

CLIMATE CHANGE & ART: A LEXICON

Climate Change & Art: A Lexicon is an ongoing project. The first set of terms, listed below, were collected in the *Reading Room* journal in 2014 and can be found at:
TheDistancePlan.Org

WICKED PROBLEMS
INTERGENERATIONAL JUSTICE
ANNUAL EXCEEDANCE PROBABILITY
THE GREAT TRANSITION
SCIENTIFIC RISK BIAS
RESILIENCE RHETORIC
HYPEROBJECTS
VITAL MATERIALISM
RE-COMMUNILISATION
THE CULTURAL COST OF CARBON
HEALTH GOTH
ENERGY SOVEREIGNTY
CAPITALOCENE
HABITAT NOSTALGIA
SMALL AGENCIES
GREEN FASCISM

These terms had existing cultural circulation but were suggested and defined by: Amy Balkin, Katie Bachler, Scott Berzofsky, Jym Clark, Fiona Connor, Harry Chapman, Abby Cunnane, Amy Howden-Chapman, Steve Kado & Biddy Livesey.

The terms in the following pages have been developed and defined by the credited authors, as well as by The Distance Plan while in residence at The Potsdam Institute of Climate Impact Research (PIK). We would like to thank Margret Boysen, Dim Coumou, Jonathan F. Donges, Kai Kornhuber, Jascha Lehmann, Anders Levermann, Ilona Otto and Hans Joachim Schellnhuber from PIK for their time in discussing these terms, as well as Ralph Chapman, Carolina Caycedo, Daisy Hoyt and Dylan Taylor for their input. The accompanying images were selected by The Distance Plan unless otherwise stated.

Also included throughout this lexicon are images by Michala Paludan. These photos are part of the larger project *Kalliope, Kleio, Erato, Euterpe, Melpomene, Polyhymnia, Terpsichore, Thaleia and Urania* (2015).

OCEAN INFLAMMATION

In 1833 American writer Nathaniel Hawthorne wrote:

*The Ocean has its silent caves,
Deep, quiet, and alone;
Though there be fury on the waves,
Beneath them there is none...
The earth has guilt, the earth has care,
Unquiet are its graves;
But peaceful sleep is ever there,
Beneath the dark blue waves.¹*

This sombre sleep of the ocean is passing with the arrival of an era of hot disturbance. The ocean is inflaming. The vast liquid is slowly but perceptively puffing – enlargement on a planetary scale. A rising, a liquid blistering.

Ocean Inflammation is a recognition of the fact that sea level rise due to climate change is primarily caused by two distinct physical phenomena. The first and more widely understood of these is the melting of land ice; the second is the expansion of seawater as it warms. This expansion can be considered a kind of global ocean inflammation, with associations of higher-than-normal temperature and swelling.

This term can help clarify what happens to water as it heats up. Water is a unique substance, it contracts when it is heated from ice's melting point up to 4 degrees Celsius. (The water molecules get closer together and the water occupies less volume.) However, like most other liquids and gases, water expands as it is heated further above 4 degrees. Surface ocean temperatures are typically significantly above this 4 degrees mark.

1. Nathaniel Hawthorne, 'The ocean' (1825), *The Mariner's Library or Voyager's Companion* (Boston: Lilly, Wait, Colman and Holden, 1833).

Heute ist Warmbadetag!
0,50 EURO Aufschlag

SOCIAL TIPPING POINTS

Social Tipping Points describes the phenomenon of a large number of people rapidly and dramatically changing their behaviour by adopting a previously rare practice. This draws on the concept of tipping points in the natural sciences; examples in the climate change context include the point at which melting of an ice sheet becomes irreversible, or a disruption of the Gulf Stream (which currently keeps much of Europe habitable). The 'social' interpretation is very broad and includes changes in people's values and behaviours, social institutions, economic activities, or political mechanisms, such as the broad and swift adoption of new technologies.

Social Tipping Points are those at which change is triggered. Such triggering can occur either at thresholds in large-scale processes or through microscopic interventions having domino effects and causing macroscopic changes. Social tipping *elements* are sensitive parts (or subsystems) relevant to the dynamics of the larger socio-economic system, which are susceptible to small changes that have the potential to tip the larger system into a qualitatively different state.¹ Once a social tipping element has been identified, closer investigation may reveal incipient changes in that element.

"Concrete examples of social tipping elements could include policies shutting down coal power plants, abandoning industrial agriculture, or a social value shift that would lead to a rapid decarbonization. In the socio-economic realm, there are documented instances of technology and business solutions showing that 17-18% market share is sufficient to tip the scales and become the dominant pattern."² The way in which such elements tip may be positive – such as constructive responses agreed upon through cultural consensus (for example divestment movements) – or negative – such as when stresses on communities in the form of extreme weather events cannot be adequately coped with and reactions are divisive.

SEE ALSO: Climate Chaos / Planet Panic.

1. B. S. Fisher, N. Nakicenovic, K. Alfsen et al., 'Issues related to mitigation in the long term context', *Climate Change: Mitigation*, Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Cambridge: Cambridge University Press, 2007).

T. M. Lenton et al., *Tipping elements in the Earth's climate system*, PNAS, 2008, 105(6): 1786-1793.

2. J. Rockström and H.J. Schellnhuber, 'Paris, Potlatch and Pareto: What would render COP21 a success?', *The Earth League*, 2015, <http://www.the-earth-league.org/paris-potlatch-and-pareto.html>

USA
DWP



ATMOSPHERE AS 'AER NULLIUS'

The idea of the atmosphere (and hence the climate) as an empty territory, belonging to no-one and exempt from existing power structures. This positions the climate as a psycho-symbolic space to be freely conceptualised by predominantly Euro-American theories of resilience and ecological governance which often pay little attention to longstanding indigenous knowledge and political stakes. Anthropologist Zoe Todd uses the term *aer nullius* in her recent essay 'An Indigenous feminist's take on the Ontological Turn: Ontology is just another term for colonisation.'¹ Building on the work of Glen Coulthard (Yellowknives Dene) she argues that thinkers framing the atmosphere as a form of 'commons' can be guilty of presenting it as a power-neutral blank slate up for the taking. Perhaps a conceptual parallel to the colonial project of declaring land *terra nullius* or 'nobody's land', *aer nullius* translates as 'air belonging to no-one'.¹

SEE ALSO: Greenwash, Eco-colonialism, Terraforming.

1. Zoe Todd, 'An Indigenous feminist's take on the Ontological Turn', *Journal of Historical Sociology*, March 2016, 29:1, <http://onlinelibrary.wiley.com/doi/10.1111/johs.12124/full>



INDOOR ATMOSPHERE

We spend most of our time indoors, inside our houses, in cities. Already unfair inequalities such as how well our houses are built to protect us from cold and heat, how secure our tenure rights are to stay put, how much space we have, how polluted the air we breathe is, how close the nearest green space is, how safe it is to walk or ride bikes, significantly affect our health.¹ Moreover, the neighbourhoods we live in and pollution of the air by minuscule black carbon particles from diesel vehicles, coal-fired power stations and home fires (which enter our blood and then our lungs, heart, brain and the placenta) add further to the health effects of our housing, as well as carbon emissions. Of the four billion people who already live in cities, close to one billion live in slums or informal dwellings. Slum dwellers, while facing the common problems just noted, also face greater insecurity from the high risks of forced evictions and the lack of essential infrastructure such as clean water supply and sewerage.

The rising risks of extreme weather events – storm surges, cloud-bursts, floods, high winds and wild fires – make people who live in informal housing or slums on unstable, deforested mountain sides, or flood plains, even more vulnerable to the effects of climate change. Upgrading housing, using simple but effective energy efficiency measures like roof insulation, solar lighting and heating, can go some way to improve living standards and reduce the health impacts of heatwaves. Women's community groups, like the Federation of Slum Dwellers International, have found that by collecting and counting data about local conditions, they can not only create and learn new forms of governance together, but in alliance with their local municipalities, can ensure a fairer share of resources and begin to see an improvement in their health and their children's health.

Compact urban living generates fewer carbon emissions. The New Urban Agenda² launched at Habitat III in Quito, Ecuador emphasises this, and highlights that by framing the health of the urban human population and planet as indivisible, central and local governments, and those people living in formal and informal housing, can work together for greater fairness in allocating resources, while increasing local and wider urban sustainability.

Defined by Philippa Howden-Chapman

1. Yvonne Rydin et al. 'Shaping cities for health: complexity and the planning of urban environments in the 21st century', *The Lancet*, 2012, 379,9831,2079-108.

2. 'Health as the pulse of the new urban agenda': United Nations Conference on Housing and Sustainable Urban Development (World Health Organization), Quito, Ecuador, October 2016.

CLIMATE DEBT

Climate Debt is a concept that was submitted to the United Nations Framework Convention on Climate Change by over 50 of the world's most economically and ecologically vulnerable countries, led by Bolivia, in 2009.¹ To recognise this debt requires compensation from developed nations to address legacies of resource plunder and atmospheric harm. In the middle of last century Hannah Arendt recalled poet Rene Char's words; "our inheritance was left to us by no testament" (1946).² Arendt was writing in the aftermath of World War II, while with the present rise of new weather, we are also 'without testament', or, as Arendt resolved the metaphor, without tradition or continuity. Yet developed countries are in debt, for a more-than-fair share of carbon consumption.³

Oral testimony about the exhaustion of resources, extinction events, air pollution and 'extractivism' lives in indigenous knowledge-systems, as well as within two hundred years of European environmentalism, but a failure of political memory allows neglect of the fate of the human and non-human inheritors of the biosphere. Arendt's recognition that we "act into nature as we used to act into history," was never more prescient. On the one hand neo-liberal economies toy with intended decarbonisation to mitigate climate change while maintaining freedom to profit from the earth's resources through quasi-decisions.⁴ On the other, in the 'tropic of chaos'⁵ drought and storms rage in convergence with poverty and struggles over resources. During COP 21, Bangladesh, alongside other countries which under-contribute to global warming, called for deep emission reductions from developed nations to address an out-of-balance historical climate debt and high per-capita emissions. This call went largely ignored. The dominant political regimes are still in a state where, in Arendt's words, [...] "there is no mind to inherit and to question, to think about and to remember."⁶

Defined by Janine Randerson

1. As a concept, ecological debt was first discussed by Fidel Castro during the 1992 Rio Earth Summit. Castro superposed the external financial debt against the ecological depreciation of southern countries to the benefit of northern consumption.

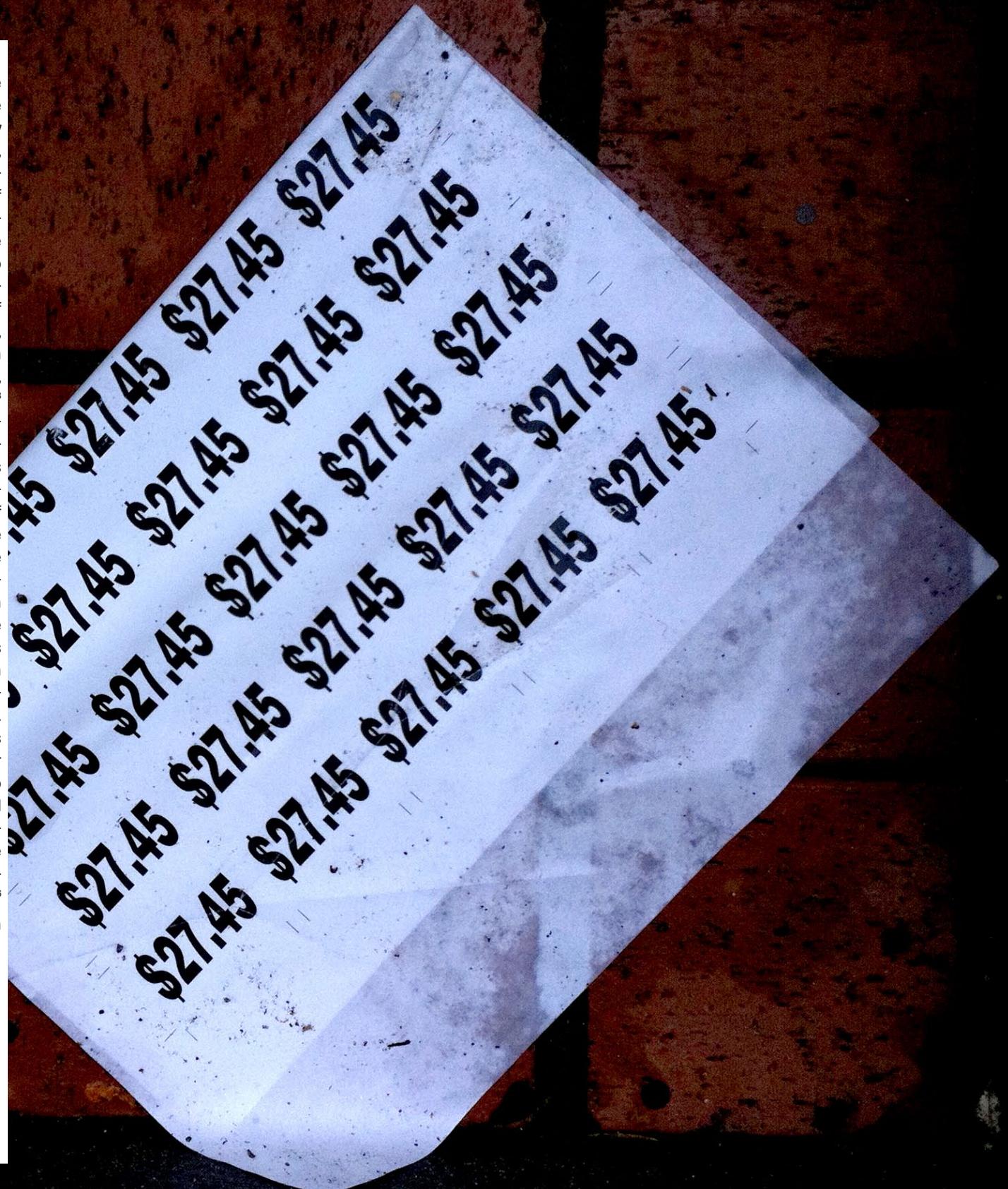
2. See Hannah Arendt, *Between Past and Future* (New York: Viking, 1961).

3. Bishop Theotonius Gomes, 'Time for Rich Countries to Pay Their Ecological Debt,' *The Diplomat*, 9 October 2015.

4. Bruno Latour, *On Sensitivity Arts, Science and Politics in the New Climatic Regime* (lecture, Melbourne University, 2016).

5. See Christian Parenti, *Tropic of Chaos* (New York: Nation Books, 2011).

6. Arendt, 1961.



ECOCRITICISM

A field of cultural criticism which seeks to interpret texts in terms of the ways in which humans and human actions affect the natural world. The articulation of personal human relationships with nature has a long association with poetry in particular – British Romanticism might be the most obvious example – and for this reason ecocriticism is often concerned mainly, although not exclusively, with poetics. However, Eco-criticism does not simply describe how nature and the natural world have served as creative inspiration for poets or prose writers. Its purpose is to uncover the ways in which ‘nature’ has been culturally constructed, and to what ends. Simultaneously, it shows how texts consider the impact of human activity and existence on an environment which really exists, and imagine less harmful modes of living, as individuals and as communities. In Wordsworth’s ‘Nutting’, for example, he recalls an afternoon’s nut-gathering as a child, and the “sense of pain” he felt once his “merciless ravage” was complete and the hazels stripped bare. Wordsworth asks that the future visitor

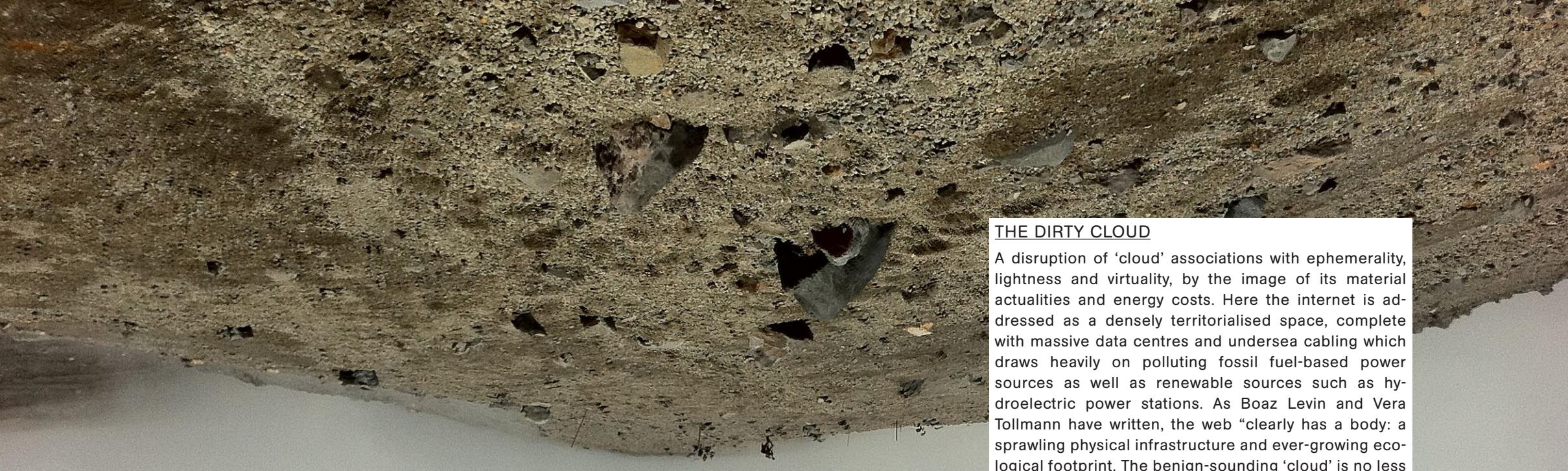
*Move along these shades
In gentleness of heart; with gentle hand
Touch, for there is a spirit in the woods.*

The poem acknowledges the inevitability of an ongoing relationship between woods and humans, but asks that such interactions be conducted with empathy and care.

Defined by Beatrice Turner







THE DIRTY CLOUD

A disruption of ‘cloud’ associations with ephemerality, lightness and virtuality, by the image of its material actualities and energy costs. Here the internet is addressed as a densely territorialised space, complete with massive data centres and undersea cabling which draws heavily on polluting fossil fuel-based power sources as well as renewable sources such as hydroelectric power stations. As Boaz Levin and Vera Tollmann have written, the web “clearly has a body: a sprawling physical infrastructure and ever-growing ecological footprint. The benign-sounding ‘cloud’ is no less than a publicity ploy for a vast campaign to centralise digital data and turn software and hardware into a black box. As our computers have become thinner, the weight of the cloud has only grown greater.”¹

¹ Boaz Levin and Vera Tollmann, ‘The Body of the Web’, Skulptur Projekte, 2017, http://www.skulptur-projekte.de/_En/Publications/Publications/380/Out-of-Body



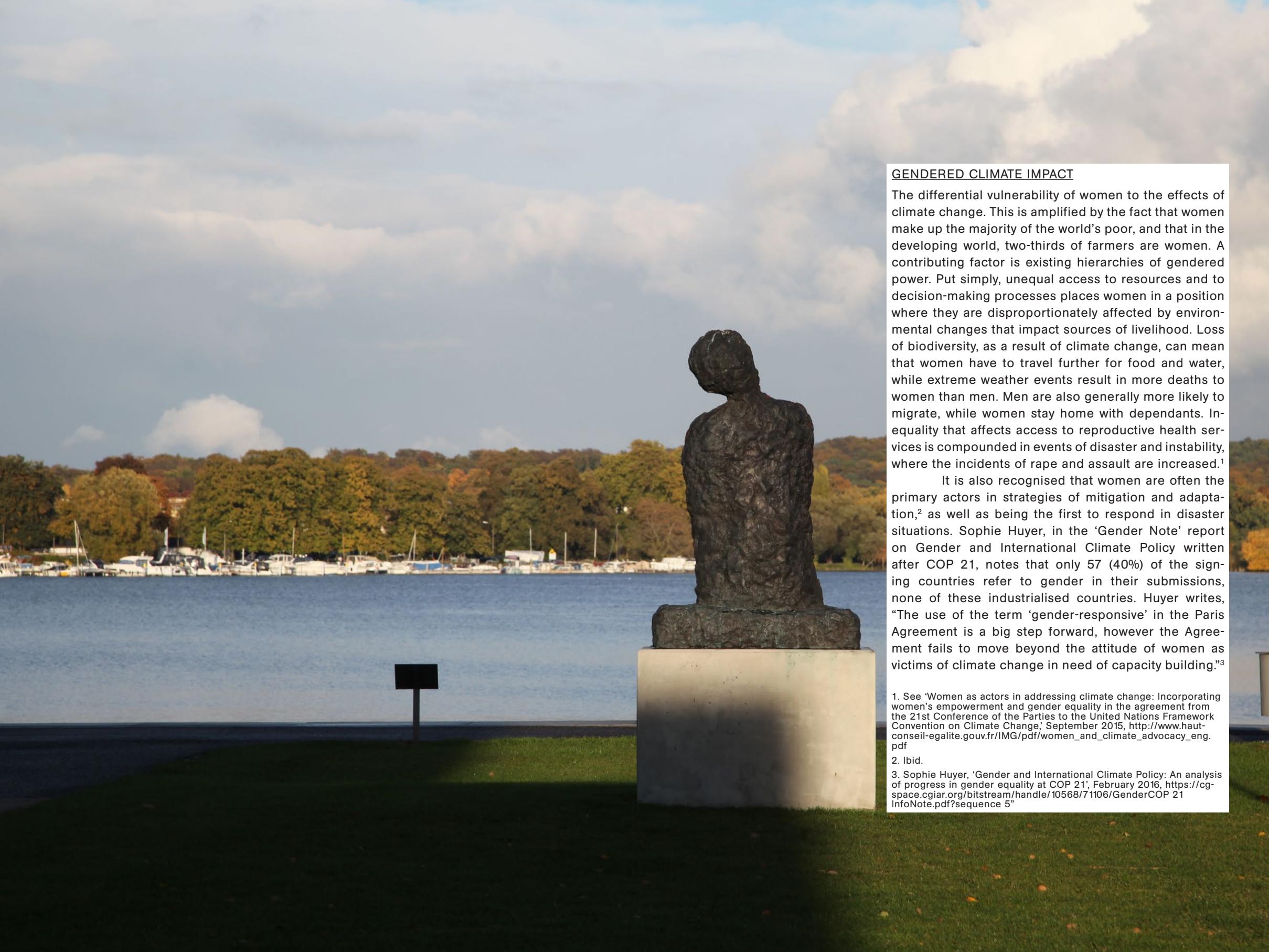
INTIMATION OF TRAUMA

Plenty of people know about climate change, or accept that it is a valid proposition, but few really believe it. There is a circularity here: you have to believe your way into the trauma that is necessary to truly believe. In this sense, the subject of much art about climate change is not a clinical, lived trauma, or even a vicarious trauma. It is more the intimation of trauma and can never be wholly grasped. To become receptive to this intimation of trauma (literally ‘wound’ in the original Greek), we need an opening, a piercing. This certainly can come from art, and yet no art can guarantee it, for it also depends on the viewer. When it comes, therefore, to the question of representation, which in some sense remains the mandate of all art, no matter how ‘abstract’ or ostensibly detached, we must ask with respect to climate change: what exactly is being represented? Is it the ‘facts’? Well, what are those? How do you represent a hyperobject, a statistically created research object? As artist and theorist Emily Eliza Scott has pointed out, there is no one way. It is a mosaic and a group effort, but the most accurate representation will include some picture of this non-visceral, imagined, but nonetheless actual, trauma.

Defined by Edward Morris and Susannah Sayler

Image: Johan Huibers Ark, The Netherlands, 2010, archival inkjet print.
Sayler / Morris for The Canary Project.





GENDERED CLIMATE IMPACT

The differential vulnerability of women to the effects of climate change. This is amplified by the fact that women make up the majority of the world's poor, and that in the developing world, two-thirds of farmers are women. A contributing factor is existing hierarchies of gendered power. Put simply, unequal access to resources and to decision-making processes places women in a position where they are disproportionately affected by environmental changes that impact sources of livelihood. Loss of biodiversity, as a result of climate change, can mean that women have to travel further for food and water, while extreme weather events result in more deaths to women than men. Men are also generally more likely to migrate, while women stay home with dependants. Inequality that affects access to reproductive health services is compounded in events of disaster and instability, where the incidents of rape and assault are increased.¹

It is also recognised that women are often the primary actors in strategies of mitigation and adaptation,² as well as being the first to respond in disaster situations. Sophie Huyer, in the 'Gender Note' report on Gender and International Climate Policy written after COP 21, notes that only 57 (40%) of the signing countries refer to gender in their submissions, none of these industrialised countries. Huyer writes, "The use of the term 'gender-responsive' in the Paris Agreement is a big step forward, however the Agreement fails to move beyond the attitude of women as victims of climate change in need of capacity building."³

1. See 'Women as actors in addressing climate change: Incorporating women's empowerment and gender equality in the agreement from the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change,' September 2015, http://www.haut-conseil-egalite.gouv.fr/IMG/pdf/women_and_climate_advocacy_eng.pdf

2. Ibid.

3. Sophie Huyer, 'Gender and International Climate Policy: An analysis of progress in gender equality at COP 21', February 2016, <https://cg-space.cgiar.org/bitstream/handle/10568/71106/GenderCOP%20InfoNote.pdf?sequence=5>



VERY-LONG-BASELINE INTERFEROMETRY

Very-long-baseline Interferometry (VLBI) is a global imaging technique that assembles images of outer space and precise celestial locations from sources in multiple countries. This technique is most commonly used by astronomical scientists to synchronise signals from networks of telescopes ‘looking out’ into space. Signals from each telescope are captured, timestamped using an atomic clock, and stored. The received data is correlated across multiple observation sites to produce a coherent image. In this way VLBI can make gigantic, distant, and ancient processes – such as cosmic radio sources like the big bang or supernovas – visible.

A complementary type of VLBI is one looking in towards Earth, rather than out from it. Using multiple orbital satellite perspectives, similarly timestamped and correlated, this data can be used to render visual totalities of the Earth. Global domains drawn in place, which are in turn used in interactive maps, correlate GPS tracking or to trace the movements of plate tectonics, forest area changes, desertification and changes in levels and patterns of human settlement. VLBI applies the entire geography of Earth, as the body from which to look at and for life processes.

Defined by Aslak Aamot Kjærulff



PLANETARY SKIN

Planetary Skin describes quantitative renderings of earthly sensory processes. It constitutes layered and interlinked geographies of biological and ecological processes. The skin is an artificial reproduction of planetary ‘nervous systems’ with potentially endless layers, each consisting of molecular cycles involved in oceanic, atmospheric or biospheric metabolisms. Planetary skins are stitched together using embedded electronic measuring devices such as thermostats, pressure gauges, cameras, microphones, glucose sensors or electroencephalographs, carried by satellites, balloons, aeroplanes, ships, bodies, plants or dug into the Earth itself.

In concert the data provides a bio-informational matrix, probing and monitoring ongoing earthly processes. Cities can be watched over, endangered species can be monitored, oceanic carbon cycles can be mimicked and fleets of trucks or the heart rates of their drivers can be audited. Combinations of such remote sensing and authentication of data are the most ambitious attempts at monitoring and administrating ecological-biological systems at scale. So far the control of such systems looks to be in the hands of multi-national media companies and governmental research bodies, and has not been equipped with sanctioning or regulating mechanisms. In most likely scenarios of technological futures, apparatuses like Planetary Skin are the medium of governance, and individual citizens are its informant, stakeholder and subject.

Defined by Aslak Aamot Kjærulff

JUNKSPACE

"Continuity is the essence of Junkspace; it exploits any invention that enables expansion, deploys the infrastructure of seamlessness: escalator, air-conditioning... Gravity has remained constant, resisted by the same arsenal since the beginning of time; but air-conditioning invisible medium, therefore unnoticed has truly revolutionized architecture. Air-conditioning has launched the endless building. If architecture separates buildings, air-conditioning unites them. Air-conditioning has dictated mutant regimes of organization and coexistence that leave architecture behind. A single shopping center is now the work of generations of space planners, repairmen, and fixers, like in the Middle Ages; air-conditioning sustains our cathedrals. Traffic is Junkspace, from airspace to the subway; the entire highway system is Junkspace, a vast potential utopia clogged by its users, as you notice when they've finally disappeared on vacation...Like radioactive waste, Junkspace has an insidious half-life. Can the bland be amplified? The featureless be exaggerated? Through height? Depth? Length? Variation? Repetition? Sometimes not overload but its opposite, an absolute absence of detail, generates Junkspace. A voided condition of frightening sparseness, shocking proof that so much can be organized by so little".¹

Stolen from Rem Koolhaas

1. Rem Koolhaas, *October* 100, Spring 2002, 175-190.
lensbased.net/files/Reader2012/rem_koolhaas - junkspace.pdf



INSURRECTIONARY AGRICULTURAL MILIEUX

Insurrectionary Agricultural Milieux are rhizomatic forms of agriculture that exist in local response to global conditions of biopolitics and neoliberalism. Government-supported development projects on agricultural land have compelled farmers and supporters to turn to direct action in resistance to land commodification and the excavation of its resources. As in the cases of Grow Heathrow (London), Mondeggi Bene Comune (Florence) and Ma Shi Po Village (Hong Kong), these indefinite sites of resistance become rhizomatically forming heteropias that gather people from multidisciplinary backgrounds and different communities.

In these instances, participation creates an insurrectionary experience – a self-transforming project towards full autonomy, or what Max Stirner refers to as ‘ownness’. Stirner mentions that ‘insurrection leads us no longer to let ourselves be arranged, but to arrange ourselves’.¹ This can radicalise and politicise individuals in unpredictable ways, including empowering them with skills in self-sufficient farming.

The Diggers (1964), Agrarian Socialism and the Guerrilla Gardening movement (made popular by Richard Reynolds) served as the fertile top soil in a pre-Occupy milieu. During Occupy, insurrectionary agricultural projects were widespread, from the planters in Zuccotti Park (Occupy Wall Street) to Farms for Democracy in Hong Kong – an agricultural platform that existed in all three occupations sites (2014–2015).² Contemporary Insurrectionary Agricultural Milieux can also be seen in refugee camps all across Europe and in Chiapas by the revolutionary Zapatistas.

Local resistances such as this year’s occupation in Ma Shi Po Village have a tendency to stay local and untranslated. When comparing emancipatory strategies on a global platform, such local resistances and their communities can meet, share tactics and learn from one another. For example, designing fortresses and blockades as architectural structures, anonymity in the form of humourous masks of oligarchs, befriending structural forces so that they are less violent during evictions, and even introducing friendly green giant-like mascots such as Spinach Man (see photograph) can all play a role in supporting agriculture in today’s world.³

Defined by 梁志剛 Michael Leung

Image: 文 Wen, Spinach Man and fortress, 2016.

1. Max Stirner, *The Ego and its Own* (Cambridge: Cambridge University Press, 1995), 279–80.

2. Admiralty Demonstration Farm Report, *The HK FARMers' Almanac 2014–2015* (Hong Kong: Spring Workshop, 2015).

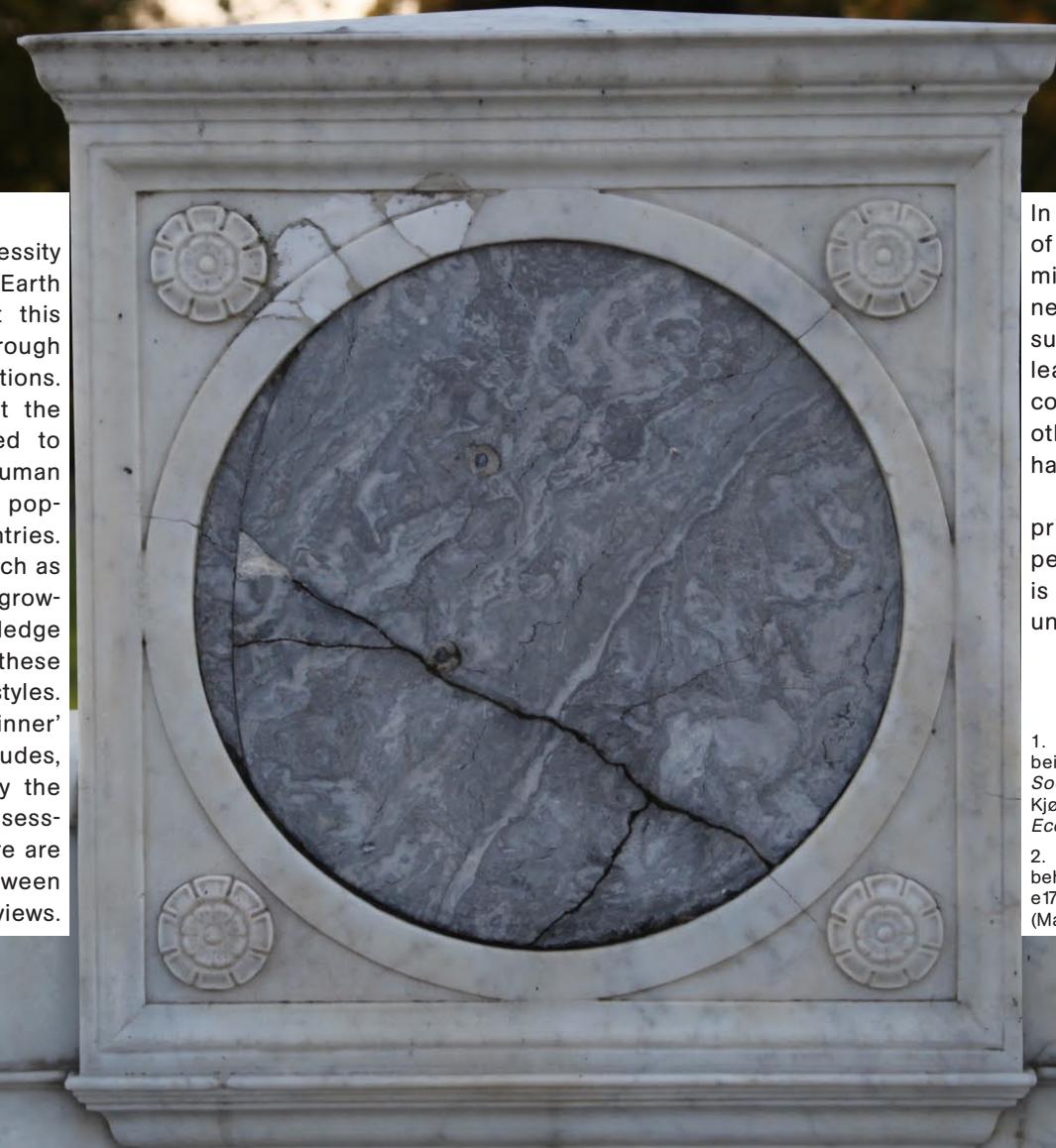
3. North East New Territories, www.dungbak.tumblr.com (accessed 17 October 2016).



INNER TRANSFORMATION

While there is broad consensus about the necessity to reduce humanity's adverse impacts on the Earth system, it is becoming increasingly clear that this transformation cannot solely be achieved through technological advances and political regulations. More and more stakeholders acknowledge that the 'great transformation to sustainability' will need to involve substantial changes in lifestyles and human behavior patterns for large parts of the world's population, particularly in the industrialised countries.

Based on the insights from disciplines such as neuroscience and social psychology there is a growing understanding that merely increased knowledge and cognitive insights are not sufficient to drive these required changes in behavior patterns and lifestyles. Rather these changes seem to require deeper 'inner' changes in the human mind and core values, attitudes, culture and belief systems. Stimulated partly by the Pope's latest encyclical 'Laudato Si' and similar assessments on the part of other religious leaders, there are growing discussions about the connection between climate change and spiritual questions and worldviews.



In this context it is being explored how the cultivation of specific human qualities, ethical values, virtues and mindsets such as empathy, mindfulness, connectedness and altruism, can facilitate transformations towards sustainability. For example, mindfulness practices could lead to more frugal consumption patterns through more conscious choice-making. Compassion practices on the other hand are considered as drivers of pro-social behavior, eg. in prisoner's dilemma or conflict situations.

While such practices used to be fostered primarily in the context of individual well-being and personal development, their collective cultivation is now considered increasingly to be an important underpinning of social change towards sustainability.

Defined by Thomas Bruhn

1. K. W. Brown and T. Kasser, 'Are Psychological and Ecological Well-being Compatible? The Role of Values, Mindfulness, and Lifestyle,' *Social Indicators Research*, 74:2 (2005), 349–368. T. Ericson, B.G. Kjønstad and A. Barstad, 'Mindfulness and sustainability,' *Ecological Economics* 104 (2014), 73–79.

2. S. Leiberg et al., 'Short-term compassion training increases prosocial behavior in a newly developed prosocial game,' *PLoS ONE* 6:3 (2011): e17798. T. Singer and M. Bolz, *Compassion: Bridging practice and science* (Max Planck Institute for Human Cognitive and Brain Sciences, 2013).

PRECAUTIONARY PRINCIPLE

The principle that, where an activity raises threats of harm to human health or the environment, precautionary measures should be taken – even if some cause and effect relationships are not fully established scientifically at that point.

Unlike in the United States, where regulation is only justified when potential damage or harm is unequivocally proven by scientific studies, the Precautionary Principle shifts the burden of proof onto the agent creating the risk. The Precautionary Principle is a general principle of European Union environmental and health policy and ensures that the lack of full scientific certainty cannot be used as a reason for postponing measures to prevent environmental degradation.

While the Precautionary Principle may be used to justify over-zealous regulation, the United States approach may lead to irreversible harm. Neither approach is ‘right’ or ‘wrong’ – they simply reflect different approaches to risk management. The highly non-linear climatic system is likely to hold nasty surprises as it is forced out of current equilibrium by untamed greenhouse gas emissions.

The discussion on reducing such emissions, hence, seems to beautifully exemplify the nature of the two risk management approaches. However, even if we could presume that nasty surprises would not occur, the rapidly growing scientific certainty that unabated emissions will result in irreversible large-scale adverse effects makes both approaches to risk management converge on the same conclusion: the need for regulating greenhouse gas emissions.

Defined by Bernd Hezel



CLIMATE HOSTAGE

A person or people subject to overwhelming forces of human-made climate change, the solutions for which lie elsewhere in a dispersed field of actors who must participate differently for the crisis to end. In a sense we are all climate hostages, held subject to the violent eruptions of environmental changes of our own making. As with all hostage crises, force directed towards a person or people will only end if actions are taken elsewhere by others. There is a triangulated contract between captor, hostage, and the ultimate target of the action.

This complex negotiation is all the more difficult in the case of climate hostages. Nature may 'speak', but it does not speak human. The timescales on which geological responses are deciphered and reacted to by humans are deeply out of sync. Thus, bracketing the problem that climate may lack intentions and interests, this is a hostage crisis unfolding on terms we do not understand, with woefully long delays between demands and resolutions.

Willing to go great lengths to gain the advantage in this prisoner's dilemma, we betray our solidarities. Thus, ultimately, it is nonsense to claim that we are all climate hostages. Political agreements, national borders, global distribution of environmental threat, and the very infrastructures of our daily lives are retooled to distribute risk and depredation unevenly. As some parts of the world (the Sahel, the Fertile Crescent, for example) begin to live through 'anthropocenic conflicts', conflicts the contours of which could not be imagined without the background pressures of climate change, other parts of the world shore up their borders to make certain the damage stays localised.

SEE ALSO: Elongated Governance; Climate Debt.

Defined by Manuel Schwab

FIRST PERSON CLIMATE KNOWLEDGE

An extension of the logic that acknowledges climate injustice – that those most vulnerable to climate changes typically have less culpability in its production – suggests that those most affected should have the greatest representation in decision-making forums, and in educative initiatives. For example, Pacific Island countries, heavily impacted by rising sea levels already, contribute just 0.03% of global carbon emissions, despite having 0.12% of the world's population.¹ This means, in the Pacific, that there are disproportionate numbers of world experts not only in the environmental, social and economic stresses caused by sea-level rise, but also in practices of minimal carbon consumption.

We often talk about this as a problem of educating people, but I say this as a person who is very involved in the climate movement... that the climate movement is not listening enough to the people that are most impacted by climate change and other ecological stresses. And lifting up those voices. Because I think part of the reason that people have this perception that this is all far away and abstract is that they are always hearing about it from intermediaries. How often do we hear directly from people whose countries are disappearing? So I don't think this is about us enlighten[ing] the poor about this problem, we have to be enlightened.²

1. According to the IPCC Report: 'Working Group II: Impacts, Adaptation and Vulnerability', http://www.ipcc.ch/ipccreports/tar/wg2/index.php?idp_637

2. Naomi Klein's comment during the Q&A segment of her lecture, 'Let Them Drown: the violence of othering in a warming world,' London, 4 May 2016. Full text at: <http://www.lrb.co.uk/v38/n11/naomi-klein/let-them-drown>

WHAT'S ON

TONIGHT
CLIMATE
MEETING
UPSTAIRS

Waitemata
Local Board

ELONGATED GOVERNANCE

Elongated Governance is a turn towards long-term strategic action on climate change that unfolds simultaneously along structural and temporallines. Change is needed to address the discrepancy between short election cycles, with their inherent bias towards short termism, and the far-reaching political vision needed for action on climate change.

Elongated Governance is a strategy to counteract the political “rhythm of entrenched cycles”¹ which has thus far shown itself to be incapable of the rapid restructuring of the global economy required for consequential political and economic change. Strategies include a call for reform of the prevalent first past the post system in the electoral process of the United Kingdom and United States, where it is difficult for alternative, smaller parties to emerge, and in the United States through campaign finance reform to unlink government policy from corporate interests. It is key to integrate vertical and horizontal governance structures. Vertical governance structures being hierarchical arrangements in which a higher level (eg. the nation state) is authorised to issue instructions to a subordinate level (eg. cities) and make decisions that are binding for it. An alternative – horizontal governance structures would allow for a voluntary association of actors on one level, eg. cities in city networks.²

DO YOU THINK
WE SHOULD DO
SOMETHING ABOUT
GLOBAL WARMING?
VOTE 4 BERNIE! 4/26/16
#FEELTHEBERN

Elongated Governance actions are increasingly coming from diverse jurisdictions including non-state actors promoting regulation at a community or regional rather than state or federal level, commitments by cities to CO₂ reduction and legal actions led by citizen groups. Examples of such dispersal of action include divestment from fossil fuels, and the recent Dutch court ruling in the world's first successful climate liability suit that the Dutch government must reduce emissions by 25% within five years to protect its citizens from climate change. This trend to alter the short-term cycles of government can also be seen in the re-organisation of a range of current political movements, for example in the United Kingdom, the claim by Jeremy Corbyn that he is concentrating on a “social movement” with broad social support for a range of progressive issues being a goal equal to that of electability. Elongated Governance is a strategy to be pursued alongside electoral work, seeing social movement action as a way of expanding possibilities therein.

1 Dylan Taylor, ‘The Esra Think Tank’ (interview), *Saturday Morning*, Radio New Zealand, 17 September 2016.

2. ‘Humanity on the Move: Unlocking the Transformative Power of Cities’, German Advisory Council on Global Change (WGBU) Report, Berlin 2016, 510.

3. See Arthur Nelson, ‘Dutch Government Ordered to Cut Greenhouse Emissions in Landmark Ruling’, *The Guardian*, 24 June 2016; and 350.org <https://breakfree2016.org/>.



SITES OF SIGNIFICANCE

In 1840, New Zealand's founding document and first resource management legislation was formed, the Treaty of Waitangi (the Treaty). In 1975, the Treaty was given statutory status and has since been the main driver of Māori values recognition in national policy. Expectations of Māori iwi through this process have centred on establishing the legitimacy of iwi, creating policy equity and the ownership of resources and management rights.

A considerable amount of research contributing towards Treaty Claims is funded through the Crown Forestry Rental Trust (CFRT), with one of the primary mechanisms in establishing claimant group rights to natural resources being the identification of Sites of Significance (SOS). CFRT define SOS as:

...places within the rohe which are particularly important to the claimant group. They may include pā sites [historical fortified villages], awa [rivers, streams], maunga [mountains or significant outcrops of land], wāhi tapu [sacred place, sacred site], or other places of particular cultural or spiritual significance... Sometimes sites will not be a mere single point on the landscape, but will include a number of interrelated areas covering a wider area. Kāinga [homes – contemporary and ancestral], pa sites, urupā [burial grounds], mahinga kai [food-gathering place], trails, cultivations and natural resource areas may form a complex of occupation and use, covering a significant area.¹

SOS mapping therefore records patterns of long-term occupation and intimate knowledge of place; an understanding which could be termed 'eco-philosophical.' Hikoi – the process of walking the land with tangata whenua (people of the land) – can be walks that follow ancestral pathways, or visits to SOS for the purposes of sharing cultural knowledge. More than this, however, experiencing SOS through hikoi produces something tangible and connective, a personal, intimate view of people being no more or less than elements of the environment.

For tangata whenua the land, waterways, ocean and air are understood as living entities with which there is a respectful and reciprocal relationship established. This relational approach progresses environmental management towards considering ways to improve mutual health, rather than only the mitigation of negative effects – or – the distinct separation of an SOS for the purposes of preservation.

Defined by Desna Whaanga-Schollum.

Iwi affiliations: Rongomaiwhahine, Kahungunu, Pahauwera.

Image: Desna Whaanga-Schollum, Whakaki-nui-a-Rua,

Waiatai Valley, New Zealand, 2016.

1. Crown Forestry Rental Trust, 2007.



MOUNDING

An increasing tendency in urban design and landscape architecture to build defensive urban terrain that will protect communities from sea level rise and storm surges. An example can be seen in the proposed redesign of Stuyvesant Cove Park in New York City which was badly flooded during Superstorm Sandy. A new plan for the park will incorporate elevated areas – a mounded park – and floodgates. The mounded park on the river's edge will attempt to protect the high density housing area of Stuyvesant town behind it.¹

The Mounding tendency can be witnessed on a larger scale in the larger 'BIG U' protective system planned for lower Manhattan, in which ten continuous miles of low-lying geography will be redesigned in order to address structural and environmental vulnerabilities exposed by Hurricane Sandy.²

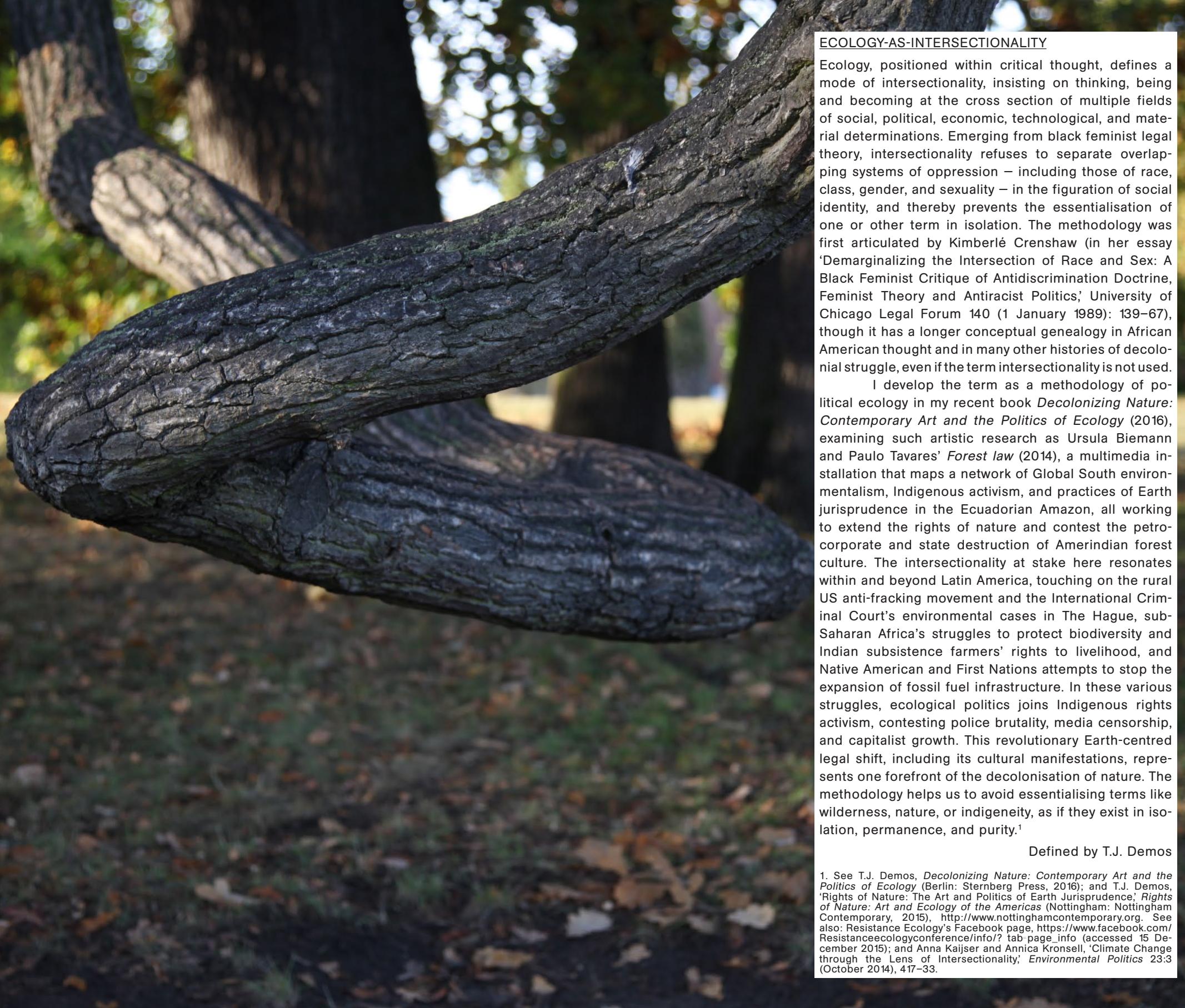
Mounding could be read as a contemporary globalisation of the dike systems long practised in the Netherlands – where about a quarter of the land is below sea level. Given that many of the world's major cities (and financial capitals) are susceptible to sea-level rise, including New York, London, Hamburg and Shanghai, the strategy of Mounding will be one of many necessary adaptation responses to sea level rise that will be necessary in the short to medium term. In the longer term, such tactics may well be inadequate, especially if the optimistic target of holding warming below 2 degrees Celsius is exceeded.

1. Maria Rocha Buschel, 'East River flood protection plan extended to 25th St', *Town & Village*, 22 September 2016, <https://town-village.com/2016/09/22/east-river-flood-protection-plan-extended-to-25th-st/> more-13361

2. See http://big.dk/press/hud_224







ECOLOGY-AS-INTERSECTIONALITY

Ecology, positioned within critical thought, defines a mode of intersectionality, insisting on thinking, being and becoming at the cross section of multiple fields of social, political, economic, technological, and material determinations. Emerging from black feminist legal theory, intersectionality refuses to separate overlapping systems of oppression – including those of race, class, gender, and sexuality – in the figuration of social identity, and thereby prevents the essentialisation of one or other term in isolation. The methodology was first articulated by Kimberlé Crenshaw (in her essay ‘Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics,’ *University of Chicago Legal Forum* 140 (1 January 1989): 139–67), though it has a longer conceptual genealogy in African American thought and in many other histories of decolonial struggle, even if the term intersectionality is not used.

I develop the term as a methodology of political ecology in my recent book *Decolonizing Nature: Contemporary Art and the Politics of Ecology* (2016), examining such artistic research as Ursula Biemann and Paulo Tavares’ *Forest law* (2014), a multimedia installation that maps a network of Global South environmentalism, Indigenous activism, and practices of Earth jurisprudence in the Ecuadorian Amazon, all working to extend the rights of nature and contest the petro-corporate and state destruction of Amerindian forest culture. The intersectionality at stake here resonates within and beyond Latin America, touching on the rural US anti-fracking movement and the International Criminal Court’s environmental cases in The Hague, sub-Saharan Africa’s struggles to protect biodiversity and Indian subsistence farmers’ rights to livelihood, and Native American and First Nations attempts to stop the expansion of fossil fuel infrastructure. In these various struggles, ecological politics joins Indigenous rights activism, contesting police brutality, media censorship, and capitalist growth. This revolutionary Earth-centred legal shift, including its cultural manifestations, represents one forefront of the decolonisation of nature. The methodology helps us to avoid essentialising terms like wilderness, nature, or indigeneity, as if they exist in isolation, permanence, and purity.¹

Defined by T.J. Demos

1. See T.J. Demos, *Decolonizing Nature: Contemporary Art and the Politics of Ecology* (Berlin: Sternberg Press, 2016); and T.J. Demos, ‘Rights of Nature: The Art and Politics of Earth Jurisprudence,’ *Rights of Nature: Art and Ecology of the Americas* (Nottingham: Nottingham Contemporary, 2015), <http://www.nottinghamcontemporary.org>. See also: Resistance Ecology’s Facebook page, https://www.facebook.com/Resistanceecologyconference/info/?tab_page_info (accessed 15 December 2015); and Anna Kaijser and Annica Kronsell, ‘Climate Change through the Lens of Intersectionality,’ *Environmental Politics* 23:3 (October 2014), 417–33.

CITIZEN SCIENCE

Citizen Science is the completion of scientific tasks by individuals who are not professionally trained scientists. Citizen scientists work closely with research scientists on such tasks as monitoring environmental conditions, recording the occurrence of species and biological events, transcribing biodiversity information, deciphering research photographs, and processing data. The tasks themselves require minimal training yet through involving citizen scientists, researchers can expand their work across broad geographies and ecosystems.

Many of today's wicked problems are occurring at a global scale and can therefore only be addressed with large-scale monitoring and observations. By involving citizen scientists, researchers can vastly increase the amount of data collected for a project and can carry out numerous simultaneous data collection events that would be impossible with only a single researcher. One of the most impressive examples of this is Cornell Lab of Ornithology's eBird. Through eBird, tens of thousands of citizen scientists around the world have contributed freely accessible bird observations that have enabled researchers to analyse migration patterns over time and relative to weather variables, to help conservation efforts, and to build beautiful, dynamic visualisations. Through participation in eBird and other Citizen Science projects, individuals have improved their understanding of the natural world and have been able to observe natural phenomena in their own backyards.

As the field of Citizen Science grows, citizen scientists are increasingly gaining experiences that enable them to take on organisational roles in research and to have a voice in co-creating scientific research projects. Equally important is the role that Citizen Science has in improving scientific literacy among participants, building support and community around timely scientific research.

Defined by Elizabeth Ellwood







PROTEST AS CELEBRATION

It starts with a no. No more Christmas presents. But you're still stuck with the term Christmas. Then Erin says – all this grief about the planet, but where is the celebration? Where is our *gratitude*? And just like that, Christmas becomes Earthmas. Instead of Father Christmas, Rod says, do you celebrate Mother Earth? You clap your hands. *Exactly.*

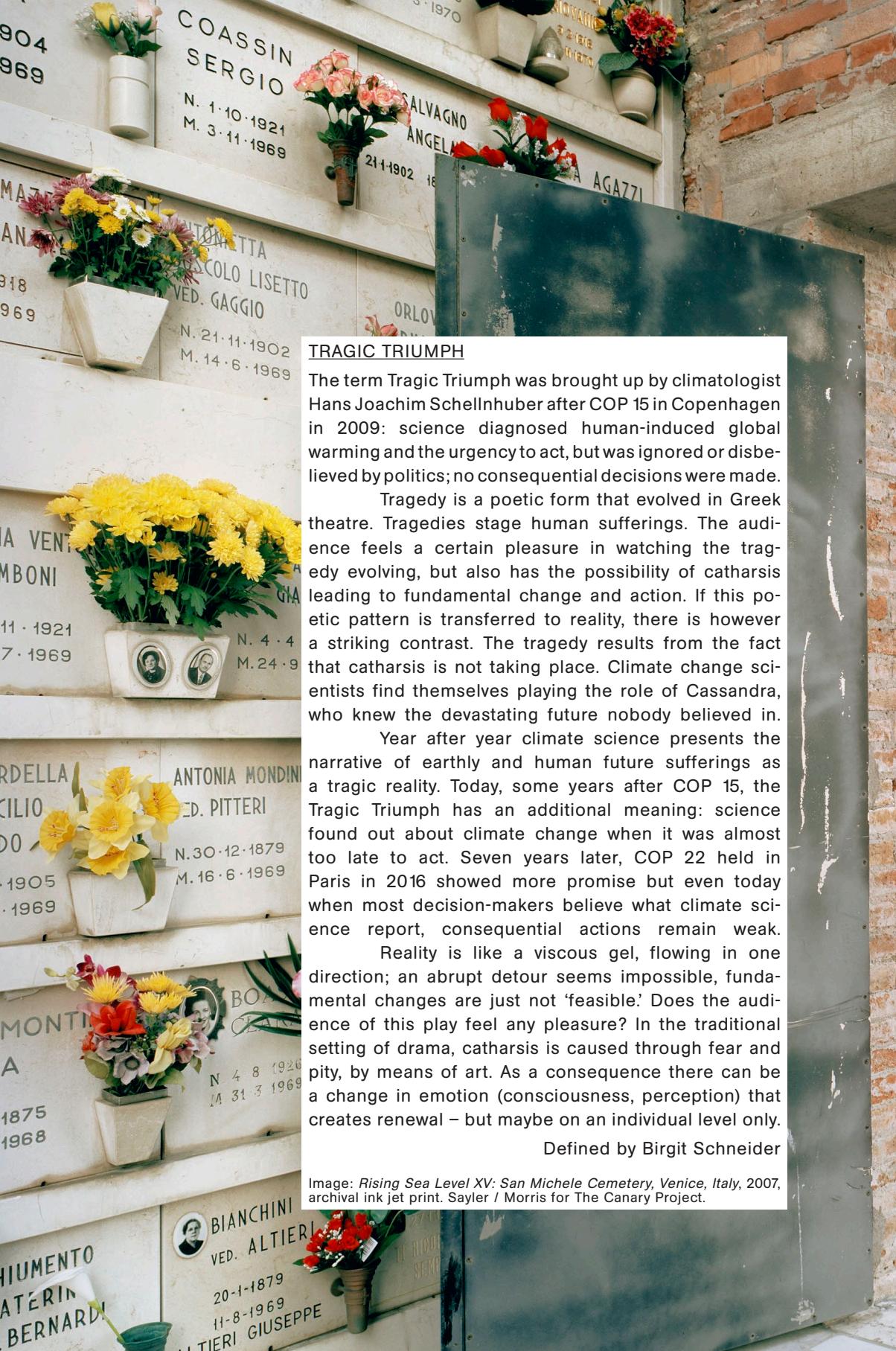
All of you spend Earthmas Eve cutting tangerine and lemon coloured suns from cardboard, hanging them from threads from the living room ceiling. A banquet table, made from three dining tables, pushed together. Flowers, everywhere, that you and Loren collect from crumbling roadside banks.

You all want more than that, though. You want rituals. Can we make them up? you ask each other. And you sort of do. In the morning, you take turns cooking, then googling pagan solstice celebrations, without a great deal of success. You decide to do something with fire – when in doubt, always do something with fire.

After the feast, all nineteen of you put flowers behind your ears and dance around in a circle, whooping and clacking and beating your feet against the heat of the sandy soil. What are you doing? one of the kids says. He squints his eye up, and his shoulders look utterly defeated. Earthmas is not Christmas – and in all the wrong ways, if you ask him. What are you *doing*? And that's the thing. The chant is made up; nonsensical. You're banging stainless steel pots and lids together for percussion. You're chanting and cantering in a circle because deep in your cells – in the tiny cells that cluster together to make up your bones – something says, *This is the way back.* But you don't even have a meaningful chant anymore: you don't even know how to fall to your knees and say, thank you, in a language that the Earth will, possibly, understand. Is this the way back? you ask each other. But the question really is: How did we ever get so far away from where we actually are?

Defined by Anna Taylor





TRAGIC TRIUMPH

The term Tragic Triumph was brought up by climatologist Hans Joachim Schellnhuber after COP 15 in Copenhagen in 2009: science diagnosed human-induced global warming and the urgency to act, but was ignored or disbelieved by politics; no consequential decisions were made.

Tragedy is a poetic form that evolved in Greek theatre. Tragedies stage human sufferings. The audience feels a certain pleasure in watching the tragedy evolving, but also has the possibility of catharsis leading to fundamental change and action. If this poetic pattern is transferred to reality, there is however a striking contrast. The tragedy results from the fact that catharsis is not taking place. Climate change scientists find themselves playing the role of Cassandra, who knew the devastating future nobody believed in.

Year after year climate science presents the narrative of earthly and human future sufferings as a tragic reality. Today, some years after COP 15, the Tragic Triumph has an additional meaning: science found out about climate change when it was almost too late to act. Seven years later, COP 22 held in Paris in 2016 showed more promise but even today when most decision-makers believe what climate science report, consequential actions remain weak.

Reality is like a viscous gel, flowing in one direction; an abrupt detour seems impossible, fundamental changes are just not 'feasible.' Does the audience of this play feel any pleasure? In the traditional setting of drama, catharsis is caused through fear and pity, by means of art. As a consequence there can be a change in emotion (consciousness, perception) that creates renewal – but maybe on an individual level only.

Defined by Birgit Schneider

Image: *Rising Sea Level XV: San Michele Cemetery, Venice, Italy, 2007*, archival ink jet print. Sayler / Morris for The Canary Project.





BRUTE FORCE INFRASTRUCTURE

Large scale infrastructure, like big dams, provide power and flood control, but end up having a lot of negative impacts: altering water distribution, hindering fish migrations and altering ecologies for entire regions, often destroying the livelihoods of those living around them. Brute Force Infrastructure undermines bio-cultural diversity.

In her ongoing project *Be Dammed*, artist Carolina Caycedo has documented how the construction of large hydroelectric dams and water reservoirs require mechanisms of social control. El Quimbo Hydroelectric Project, an example of Brute Force Infrastructure on the Magdalena River in Huila, Colombia, "is turning a public body of water into a privatized resource; a process of rural, geographical, and ecological corporatization."¹

Brute Force Infrastructure also cannot adapt to the changing weather distribution patterns being caused by climate change. The huge sums of money required to build such infrastructure mean developing nations are often locked into global sources of capital, which undermine local self sufficiency and community sovereignty. For example in Zambia "The power generated from the Kariba – one of the world's largest hydroelectric dams, in one of the world's largest artificial lakes – contributed to Zambia's political stability and helped turn its economy into one of the fastest growing on the continent. But today, as a severe drought magnified by climate change has cut water levels to record lows, the Kariba is generating so little juice that blackouts have crippled the nation's already hurting businesses. After a decade of being heralded as a vanguard of African growth, Zambia, in a quick, mortifying letdown, is now struggling to pay its own civil servants and has reached out to the International Monetary Fund for help."²

1. See Carolina Caycedo, *BE DAMMED: A Thesis Presented to the Faculty of the USC Graduate School*, University of Southern California, August 2014.

2. Norimitsu Onishi, 'Climate Change Hits Hard in Zambia, an African Success Story', *The New York Times*, 12 April 2016.

MAPPING AS DIFFERENTIAL

Mapping, in its partiality, is not coextensive with what it maps. Rather it produces a relationship of difference, because it is fundamentally dissimilar to its terrain. Put simply, a city map made of paper is not coextensive with the geography it maps, because it literally exists as a different material, spatial, cultural and temporal entity. This idea has been informed by architectural theorist Teresa Stoppani (2004), who argues that mapping generates material excess. This excess is embodied in mapping's potentially endless proliferations – because of the inexhaustible complexity of the place(s) with which it makes a relation. This idea has currency in terms of the data visualisations and infographics that seek to 'map' climate change as a phenomenon beyond the purely scientific, reading given topographies across a wide register including social, cultural and ecological relationships. Mapping as Differential is founded in the recognition that sites are always situations, teeming with complexities and affects, and so withstand complete capture by any single apparatus of representation. Walking, swimming, remembering a place may all be modes of differential mapping.

Maybe there is another way to put this:

*The sky narrates snow. I narrate my name in the snow.
Snow piled in paragraphs. Darkling snow. Geno-snow
and pheno-snow. I staple snow to the ground.*

*In medieval angelology, there are nine orders of snow.
A vindication of snow in the form of snow.
A jealous snow. An omni-snow. Snow immolation.*

Do you remember that winter it snowed?

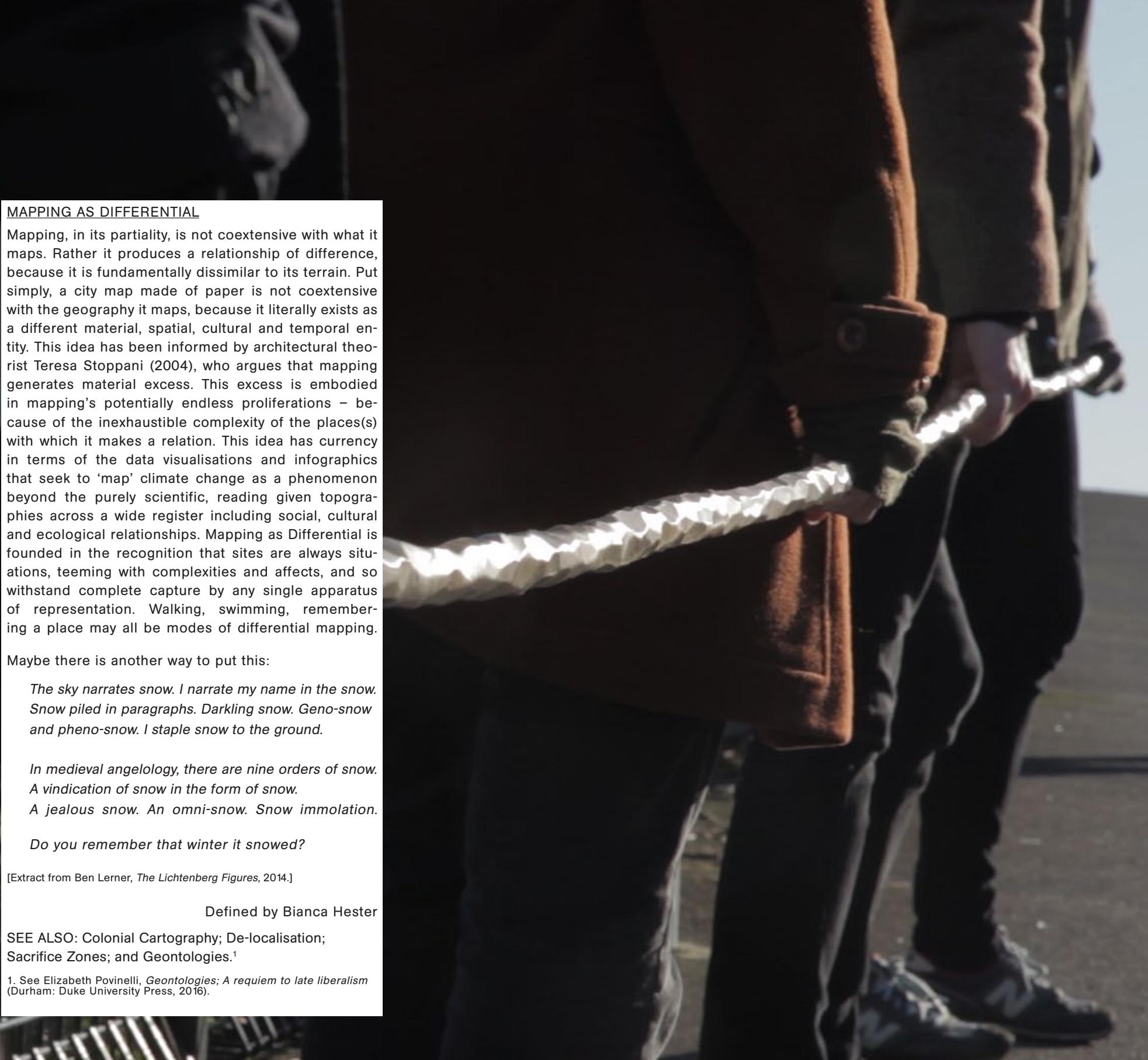
[Extract from Ben Lerner, *The Lichtenberg Figures*, 2014.]

Defined by Bianca Hester

SEE ALSO: Colonial Cartography; De-localisation;
Sacrifice Zones; and Geontologies.¹

1. See Elizabeth Povinelli, *Geontologies; A requiem to late liberalism* (Durham: Duke University Press, 2016).

Image: Bianca Hester, *Constellating bodies in temporary correspondence*, 2015. Still from two-channel HD video, 9:51 mins, involving three 5.6m long bronze poles carried from Te Kopuke/Mt St John, to Te Tōkaroa/Meola Reef (Tāmaki Makaurau/Auckland) on Saturday 11 July 2015. People on the walk include: Fiona Amundsen, Sosefina Andy, Alison Annals, Danny Butt, Jon Bywater, Xin Cheng, Paul Cullen, Layla Tweedie-Cullen, Abby Cunnane, Eve Cunnane, Jeremy Eade, Shane Fairhall, Bianca Hester, Rebecca Anne-Hobbs, Tracy Marie Howe, Charlotte Huddleston, Suzie Hunt, Dieneke Jansen, Joe Jowitt, Matt Kambic, Mischa Chaleyer-Kynaston, Jeremy Leatinu'u, Ziggy Lever, Lucy Myle, Li-Ming Hu, Jennie Palmer, Reba Pinto, Monique Redmond, David Rhodes, Natalie Robertson, Carmel Rowden, Deborah Rundle, Maneesha Sakamuri, Mark Schroder, Sarah Smuts-Kennedy, Harriet Stockman, Akira Tamura, Aydriannah Tuialii, Pita Turei, Layne Waerea, Sarah Wall, Lynn Wilson. Photo: Joe Jowitt.



LIVING BORDERS

Infrastructure inscribes political power, often circumventing legislative processes and exploiting the murky waters of international jurisdiction. “In a site of multiple, overlapping, or nested forms of sovereignty, where domestic and transnational jurisdictions collide, infrastructure space becomes a medium of what might be called extrastatecraft – a portmanteau describing the often undisclosed activities outside of, in addition to, and sometimes even in partnership with statecraft.” (Keller Easterling). A recent example is Eurosur, the European Agency for the Management of Operational Co-operation at the External Borders’ (aka Frontex) massive surveillance system that is designed to become a platform for “the frictionless circulation of identity data within a single globalised market of information”.

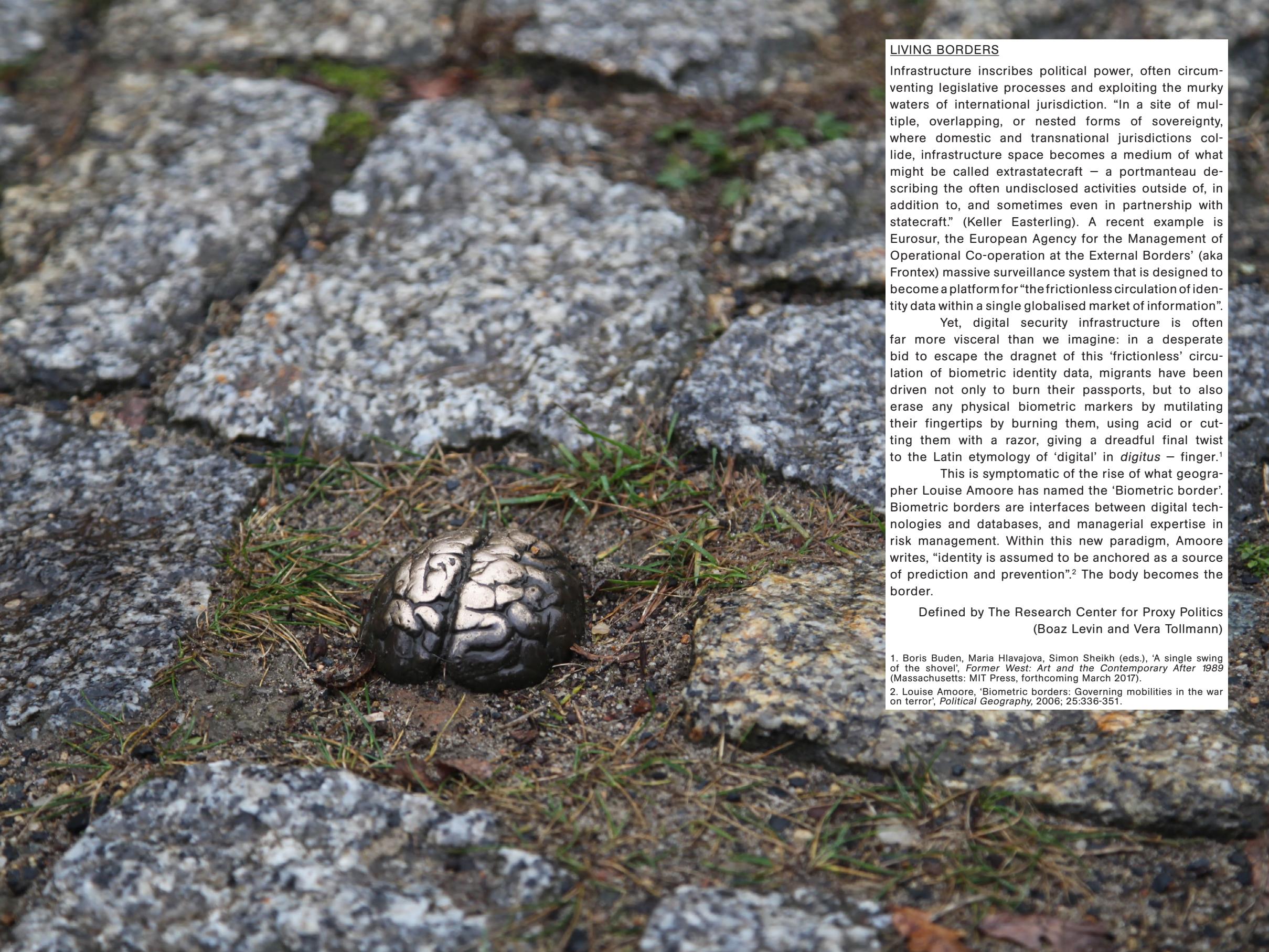
Yet, digital security infrastructure is often far more visceral than we imagine: in a desperate bid to escape the dragnet of this ‘frictionless’ circulation of biometric identity data, migrants have been driven not only to burn their passports, but to also erase any physical biometric markers by mutilating their fingertips by burning them, using acid or cutting them with a razor, giving a dreadful final twist to the Latin etymology of ‘digital’ in *digitus* – finger.¹

This is symptomatic of the rise of what geographer Louise Amoore has named the ‘Biometric border’. Biometric borders are interfaces between digital technologies and databases, and managerial expertise in risk management. Within this new paradigm, Amoore writes, “identity is assumed to be anchored as a source of prediction and prevention”.² The body becomes the border.

Defined by The Research Center for Proxy Politics
(Boaz Levin and Vera Tollmann)

1. Boris Buden, Maria Hlavajova, Simon Sheikh (eds.), ‘A single swing of the shovel’, *Former West: Art and the Contemporary After 1989* (Massachusetts: MIT Press, forthcoming March 2017).

2. Louise Amoore, ‘Biometric borders: Governing mobilities in the war on terror’, *Political Geography*, 2006; 25:336-351.



ORDINARY KNOWLEDGE

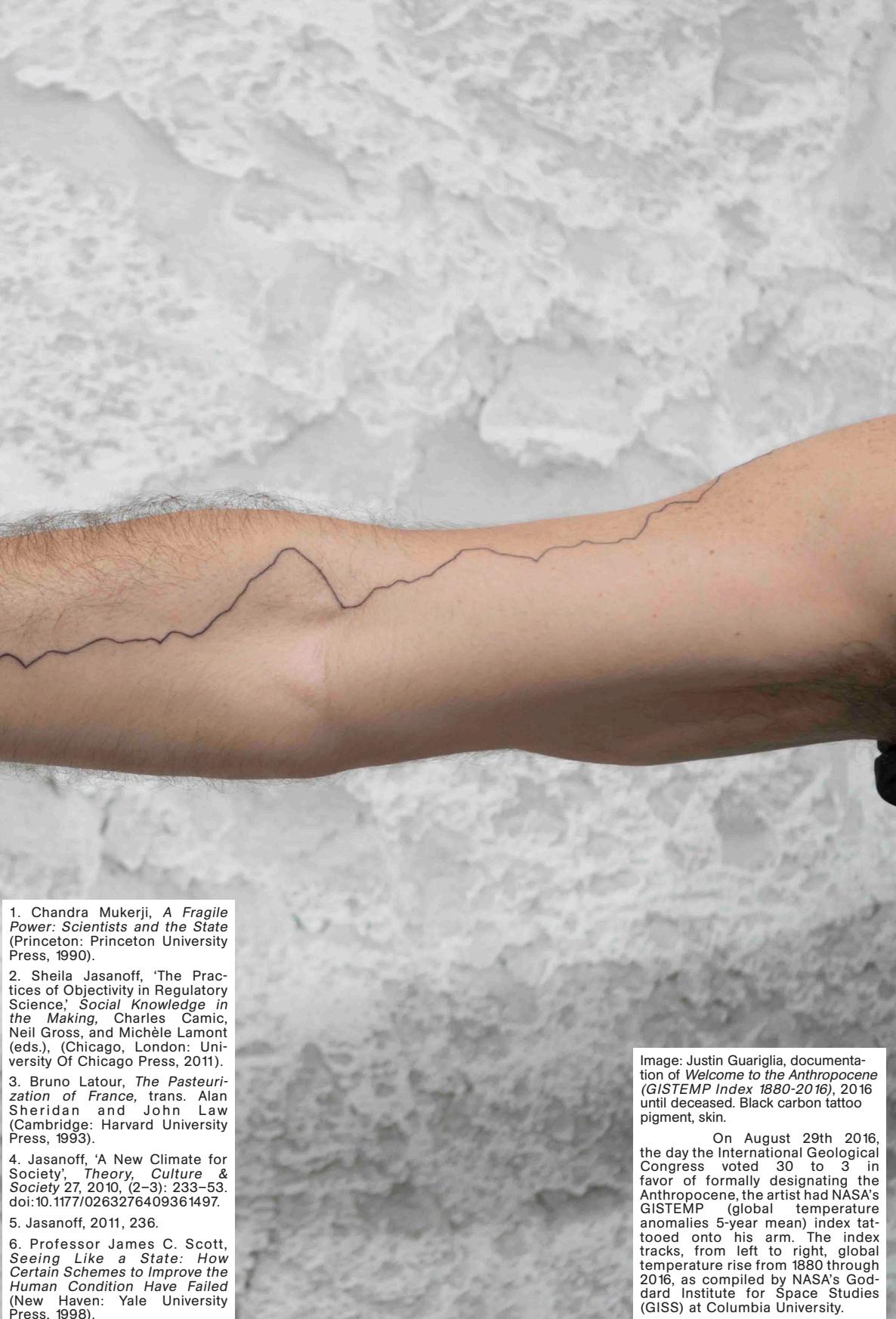
How do individual perceptions and ideas become institutionalised as scientific knowledge? Once institutionalised, such knowledge is immensely powerful: widely shared, perceived as objective, and used as the foundation for further science and policymaking. The production of scientific knowledge, however, is not a straightforward process of unleashing the truth. Science involves extensive entanglements with the state, through funding,¹ and in support of policy,² while dissemination is the result of unpredictable, socially embedded processes.³

Scientific knowledge itself is far from a simple articulation of the truth. In order to make complex, contextualised facts into useful, transposable concepts, science reduces particularities: the specific must be suppressed in order for the generalisable to be identified.⁴ These abstractions, having sloughed off subjective meanings, are intelligible to distant entities and useful for decision making. The production of scientific knowledge thus frequently subordinates other types of knowing: those that are perceptual, embodied, and grounded in daily experience.

Ordinary Knowledge is awareness rooted in lived experience, which gives rise to practices, institutions, and social norms in local communities. Scientific and Ordinary Knowledge conflict, as universal imperatives override local habits. In the context of the environment, abstracted concepts about nature and its changes, or ‘climate facts,’ ask people to “let go of their familiar, comfortable modes of living with nature”⁵ – modes that often support responsible stewardship of the environment.

These forms of knowledge, however, are also deeply entwined. Scientific knowledge relies on subjective, embedded, local insights for any successful operationalisation.⁶ But Ordinary Knowledge must also reckon with advances in science, if local practices are going to adjust to new information about climate change. Climate facts are articulated beyond the human scale: planetary rather than local, on the order of centuries rather than seasons. For these abstractions to inform individual and community practices, they must be rearticulated in conjunction with the Ordinary Knowledge of daily life.

Defined by Laura Adler



1. Chandra Mukerji, *A Fragile Power: Scientists and the State* (Princeton: Princeton University Press, 1990).

2. Sheila Jasanoff, ‘The Practices of Objectivity in Regulatory Science,’ *Social Knowledge in the Making*, Charles Camic, Neil Gross, and Michèle Lamont (eds.), (Chicago, London: University Of Chicago Press, 2011).

3. Bruno Latour, *The Pasteurization of France*, trans. Alan Sheridan and John Law (Cambridge: Harvard University Press, 1993).

4. Jasanoff, ‘A New Climate for Society’, *Theory, Culture & Society* 27, 2010, (2–3): 233–53. doi:10.1177/0263276409361497.

5. Jasanoff, 2011, 236.

6. Professor James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998).

Image: Justin Guariglia, documentation of *Welcome to the Anthropocene* (GISTEMP Index 1880–2016), 2016 until deceased. Black carbon tattoo pigment, skin.

On August 29th 2016, the day the International Geological Congress voted 30 to 3 in favor of formally designating the Anthropocene, the artist had NASA’s GISTEMP (global temperature anomalies 5-year mean) index tattooed onto his arm. The index tracks, from left to right, global temperature rise from 1880 through 2016, as compiled by NASA’s Goddard Institute for Space Studies (GISS) at Columbia University.

HUMAN RAIN

From Romanian ceremonies known as paparuda and caloian, to practices of the native American tribe the Zuni, based in western New Mexico, indigenous cultures worldwide have ritualised practices to create rainfall. With increasing dominance of scientific understandings of climate systems, such traditions were disregarded, culminating in the twentieth century dismissal of those promising the ability to bring rain to the dust bowl drought of the American West and Midwest in the 1930s as preying on 'superstition'.

The belief that social forces such as ritual rain dances can affect the severity and frequency of rainfall has, in the Anthropocene, collided with the new knowledge that widespread anthropogenic global warming is now known to be redistributing and intensifying rain by the collective human action of warming the atmosphere; "Warmer air can...be expected to enhance precipitation extremes as it can hold more moisture."¹ However, as with all extreme weather events, rain-making in any particular instance cannot be conclusively attributed but rather deemed to be of increased statistical likelihood, for example: the number of record-breaking rainfall events has increased since the 1980s. In 2010 one in five new rainfall records would not have happened without long-term climate change. Regionally there are higher probabilities, for example in Southeast Asia the risk to observe a new record rainfall has doubled.²

1. Dim Coumou and Stefan Rahmstorf, 'A decade of weather extremes', *Nature Climate Change* 2, 2012, 491–496, doi:10.1038/nclimate1452

2. Jascha Lehmann, Dim Coumou and Katja Frieler, 'Increased record-breaking precipitation events under global warming', *Climatic Change*, 2015, 132:4, 501–515, doi:10.1007/s10584-015-1434-y



KERMADECIAN

Kermadecian, aka – ‘Raoulie’ – an ‘inhabitant’ of an uninhabited island, specifically Raoul Island, in the Kermadec group, 1000km north of mainland New Zealand. On account of incessant seismic and volcanic activity, the islands were never settled for any length of time by Polynesian peoples – although a settler family, the Bells, lived on Raoul for some 35 years until they were forcibly removed by the New Zealand government at the outbreak of World War One. Since then, the subtropical islands, with neither airstrips nor harbours, have claimed only a sporadic population of wash-ins or and passers-by – meteorologists, conservation workers, scientists and, in 2011, a group of nine artists.

Having visited the Kermadecs, no matter how briefly, Kermadecians take the region with them wherever they subsequently travel. Accordingly, the archipelago becomes widely dispersed, and draws other regions within its sphere of influence. The end result of this centrifugal island-movement will be that, some time in the future, all the islands and continents of the world will be considered as part of The Kermadecs.

SEE ALSO: Oceanian, as defined by Epeli Hau'ofa – someone who draws their sense of identity from the Pacific Ocean – “We are the sea, we are the ocean... Oceania is humanity rising from the depths of brine and regions of fire deeper still, Oceania is us.”¹

Defined by Gregory O'Brien

1. Epeli Hau'ofa, *We are the ocean*; (Honolulu: University of Hawaii Press, 2008), 39.

Image: *What I did and did not have (Neruda)*. John Pule & Gregory O'Brien, Intaglio etching, 2012.



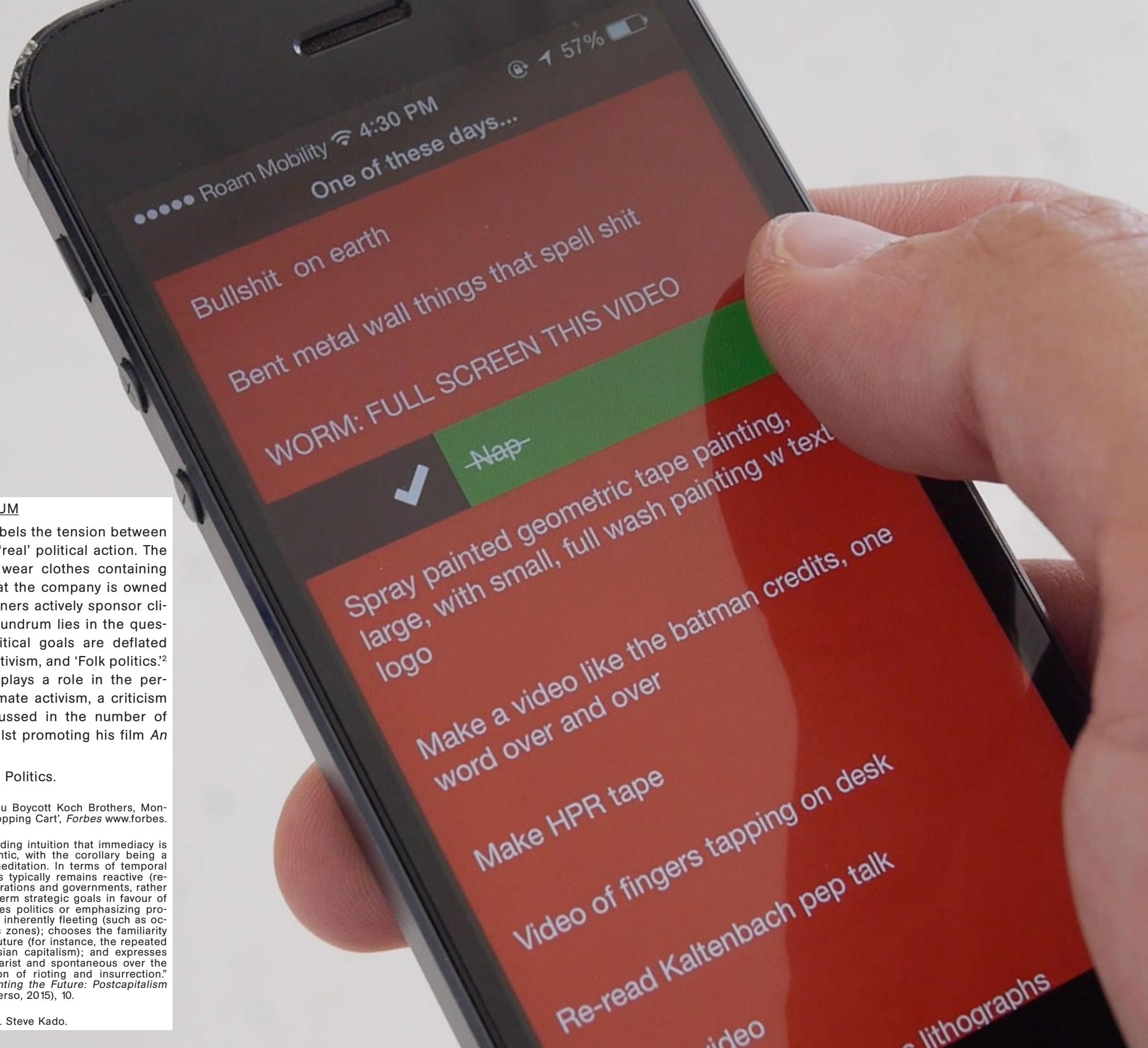
THE FUCK LYCRA CONUNDRUM

The Fuck Lycra Conundrum labels the tension between conscious consumption, and 'real' political action. The impulse to not purchase or wear clothes containing Lycra is based on the fact that the company is owned by Koch industries, whose owners actively sponsor climate change denial.¹ The conundrum lies in the question of whether broader political goals are deflated through mere consumption activism, and 'Folk politics'.² The Fuck Lycra Conundrum plays a role in the perceived hypocrisy of much climate activism, a criticism perhaps most famously discussed in the number of air miles Al Gore accrued whilst promoting his film *An Inconvenient Truth*.

SEE ALSO: Post-Truth Climate Politics.

1. Clare O'Connor, 'New App Lets You Boycott Koch Brothers, Monsanto and More by Scanning Your Shopping Cart', *Forbes* www.forbes.com, 14 May, 2013.

2. "At its heart, folk politics is the guiding intuition that immediacy is always better and often more authentic, with the corollary being a deep suspicion of abstraction and meditation. In terms of temporal immediacy, contemporary folk politics typically remains reactive (responding to actions initiated by corporations and governments, rather than initiating actions); ignores long-term strategic goals in favour of tactics (mobilising around single-issues politics or emphasizing process); prefers practices that are often inherently fleeting (such as occupations and temporary autonomous zones); chooses the familiarity of the past over the unknown of the future (for instance, the repeated dreams of a return to 'good' Keynesian capitalism); and expresses itself as a predilection for the voluntarist and spontaneous over the institutional (as in the romanticisation of rioting and insurrection)." Nick Srnicek and Alex Williams, *Inventing the Future: Postcapitalism and a World Without Work* (London: Verso, 2015), 10.





DENIHILISM

The refusal to acknowledge both empirical fact and forensic evidence in defense of ideology. This expresses itself primarily in American politics and culture, where cell phone videos posted on social media and body-cam recordings fail to result in police convictions. Denihilism is clearly exemplified by Donald Trump's outright denial of Tweets and statements that have been published in public record (see: Donald Trump repudiating his previous statement that "the concept of global warming was created by and for the Chinese in order to make US manufacturing non-competitive").

Denihilism, in contrast to denial, is ideologically driven, where the evidence being denied poses a fundamental threat to the logic of a system of belief, or conflicts with an individual or institution's objectives. Common historical denihilist groups have been Holocaust denialists, AIDS denialists, animal pain denialists and more recently climate change denialists and Flat Earth believers. Culturally, Denihilism is closely related to the 'Reality Distortion Field' (or RDF). The ability to create and enforce an RDF is a celebrated quality amongst technological innovators, and is a term that was used in relation to Steve Jobs's ability to create a new reality through mental force.

SEE ALSO: Post-Truth Climate Politics

Defined by Dena Yago

CLIMATE RESEARCH SOLIDARITY

The recognition of the common agreement amongst climate researchers that urgent action is needed on climate change, expressed as mutual support and information sharing across a global and interdisciplinary sector. The process of sharing research has been underpinned by the setting up in 1988 of the Intergovernmental Panel on Climate Change – which, contrary to popular understanding, covers policy responses to climate change as well as the physical processes of climate, and impacts of climate change. The IPCC has been important in strengthening global scientific research and interchange among not only physical scientists but also social scientists. Climate researchers are highly motivated, given the diminishing ‘time of useful consciousness’ remaining, and there is a widespread sense of urgency and solidarity among them.

SEE ALSO: Tragic Triumph, Time of Useful Consciousness.



HINKLEY FOLLY

The misconception that nuclear power is necessary for the transition away from fossil fuels. Hinkley Folly takes its name from the proposed Hinkley Point C plant in the United Kingdom, recently given the go-ahead by Theresa May, in part due to a post Brexit political and economic commitments to France (a signal that the United Kingdom is still 'open for business').

An act of sheer folly is one that lacks good sense, and Hinkley Folly stands in this tradition by ignoring the massive renewable wind potential available in the United Kingdom (and offshore). The Hinkley nuclear power plant would be constructed in the mould of the follies of 18th and 19th century British gardens - symbolic buildings with little practical purpose (often towers or mock-Gothic ruins). In the case of Hinkley, enormously costly also, with a long tail (many thousands of years of costs associated with toxic waste management).

If it is ever built (the technology is still not proven to work in a similar projects in Finland) Hinkley Folly will not only lock the British taxpayer into a contract for expensive power for decades to come, but undermine the possibility for greater subsidies for renewable energy technology in the United Kingdom given that, as Peter Wynn Kirby has noted, Hinkley Point C "skews energy policy itself" by hiding investment - in part through merging the research and development and skills training of those in the military and civilian nuclear sectors. He writes, "If Britain's energy policy were solely about energy, rather than also about defense, the nuclear sector would be forced to stand on its own two feet. And the government would have to acknowledge the growing benefits of renewable energy and make hard-nosed comparisons about cost, implementation, environmental benefits and safety. Britain's defense policy should not be allowed to undermine the country's energy policy: That, too, is about national security."¹

1. Peter Wynn Kirby, 'Britain's Nuclear Cover-Up,' *The New York Times*, 10 October 2016.





EMPTY ANIMATION

Christchurch, New Zealand suffered a series of serious earthquakes in 2010 and 2011. People died. People were relocated. Buildings were knocked over. We've been rebuilding since then, and in a way that demonstrates how modern right-wing governments often work. Post-quake, the governing National Party had the political mandate to do pretty much anything. They said they'd help and we believed them. More than five years on, they've yet to build a single house in the city's central business district, in favour of a plan which has instead prioritised 'anchor projects' – a series of grandiose schemes of dehumanising scale. A convention centre built to serve an international stateless corporate class, a justice and emergency services precinct designed to contain and process the undesirable sectors of twenty-first century society.

A number of projects – including the Performing Arts Precinct, a cultural centre for the Ngai Tahu people, and a residential demonstration project, which was meant to showcase our ability to build sustainable, future-proofed housing – that were announced in a blaze of digital animation have slowly dropped out of the discussion. The real travesty of this is the way in which the government – aided by a complicit and under-resourced media – can promise so much, and yet deliver so little.

Defined by James Dann

TIME OF USEFUL CONSCIOUSNESS

This is a phrase the poet Lawrence Ferlinghetti used to describe the preciousness of our current moment. Originally an aeronautical term, the time of useful consciousness is those few moments between being deprived of oxygen and passing out, moments in which the full extent of the danger is known, but it is still possible to act. We are in the Time of Useful Consciousness, the brief period where we still have an opportunity to save the delicate balance of the atmosphere and the civilisation that depends on it.¹

How long is this time? Only a few decades. We have around 30 years from 2016 in which to act decisively to reduce carbon emissions to around ‘net zero’: if emissions are not close to zero by 2050 it will likely no longer be possible to stay within the ‘safe’ level of below 2 degrees Celsius and prevent catastrophic climate change.² The process that needs to happen is a descent down the ‘Carbon Staircase’: a visualisation of the deliberate and rapid steps required to move from our present peak carbon production to a zero carbon economy by around 2050.

The first step (present – 2020) requires nations beginning to act on the most basic commitments made under the Paris Agreement: measures like removing the existing subsidies for fossil fuels, implementing stringent carbon taxes or recalibrating emissions trading schemes to make the price on carbon realistic. The second ‘herculean’ step (2020–2030) will require the complete phasing out of coal mines and combustion engines in cars. The third step (2030–2040) will require the transformation of cities through building with low or zero-emission materials (wood instead of concrete). The last step (2040–2050) will be the transition to all energy being generated from renewable technologies. By 2050 no fossil fuels can be consumed globally. The ‘controlled implosion’ of the fossil fuel industry needs to occur within the Time of Useful Consciousness.

Defined By Ralph Chapman

1. Lawrence Ferlinghetti interviewed by Michael Silverblatt, *Bookworm*, 23 August 2012, www.KCRW.com.

2. Ralph Chapman, *Time of Useful Consciousness: Acting Urgently on Climate Change* (Wellington: Bridget Williams Books, 2015).



