hyperobjects: Philosophy and Ecology after the End of the World*, Minneapolis: University of Minnesota Press, 2013; and Ellsworth, Elizabeth, and Jamie Kruse, eds, *Making the Geologic Now: Responses to Material Conditions of Contemporary Life*, Brooklyn, NY: Punctum, 2012.

6 For Laura Kurgen, we have recently undergone "a cataclysmic shift in our ability to navigate, inhabit, and define the spatial realm…brought on by: the operationalizing of Global Positioning System (GPS) satellites for both military and civilian uses in 1991; the democratization and distribution of data and imagery on the World Wide Web in 1992; the proliferation of desktop computing and the use of geographic information systems for the management of data; the privatization of commercial high-resolution satellites later in the 1990s; and widespread mapping made possible by Google Earth in 2005." Kurgen, Laura, *Close Up At A Distance: Mapping, Technology & Politics*, Cambridge, MA: Zone, 2014, p 14.

7 The website, www.globaia.org/portfolio/cartography-of-the-anthropocene, however, does provide the following note on its use of data: "DATA SOURCE: Paved and Unpaved Roads, Pipelines, Railways & Transmission Lines: VMap0, National Geospatial-Intelligence Agency, September 2000. Shipping Lanes: NOAA's SEAS BBXX database, from 14.10.2004 to 15.10.2005. Air Networks: International Civil Aviation Organization statistics. Urban Areas: naturalearthdata.com. Submarine Cables: Greg Mahlknecht's Cable Map. Earth texture maps: Tom Patterson. Anthropocene Indicators: Global Change and the Earth System: A Planet Under Pressure, Steffen, W., Sanderson, A., Jäger, J., Tyson, P.D., Moore III, B., Matson, P.A., Richardson, K., Oldfield, F., Schellnhuber, H.-J., Turner II, B.L., Wasson, R.J."



Isabelle Hayeur, *Substances*, 2012
from the series *Underworlds*, inkjet print



Isabelle Hayeur, *Aube*, 2005
from the series *Excavations*, inkjet print

Yet while visual imagery has been central, even integral to the process of conceptualizing the Anthropocene, scientific popularizers rarely evince awareness of the use of such imagery, or of the political implications of their representations, which not only help illustrate geological concepts, but also frame them in particular ways, ways that are deeply political. As well, those images bear the potential to be read differently, potentially contesting and complicating some of the Anthropocene theory's basic claims, if analyzed critically.

One problem with the term Anthropocene lies at the very root of the term, *anthropos* (ancient Greek for "man" or "human being"), implying that it is "human activities" that are responsible for this new geological epoch, a common formulation found in the literature (for instance in the anthropocene.info website, in the video *Welcome to the Anthropocene*, and in Crutzen and Stoermer's original essay).[8] Yet the 'activities' that are shown in the imagery that commonly depicts the said epoch are hardly 'human', at least in that generalizing, species-being sense, but are in fact mostly the 'activities' of corporate industry, an area generally occluded in Anthropocene discourse. This simple fact leads us to ask what ideological function does "Anthropocene" serve—terminologically as well as conceptually, politically as well as visually—in relation to the current politics of ecology, and how does the expanded imagery of what was once 'photography' abet or complicate this function?

As is well known by some, the data visualization tools used by the Globaïa website, like Google Earth mapping imagery more generally, are embedded in a specific political and economic framework of our present, comprizing a visual system delivered to us and constituted by a military-state-corporate apparatus, which offers an innocent-seeming picture that is in fact a "techno-scientific, militarized, 'objective' image".[9] The Anthropocene is also a function of that system, despite its scientific terminological origins. My argument is that "Anthropocene" rhetoric frequently acts as a mechanism of universalization, albeit complexly mediated and distributed among various agents, which enables that military-state-corporate apparatus to disavow responsibility for the differentiated impacts of climate change, effectively concealing the accountability behind the mounting eco-catastrophe. (…)

Geo-Engineering the Anthropocene

> A daunting task lies ahead for scientists and engineers to guide society towards environmentally sustainable management during the era of the Anthropocene. This will require appropriate human behaviour at all scales, and may well involve internationally accepted, large-scale geo-engineering projects, for instance to "optimize" climate.[10]
> — Paul Crutzen, 2002

The Anthropocene thesis, as presented in the increasingly expanding body of images and texts, appears generally split between optimists and pessimists, especially when it comes to geo-engineering, the deliberate intervention in the earth's natural systems to counteract climate change. As the Anthropocene appears to imply the necessity of geo-engineering—

8 See Stoermer and Crutzen, "The 'Anthropocene'", pp 17–18.

9 Kurgen, *Close Up At A Distance*, p 30. Also see "Geographies of Photography", one of Trevor Paglen's 2014 Winterthur blog posts, where he importantly points out that satellite imagery is "produced by and, in turn, productive of an enormous relational geography with political, economic, legal, social, and cultural aspects".

10 Crutzen, Paul J, "Geology of Mankind", *Nature* 415, 2002, p 23, http://dx.doi.org/10.1038/415023a.

as Crutzen, one of the inventors of the term makes clear—the battle lines have been drawn between those who think 'we' humans confront an extraordinary opportunity to bio-technologically remake the world, and others who opt for hands-off caution and would rather modify human behaviour instead of the environment in addressing the climate crisis.

For instance, ethics philosopher Clive Hamilton, participating in The Anthropocene—An Engineered Age?, the 2014 panel discussion at Berlin's Haus der Kulturen der Welt (HKW), breaks the world down into techno-utopians and eco-Soterians. The former are today's "new Prometheans", intent on creating a new Eden on Earth, and the latter, named after Soteria, the ancient Greek personification of safety and preservation, remain pledged to the precautionary principle, respectful of Earth's processes and critical of human hubris, the very same hubris, they argue, that got us into the environmental crisis in the first place.[11] For Bruno Latour, we must not disown the contemporary Frankenstein we've created—the contemporary Earth of the Anthropocene—but rather learn to love and care for the "monster" we've brought into being. Meanwhile for activist Naomi Klein, arguments like Latour's are dangerously misguided: "The earth is not our prisoner, our patient, our machine, or, indeed, our monster. It is our entire world. And the solution to global warming is not to fix the world, it is to fix ourselves."[12]

In fact, the visual culture of the Anthropocene, whether delivered photographically or via remote-sensing technology, is riven by exactly this tension. Its iconography both portrays the remarkable extent of the human-driven alteration of Earth systems (with ample photographic and satellite-based imagery of large-scale mining, oil drilling and deforestation projects), and documents the dangers of the unintended consequences of such ventures. Ultimately, however, imaging systems play more than an illustrative role here, as they tend to grant viewers a sense of control over the represented object of their gaze, even if that control is far from reality.

In other words, Anthropocene imagery tends to reinforce the techno-utopian position that 'we' have indeed mastered nature, just as we've mastered its imaging—and in fact the two, the dual colonization of nature and representation, seem inextricably intertwined. That is, even while these geo-engineering projects are generally done by corporations and heavy industry, certainly not identical to the 'human' subject of the Anthropocene, a distinction that potentially pushes the neologism to its breaking point.

Following up on this latter point, critics and commentators (including those taking part in the HKW discussion) have asked important questions about the ethical implications of Anthropocene geo-engineering. For instance, should humans undertake such projects when they acknowledge that massive geologically interventionist processes will inevitably involve unforeseen consequences and unanticipated effects? What system of ethics governs the use of such technology? And who has the right—which individuals, nations or corporations—to conduct these experiments? If rights generally derive from nation-states, then what legitimate body can grant permission to geo-engineering projects operating on a global scale?

Take the 2010 BP Deepwater Horizon spill in the Gulf of Mexico, an eco-catastrophe that is all-too-quickly receding in the public sphere's short-term attention span. The

11 See the video recording of "The Anthropocene—An Engineered Age?," HKW, August 2014, including Bernd M Scherer (Director, HKW); Mark Lawrence (IASS-Potsdam); Klaus Töpfer (IASS-Potsdam); Armin Grunwald (Office of Technology Assessment of the German Parliament); Clive Hamilton (Charles Sturt University); and Thomas Ackerman (University of Washington); moderated by Oliver Morton (The Economist), at: www.youtube.com/watch?v=C9huFiOo3qk. Other techno-utopians include: Lynas, Mark, *The God Species: Saving the Planet in the Age of Humans*, London: Fourth Estate, 2011; and Keith, David W, *A Case for Climate Engineering*, Cambridge, MA: MIT Press, 2013.

12 Latour, Bruno, "Love Your Monsters: Why We Must Care for Our Technologies as We Do Our Children", *Love Your Monsters: Postenvironmentalism and the Anthropocene*, Michael Shellenberger and Ted Nordhaus, eds, Oakland: Breakthrough Institute, 2011; and Klein, Naomi, *This Changes Everything: Capitalism vs. the Climate*, New York: Allen Lane, 2014, p 279.

event generated a slew of spectacular images of the industrial-apocalyptic sublime, including those of the raging oil platform's fiery plume attended by coast-guard response crews dousing the inferno with water. Other shots depicted charismatic sea animals pathetically covered in black goo (untold numbers have died and will die from the spill's "slow violence" unfolding for years to come).[13] And of course there was the notorious "spillcam", BP's live video feed of the leak's submarine coverage, made public only following congressional pressure on the corporation. The nonstop flow of images captured the uninterrupted gushing oil for nearly three months, during which approximately 260 million gallons, or ninety-five thousand barrels a day, were released into the Gulf's waters. The webcam in particular made evident the cruel and unbearable impotence of viewers who found themselves, like myself, glued to their screens, mastering the image of the leak but not being able to do anything about it.

Undoubtedly, these images have had a positive impact on public environmental consciousness, critically raising awareness at the time of the ongoing risks of extreme deep water oil drilling—risks that are currently being tested in relation to Shell's and other corporations' intent to drill in the Arctic in harsh, uncontrollable maritime conditions. In early 2015 the Obama administration granted Shell permission to conduct offshore exploration in the pristine and remote Chukchi Sea, off the coast of Alaska, an area prone to extreme weather and nearly impossible to reach in the likely event of disaster; that permission was then revoked in later 2015 for environmental considerations, following large-scale activist campaigns.[14]

Yet images of eco-catastrophe have also worked toward radically different purposes, granting supporting reassurance to the false claim that clean up efforts following industrial accidents have been efficient and effective, as evidenced in the US commercial media conglomerate CBS' report from 2013 on the aftermath of the BP Gulf spill, accompanied by many of the very images that initially helped raise the alarm: "Due to the extensive cleanup effort, early restoration projects and natural recovery processes", they happily announced, "much of the Gulf has returned to its baseline condition; the condition it would be in if the accident had not occurred".[15]

Not only is it evident that mainstream media operates in league with fossil-fuel corporations,[16] but CBS' manifestly false claim points to the uneven effects of eco-catastrophe visuality, where the same images can support multiple interpretations, with divergent, even opposing political implications. When the developmentalist, capitalist growth-obsessed petro-economy forms the unexamined and assumed economic ground on which conventional politics take place, then we can only expect the corporate media apparatus to direct the circulation and interpretation of these images in ways that suit their interests.

In their cogent reading of the BP media image repertoire, professors and critics Peter Galison and Caroline Jones usefully call attention to the "invisibilities" that are part of "a system in which the seen is supported and enabled by the unseen", which requires a politics that addresses this complexity.[17] They point to the vast subsurface oil plumes that have formed and drifted far from their site of origin, equaling more than 75 per cent of

13 See the Center for Biological Diversity, reporting in 2011: "We found that the oil spill has likely harmed or killed approximately 82,000 birds of 102 species, approximately 6,165 sea turtles, and up to 25,900 marine mammals, including bottlenose dolphins, spinner dolphins, melon-headed whales and sperm whales. The spill also harmed an unknown number of fish—including bluefin tuna and substantial habitat for our nation's smallest seahorse—and an unknown but likely catastrophic number of crabs, oysters, corals and other sea life." They also point out that the toll will continue to mount for years to come. www.biologicaldiversity.org/programs/public_lands/energy/dirty_energy_development/oil_and_gas/gulf_oil_spill/a_deadly_toll.html. Also see Nixon, Rob, *Slow Violence and the Environmentalism of the Poor*, Cambridge, MA: Harvard University Press, 2011.

14 See Robinson Meyer, "Obama Abandons Plans to Drill in the Atlantic Ocean", *The Atlantic*, 15 March 2016.

15 Hartogs, Jessica, "Three years after BP oil spill, active clean-up ends in three states," CBS News, 10 June 2013, www.cbsnews.com.

16 See BP's press release, which literally repeats the same words of the cited CBS report: "The large-scale cleanup effort, combined with early restoration project and natural recovery processes, is helping the Gulf return to its baseline condition, which is the condition it would be in if the accident had not occurred." www.bp.com/en/global/corporate/press/press-releases/active-shoreline-cleanup-operations-dwh-accident-end.html.

17 Galison, Peter, and Caroline A Jones, "Unknown Quantities", *Artforum*, November 2010, p 51.

the uncaptured leaked oil that has mixed with the nearly two million gallons of "Corexit" chemical dispersant applied to the water surface to fragment the crude and make it sink. Thus invisible, the dispersed oil goes un-imaged, dispersing as well from public imagination. "The circuit—of drill, spill, 'clean up,' and drill again—relies on such systems of images and occlusions, in which the production of invisibility forms an aesthetic chiaroscuro to all the tragic, sublime, and subaquatic flows," they write. "Our response must be to take what's out of sight, and keep it well in mind."[18]

Yet how can we mobilize politically around catastrophe's invisibilities, given our culture's fixation on the spectacular production of images framed with Hollywood endings, leading to the seeming inevitable denouement: as "if the accident had not occurred"? And how to combat images that work towards assuring us of the controllability of climate change, even while they reinforce the idea that we—insofar as one is part of anthropos—are all responsible?

Of course ultimately it's not even the industrial accidents that are of greatest concern, even though these events—oil spills, burning platforms, human death tolls, oil-drenched shores and massive animal die-offs—are truly catastrophic and depressing. Rather, it's the uninterrupted, accident-free normal running of the fossil-fuel economy that is the ultimate danger and should be the focus of our occupation, politically, economically and ecologically. Images often contribute not so much to the responsible use of technology, but to an ideological mechanism of reassurance, framed within debates that appear to give balanced perspective to all sides. Ultimately, however, they form part of the very technological apparatus of advanced capitalism that has created the environmental problems in the first place.

18 Galison and Jones, "Unknown Quantities," p 51.

Documentation view of Hicham Berrada's *Celeste*, 2014