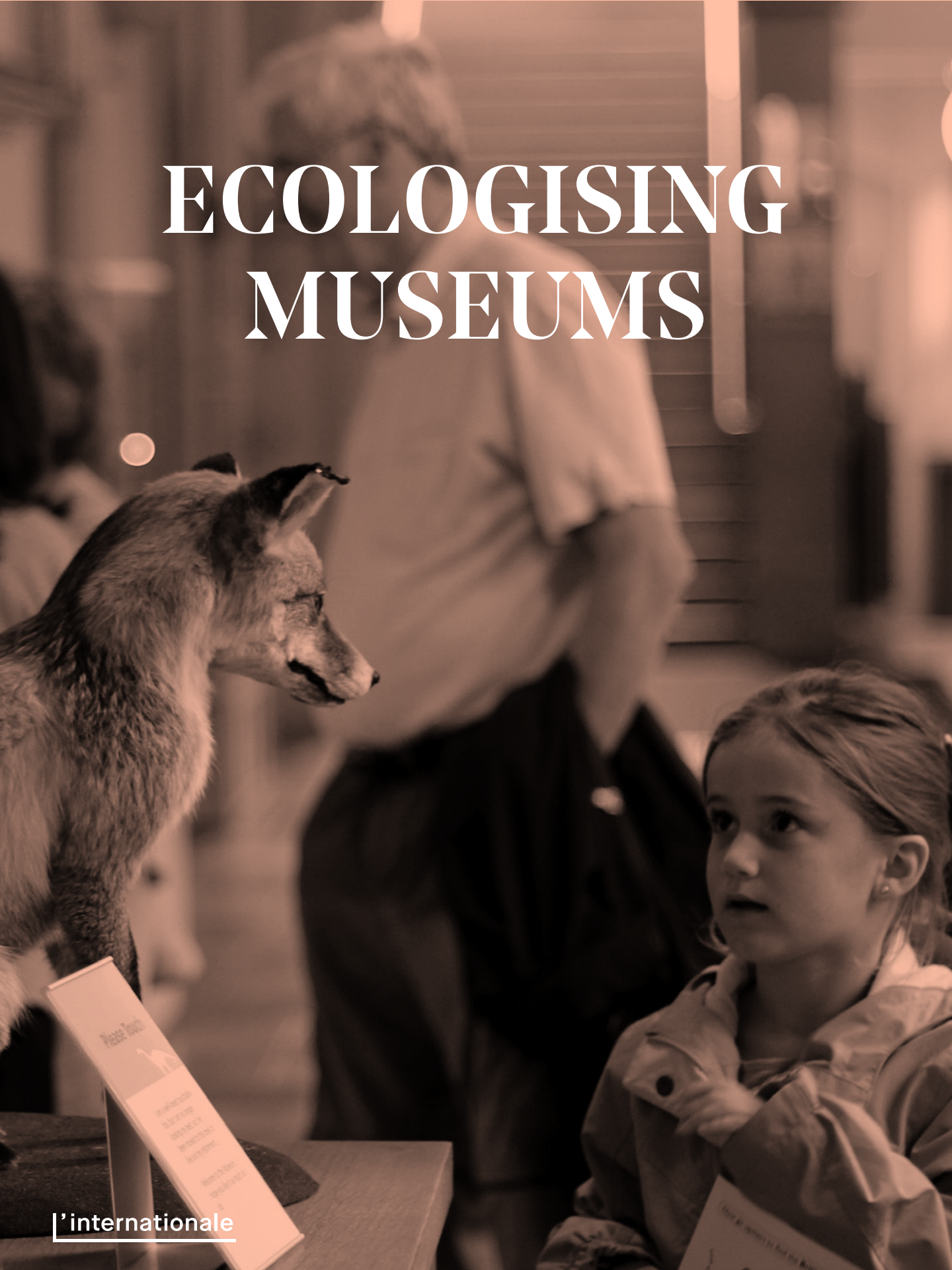
ECOLOGISING MUSEUMS



l'internationale

A PUBLICATION OF L'INTERNATIONALE BOOKS

ECOLOGISING MUSEUMS

COVER CREDIT
A young visitor encounters a dead fox at the Oxford Natural History Museum, Oxford, UK, 2015. Photograph courtesy Etienne Turpin.

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INTRODUCTION

At first sight "greening" the museum seems a challenging, yet straightforward task. Changing the light bulbs, adding solar panels, re-organising transportation, storage and restoration, using biologically certified ingredients in the restaurant, reducing water usage, recycling; combine all this with staff awareness and the green museum seems within reach. This noble, necessary and time-consuming work can however cover up a more uncomfortable terrain beyond, below or above the sustainability of the building and its operations. The museum is not only a technical operation, but is also imbued with a certain (modern) mindset which itself raises questions of sustainability. To what degree are the core activities of collecting, preserving and presenting in fact attitudes that embody an unsustainable view of the world and the relationship between man and nature? Can the spirit of the museum be "ecologised", as well as its operations? In this e-pub, *L'Internationale Online* asks precisely these conflicting questions, seeking to understand ecologising as a process that will require a profound cultural adjustment of the basic patterns of thought and practice inherent in modern society's unsustainable foundation. Holding this discussion within the museum seems all the more urgent in light of the recent COP21 agreement and the forthcoming COP22, which will take place in Marrakech.

Changing the habits and the thinking of the museum will require a monumental effort that will demand that modernised societies revisit quite fundamental beliefs. It will need to be a journey of substance. This e-pub opens with a text by Michael Taussig that reflects on an upcoming project by Futurefarmers, during which a rotating crew of artists, writers, scientists and farmers will sail from Oslo to Istanbul, stopping amongst other locations at L'Internationale partners M HKA and SALT, retracing the routes of seeds and their cultures from the Fertile Crescent to the North of Europe. In the period of time it took for those seeds to find their way there, we perhaps lost as much as we gained. Taussig points out that currently 75% of world food is generated from only twelve plant and five animal species. Today "the key relationship of our farmers is not with nature,

but with seed vendors who sell improved seed that, let it be noted, cannot be re-used". To a degree, the diverse and specific exchange between a community and its site has been standardised and globalised, whereby the enormous cultural reduction that this required, is now turning from an asset into a major liability. One can wonder if museum institutions, which perform an important role in preserving the legacy of a specific situated community while also positioning it in an international context, are not facing similar challenges. Museums are also at risk of succumbing to an internationalisation of artistic practice by which collections become overly influenced by the proliferation of a small number of acclaimed artists who operate globally.

So how can museums operate differently in the face of climate change? This is the key issue analysed from various angles in the contributions that follow. One central aspect is the manner in which museums present certain narratives. Candis Callison opens up this topic by pointing to the problematic tendency in the "developed" world to talk *about* regions directly affected by climate change, while negating the agencies of the people who live there, as is the case for the Inuit in the Arctic. To some degree, the colonial mindset prevails, where Western nations continue to consider the rest of the world merely an object of inquiry, and not an equal partner an open-ended dialogue. The ways in which these mindsets develop and operate correspond with how we have thought through our fraught relationships with ecology.

Fiona Cameron traces the tendency to talk *about* nature and not *with* it, exploring the fundamentals of the museum institution as a site where 'nature' is put on display as a passive object to be presented to an active subject. Having written blog posts during the COP21 Climate Summit in Paris, Clemence Seurat also posited that introducing a different narrative or new 'fictions' is essential to dissolve the false hierarchy between human and nature. Ursula Biemann stresses how artists and cultural institutions need to move beyond their known territory of human culture and history to be able to introduce the long duration of geology into the field of memory and imagination. Biemann offers the example of her film, *Subatlantic* (2015), in which a scientist observes changes in the environment since the last mass-glacier melts 12,000 years ago. In an interview, Barbara Glowczewski tackles a rich diversity of topics that equally bring forth the complexities between culture, politics, ecology and time, arguing for the museum to address refrain, to engage with the idea of a slow institution and acquire holistic thinking within a constantly accelerating, de-localised space.

In Etienne Turpin and Anna-Sophie Springer's "Necroaesthetics: Denaturalising the Collection", the two curators write about the premise of their project *125,660 Specimens*, which implicates the idea of museum collecting itself, as a product of colonialism that has now entered a complex interplay between nature and culture. Collecting always requires something to be taken out of one space and put into another, as is very much the case with representations of natural history—from nature into the space of knowledge accumulation. How can these collections be re-configured while considering both the agency of nature and the ethics of conservation? Vincent Normand opens up another museological reading of the problems around ecologising, demonstrating how the structure of the museum space can be traced back to the anatomical theatre in the sixteenth century, how the physical architecture allowed the subject to detach him- or herself from nature, by turning the viewer into a passive object to be owned and manipulated. In their essay, Mel Evans and Kevin Smith of Liberate Tate show how the neutralising effect of the museum itself can be used by Big Oil for "culture washing", arguing that cultural institutions should refrain from fossil fuel industry funding to avoid giving cultural legitimacy to the exploitation of natural resources. Finally Pablo Suarez, from the Red Cross, suggests that cultural institutions can be instrumental in raising awareness and making tangible the vast dimensions and complexities of climate change.

Of course, the implications around climate change have far-reaching consequences but they can also have far-reaching benefits. It is up to museums to face the issue not only head-on, but from all angles—to deviate from the straight line dividing nature and culture, while remaining responsible for the collections they house, the constituencies they collaborate with and those they represent, and the physical environment within and around them. We can, at the very least, begin by re-evaluating the role of art, exhibition making and cultural dissemination within the museum, in relation to a more informed ecological awareness.

LET US NOW PRAISE FAMOUS SEEDS

MICHAEL TAUSSIG

l'internationale

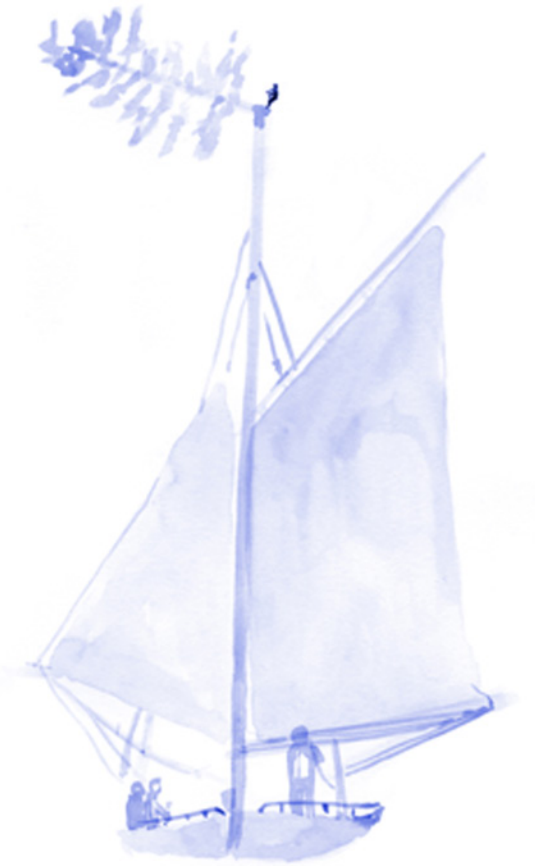
All images by Amy Franceschini (Futurefarmers).

27 April 2016

Imagine a fantastic voyage from Norway to Istanbul in an old wooden sailing boat built for Arctic voyaging. This boat is carrying an ingeniously crafted mini-boat, like a chalice, containing a mere handful of old wheat and rye seeds found in a museum in Saint Petersburg in Russia and in the roof beams of a sauna in northern Norway. These seeds are like jewels. The disproportion in size between the small chalice and the mother vessel carrying it symbolises preciousness, as does the very idea of a prolonged voyage using wind and sail as the means of propulsion.

A sea voyage such as this offers space for reflection and the reconsideration of basics. It offers a chance to slow down the madness that is the speed up of the present dispensation.

Surreal to a fault, this voyage is at once mythical, scientific, and political. It is a voyage back through time and space to the origins of these seeds in what is now called eastern Turkey or northern Kurdistan, a region now under siege.



By bringing these seeds “home”, the sailors wish to draw attention to the genetic erosion of the world’s seed stocks. As reported by the FAO (Food Agriculture Organisation), some 75% of the world’s food is now generated from only twelve plants and five animal species. Check out your local supermarket to verify this. Whereas even fifty years ago there were many, in some cases dozens of, varieties of wheat, rye, potatoes, beans and strawberries being cultivated, today there is but a pitiful number. Like the

rapid and ongoing disappearance of the world's languages, this radical shrinkage in food species, again according to the FAO, is largely a result of "the rapid expansion of industrial and Green Revolution agriculture" spearheaded by enormous agribusiness companies such as Monsanto and Cargill.

Not only is the variety of the seeds diminished or lost, but the culture and skills associated with them as well. Nowadays the key relationship is not with nature but with the seed vendor who sells "improved" seeds that, let it be noted, cannot be re-used. The seeds are engineered so as to prevent planting from stock set aside from the harvest. This is fact and also an allegory of the new set of dependencies facing humankind today.

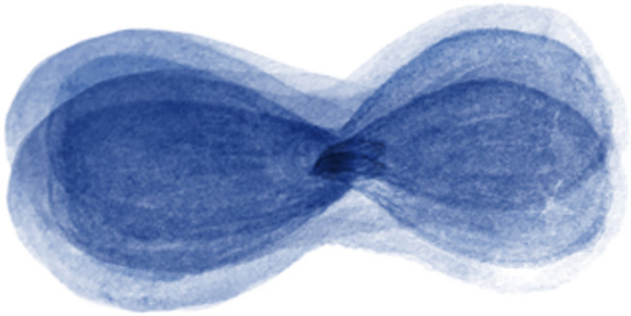
Over many millennia the domestication of plants involved a long march through trial and error, not to mention chance, whereby certain varieties became reliable foodstuff. Cultivators in each and every microclimate developed their own varieties of seed stock. Today there are farmers in Europe and the Americas who are liable to arrest or law suits if they continue with their traditional seeds. Such farmers are themselves an endangered species.

In the near future, it is possible that a handful of geneticists and businessmen will reconstruct the planet's genetic infrastructure. Starting with the genetic engineering of food and farms, there will be ripple effects into all sorts of genetic domains. This is the sort of scenario laid out in Aldous Huxley's *Brave New World* and George Orwell's *1984* as well as Edward Snowden's courageous revelations concerning world surveillance. It is what Michel Foucault meant by "bio-power", where not the power to kill but the power to make life through bio-engineering defines the new forms of governance, albeit side-by-side with the power to kill.

The sea-voyage from Norway to Istanbul is what could be called a museum-event, an art movement with no fixed location but instead, in the phrase of Gilles Deleuze and Felix Guattari, representing a line of flight and an inspired "deterritorialisation". It is mobile and nomadic, moving from wave to wave and port to port, from Norway to England, the Atlantic coast of Europe, various ports in the Mediterranean, until it reaches Turkey. And then...

It is a travelling school that provides a novel space and opportunity for debate and stimulation in the various ports where it drops anchor.

It is an illustration in itself of low-tech, craft-oriented, open-source solutions to global warming in which the maxim is not the domination of nature but the mastery of non-mastery as with the use of wind to fill the sails.



In a circle thousands of years old, this voyage is more than a homage of north to south or of remembrance since the ship sails as much into the future as it does into Kurdistan. The point is not to oppose technology and science but to shift control and oversight of the means of production from the few to the many.

The so-called "green revolution" with "miracle seeds" sponsored by the Rockefeller Foundation after the Second World War was hailed as the technological fix to world hunger with the "discovery" of dwarf wheat and laboratory-engineered rice. This was at the beginning of the Cold War when fears of communist parties in the Third World dominated policy. But by the early 1970s, it was becoming obvious that the miracle seeds proved to only be a fix for rich farmers who could afford the irrigation and chemicals that such seeds require. The pauperisation of the peasant and enrichment of the large farmers evolved into giant agribusiness concerns and government-sponsored bio-power megaprojects such as palm oil in Malaysia, Indonesia, and Colombia.

This focus on "miracle seeds" was a "magic bullet" solution, ignorant of real farming situations and local economies. There was, and is, enough food in the world to feed everyone. The problem resides in the distribution of the food that exists. Most people are too poor to buy it.

All this painful history and complexity is encapsulated in our beamy boat with its handful of seeds sailing "home" with stories to tell, as is the wont of the traveller.

And what stories these seeds contain!

One famous story concerns the new social configuration set in motion by the conversion of wilderness into the open field farming that cut down forests. This basically correlated with the development of

patriarchy, private property, and the state, an end result of which is today's agribusiness. This Neolithic Revolution has become the focus of another revolution on the margins of Turkey and in the wheat growing areas of Kurdish Syria, namely the "stateless democracy" contesting patriarchal ideas and hierarchical political structures while searching for eco-friendly farming techniques.

By chance if not design, the voyage of our sailing ship is thus part of a historical trajectory that is bound neither to patriarchy nor the state.

Of course the other voyage of food is through our bodies as "reverse engineering". Are we all carrying the history of grain voyages in our bodies? When eating, are we not performing the interaction of planet Earth with the human marauder, bringing outsides into insides, the fields and rain and efflorescence of seed into the dark inner world where history – measured in aeons – combusts? Welcome to another "museum event" which you carry out in yourself each and every moment of the day.

The return of ancient seeds takes apart this long history fold-by-fold. This voyage is an allegory, one forever open to chance. Our participation from afar breathes wind into the sails of the future.

the end

Seed Journey is a Futurefarmers project scheduled to take place between September 2016 and October 2017. I will be the on-board anthropologist. This text prefigures the voyage. L'Internationale Online will publish a blog by Amy Franceschini. For more information: futurefarmers.com/seedjourney/

BEYONG COP21: COLLABORATING WITH INDIGENOUS PEOPLE TO UNDERSTAND CLIMATE CHANGE AND THE ARCTIC

CANDIS CALLISON

l'internationale

Image courtesy James Thompson.

At the COP21 meetings in Paris in December 2015, the Arctic appeared in material and elusive exhibits that ranged from icebergs shipped in from Greenland, arranged in a clock formation and set to melt slowly at the Pantheon (Eliasson & Rosing 2015; Kaljur 2015; Nechvatal 2015), to imaginations of poodle-drawn dogsleds along the River Seine (Chin 2015; Kaljur 2015-2). Like many climate-related exhibits, these works of art were meant to provoke, inspire, and warn of dire consequences both for the Arctic and, by extension, global society. In a city temporarily bloated by those deeply concerned about climate change, questions about *what* should be done and *how* in relation to climate change didn't need to be elaborated. Rather, it was enough to suggest that time is running out, and that strange things are happening in the global far North.

Arctic temperatures are indeed rising much faster than elsewhere in the world, with drastic consequences both locally and globally. As a region, the Arctic provides the most immediate view, complex as it may be, of what a warming world looks and feels like, and what it may portend. The subsequent cascading effects for the rest of the globe, in the form of melting ice and correlative sea-level rise, have acted to formulate climate change as a real and visible concept – and to re-conceptualise the Arctic as part of a deeply inter-connected global environment.

This is, by any account, a reversal compared with the historical perception of the Arctic as unknowable and impenetrable, requiring expertise and/or sacrifice in order to survey, conquer, or merely, inhabit. Many museum archives are full of artefacts that are testament to both the resourcefulness of Indigenous peoples and those who ventured north for one reason or another to become reliant on Indigenous peoples' knowledge and guidance. Objects become a stand-in for wider bodies of traditional knowledge (Srinivasan et al 2010), and for what it means to be in relation with an Arctic environment. The challenge for museums is to connect artefacts with traditional knowledge and communities through collaborative processes, while also addressing the pressing global crisis and risk-laden futures associated with climate

Mel Chin, *The Arctic is Paris* (poster), 2015.

change *and* the long tail of colonialism that has produced chronic multi-faceted crises of dispossession, enclosure and violence (Callison 2014; Cruikshank 2005; Hulme 2009; Marino 2015).

Attending to a future with climate change is deeply embedded with ethical and moral contours such as how the past should be encountered, and how the future should be considered. It involves thinking not just about what we should do, but *how* we got here. Labeling the Arctic as metonymic of a crisis is a "distinction that produces meaning", bringing some things into focus and not others – "permitting and enabling certain narrations and giving rise to certain questions, but not others" (Roitman 2013, p. 5).

Understanding what climate change means – and this is not particular to the Arctic, but perhaps most poignant there – revolves around narratives about what exactly is in crisis. Alternative visions of future histories depend as much on evidence and predictions as they do on epistemologies, meaningful collaboration, articulations of what matters and why, and notions of what constitutes change and crisis (Fischer 2003; Fortun 2009; Vigh 2008). How then can narrative constructs and exhibits be devised to link existing and chronic conditions to climate change?

Because of its long history as an 'other', the Arctic challenges notions of what it means to witness, visualise, and narrate a crisis underway. The often portrayed images of frozen tundra or polar bears starkly demonstrate it to be an empty space – remote, unknowable, and far from the matters of everyday life for the majority of global publics who might attend an exhibition. Such representations are likely to produce something like a popular tweet during COP21 that showed a classic picture of a polar bear on an ice floe with the text "Welcome to the Arctic. Population: 0" – utterly misrepresenting the almost four million people who live across the Arctic (Mothe 2015; Youtube 2015, Arctic Council 2015).

Herein lies the stark challenge to represent the Arctic as a region that is full of a wide variety of living beings, including humans who have lived in relationship with ice, cold, and polar bears for thousands of years. How can the narrative of a crisis of the environment be situated or understood in relation with – or even in opposition to – a crisis of *people* set within a longer historical context of oppression, dispossession, and environmental change? As the current Inuit Circumpolar Council (ICC) Chair, Okalik Eegeesiak, told an Arctic reporter:

"Polar bears aren't the spokespeople for climate change in the Arctic, it's the Peoples of the Arctic... So stop using polar bears and seals as the emotional icon and use Inuit as fact-based traditional knowledge holders" (Quinn 2015).

As is clear in this quote, even though communities set environmental change within a chronopolitical framework (Vigh 2008), in which archives must be contended with (Simpson 2014), as well as a politics of recognition (Coulthard 2014), dominant voices still focus on how big the crisis is and what should be done now.

Greenland's former ICC Chair, Aqqaluuk Lynge, expressed this challenge of articulation, epistemology, and collaboration in the face of colonialism and its institutions at the 2008 opening of an exhibition at Dartmouth's Hood Museum of Art entitled Thin Ice. Inuit traditions within a changing environment. A selection from explorer and scholar Vilhjalmur Stefansson's vast collection was on display (Stuckenberger 2007) to coincide in part with the large international gathering of scientists and policymakers who came to Dartmouth for the Arctic Science Summit Week that year. Lynge ended his speech with this charge:

"With all the flurry of scientific inquiry on this issue, one could easily be led to believe that it is the researchers who are most affected by the world's changing climate and not the Inuit. I plead with western scientists to be careful how you conduct your research on our land and on our thinning ice. Work with us as equal partners and not as the colonisers and missionaries did. Help us deal with not only your own interesting research but with our concerns. For example, help us deal with industry, which is keen to see an Arctic sea route open up to them" (Stuckenberger, 2008).

Lynge situates changing climates within chronic crises, where the moral and ethical spectre looms large and produces questions about the nature and structure of working together. Scientific research becomes a potential site for exploitation *or* transformative collaboration via shared goals. Knowledge too

is at stake – equal partnership means recognising the value and persistence of traditional knowledge, of other ways of seeing and knowing the environment and the place of communities within an environment. Economic development depends on both knowledge and power, where the stakes for governance become much higher, given the risks and benefits related to resource extraction.

Crisis is thus judged against what could have been or should have been, what is, and what might be. It demands transformation, frames what have been the ranges of normal experience. Yet, what was normal under colonialism has been left unaddressed. As the latest geopolitical entry in crisis events, climate change becomes embroiled not only in the past, but in a future that calls for self-determination and meaningful collaboration (Watt-Cloutier 2015).

The challenge in all spheres, museums included, is to move beyond Indigenous peoples as topics and engage them as partners. Understanding the Arctic as an exemplar of climate change means recognising the ways that Indigenous people connect observations of land, ice, and sea to language, memory, history, communal experiences, moral explanations, and cultural traditions. While texture, form, and vernaculars make traditional knowledge a differently constituted process of knowledge production and expertise, many community experts are also able to work with scientific data and findings (Callison, 2014). The Arctic Climate Impact Assessment (2004) remains a significant and internationally-known collaboration in this respect – where epistemological differences were transformed into a document representing jointly held and integrated expertise. Nevertheless, the Arctic and Indigenous peoples still do not have the kind of prominence in climate change policies that might be expected. When the COP21 ended in the much lauded Paris Agreement that contained no mention of the Arctic, Eegeesiak did not join the celebration. Instead, she took to Twitter, responding to prominent news reporters by saying that "Countries failed!" She explained her position thus:

"(The agreement) was historic, yes... (But) Inuit and Saami peoples wanted to have more recognition and respect for Arctic peoples... There is some mention of indigenous peoples and our rights and our role in climate change (issues) but there isn't much commitment to work with us (Quinn 2015)."

Discussions about what kinds of questions are allowed to be asked are often foreclosed upon – questions like: what and whose knowledge matters, whose experiences are relevant, whose futures are at stake, how we know, who gets a seat at the table, and

who directly suffers from decisions made. The point is not to dismiss crisis as a label or only to call attention to it, but to open climate change up for collaborative understanding as well as problem definition and solution.

Moving towards understanding whilst acknowledging epistemological difference and historical injustice is the gauntlet set for museums as they seek to educate and inspire diverse publics. Contending with archives and critiquing hierarchies of knowledge opens up new possibilities for collaboration with Indigenous peoples and for engaging meaningfully with traditional knowledge such that a future with climate change might be seen as a crisis with a historical context as well as direct, ongoing impacts.

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Olafur Eliasson, *Ice Watch*, 2014. 12 ice blocks. Place du Panthéon, Paris, 2015. Photo: Martin Argyroglo. © Olafer Eliasson.

THEORISING MORE-THAN HUMAN COLLECTIVES FOR CLIMATE CHANGE ACTION IN MUSEUMS

FIONA R. CAMERON

l'internationale

Urgent action is required to produce knowledge and cognitive frames that will give rise to new ways of thinking and acting to promote a liveable planet for the long term. Such action requires innovation across all disciplines and sectors. It also demands we engage afresh with familiar established concepts and constructions.

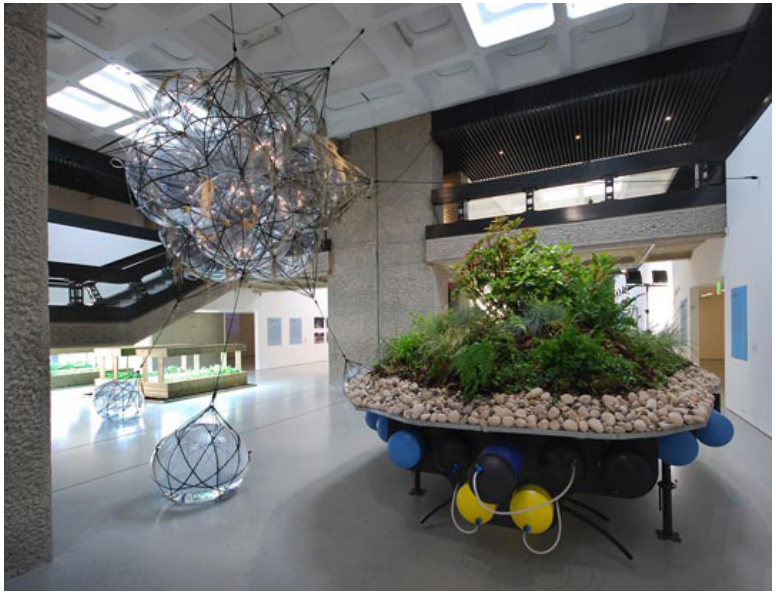
Museums are among modernity's most emblematic and trusted pedagogical institutions. Recognised as icons of modern and critical humanism, they are instrumental in shaping visions of the world, of culture and cultural difference, human relations with the non-human world, technology and science. While recent social constructivist ways of thinking acknowledge reality as socially constructed (Alvesson & Sköldberg 2010) and while the representation of plural subjectivities have become popular, many institutions continue to support the notion of a human-centred world, a separate "given" nature and constructed culture, and binary subject positions.

Modern Dualisms and Museum Practices

In London, The British Museum and Natural History Museum were established in 1753 at a formative point in the development of the natural and human sciences (Foucault 1970) when nature and culture became organised into distinct, independent realms, and the modern humanist Human subject/ object distinction and a reliance on vision set up new relations with the world. The Natural History Museum is an example of the ongoing operation of these doxas. References to "Nature's treasure house" present the museum as an inventory of nature, as a domain separate from humans (Thackray & Press 2013). Exhibitions are devoid of humans except in respect to biological evolutionary relations with other primates. At the Darwin Centre, the museum's collections and research facility, the human subject and object dualism continues to operate where specimens are collected, studied by curators, classified according

to their physical attributes and presented as objective facts (Hooper-Greenhill 1992). At the Science Museum in London, the exhibition *Atmosphere: Exploring climate change* which opened in 2010 presents the atmosphere as an object for human intervention rather than as an entangled socio-biophysical system (Cameron 2014). Even more recent attempts to theorise museums by the "new museology"[1] uphold the assumption that human societies are naturally divided into a limited number of non-interacting cultural categories defined according to the "self and other" dualism, and where difference is reduced to a disparity of world views.

According to Mike Hulme, art museums and artists have an important role to play in representing climate change. Yet in the past they have done so without necessarily overcoming dualism. Hulme proposes that institutions and artists work with "the idea of climate change – the matrix of ideological functions, power relations, cultural discourses and material flows that climate change reveals as both a magnifying glass and as a mirror" (Hulme 2009, pp. 362-63). The use of artworks in art museum contexts to explore ecological or environmental concerns has a long history (Payne 2014, p. 159). For example, the exhibition *Radical Nature: Art and Architecture for a Changing Planet* at the Barbican in London in 2009 served as a retrospective exhibition detailing multifarious ways in which ecology and the environment have been explored in art from 1969 to 2009. The predominant mode of engagement with ecological problems is one of a "restorationist eco-aesthetics" where the focus is on awareness raising and the rescue and repair of damaged ecosystems. Despite good



Radical Nature: Art and Architecture for a Changing Planet 1969-2009. Installation view. Barbican Art Gallery. 19 June – 18 October 2009. Photo by Lyndon Douglas.

1. The "new museology" is concerned with re-defining museums' social roles as pluralist institutions (Vergo 1989; Cameron 1972; Henning 2006) according to post-modern principles.

intentions, artworks can still continue to promote the separation between nature and culture, where nature is represented as detached from "social, political or technological processes" as T.J. Demos commented on the 1992 exhibition *Fragile Ecologies* at Queens Museum of Art in New York (Payne 2014, p. 160).

In order to promote viable futures, museums and artists can contribute to the critique of modern ways of thinking and acting by re-working familiar, modernist dualisms such as "nature" and "culture," "human" and "nonhuman," "social" and "natural" "subject" and "object", "self and other" and "real" and "virtual". Thus they have the opportunity to promote new ways to represent, talk about humans, non-humans, culture and cultural diversity, heritage objects, the environment and climate change as alternative narratives, sets of practices and concepts. This can be used purposely to promote a new ethics of care that might better encourage respect for various forms of animate and inanimate things; nourish new forms of interspecies connections, intercultural relations; social inclusiveness and interaction, and that can regard humanity as part of a larger dynamic living system (Domanska 2010).

Modernising and Ecologising

New knowledge practices are emerging in the humanities and social sciences aimed at comprehending and formulating culturally-intelligent ways to re-work modern humanism, dualistic ways of thinking and anthropocentric social collectives, in ways that are better able to deal with real-world complexities, and the climate crisis. This shift represents a move from modern epistemology that sought to discover and represent the empirical world through rational investigation according to a predetermined set of rules to ontology, a practice that seeks to address more directly the composition of the world (Woolgar & Lezaun 2013). These new ontologies claim that all things human and non-human are relationally-connected as part of one dynamic system (Deleuze & Guattari 1987; deLanda 2006; Barad 2007; Bennett 2010; Morton 2010; Latour 1993; Haraway 2007; Harvey 2007; Hodder 2012). There is a growing acceptance of the differences that exist between Indigenous ontologies and the modern paradigm, and the value of the former in informing new approaches to understanding the entangled relationships between the natural world and humans (Harvey 2007) for new types of environmental work.

Theoretical Coordinates for Ecologising Museum Practices

Museum scholars, professionals and artists can progress real-world and scholarly change by undertaking what I call a series of "ecologising experimentations" that have the potential to re-work the possible relations between things and people via new types of museum practices and ways to conceptualise artworks.

The theoretical coordinates I draw upon for framing these "ecologising experimentations" are derived from anthropologist Bruno Latour's (1993; 1998; 2013) notion of "ecologise." For Bruno Latour (1998, p. 22), "ecologising", as opposed to our preoccupation with "modernising", is a political project that seeks to inform new notions of the social by specifying that natural and social entities are bound together in complex interrelations, and that relational and ecological principles bear on every type of connection. While this creates the necessary procedures that make it possible to follow a network of quasi objects (hybrid human and non-human things), I seek to broaden the term to include other proposals that take account of complexity and introduce post-human and non-Western perspectives. Philippe Descola (2013, p. 92) suggests that in order to build a world across modern dualisms we need to first envisage the modern mindset and its idea of the human and the social from the point of view of the relations that hold it together. Latour's (2010) idea of composition is referenced as a way to think about how we might compose or arrange different museum worlds, with respect to the many alternative ways we can entangle ourselves with places, non-humans, technologies, and the material world.

The application of ecologising principles to museum practices and narratives has the potential to dissolve dualistic, hierarchical and imperialistic humanisms. It also breaks the idea of the existence of one-world ontologies and knowledge practices; the privileging of human intentionality as well as time and change as knowable, linear and progressive.

Finally, ecologising museum concepts and practices can break the stranglehold of modern and critical humanisms. This approach acts as a lever to consider how we might connect entities in collectives; formulate inter-relations between human and human and non-humans; found new formulations of history and change; propose new concepts for objects and collections including those defined as virtual and how multiple world views might exist and interact. My objective is to set up new forms of

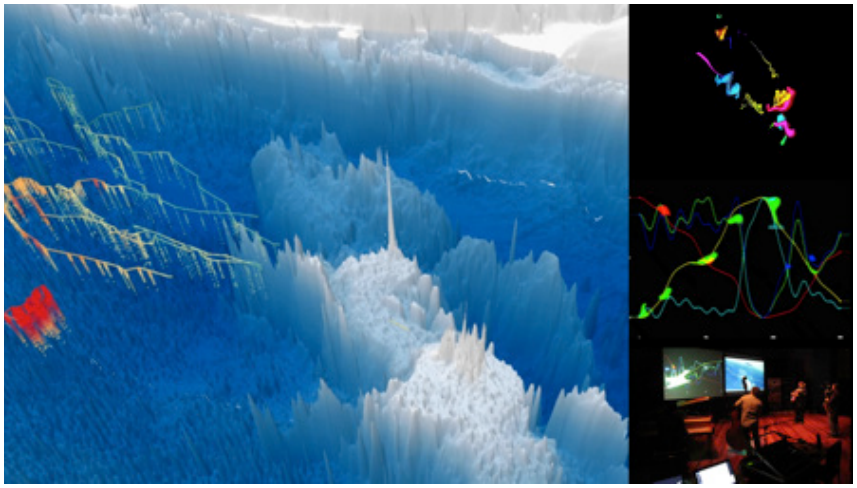
more-than human civic life that have the potential to be made manifest in museum practices and narratives that invite non-human others into social collectives, acknowledges, and is more respectful of, the diversity of forms and modes of thought and ontological categories.

Ecologising experimentations on natural history collections and exhibition narratives have the potential most broadly to re-work human-focused and hubristic perceptions of the world; build new social collectives that can acknowledge and work with the inter-and complementary relations between humans and non-humans; and promote concepts of social inclusiveness and an ethics of care for *beyond the human world* (Descola 2013, p. 11; Harvey 2007) as a new position from which interspecies transactions can be made. For instance, in Nigel Helyer and Mary-Anne Lea's interlude *Under the Ice Cap*, complex biologging data sets gathered from Southern elephant seals on their Antarctic under-ice dives and ocean transits were combined with economic and climatic data to produce music and sound sculptures. This is a direct response to the fact that these data sets and maps are a means to encode the structures of the Southern Ocean.

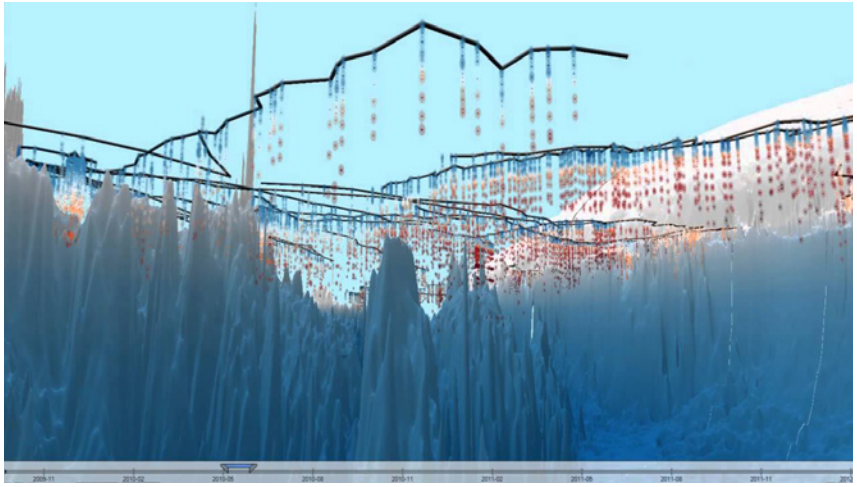
Ecologising climate change and environment experimentations can be used to direct us to ways we might break modern human-centred views on climate change and the environment; gesture towards ways we might collapse and individuate modern nature into an array of coordinates some of whom were previously invisible; re-work relations between things as natural-cultural hybrids and fold the human and non-human into dynamic, non-linear and complex systems (Cameron 2014a,b). *Augmented Terrain* (2014), the large scale media artwork created by Australian artists Josephine Starrs and Leon Cmielewski[2], a collaboration between scientists and artists on the topic of climate change, collapses the "great divide" between nature and culture. Utilising dynamic, spatial visualisations of Australian landscapes and waterways in crisis, the human audience becomes immersed within the landscape where the land itself is conceptualised as active, able to speak and make comment about human impacts. Thus linear notions of cause and effect inherent in mitigation and stabilisation narratives can be re-worked as non-linear complex systems involving the actions and agencies of many human, non-human, technological actors and earthly processes (Cameron 2014b).

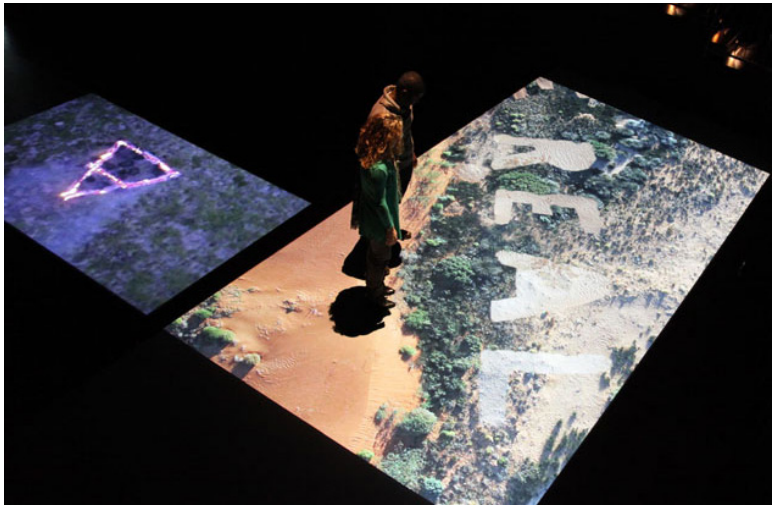
Ecologising work in respect to Human subject/object distinctions in collecting and documentation

2. For more information on Josephine Starrs and Leon Cmielewski's *Augmented Reality*. (viewed 4 November 2015).



Nigel Helyer and Mary-Anne Lea, *Under the Ice Cap*, 2012.





Josephine Starrs and Leon Cmielewski, *Augmented Terrain*, prototype installation, 2014.

can be used to formulate new concepts for material culture, artworks and the digital as heterogeneous, socio-material assemblages (Cameron 2010, 2014; Cameron & Kenderdine 2016); re-work objects and artworks as vibrant as opposed to static objective things (Bennett 2010) and as part of more diverse, dynamic social collectives and extended networks (Hodder 2013). Rather than seeing cultural diversity in collections records and narratives of community as plural, cultural expressions set against the backdrop of one world-view and one nature, multi-naturalism (Viveiros de Castro 2005) can be used to re-work cultural diversity as a diversity of natures and a diversity of entities that include non-human others, thus breaking the Culture/ nature and Self/ other division. Ecologising principles can also be directed towards the revision of one-world ontologies and replace them with concepts that allow institutional staff to compose multiple, divergent worlds (Stengers 2005, 994, Latour 2004b; Law 2012), to negotiate different realities and co-produce shared worlds through documentation practices and exhibition narratives between different groups within the museum. Such ecologising experimentations can thereby provide an empirical and theoretical case to support the argument that museum projects can, through the recognition of more-than human social collectives, and the blending of different ontologies, together make an important contribution to producing knowledge that can promote long-term sustainability discourses and strategies for action.

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FICTIONING IS A WORLDING

CLÉMENCE SEURAT

l'internationale

Introduction

Climate change and ecological catastrophe require us to consider the material dimension of our world and the foundations upon which we have built. The Brazilian ethnologist Eduardo Viveiros de Castro rightly notes that economics, regarded until now as truth – despite upholding models disconnected from and blind to the laws of physics – has just discovered its own truth: ecology[1]. The materiality of ecology has caught up with the economy guided by the "invisible hand" of the white man, who relentlessly digs deeper and deeper – the "land eaters" for the Native Americans. After long being lulled by stories that isolate us from our planet, only now do we appear to be grasping the importance of the infrastructure that sustains us.

The ecological perspective insists on a point: we are mistaken in our narrative. We are entering a period of transition that has rendered the fiction of nature and the "Great Divide" narrative inoperative. Faced with the perils of our modernity, the ecological situation calls for us to develop alternative stories. The aim is not to swap the former narrative for another, but to move away from unifying approaches that subtract from our understanding and to seek the "proliferation of multiplicity"[2]. To diversify voices and ideas in order to add complexity to our reality. The narrative that has recently emerged, that of the Anthropocene, is, once again, all-embracing and universal. But why should there only be a single story that serves as a beacon for thought on the disturbances caused by humans on Earth? We should listen to the (eco-)feminists and heed Virginia Woolf's plea for reflection – "Think we must" – to learn to tell stories about everything.

The ecological problems we face are formidable, but they offer a promising avenue to new visions and new collective narratives for the crucial period we are entering. What could be more inspiring than fiction to spur future initiatives

1. In conversation with Eduardo Viveiros de Castro at Nanterre-Amandiers theatre on May 31, 2015, during Théâtre de Négociations. Excerpts from the conversation appear in MCD #79: Nouveaux récits du climat, Sep-Nov, 2015.

2. Viveiros de Castro, E. 2014, *Cannibal Metaphysics*, trans. P. Skafish, Univocal, Minneapolis.

and shape (*fictio* in Latin) ecological lifestyles and respectful relations with the world? For Vinciane Despret, "each narrative creates divides, invites bifurcation, and conveys and induces vitality" [3].

Fictioning other versions of the world is a means to build the bonds that are needed – but cruelly lacking – to survive and remain united in the face of devastation. It's a matter of forging ties, repairing connections destroyed by estrangement, and regaining control over the course of events. Fabulation becomes a magical, political act that instils us with power. Equipping oneself with narrative and fictional tools is also a way of taking part in the struggle between the probable and the possible, as Isabelle Stengers so eloquently puts it – to create outlets that stimulate transformations.

This series of articles proposes, in reaction to the many meetings and initiatives interspersed throughout the COP21 in Paris, to found our ecological future on the transformative power of fiction, which contains the seeds for possible worlds. *Fictioning* is a worlding. Let us write stories that decolonise thought and render it active, which infuse ecology into our actions and relationships. Let us delve into the fiction of adaptation and transformation strategies and draw inspiration from past mythologies to invent those to come.

3. Despret, V. 2015, "Les morts font de nous des fabricateurs de récit", in D. Debaise and I. Stengers (eds.), *Gestes spéculatifs*, Les Presses du Réel, Dijon.

Tanja Deman, *Theater*, series *Collective Narratives*, 2013.

POST 1

For twenty years now, the Climate Talks (COP) have been unable to come up with answers for the ecological crisis. Since the Rio talks, catastrophes have multiplied, extractivist capitalism is pillaging resources at a delirious pace and the sixth extinction is on the cards. The extra-territory COP institutions do not seem to be able to cope with the ecological emergency. The environmental crisis concerns us all, human, non-humans, earthlings – but of course

From the rally at Place de la République, Paris, October 2015. Photo: Tristan Bera.

it does not hit human beings and territories evenly. A profound change of our lifestyles is called for, as is the realisation that we are inter-dependent: we must work together towards sustainability and ongoingness. The answers can not be found within a UN model which citizens are excluded from; indeed, inventing them implies experimenting collectively. And our Nation-States have been proven woefully impotent.

The 21st COP was meant to be accompanied by a strong and long-awaited mobilisation of citizens with a desire for transformation, but the November attacks in Paris have made us slip into a state of emergency that bans expression and commitment to defend our future. Rather like a double penalty, the establishment of strict security measures instills a emotional register based on fear that paralyses our actions and stifles our demands. It delivers a vision of the world at war, with no nuance. It affirms, without leaving thinking time. Yet, reality is complex and multifaceted, it should not be simplified through heroic and war-like storytelling.

This security emergency can not eclipse the state of emergency regarding the climate. Now, we need to exponentially increase our inventiveness because it is essential to multiply possible narratives making up visions for the world to confront the unifying mode

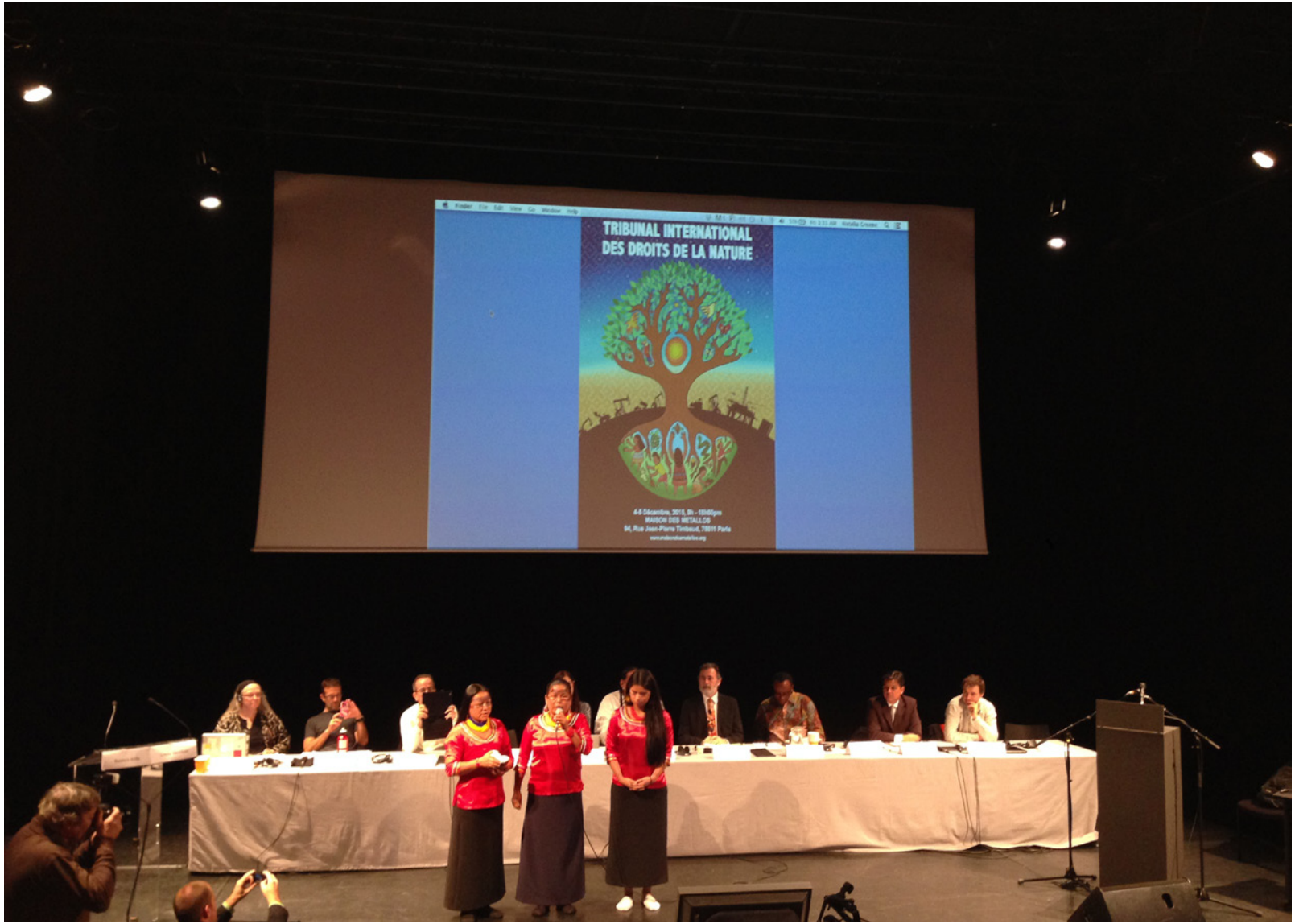
of thinking of Modernity and capitalism's desire for accumulation. These narratives are also means to re-appropriate the course of our lives and feed imagination capable to impulse other policies in the anthropocene.

Since "the absence of future has already begun"[1], fiction is perhaps one of the best weapons to imagine other possible (worlds) and speculate our future. What stories do we want to tell? Fiction can help us develop new perspectives on the ecological issue, enrich the narratives to respond to the uncertainty of our time and live with our increasing trouble.

In order to be operative, to consider the end, thought processes make use of fictional tools. Fiction accompanies the ontological mutation in process – the end of human exceptionalism, the end of our cosmic carelessness. As Donna Haraway writes: "We need stories (and theories) that are just big enough to gather up the complexities and keep the edges open and greedy for surprising new and old connections".[2]

Let us therefore look at various fictional figures, narratives and patterns to build the narrative of our anthropocene time. This series of posts will consider current thinking and concepts of the world. These stories seem precious to respond to the call to consider all the living beings on Earth. The environmental crisis affects us and we need stories to heal ourselves.

1. Günther Anders, The Final Hours and the End of All Time
2. Haraway, D. 2015, "Anthropocene, Capitalocene, Plantationocene, Chthulucene: Making Kin", *Environmental Humanities*, vol. 6, pp. 159-65

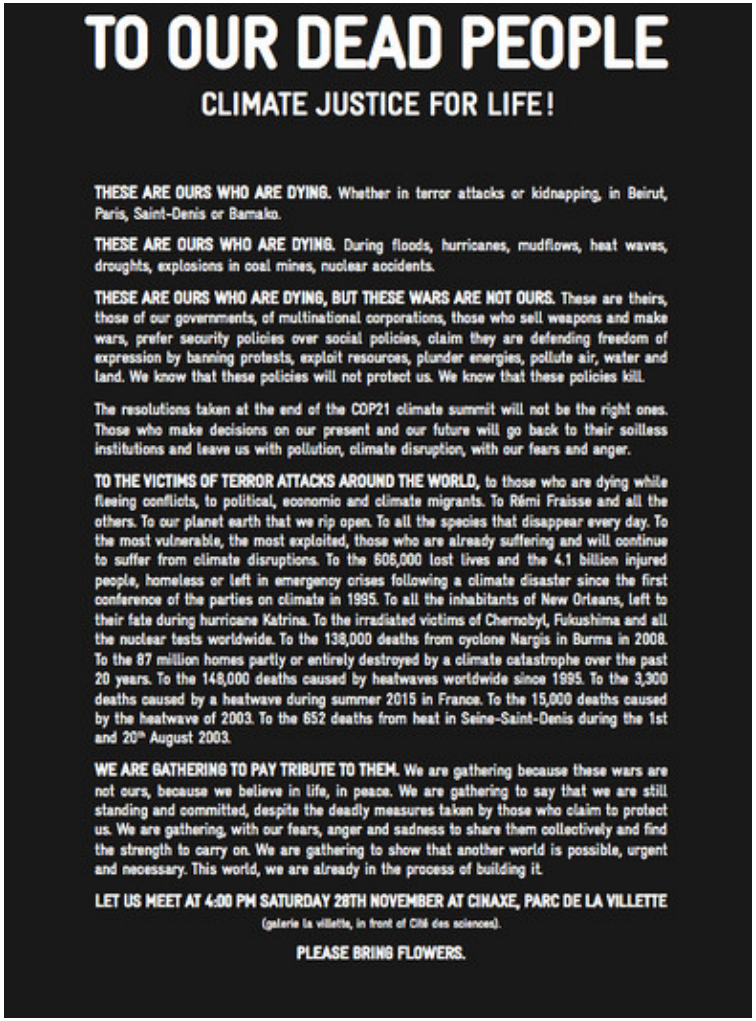


Opening ceremony led by the Tla'Amin Nation at the International Rights of Nature Tribunal, Maison des Métallos, Paris, 2015. Photo by Clémence Seurat.

POST 2

On the eve of the cancelled Global March for the Climate, about twenty people gathered on the banks of the Canal de l'Ourcq in Paris at the initiative of Toxic Tour 93, to honour *our dead*. A mournful reading drew apt parallels between the past, present and future deaths from attacks and those due to climate. This moment for thought and reflection was a call for us to write our own history, to continue to work tirelessly to honour the victims of policies that do not represent us.

Security measures have even resulted in a clampdown on peaceful gatherings such as the human chain and the rally at Place de la République planned for last Sunday. Public spaces have been cordonned off and we are left on the outside. Activists are working to develop ingenious strategies to bypass the state of emergency and make their voices heard in ways that the official negotiations cannot drown out. Meanwhile, the capital's cultural institutions and arts venues are playing host to initiatives on the sidelines of COP21 and providing a forum for discussion. These establishments have correctly gauged the conceptual and cultural shift required, address the politically charged issues of ecology and climate change, and foster the development of alternative ideas.



TO OUR DEAD PEOPLE

CLIMATE JUSTICE FOR LIFE!

THESE ARE OURS WHO ARE DYING. Whether in terror attacks or kidnapping, in Beirut, Paris, Saint-Denis or Bamako.

THESE ARE OURS WHO ARE DYING. During floods, hurricanes, mudflows, heat waves, droughts, explosions in coal mines, nuclear accidents.

THESE ARE OURS WHO ARE DYING, BUT THESE WARS ARE NOT OURS. These are theirs, those of our governments, of multinational corporations, those who sell weapons and make wars, prefer security policies over social policies, claim they are defending freedom of expression by banning protests, exploit resources, plunder energies, pollute air, water and land. We know that these policies will not protect us. We know that these policies kill.

The resolutions taken at the end of the COP21 climate summit will not be the right ones. Those who make decisions on our present and our future will go back to their soilless institutions and leave us with pollution, climate disruption, with our fears and anger.

TO THE VICTIMS OF TERROR ATTACKS AROUND THE WORLD, to those who are dying while fleeing conflicts, to political, economic and climate migrants. To Rémi Fraisse and all the others. To our planet earth that we rip open. To all the species that disappear every day. To the most vulnerable, the most exploited, those who are already suffering and will continue to suffer from climate disruptions. To the 606,000 lost lives and the 4.1 billion injured people, homeless or left in emergency crises following a climate disaster since the first conference of the parties on climate in 1995. To all the inhabitants of New Orleans, left to their fate during hurricane Katrina. To the irradiated victims of Chernobyl, Fukushima and all the nuclear tests worldwide. To the 138,000 deaths from cyclone Nargis in Burma in 2008. To the 87 million homes partly or entirely destroyed by a climate catastrophe over the past 20 years. To the 148,000 deaths caused by heatwaves worldwide since 1995. To the 3,300 deaths caused by a heatwave during summer 2015 in France. To the 15,000 deaths caused by the heatwave of 2003. To the 652 deaths from heat in Seine-Saint-Denis during the 1st and 20th August 2003.

WE ARE GATHERING TO PAY TRIBUTE TO THEM. We are gathering because these wars are not ours, because we believe in life, in peace. We are gathering to say that we are still standing and committed, despite the deadly measures taken by those who claim to protect us. We are gathering, with our fears, anger and sadness to share them collectively and find the strength to carry on. We are gathering to show that another world is possible, urgent and necessary. This world, we are already in the process of building it.

LET US MEET AT 4:00 PM SATURDAY 28TH NOVEMBER AT CINAXE, PARC DE LA VILLETTE

(galerie la villette, in front of Cité des sciences).

PLEASE BRING FLOWERS.

Toxic Tour, Paris, November 2015.
Courtesy Toxic Tours Detox 93.

The International Rights of Nature Tribunal held its opening session on Friday, 4 December at Maison des Métallos. This project was established by the Global Alliance for the Rights of Nature (GARN) and Ecocide on Earth (EEE) to experiment with new tools and legal concepts aimed at securing the inclusion of the Rights of Nature in public law and the recognition of ecocide as a crime in international criminal law. Perhaps more relevant to this blog is the proposal for the Rights of Earthlings, which would encompass both humans and non-humans without distinction, in order to avoid problems stemming from the unifying and segregating concept of nature. Mother Earth, or Pachamama, is the central focus here, but it would be useful to develop other narratives for peoples that do not share this culture.

A model of governance has effectively been taking shape since the first tribunal, held in conjunction with COP20 in Lima. Seven cases are heard during the two-day event, in order to prove that the Earth is victim to a number of crimes that call for reparations. While crime is present in every case, humans are responsible to varying degrees – 10% of the world population generates half of global CO2 emissions. The idea is to hold the culprits accountable, namely the governments and multinationals that forestall any challenge to the dominant development model, as set forth in Article 3.5[1] of the UNFCCC[2].

The proceedings opened with a ceremony led by the Tla'Amin Nation to "shorten the distance between the head and the heart" (which can be the longest distance, especially in the matters at hand). The tribunal then took aim at the key issues absent from the discussions in Le Bourget: deforestation, water, fossil fuels, nuclear energy, and more. We learned, for example, that the COP21 Secretariat handed out an important document to all the negotiators concerning carbon capture and storage (CCS), one of the solutions promoted by advocates of geoengineering, Earthmasters who seek to play God with the climate[3] and deepen our "addiction" to dangerous technologies with irreversible consequences.

As has been stated in recent works[4], the legal system still appears to be the most vital tool for protecting people and fighting global warming effectively – but it must not be the only one and the battle must extend outside the realm of law, because those

1. "Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade."
2. United Nations Framework Convention on Climate Change.
3. Clive Hamilton, *Earthmasters: Playing God with the Climate*, Allen & Unwin, (2013)
4. Naomi Klein, This changes everything, Capitalism vs. the Climate (2015) ; Crime Climatique Stop ! edited by 350.org and Attac France (2015).

accountable for these crises are formidable legal tacticians. Artist and researcher Nabil Ahmed, who is in Paris for the ArtCOP21 professional workshop, develops legal and political responses to ecological conflicts. His *Earth Sensing Association* project is building a body of evidence based on 'leads' he investigates and articulates in aesthetic language, using a curatorial approach. Ahmed is establishing a true from of forensic ecology, a proof-making inspired by architecture, a political act that involves translation between disciplines and creates forums in which these pieces of evidence are assembled to become permissible in a court of law.

Julien Lombardi, *L'inachevé*, photograph, 2014.

POST 3

The Anthropocene is lifting the veil on the fiction of modernity by introducing new agents into human affairs that, in truth, are not actually new – we had merely forgotten them as they faded from our view and thoughts. All the same, we should not replace the binary thinking of the past with yet another fiction: a unified *anthropos* that is the master of its own geological destiny. We must remain open to all possibilities that diverge from the hegemonic narrative of the Anthropocene, which derives from a very specific perspective – that of western white men – leading to initiatives rooted in a blind faith in technology that further advance the current development model.

The worldview established by modernity to secure its own existence is no longer relevant in this time of ecological crisis, and fiction is playing a role in the vital rebuilding process currently underway. Fiction allows us to recount alternative narratives – not history with a capital H or personal stories, but situated collective stories – to chart a new course in our lives. At the Trade Unions for Energy Democracy meeting on Monday 7 December, Naomi Klein stressed the urgent need to "shift our worldview from extracting to regenerating". Figures such as Gaia and Pachamama can help sway minds in this regard.

Broader perspectives open up a space for groups that have been in the minority or rendered invisible thus far, such as Indigenous peoples in the context of climate issues. For Émilie Notéris, this idea is fundamental, because "point of view is perhaps the most powerful action we can have for the world"[1]. The author is working on the concept of reparative

1. Excerpt from her speech at the roundtable on the power of fiction held on 5 December at Gaîté lyrique as part of the Conference of Creative Parties. The video can be viewed here (in French).

Trade Unions for Energy Democracy, with Naomi Klein and Jeremy Corbyn, 7th December 2015, Paris. Photo by Ana Vaz.

fiction, a term she transposed to writing from Eve Kosofsky Sedgwick's reparative and paranoid reading. Here fiction takes on a reparative function derived from a shift in the standpoint that is adopted.

For his part, filmmaker Fabrizio Terranova prefers the notion of speculative narration [2] to fiction, a term of which he is wary. The inclusion of "speculative" serves to re-politicise narration and emphasise the need to re-appropriate it by fostering the emergence of possibilities that "defy the odds". "Telling stories is an opportunity to change the world" [3], "an act of fabricating (a) being(s) and community(ies)". There where "the political lies".

Terranova stresses the importance of Haraway's "being in the mud" in order to reconnect with the world and its various layers, even (and especially) if this causes discomfort. The resulting reconfiguration of reality homes in on three specific concepts, namely innocence – we cannot be innocent with regard to our past or history, wherever we are – privilege – what does it mean to be in a position of privilege? – and the multi-stratification of the world.

A wide range of voices – activists, scientists, philosophers and artists – have called for the narrative to change. The discussions on Tuesday 8 December at Le Bourget, for instance, centred on gender issues, underscoring the omnipresence of men in the negotiations. One of the challenges of COP21 therefore lies in incorporating new viewpoints, such as that of the Indigenous peoples who are seeking to gain recognition for their rights and land in the final agreement. As anthropologist Barbara Glowczewski reminded us during Banquet 21°2: "We are all indigenous to the Earth".

2. The term is a rough translation of Donna Haraway's notion of speculative fabulation (SF). Fabrizio Terranova directs the Narrations and Experimentation/ Speculative Narration masters programme at ERG in Brussels.

3. For further information, see Gestes Spéculatifs, a work recently published by Presses du Réel and edited by Didier Debaise and Isabelle Stengers, in which appears the article "Les enfants du compost", co-written by Fabirio Terranova, Lucienne Strivay and Béatrice Zitouni.

The initiative Art Not Oil delivers an action in front of The Louvre, Paris, 9 December 2015. Photo: Clémence Seurat.

POST 4

In *Is a Museum a Battlefield*, a lecture given by Hito Steyerl at the 13th Istanbul Biennial, the artist exposed the close-knit ties between museums and the arms industry. Steyerl used two seemingly unrelated images – a photo of a museum in Berlin and another of the mass grave where her friend Andrea Wolf was found among other corpses – to brilliant effect as she revealed the omnipresence of the arms industry in contemporary art. The influence of this calculating, interdependent relationship is apparent both in project funding and production and the aesthetics of certain works.

Hito Steyerl, *Is the Museum a Battlefield* from Museum Battlefield on Vimeo, 2013.

The actions taken this week to "get big oil out of culture" dovetail with Steyerl's talk. Art Not Oil, an initiative formed by various associations including Liberate Tate, speaks out against the links between the oil industry and cultural institutions, calling on the latter to uphold their responsibilities. The group gathered at the Louvre Museum on 9 December to demand that the institution cut ties with two of its financial backers, fossil-fuel conglomerates Total and Eni. These two companies continue to receive generous government subsidies – despite their central role in causing climate change – and pollute air and water that do not belong to them with total impunity. Nearby the demonstration, "climate angels" – winged creatures portrayed by (mainly) young, white women – called for climate justice in a performance that betrayed inappropriate innocence.

Demanding that our cultural institutions care about ecology and disclose the extent to which they are (in)dependent serves to bring the reality of their actions to the fore and question the basis of their relationship with the world. For these institutions cannot deny the consequences of accepting money generated by extractivism. However, while groups such as Art Not Oil and 350.org have carried out groundwork vital to curbing investment in fossil fuels, the methods they utilised in Paris – the procession

and choral singing on Wednesday – should be questioned as they seem not radical enough. Avaaz's Climate Criminals initiative appears to have been exceedingly more effective and better reflects the seriousness and gravity of the ecological situation. The online network launched a poster campaign in Paris with photos of lobbyists whose influence is impeding progress in the negotiations on our lethal dependence on fossil fuels.

The broad support for fossil fuel divestment must, as Naomi Klein stated in Paris, be paired with the development of low-carbon activities in areas such as education and the social economy that promote a shift toward "care" as our central policy focus: "when we are caring for each other, we care for the Earth". The planet is an agent with which we must maintain a caring relationship, not a resource to be exploited.

Demonstration *Red Lines*, at l'Avenue de la Grande armée, Paris, 11 December 2015.
Photo: Clémence Seurat.

POST 5

The agreement reached at the close of COP21 on 12 December finally appears to reflect the magnitude of climate change and sets a very ambitious goal: to limit global warming to 1.5°C above pre-industrial levels. Implementing the actions required to attain this target will prove more difficult, because the agreement does not indicate a pathway to follow, address the state of global trade or even mention fossil fuels, whose role in the environmental devastation at hand is abundantly clear.

Meanwhile, different scenarios are taking shape on the various Parties' national stage. Last month, the US Congress passed the Spurring Private Aerospace Competitiveness and Entrepreneurship Act of 2015, more commonly known as the SPACE Act. The law extends the frontiers of commerce to the far reaches of the galaxy in order to "meet national needs", granting US companies and citizens the right to mine natural resources in space and allowing them to lay claim to their newfound riches: "Any asteroid resources obtained in outer space are the property of the entity that obtained them". It is worth mentioning that the passage of the law was applauded by Planetary Resources, a company whose investors include the filmmaker James Cameron and Google's Eric Schmidt and Larry Page.

The SPACE Act is rekindling old dreams of space conquest at a time when many initiatives at COP21 sought to lead the narrative in new directions, away from the colonisation of new lands to exploit, and instead seeking to "leave it [oil] in the ground" or defend the idea that outer space should be approached in terms of the commons, rather than as a business opportunity. Artist Tomás Saraceno's Aerocene project offers a carbon-free alternative to the space-tourism race – an environmental disaster in the making – and warns of the dangers of releasing carbon black into the atmosphere, solely for the enjoyment of the world's wealthiest individuals. Sculptures from Saraceno's project were shown at the Grand Palais and his fuel-free balloons took flight for the first time in the desert of New Mexico, USA, this past autumn[1].

These opposing political visions chart very different paths for the future. As philosopher Emilie Hache suggests in her preface to *De l'univers clos au monde infini*, in consonance with a science-fiction short story written by Marion Zimmer Bradley, ecology calls for us to bring our focus back down to earth. It opens up a metamorphic zone that refutes the logic of conquest, with the goal of inventing multiple

1. For further information on the subject, see the article by Ewen Chardronnet in Makery.

forms of cooperation that connect us with our environment and bring us closer to others. This 'reterrestrialisation' encourages us to rethink our modes of coexistence and forge alliances with the species[2] that populate the Earth, to become earthlings or 'earthbounds[3]'.

In a lecture entitled *How to Make a Catastrophe out of a Disaster* given at Bétonsalon, Timothy Morton reminded us that "crisis" is not the right way to think about our ecological situation – it's not a passing event that we will soon emerge from or a disaster external to us. This change is irreversible and catastrophe is our new condition. But rather than being a dead end, it is, in fact, a starting point. And we could begin by 'noticing how much we already care'.

Translated from French by Ethan Footlik

2. See the Chthulucene Manifesto by Donna Haraway, in particular her call to "make kin not babies".
3. The term preferred by Bruno Latour in Face à Gaïa, Huit conférences sur le nouveau régime climatique, Les Empêcheurs de tourner en rond, 2015.

Demonstration *Red Lines*, at l'Avenue de la Grande armée, Paris, 11 December 2015. Photo: Clémence Seurat.

LATE SUBATLANTIC SCIENCE POETRY IN TIMES OF GLOBAL WARMING

URSULA BIEMANN

l'internationale

Climate change is no longer a distant hazard looming on the horizon, it is de facto taking place, irrevocably changing the living conditions on the planet with a magnitude and velocity we cannot fully grasp. This speedy course into an unknown future forces us to fundamentally rethink the relationship between humans and the Earth, a matter which has laid dormant in the background for the longest time, occluded by the gigantic technological effort required to draw the societies of the world together and make them global, albeit in uneven and certainly inconclusive ways. Now this complex, artificial and fully imaginary globe that has been constructed in the process fails to resonate with the mighty planetary grammar – de-synced – the Earth a mere obstacle standing in the path of human progress. In this arena, everything is arranged to facilitate human action, prompting a particular modality of narrating the world. Meanwhile, mobilised coevally by natural sciences and the humanities, an inspiring new body of art and writing is emerging that brings Earth on stage. Global warming, with its undisciplined disturbance, interpellates us to engage artistic and scientific paradigms in a conversation and let it infiltrate our imagination and practice. To think with and through art can unravel the role it might play in this process. This text begins with a discussion of a recent video, *Subatlantic* (2015), followed by some suggestions as to what these considerations could mean for a museum practice in the future. Focusing on global warming, the question I address in this short video is how humans and other species collectively attune to the idea of an unstable living environment where our very subsistence is uncertain. The piece is as much about the physical and natural environment as it is about the psychic space we inhabit and of which we are part because the atmospheric alterations affect not only the physical but also the mental climate on Earth. They force us to think ecologically, as Bruno Latour says, and hence to consider other cosmopolitics, which is what this video attempts to do.

The science-fictional video narrative of *Subatlantic* is that of a female scientist on a North Atlantic island who is undertaking instrumental

Ursula Biemann, *Subatlantic*, 2015.

observations about a changing environment around the time of the last glacial melts 12,000 years ago. Observing slight disruptions in the interaction between the winds, birds, shores and streams during the 1000 years in which the sea-level steadily rose, she moved her lab further inland along with the first human settlements that were left abandoned and submerged 100 yards deep. The archaic landscapes bear no trace of human presence. The narrated figure who "minutely records her encounter with difference" exists only in the audio dimension. She simultaneously inhabits multiple temporalities that span across millennia, slowly crafting a history that harbours a language still to be announced. Spoken in the off from a submerged Atlantic position, the post-glacial, pre-modern narrative unfolds across the Subatlantic, the proper nomination for the current climatic phase which, superseding the Subboreal, started 2500 years ago and is quickly evolving towards another phase yet to be determined. The point I may seek to establish here is that this post-human condition, where humanism is no longer the dominant premise, reconnects us to infinitely larger, untameable forces that animate extra-historical dimensions. This sudden burst of our time bubble plunges us humans into deep time, into geological and climatic timescales, where we have to index ourselves anew. *Subatlantic* creates the precondition for a future narrative, providing fuel for the process of imagining a reorientation of human-Earth relations. This unique moment in time calls indeed for new figurations for the profound transformation the planet and its living inhabitants are undergoing.

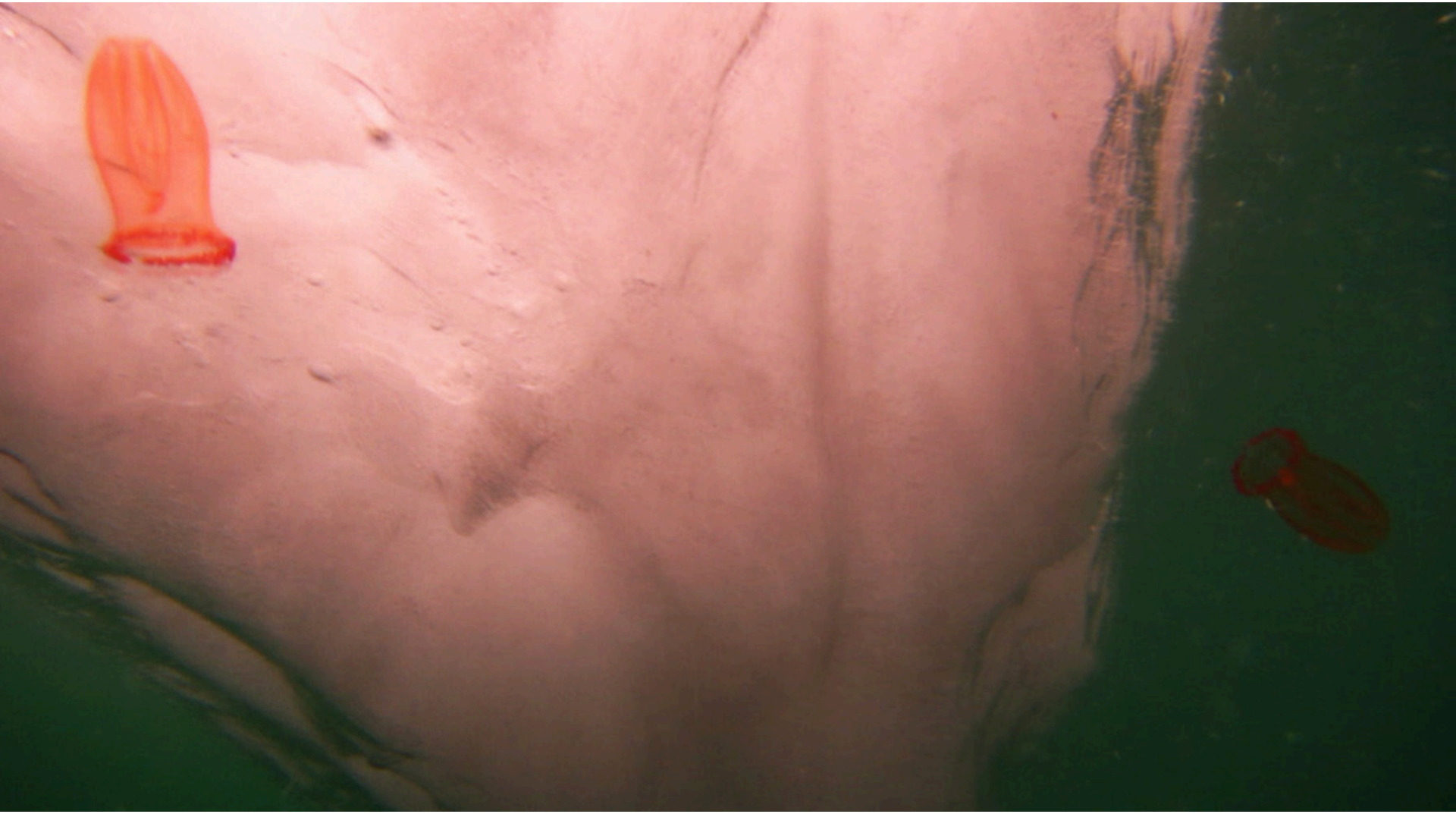
The observations, at first directed to the physical environment that can be scientifically measured and recorded, move on later in the video to scientific practices of intensities as elucidated in the philosophy of Manuel DeLanda, who snatches from beneath our feet the flat carpet of absolute metric space to propel us into virtual space which adheres to an altogether different model of thought. In Greenland's icescapes, the narrated figure "studies the self-organising flows of matter and energy and the thresholds at which sudden phase transitions occur in physical systems. For instance from a solid to a liquid state. This process involves divers, videographers, and metaphysicians". The post-human condition, then, with its volatile atmospheric climate, is no longer firmly placed in absolute matter, it flows along formless virtual planes arising from unmeasurable, exhalable and constantly recomposing qualities. Hence the observer and the physical reality together become other, mutating their form and ability to operate in and as "a world".

In this narrative, thoughts reconfigure to engage the changing ecology, they merge with frozen methane, become part of weather events, are unhinged by new maritime cohabitations. The words are swaying between phenomenological narrative and scientific reason, melting the gap that has formed by habits over time. "Incubating ideas are finally released from the binding force of the pack". Also released from the dissolving ice sheets are masses of microorganisms that have been trapped in the polar ice for longer than human time. Some are 400,000 years old and still alive. The meltwater bears new genetic material that the world hasn't seen. Released from the deep-freeze, they begin to assemble genetic futures. To be post-human increasingly means to relocate in a new genetic milieu on Earth.

The ocean streams are another vital planetary dynamic that is immediately affected by the ice thaw, impacting hugely on the climate in the North Atlantic. All of these climate- relevant phenomena in the oceans are invisible, either because they take place underwater and out of sight, are too slow or simply too immense to be perceived by the human eye. Art has a role to play in making these processes perceptible in a way that scientific data cannot. Art can send imaginative narratives across the abstract register of the scientific voice. How weather, ice and microorganisms mediate the world is turned into something visible and audible, and hopefully comprehensible, in a way that dramatically draws us into the interval between the Earth and a world, between a terrestrial context and the immediacy of a localised becoming. Suspicious of the corporate dynamics which drove globalisation, ecology-related art has long focused on local ecosystems. Now artists are asked to attend to the planetary connectivity of ecosystems, grasping their place in relation to the larger schemes of forces.

Our female scientist engages in the transformation of the chemical and genetic composition of the earth not by technically intervening, but rather by reworking its tempi, resetting its landmarks, rerouting its premises, and not last, by attuning her own sensorial apparatus to survive under modified conditions. In doing so she embarks on a reconfiguration of the historical terms where the overwhelming focus on recent decades of political history blasts open to embrace the "big history" of planet formation, where archives inevitably include both cultural and natural histories, and exhibitions reestablish the vital relationship between the activities of natural forces, matter, the living world, and humans.

Like our fictional explorer of the Arctic icescape, artists and curators are propelled into domains



Ursula Biemann, *Subatlantic*, 2015.

of knowledge where for the most part they don't feel readily competent: maritime genetics, carbon economics, atmospheric chemistry. Climate change urges art and art institutions to get involved in dynamics that are not comfortably located in the designated human-centric field of cultural inquiry, although altogether disturbingly concrete and pertinent for human continuation. These efforts would not simply seek to ground scientific knowing differently or to draw physical and biological phenomena into a cultural discourse from where they have been effectively discouraged or entirely left out. These efforts aim at breaking down the opposition between science and poetry and instead offer a diverse configuration of that encounter. It comes as no surprise that in this endeavour, artists and theorists currently feel an urge to go back to the moment in history, a couple of hundred years ago, when science split off from other ways of thinking the world and went on developing its own methodologies viewed from a distinct subject position. This bifurcation in the production of knowledge, evolving not unlike a whole new branch of species, is presently undergoing a reevaluation. Solution-oriented thinking that seeks technical answers to human-caused problems is driving the economy these days, it simply is the dominant model for human-earth relationships now. Artists, through small but quickly multiplying gestures, insert a whole range of other motivations and methodologies into the processes that are forcefully shaping the conditions on Earth. In the light of the powerful means and effects afforded by the industry, these efforts may seem irrelevantly small, but they are profoundly meaningful because such artistic research and gestures expose operative paradigms and, more importantly, consider models of thinking and acting with the material world that present alternatives to the economy and technology driven prescriptions.

How will this affect the collecting and exhibiting practices of museums? For a future where human-nonhuman relations are less violent, less destructive, the past will have to be reassembled. This sort of rewriting of history resembles somewhat the rewriting of post- colonial history. Only this time, it is not a matter of admitting formerly excluded groups of human populations to the theatre of significance, it means to radically decentre the human figure altogether. It is difficult to imagine such a place and yet this is what is at stake now. What we can already say is that a common future that we share with everything else would be equally rooted in cultural and natural narratives; the collections of this common world, our heritage, would necessarily include at once cultural and natural histories. Perhaps from there, we

can envision a less divided future that can harbour a post-human way of being in the world.

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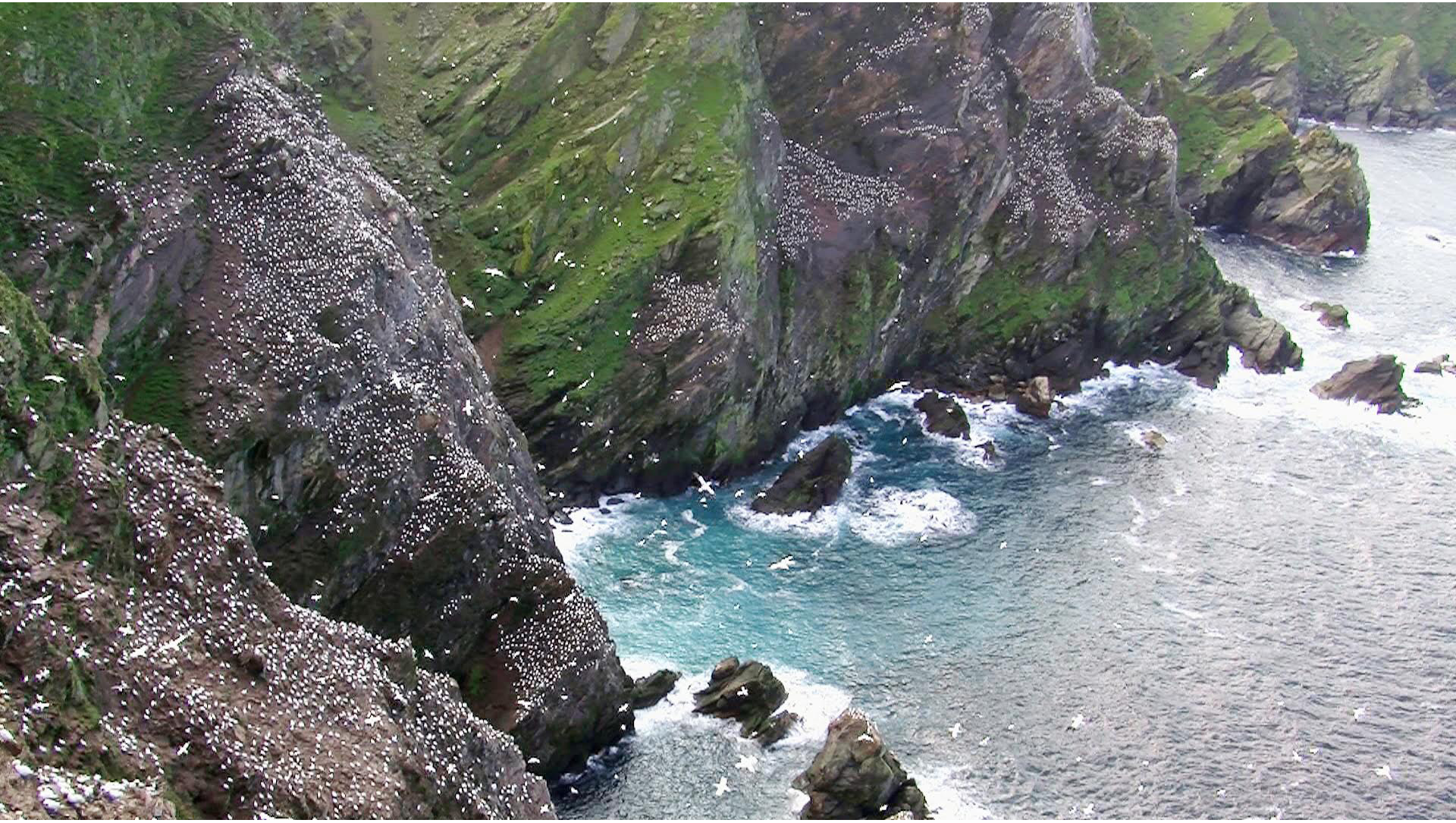

Ursula Biemann, *Subatlantic*, 2015.

ECOSOPHY AND SLOW ANTHROPOLOGY A CONVERSATION WITH BARBARA GLOWCZEWSKI

NATAŠA PETREŠIN-BACHELEZ AND SARAH WERKMEISTER
FOR L'INTERNATIONALE ONLINE

l'internationale

Sarah Werkmeister (L'Internationale Online)
How do you think we can go about resisting or changing the narrative of (climate) catastrophism while at the same time, allowing new and truly inclusive narratives to form? In this process of changing the narratives, is it possible to avoid the subjugation of the agencies of the many constituencies affected by climate change?

Barbara Glowczewski
Last year, Christophe Laurens and I wrote the following for a conference on the Anthropocene (Glowczewski & Laurens 2015):

"Writers on the lookout for the land that has been orphaned of its memory, through the lack of human beings capable of reading ancestral signs, try to create constellations of words and images that awaken us to consciousness, by revisiting, through strife and joy, constellations of live connections with the sky, the sea, the wind, the mountains and everything in existence. Would it not be our task, as teachers or researchers trying as we do in anthropology and architecture to outline existences in their living environment, to find the words to animate the Earth, rather than feed the debates that constantly predict its death?"

In Central Australia in the 1980s, I witnessed a time of social utopia when desert people, especially the Warlpiri who had gained a land claim, invented a new way of life combining their ancestral hunter-gatherer semi-nomadic knowledge with a semi-sedentary life in old reserves equipped with schools and houses, traveling by car to "settle down country" on their ancestral lands to establish outstations with solar power partly funded by royalties from gold mining. Today, they try to oppose uranium mining on their land and they have lost the self-determination of their councils and their bilingual education. But they continue to paint incredible art that spreads across collections and museums while investing in digital archives in order to be in control of their heritage (Glowczewski 2013).

On the north-west coast of Australia by the Indian Ocean in the 1990s, I witnessed the conflictual

politics in the region of the Kimberley of different language groups trying to get native title on their land and develop their own cultural enhancement and sustainable economy including tourism. Today there are many successful initiatives[1], and the Kimberley Land Council has developed a fire management programme with Aboriginal traditional techniques which by reducing wild fires reduces carbon emissions[2]: this programme gives to the traditional owners involved a green income which is sponsored by Shell but many families also oppose the destruction of their country by fossil fuels and fracking[3].

In the mid 2000s, I lived on the north-east Pacific coast of Australia and investigated the process of inquest that followed the violent death of an Aboriginal man, Cameron Doomadgee[4], in custody on Palm Island on 26 November 2004; I also followed at the Townsville courthouse the committal hearing of some twenty six Palm Islanders prosecuted for a "riot" calling for social justice a week after this death (Glowczewski & Wotton 2008/ 2010). My priority for thirty five years has been to enhance Indigeneity's own cosmopolitics using multimedia to promote their voices through writing and various events, highlighting Indigenous creativity in art, performance and political struggle.

For me, such past and current struggles of Indigenous people all around the world are inspiring to ponder narratives that oppose current dehumanisation and the real threat pending on the planet. Videos of young Indigenous people speaking at various forums, which are circulated through social networks also offer narratives calling for change, even when the speeches are old, because they are still current[5].

If these people represent more than 6% of the world population, other people who have been dehumanised in the race for affluence are increasing more and more and, with the rise of migrations and fugitives, poverty, etc., they are obliged to invent their

1. Western Australian Indigenous Tourism Operators Council website
2. Kimberley Land Council website
3. "Kimberley Aboriginal traditional owner and anti-fracking campaigner ordered to move on", *ABC Kimberley News*, 23 July 2015.
4. He was referred to in the media then as Mulrunji to respect the Aboriginal mourning tradition, common to most language groups of Australia, that avoids saying the name of a dead person during his/her mourning, so as not to hurt the relatives and let the deceased's spirit find its way into the Dreaming, without being stuck on Earth, haunting places or people.
5. Xiuhtezcatl is a 15 year old Indigenous climate activist and Youth Director of Earth Guardians, who spoke at the opening segment of the high-level event of the United Nations General Assembly on Climate Change, New York, 29 June 2015. 14 year old Ta'kaiya Blaney, from the Tla'Amin First Nation in British Columbia, speaks and sings at the closure of the International Tribunal of the Rights of Nature, held in Paris at the art and culture centre, Maison des Métallos, during the COP21.

livelihoods daily as they necessarily impinge on the reigning order, as evidenced by the recent destruction of the so-called "jungle" in Calais. This shantytown that gathered 6,000 refugees of all origins demonstrated in the space of one year, in various reports and mapping conducted in October 2015 by the National School of Architecture in Belleville, incredible inventiveness in the heterogeneous use of recycled materials, the ability to live together in spontaneous neighbourhoods by country of origin, sociability in the shared places (shops, a school, a church, a mosque, a theatre, electricity and water points) and the art of making an intimate and distinct "home" with almost nothing, in very precarious conditions, and of course, as in all popular areas in the world, prone to danger, violence and crime[6]...

Sarah Werkmeister (L'Internationale Online)
In terms of thinking about what art can do beyond representation of the climate change problem, how do you think aesthetics and ethics can work holistically (within or outside of the art world or art museum setting) to picture new futures? In your observation and long-term work with the Indigenous communities in Australia, where can effective examples of relations of ethics and aesthetics to politics be found?

Barbara Glowczewski
Since I wrote "Resisting disaster: between exhaustion and creation" (Glowczewski 2011/ 2016) advocating the way Félix Guattari proposed to ecologically intermingle aesthetics and ethics and analysing several examples of creative responses to catastrophes in Brazil, Africa or France, many things have changed in the world and especially for Aboriginal Australians. Fracking is threatening not only the waters north of Australia but all waters of the continent and elsewhere... In Brazil, Indians suffer genocide, like the Guarani-Kaiowa in the south[7], while others are faced with ecocide that destroys all living beings like along the Doce River to the Atlantic Ocean when a dam burst at an ore mine[8].

But people continue to produce art as a mode of resistance. For Aboriginal people of the desert, painting their spiritual links to the land on canvas, with acrylics and new colours, was a way to promote such

6. See "Calais migrants: life in the Jungle", filmed by John Domokos, Matthew Taylor, Mona Mahmood, Alexandra Topping, Laurence Topham and Mustafa Khalili, *The Guardian*, 27 July 2015; see also "The Lotus Flower. Hope in the Calais Jungle", World Wide Tribe short film – life, hope and struggle in the Calais refugee camp, 15 February 2016.

7. Wyre Davies, "Brazil's Guarani-Kaiowa tribe allege genocide over land disputes", BBC, 8 September 2015.

8. Stephen Eisenhammer, "Mud from Brazil dam burst is toxic, UN says", Reuters, 26 November 2015.

Brook Andrew, Exhibition view of *Anatomy of a Body Record: Beyond Tasmania*, 2013. Courtesy of the artist and Galerie Nathalie Obadia, Paris and Bruxelles

Brook Andrew, *In the Mind of Others*, 2015
Victorian redgum, carbonised redgum, glass, brass breastplate inscribed with 'King Charlie of Snowy Mountain 1866'. Installation view, *Sanctuary: Tombs of the Outcasts*, The Ian Potter Museum of Art, The University of Melbourne. Photo: Christian Capurro. University of Melbourne Art Collection. Courtesy of the artist, Galerie Nathalie Obadia, Paris and Brussels, and Tolarno Galleries, Melbourne.

Brook Andrew, *Building (Eating) Empire*, 2016
Installation, mixed media including linen, metallic foil, neon, rigging, sandbags. Variable dimensions (800 × 600 × 900 cm). Installation view, *Encounters*, Art Basel Hong Kong, curated by Alexie Glass-Kantor Courtesy of the artist, Tolarno Galleries, Melbourne and Galerie Nathalie Obadia, Paris and Brussels.

links to help them in their battle for land rights (Smith 2001, Foley & al 2014). Today, Indigenous artists – who claim or not to be Indigenous – invent new styles and experiment with new media to address their heritage, colonisation and the current issues of the world. The best example of such creative artistic investigation is provided by world renowned Melbourne-based artist, Brook Andrew, who reworks colonial archives – from Australia and elsewhere – in relation to his ancestors' sacred design and various imagery combining complex sets of perceptions and emotions [9].

For a solo exhibition at Milani Gallery in Brisbane [10], Vernon Ah Kee, an Aboriginal artist from Queensland, created an installation with footage in homage to Lex Wotton, who had been accused of being the ring leader of the "riot" that took place on Palm Island a week after Cameron Doomadgee's death. The artist referred to the control video recorded in the cell of the police station on which the victim is seen dying during twenty minutes in horrible pain from broken ribs and a liver cleaved in half. This tape, that I described second-by-second in *Warriors for Peace* (Glowczewski & Wotton 2008/ 2010), was shown publicly during the inquest at the Townsville tribunal but it was not allowed during the trial of the policeman responsible for this death, who was acquitted in June 2007. The exhibition, called *Tall Man* in response to the name given to the giant policeman (accused of other violence on that island and elsewhere), opened in 2010, during Lex Wotton's trial which provoked some media coverage. But in a country like Australia, despite the international reporting, Wotton was sentenced to six years in jail, with four years lifted for time already spent in jail before his trial and a restrictive condition imposing that he would not speak in public. His lawyer managed to get special permission from his board so he could talk at a human rights convention at James Cook University, but after that the court refused to lift his ban of speech. He only got the right to speak back at the end of his sentence, in 2014. We invited him to speak at the Macquarie University in Sydney and he has been interviewed many times since, claiming rights not as a victim but to promote a vision of hope for his people; he now works for the community council where he had already been elected over ten years ago [11]. He posts news of discrimination from all over the world on Facebook: about Indigenous Australians, Native Americans but also Black people

9. Forthcoming exhibition, Brook Andrew, The Forest, 28 May-23 July 2016; see his website for other Australian and international exhibitions.

10. Vernon Ah Kee, Tall Man, Milani Gallery, Brisbane, October 2010.

11. Damien Carrick, "Lex Wotton Speaks Out", ABC, 5 August 2014

Vernon Ah Kee, *Tall Man*, 2010. Four channel video installation. 11:10 min. Image courtesy the artist and Milani Gallery.

in the United States, refugees, stories of political corruptions, etc. In a way, if the so-called riot, that I call "civil disobedience", had not happened with its consequence of trial and jail, no hope of peaceful resistance would have emerged. After Lex Wotton's class action against the State Government to improve the treatment of Indigenous people in custody, he was honored last June with the Indigenous Human Rights Award for Courage.

Nataša Petrešin-Bachelez (L'Internationale Online)
At the UNESCO conference on climate change and Indigenous peoples in Paris in November 2015, some discussions put forward the problem of the appropriation of Indigenous knowledge and heritage, about which you have written on many occasions and in light of the digital archives and Indigenous culture. What was clear from these discussions was the fact that legal tools need to be devised to offer protection to the multitude of Indigenous systems of knowledge so they are not be de-rooted and decontextualised from the communities that survive by using it. Could you tell us about some projects you might know that are oriented towards the protection of Indigenous knowledge and heritage as well as towards its translation for the sake of the survival of the non-Indigenous communities in a meaningful way?

Barbara Glowczewski
For decades, Indigenous people have been asking for legal tools for the recognition and protection of their systems of knowledge. The Declaration on the Rights of Indigenous Peoples which was ratified by the United Nations in 2007 – with belated support from the United States, Canada, New Zealand and Australia – specifies that: "Indigenous Peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions."

In 2010, the World Intellectual Property Organization (Torsen & Anderson 2010) proposed a series of concrete options for museums, libraries and archives, institutions which manage different media and expressions of knowledge: audio-visual collections, art and material culture, scientific data. French anthropologist, Jessica De Largy Healy and I commented on such issues: "The complex translation

of intellectual property legal and philosophical concepts, in relation to succession rights, the protection of authors and the supposedly free access to data, aims at protecting heritage and recognising its cultural depositaries. But it still implies pragmatic limits to their applications according to the States and the concerned people and their economic and political relations of power as well as recent devices generalising the digital misappropriation of any peoples' knowledge and images for the commercial benefit of a happy few. The challenge for anthropologists is to analyse what is at stake culturally, technically, ethically and politically in the forms of transmission, accessibility and control of the patrimonial process". (De Largy Healy & Glowczewski 2014)

A way to respond for anthropologists, curators and museum institutions is also to back legal action undertaken by various Indigenous peoples. For instance, support the recent denunciation by the Human Rights Commission of Apple, Facebook and Google for racism, after they promoted a video game inciting to kill Indigenous Australians as a true experience for settling in Australia[12]...

12. "Indigenous Australians take Apple, Facebook, Google to Human Rights Commission for racist game", NITV, 21 March 2016.

Sarah Werkmeister (L'Internationale Online)
In your text "Resisting the Disaster", you mention that climate change needs to be thought through with a more "...collaborative 'good use of slowness' looking for 'long circuits' in order to grasp all forms of interaction...", and then you go on to talk about refrain, almost as a strategy to operate in in a more responsible way. How would you see this working within not only broader political, economic or social contexts, but also in the field of contemporary art?

Barbara Glowczewski
The English word "refrain" translates the French *ritournelle* which refers to a sort of tune that tends to wind itself, to wrap up inward, digging into some affective memory, like the Italian *ritornelo* in music. For Deleuze and Guattari (1980/ 1987), this does not necessarily refer to music or the sound of birds but also to colours, gestures and so on. They considered that such aesthetic expressions, like the rituals of humans and animals, and also art, trace a territory. Guattari specifies existential territories as real but virtual, constellations of refrains as possible and virtual, flows as real and actual and finally machinic phylums as actual and possible. This ecosophical cartography is abounding in his book *The Three Ecologies* (1989/ 2000) in which he wrote: "The hope for the future is

that the development of the three types of ecological praxis outlined here will lead to a redefinition and refocusing of the goals of emancipatory struggles. And, in a context in which the relation between capital and human activity is repeatedly renegotiated, let us hope that ecological, feminist and anti-racist activity will focus more centrally on new modes of production of subjectivity".

The future is in the hands of the civil populations. This is advocated by Naomi Klein, who was invited by the Coalition Climat 21 during the ten days of the COP21. Thousands of activists gathered[13] at the vibrant Parisian art and culture centre, the CENTQUATRE-PARIS. In the Canadian economist's book, *This Changes Everything: Capitalism vs the Climate* (2014), there is an underlying message concerning the importance of Indigenous peoples in the fight against the destruction of the Earth. Klein took part in the final street protest called "Red Lines", referring to the threshold of gas emissions that the government officials were supposed not to cross. In the front row of the demonstration, a French dancer, Nadia Vadori-Gauthier, improvised her *one minute of dance a day*, a new dance she makes and posts online every day as an act of poetic resistance since the *Charlie Hebdo* journal mortal attack on 7 January 2015[14]. To resist is to create. Many artists working with performance, mixed media and installation explore ways to respond to our world in a way that is not only an "expression" of it but also an incentive to change it. A group of artists, Liberate Tate make performances to denounce the damage caused by petrol companies in front of or inside museums, such as the British Museum. They managed to get a representative of one of the big companies dismissed from the board of a museum as an ethical requirement for art not to be sponsored by a destructive agent.

Nataša Petrešin-Bachelez (L'Internationale Online)
And how can institutions "refrain"? Could you reflect further on the anti-accelerationist resistance in academic circles, and draw some differences that exist between the notion of slowness in the writings of the French anthropologist Pierre Sansot and the "plea for slow science" which Isabelle Stengers proposes? Do you think one solution to the above-mentioned problems could be in an art institution, a museum – which has historically, in the developing and developed countries of the Global North, been mimicking

13. That included "more than 130 organisations from civil society, trade unions, international solidarity feminist perspective on climate justice issues" according to Coalition Climat 21; see also the European Alternatives website.
14. See dance 333, 9 December 2015, Nadia Vadori-Gauthier's *Une Minute de danse par jour/ One minute of dance a day* project website, launched on 14 January 2015.

Nadia Vadori-Gauthier, *One Minute of Dance a day*, April 8 2016, Dance 451.
Image courtesy the artist.

the arrogance of colonisation, whether over peoples, over the planet, both, or beyond – becoming a slow institution?

Barbara Glowczewski

The concept of ecosophy forged by Arne Naess in Oslo in 1960[15] had the merit to shift man from a central position to being only a part of the ecosphere. But the way Naess promoted a form of transcendental vision of the relation between man and nature is problematic when it legitimises an artificially "protected" wilderness ("deep ecology"). Guattari's ecosophy is different: a praxis through art, politics, analysis and new usages of technology to change the relations between all the living forms, including the air we breathe. Such a vision has taken a special accuracy in the current debates around the "Anthropocene" (Glowczewski & Laurens 2015). In his last text a few weeks before his death on 29 August 1992, *Remaking Social Practices*, Guattari calls for the necessity to "establish ecosophical cartographies that will assume not only dimensions of the present but also of the future", with "choices of responsibilities for the generations to come", that is an "ethico-aesthetics of eco-praxis" as synthesised by Gary Genosko (2009, p. 87).

The apology of slowness by Pierre Sansot who died in 2005 was a nice poetic proposition that remains an invitation to enjoy life like many writers and thinkers have proposed and continue to do so, for instance David Abram in the United States or Pierre Rabhi in France. There have been many different experiments. Some failed, others still work, as reported recently by Pablo Servigne, a researcher who denounces what he calls "collapsology" (2015), and now lives with his family in a sort of "oasis" in the Drôme region in France[16].

Isabelle Stengers responds in her own way to this call by promoting not only slow science but also a form of "science fiction" that, after Donna Haraway's SF as "science fiction", "scientific fact", or "string figures", she relates to the correlations necessary to pass from one string figure to another which always imply a relation. That is, the input of the hands of another person so as to change the string figure[17]. The process involved in the transformations of such figures is, for Stengers, an image (but not a metaphor)

15. "Selected Works of Arne Naess: SWAN Introduction / Arne Naess Biography", The Trumpeter, *Journal of Ecosophy*, 1997, vol. 14, no. 7.

16. "Pablo Servigne: Les plus individualistes crèveront les premiers", interview, *terraeco*, 19 February 2016.

17. Isabelle Stengers, "Ma Science-Fiction", conference at Khiasma, Les Lilas, Paris. See seminar of Véronique Boyer & al., "Citoyennetés académiques: slow science et recherche-action", EHESS, Paris, one part of which was a lecture by Isabelle Stengers entitled "Les sciences sociales et la Slow Science face à l'accélération de la recherche", December 2015.

for experimenting what she calls the speculative gesture which can "slowly" change reality. So maybe an art institution, a museum, becoming a slow institution would be a place for promoting such string figures[18] and fiction? Maori artist, George Nuku, who was resident at the French Muséum de Rouen in 2015/2016, states that plastic is sacred. He sculpts it with the participation of museum users, adults or children, into huge assemblages to denounce not just the climate heat but the pollution of the oceans that precipitates the rising level of the seas, and forces populations in the Pacific to migrate and become refugees who are not necessarily welcomed in Australia. Sea rising also threatens the coast in Normandy as represented in his work *Bottled Ocean 2115*[19].

Maybe a slow museum should be especially attentive to collaborating with concerned populations and artists, Indigenous or not, who create new worlds in response to traumas of the past and the present. For instance, the 2015 installation *Painting with history in a room filled with people with funny names 3* by Korakrit Arunanondchai mixes history with cosmology, recreating a spiritual presence in a science-fiction ruined city[20]. The acceleration of history, in which ongoing events become archived before being finished, is a real issue to be thought about in a slowed-down, more thought through process, both within art and within cultural institutions.

18. String Theory was the title of a beautiful exhibition curated in Sydney, it included different works of art made of strings and also films of Indigenous Australian string figures from Arnhem Land. Desert people also have that form of game that is a clever technique for stimulating various physical and mental skills, a tool for thinking.

19. Odile Morain, "Bottled Ocean 2115: le Maori George Nuku interpelle la planète", Culturebox, 19 September 2015.

20. Korakrit Arunanondchai, *Painting with history in a room filled with people with funny names 3*, Palais de Tokyo, Paris, June-September 2015.

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George Nuku, *Bottled Ocean 2116*, 2016.
Photo by Mark Tantrum, Image courtesy PATAKA ART + MUSEUM.

NECROAESTHETICS: DENATURALISING THE COLLECTION

ANNA-SOPHIE SPRINGER AND ÉTIENNE TURPIN

l'internationale

A young visitor encounters a dead fox at the Oxford Natural History Museum, Oxford, UK, 2015. Photograph courtesy Etienne Turpin.

"It is therefore an important object which governments and scientific institutions should immediately take steps to secure, that in all tropical countries colonised by Europeans the most perfect collections possible in every branch of natural history should be made and deposited in national museums, where they may be available for study and interpretation."

Alfred Russel Wallace, "On the Physical Geography of the Malay Archipelago" (1863, p. 233)

"And this is perhaps the crucial paradox that the Anthropocene brought to light: different regimes of power will produce different natures, for nature is not natural; it is the product of cultivation, and more frequently, of conflict."

Paulo Tavares, "The Geological Imperative" (2013, p. 209–39)

When visiting an ethnographic museum, especially in Europe, the presence of colonial history is unavoidable. The staging of cultural otherness, the black-and-white photographs of past expeditions, the accumulation of non-industrial artefacts, even the fashionable contemporary installations cleverly reflect on these histories, all serving to remind the visitor that the modern museum is a product of European colonialism. Historical ethnographic collections can't pretend that the objects on display were not embedded in scenarios of a certain liveliness before entering the museum. For example, a musical instrument in a vitrine conjures up questions about how it would have been played by someone in the past, and one often wonders about the events, or the violence, that brought it to its current state of exhibition. Even though contemporary ethnographic museums have been under significant pressure for decades to expose their colonial origins, and some have done so with partial success, encountering an ethnographic collection provokes an awkward sense of appraisal because the collection itself remains

an index to colonial violence, which is difficult to conceal. How can it be apprehended aesthetically when it has almost certainly been obtained through coercion?

Yet, upon entering the beloved halls of a natural history museum, a strangely naturalised sensibility seems to neutralise the scenography. Among the *necroaesthetic* presentation of various arrays of taxidermy specimens – from rare turtles to soaring avifauna, from skeletal cetaceans to combative Arctic bears – one rarely feels any anxiety about their origins or the violence that rendered these once live beings into museological curiosities. In their *reanimation* as natural history collection objects, the specimens on view declare their neutrality, which makes it difficult to connect their presence to the political, colonial, or ecological sites of struggle from which they were extracted.

Birds in the Tasmanian Museum and Art Gallery, Hobart, Australia, 2013. Photograph courtesy of the authors.

What we want to stress here is that all collections – whether they are ethnographic or natural, artistic or cultural – are comprised of *things that have been collected*. By being rendered collectable, each specimen or artefact has been produced as an object indexing a scientific will to knowledge. This will to knowledge is epistemological as much as it is institutional: it is a form of normalised violence that must be accounted for within the contemporary practice that seeks to both *decolonise* and *ecologise* the museum – two moves that we consider as entirely necessary.[1] In these fantastic inheritances called natural history collections, is it possible to *denaturalise* the act of "collecting" to renegotiate the co-production of knowledge – past, present, and future? In order to enable this to occur, it is necessary first to decipher the contemporary necroaesthetic strategies, which perpetuate the naturalised fiction of specimen collections.

In the Oxford Natural History Museum, we recently encountered an elegantly stuffed deer placed near the entrance of the main exhibition hall. A sign beside this formidable specimen invited visitors to pet the fur of this now inanimate object. Many

1. See the issue "Decolonising Museums", 2015, on *L'Internationale Online*.

viewers seemed indeed to have great fun doing this. "Exhibition was a practice to produce permanence, to arrest decay", writes Donna Haraway in her essay on museum taxidermy (1989, p. 55). Focusing on the late nineteenth-century genesis of the American Museum of Natural History, Haraway unpacks how the naturalisation of certain civil hierarchies (i.e. human exceptionalism and patriarchy) underlies the presentation of organic hierarchies constructed by means of inanimate taxidermy. "The animal is frozen in a moment of supreme life, and man is transfixed. No merely living organism could accomplish this act. […] This is a spiritual vision made possible only by their death and literal re-presentation. Only then could the essence of life be present. Only then could the hygiene of nature cure the sick vision of civilized man. Taxidermy fulfills the fatal desire to represent, to be whole; it is a politics of reproduction" (Haraway 1989, p. 30). To this day, natural history dioramas tend to compose three-dimensional tableaus of wild nature, while anthropogenic visions of urbanisation, deforestation, mining, extinction, or pollution remain an absolute exception. So what could possibly be the point of an invitation to tenderly caress a stuffed deer – a specimen so dead that it is not even indifferent to our touch – other than to naturalise the obvious, disturbing sense of death signalled by the eerie stillness of these once live creatures? While standing in a hall filled with dead creatures made to look animate or frozen in space-time, an invitation to *pet the collection* surely encourages visitors to suspend disbelief,

Bones in the courtyard of Het Natuurhistorisch Museum Rotterdam, The Netherlands, 2015. Photograph courtesy of the authors.

in favour of the wish-image that this collection is somehow, against all empirical evidence, natural.

While most other museums haven't yet started encouraging visitors to pet the specimens, countless other examples show specimens in partial stages of *reanimation*. The natural history section of the Tasmanian Museum and Art Gallery in Hobart, Australia, for instance, discloses the steps of preserving ornithological specimens in a vitrine presenting birds in various stages of preparation. A less classical strategy was devised by Kees Moelicker, Director at the Rotterdam Natuurhistorisch Museum, where windows onto an inner courtyard reveal the curious sight of animal skeletons recklessly strewn about as if they were leftovers from some ruthless carnivorous feast. Partly decayed and covered in a layer of green moss, these unwanted bones of deceased zoo animals are more living than the toxified taxidermy animals simulating aliveness in the interior galleries. At first glance, one might expect that such revelations would undermine the "reality effect" of their correlative *reanimated* objects, but surprisingly the opposite is the case – the completed, glassy-eyed reconstructions become even more convincing through this necroaesthetic sequencing.[2] According to Jonathan Crary, taxidermy is "continuous with the operation of both cinematic and photographic illusion" (Crary 2014, p. 163, p. 165). It is not, he says, a "*nature morte* but a glimpse of timelessness in the present. The objects are not a symbolic form of survival in the face of time's destructiveness, but an apprehension of the marvelous, of a real that is outside of a life/death or waking/dream duality". We call this experience of viewing *viviscopic* in order to emphasise the ways in which the observer can be trained by the necroaesthetic procession of natural history collections to see as alive what is evidently, even at times emphatically, dead.

As scientists are now essentially in agreement that the last 400 years of human impact have pushed the Earth into a crisis called the Sixth Mass Extinction, the question of life and death takes on new meaning with troubling urgency. The Dodo is considered to be the first animal to have been exterminated as a consequence of European colonialism in Madagascar in the sixteenth century (Grove 1996, p. 145 and following); yet, since 1900, close to 500 vertebrate species have become extinct. According to a study by the World Wildlife Fund, the number of wild animals has halved in the last forty years alone. This is tragic news for beloved species such as elephants, rhinoceros, orangutans, and tigers, but it is no less violent for less admired animals such as vultures and

2. We are grateful to Kees Moelicker for his generous email correspondence answering our questions about the bones in the museum's courtyard.

dung beetles. Since a diminished evolutionary gene pool can be detrimental for surviving epidemics, the American evolutionary biologist and conservationist E.O. Wilson has urged that half of the Earth should be abandoned by humans to allow for the regeneration of non-human biodiversity. Even if Wilson's claim must be read as a provocation rather than a feasible solution, in the context of exacerbated and irreversible destruction of habitat around the world, especially in hotspots of tropical biodiversity, we decided to consider zoological specimen collections as evidence of the "slow violence" of the Anthropocene (Nixon 2011).

Semioptera wallacei specimens in the ornithological collection of the Indonesian Institute of Science, Cibinong, Indonesia, 2015. Photograph courtesy of the authors.

In a recent project, *125,660 Specimens*[3], we attempted to raise questions about collecting and environmental violence by investigating a single natural history collection, perhaps the largest one ever assembled by any naturalist. Alfred Russel Wallace collected 125,660 specimens for European institutions and elites during his expedition in Nusantara, the Indonesian archipelago, from 1854 to 1862. One of the first things we learnt was the organisational logic that distinguishes ethnographic and zoological collections: in the latter, specimens are recorded in existing taxonomic orders rather than stored according to their collector. Still, field biologists studying Wallace's legacy soon emphasised the underestimated singularity of this fantastic aggregation. A younger contemporary of Charles Darwin, Wallace played an important role in the formulation and publication of the theory of evolution by natural selection in the 1860s. Although he was primarily a commercial specimen collector, rather than a scientist working for the academy, it was on the basis of his own gigantic collection that Wallace managed to draw groundbreaking conclusions about the origin of species hastily

3. The exhibition *125,660 Specimens of Natural History* was curated by Anna-Sophie Springer and Etienne Turpin at the Komunitas Salihara Gallery, Jakarta, Indonesia (August to September 2015). For documentation on the exhibition, visit 125660specimens.org.

co-published with Darwin in 1859. Wallace's Malay collection is both the material evidence for a revolutionary scientific theory and the point of departure for the modern natural history museum as we know it – an institution whose early mission was to popularise the idea of evolution, and therefore of human exceptionalism, in the late nineteenth and early twentieth centuries (Asma 2001).

When Wallace travelled the region, he was exposed to "more than ten thousand species of trees, about a tenth of the world's flowering plant species, about an eighth of all mammal species, nearly a sixth of all reptile and amphibian species, a sixth of all bird species, and about a third of all fish species" (Daws & Fujita 1995, p. 185). Today, as the world's largest exporter of crude palm oil, Indonesia is witnessing the rapid disappearance of its rainforests, which is forcing the region's biodiversity into a highly stressful condition. Many of the zoologists we interviewed during the exhibition research doubted that it would be possible to develop a theory of evolution today because of the extremely degraded condition of the environment.

Disturbed by the discrepancy between the preserved Wallace specimens in Europe and their devastated place of origin, we established a curatorial partnership with the Museum Zoologicum

125,660 Specimens of Natural History (detail of Table 19, including bird specimens descibed in scientific papers by Alfred Russel Wallace), Jakarta, Indonesia, 2015. Photograph courtesy of the authors.

125,660 Specimens of Natural History (facing entrance), Jakarta, Indonesia, 2015. Photograph courtesy of Komunitas Salihara.

Bird of Paradise in the ornithological collection of the Indonesian Institute of Science, Cibinong, Indonesia, 2015. Photograph courtesy of the authors.

Bogoriense (MZB), the Indonesian Institute of Science, and the contemporary art gallery Komunitas Salihara in Jakarta. In cooperation with the Schering Stiftung in Berlin, and with the additional funding from the Goethe-Institut, the Norwegian Office for Contemporary Art, and the British Council, we were able to commission thirteen artists from Indonesia to create new projects in close exchange with MZB's scientific curators. The exhibition *125,660 Specimens of Natural History* aimed to bring this colonial legacy to the forefront of contemporary discussions regarding Indonesian forest conservation, while also raising questions about land use and the protection of biodiversity through oblique strategies, artists' interventions, and repeated provocative adjacencies.

In the context of natural history collections, ecologising the museum means accounting for and negotiating with the various violent modes through which "collecting" took place. Such a disposition would necessarily denaturalise the collection and its viviscopic specimens, which vie for visitors' imaginations and investments. It would question the necroaesthetic experience on offer in these institutions and encourage denaturalising the tendency to neutralise the feelings of irretrievable loss and anxiety that accompany any visit. *Petting the specimens* might not be the most relevant comportment in this

creaturely columbarium when we accept the reality that an anthropogenically-effectuated mass extinction is in full effect outside. Rather than helping bury these feelings of loss, the future of the natural history museum, and of "ecologising museums" more broadly, might mean instead the production of exhibitions and programmes that allow visitors to confront the sense of despair that such a violent reality occasions.

Even while acting as its instrument, Wallace was no stranger to the experience of melancholy brought on when considering the violence of the will to science. An awkward estimation of his privileged human, masculine, and colonial techniques of observation stumbles over the recognition of imminent consequences. The passage is remarkable and worth quoting in its entirety:

"I thought of the long ages of the past, during which the successive generations of this little creature had run their course – year by year being born, and living and dying amid these dark and gloomy woods with no intelligent eye to gaze upon their loveliness; to all appearance such a wanton waste of beauty. Such ideas excite a feeling of melancholy. It seems sad that on the one hand such exquisite creatures should live out their lives and exhibit their charms only in these wild, inhospitable regions, doomed for ages yet to come to hopeless barbarism; while on the other hand, should civilized man ever reach these distant lands, and bring moral, intellectual and physical light into the recesses of these virgin forests, we may be sure that he will so disturb the nicely-balanced relations of organic and inorganic nature as to cause the disappearance, and finally the extinction, of these very beings whose wonderful structure and beauty he alone is fitted to appreciate and enjoy." (Wallace 1869)

Is this not the very melancholy that *viviscopic* presentations of specimens are meant to neutralise? Surely, even for an unconscious few milliseconds upon entering the main hall of a natural history museum, the contemporary visitor connects the strange and ruthless affect of seeing nature destroyed with the reality of seeing nature this way? Given this comportment, perhaps it is not the explicit colonial sentiment of Wallace's remarks that should be the most startling, but their cutting contemporaneity. It is this melancholic paroxysm that is characteristic of a troubling moment of recognition, that is, when we reach out to pet the specimen to calm an anxious excitation having noticed something deeply disturbing about this celebrated view on, and of, death and capture. How, then, to inherit this scene otherwise? Ecologising the museum means

deciphering the necroaesthetic sensorium of natural history to renegotiate the terms of inheritance and inhabitation on this damaged Earth.

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Installation view of *A Taxonomy of Palm Oil: U.S. Edition*, in the exhibition *Emergent Ecologies*, curated by Eben Kirksey, Butler College, Princeton University, 2016. Mixed-media installation by the authors, including 100 samples of American commercial products that contain palm oil or a derivative of palm oil.

Taxidermy specimen perched on an air conditioning unit in the ornithological collection room of the Indonesian Institute of Science, Cibinong, Indonesia, 2015. Photograph courtesy of the authors.

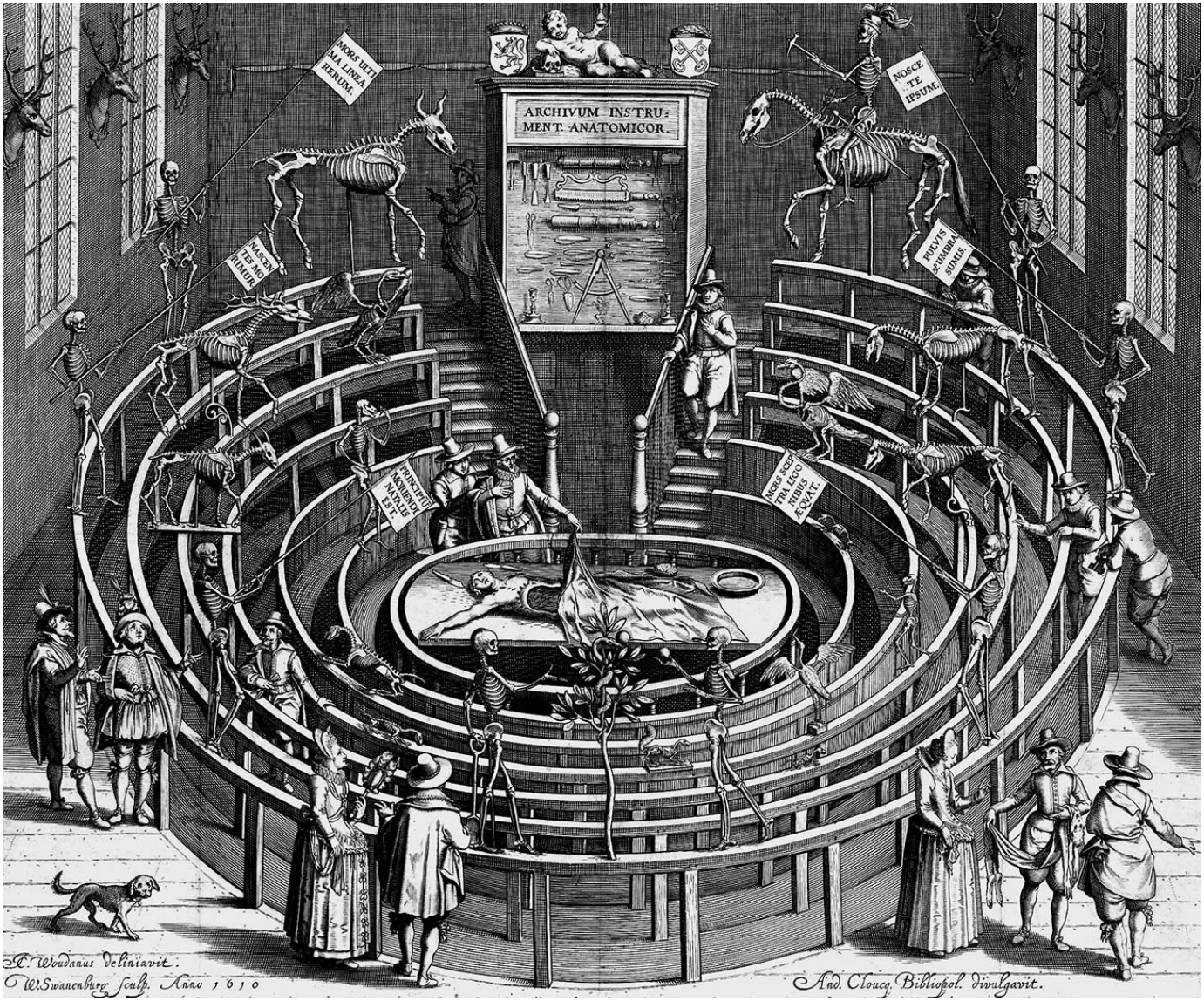
THE ECLIPSE OF THE WITNESS: NATURAL ANATOMY AND THE SCOPIC REGIME OF MODERN EXHIBITION-MACHINES

VINCENT NORMAND

l'internationale

The traction that the concept of Anthropocene recently gained in debates relating to climate change, social sciences, political theory or aesthetics, along with the triple "turns" to ontology currently occurring in anthropology, philosophy, science and technology studies, have fostered a renewed materialist or realist imperative in contemporary thought. This imperative incites us to depart from the semiotic and deconstructive models that characterised postmodern theory, and to rethink in more constructivist terms the historical constitution of the limits, borders, frontiers and great divides which, throughout modernity, have stabilised our relationship to nature. If art theory is to thoroughly embrace this imperative by locating itself within the graph of power and the anthropological matrix constituted by these frontiers, we ought to confront the history of its material and institutional bounds, and to ask what could be a truly materialist history of exhibitions, one aiming at producing an epistemology of the exhibition apparatus as a mediating interface of modernity? In other terms, how to actualise what Tony Bennett (1988) coined as "the exhibitionary complex" while moving beyond mere sociological description, and engaging the epistemological and ontological dimensions of the very gesture of exhibition?

While today the history of exhibitions is undergoing renewed interest (be it as an object of hyper self-reflexivity for curators, or as an institutional narrative based on historical markers, or more positively as a privileged object of contemporary philosophies attempting to redefine the mode of existence of the art object), it is becoming a discipline roughly divided between art-historical analyses tackling the exhibition as a medium to be deconstructed, and historicist projects mobilising it as a reified framework to be staged as such, or escaped from altogether. In that context, it seems important to maintain a dialectical engagement with the exhibition as a *genre*, i.e. as a generic object of modernity, in order to grasp it in a fully historical way, that is to say as a ongoing tactical field for the future of art. This could take the form of a *stereoscopy* articulating the two scales of experience that the art exhibition historically materialised and polarised throughout



Willem Swanenburgh, *Anatomical Theatre of Leiden University*, engraving, early 17th century.

modernism and postmodernism. That is, the "macro" scale of the ontological designation legislating the outermost limits of the space of art (and its institutional complex: the museum, the gallery), and the "micro" scale of the ontology of the individual artwork (and the aesthetic consciousness it produces when exhibited).

The space left open between these two scales is a historically disputed battleground, one that is currently shrinking as the exhibition increasingly becomes the space of inscription of more or less naïve, or more or less cynical, institutional neo-positivisms. This space can however be reclaimed. This text postulates that a materialist history of exhibitions can be undertaken by confronting the exhibition genre with the positivist and objectivist forms of rationality that coded it historically, as well as with the modes of relationality, the conditions of mediality and the semiotic processes these forms of knowledge crystallised. By focusing on a specific example taken from the history of early modern scientific exhibition, we can start to grasp the modern *scopic regime*[1] that the exhibition both embodied and naturalised, and which continues to script the epistemic backdrop of the art exhibition.

1. This term is used by Martin Jay (1999) who borrowed it from the French film theorist Christian Metz (Le signifiant imaginaire : psychanalyse et cinéma, Christian Bourgois, Paris, 1977).

Theatrum Anatomicum: the Infinite Universe and the Dramaturgy of Dissection

The public museum, the modern space of exhibition of scientific objects or artworks *par excellence*, is inscribed in a series of anthropological determinations shared by many modern technologies of the gaze and cultural practices that, together, define modernity as a reformation of vision. This reformation finds its canonically modern form in the power of objectification defining the museological framework. The museum is defined by the "dialectical reversal" it imprints on the "life" of objects: working as a global isolator, it de-animates previously animated entities by uprooting them from their "milieu", and re-animates "dead" objects by over-determining their signification and projecting them in a restricted field of attention.

Rather than rooting the modern museum in its pre-modern institutional predecessor – the cabinet of curiosities – as is usually the case in a classical history of exhibitions, we may find the origins of its scopic regime (as well as a more tortured articulation of the dead and the alive) in a famous pioneering

work on anatomy, *De humani corporis fabrica* (1543) by the Flemish physician Andreas Vesalius. There, we can detect the emergence of a scientific, hermeneutic, and social architecture that will determine to a large extent the institutions exhibiting nature throughout modernity.

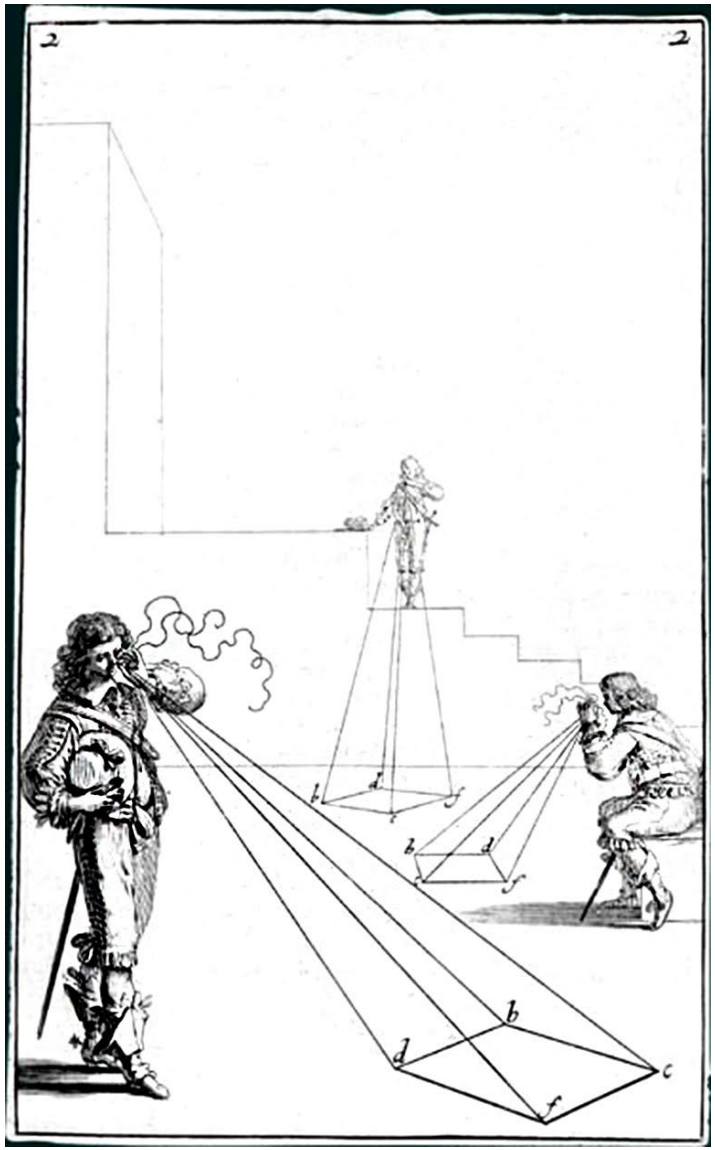
Vesalius' lectures in the anatomical theatre of Bologna and Padua in the middle of the sixteenth century drew hundreds of spectators – eyewitnesses whose gaze upon the bodily specimens became increasingly coded by the drama of public dissection. His anatomical science turned the architecture of the body inside out through penetrative dissection ("anatomy", from the Greek *ana* = "through", + *temnein* = "to cut"), transforming it into a mechanism that could be described without recourse to the idea of a soul, and which logically presented itself as a moving corpse, a *danse macabre* of sorts. If the dramaturgy of the anatomical theatre appears uncanny (in the Freudian sense of hovering in a multistable space, at the tipping point between dead and alive), this is no accident, for its infrastructure is not solely organic, but is to a large extent thought of as a piece of technology, a quasi-*automaton*, anticipating Descartes' mid seventeenth century dissection experiments and his explicit formulation of animal and human bodies as machines.

The anatomical theatre is a spatial experiment in which the performativity of the human actors is folded into the theatrical machinery. The theatricality of observation performs a rational universe in which certain perceptual contingencies are transferred onto the object (here, the dissected body). Perception is "purified" so that the perceived can be disputed: the visual economy of the anatomical theatre, like the anatomist's instruments and the openings and profile of the body, is the product of an architectonic operation whereby the situatedness of the gaze of the witnesses, the perspective through which they observe, is transposed to the object as a mode of presentation. Through the scopic geometry that emerges between the dissected body and the eyewitnesses of Vesalius' anatomical theatre, the automaton through which the scenography of natural anatomy is enacted provides scientific representations with a hermeneutic dimension.

This hermeneutic dimension is essentially a space of *mediation* between, on the one hand, the finite, embodied scopic situation of the eyewitnesses forming the scientific community under formation, and, on the other hand, the ontological revolution inherent in the gradual emergence of what Alexandre Koyré (1957) called the "infinite universe" disclosed by modern sciences. As Camilla Skovbjerg Paldam and

Jacob Wamberg (2015) recently pointed out, in 1543 (the same year Vesalius dissected the inner macrocosm of the human body), Copernicus presented the heliocentric universe. Beyond the chronological coincidence, these events ought to be understood as two complementary horizons of scientific modernity. The Copernican revolution emancipated nature from its Ptolemaic traction, and inaugurated its entry into the boundless Cartesian universe observed by modern sciences, whose mathematical laws would soon be systematised by the progenitors of the future physical sciences (Boyle, Galileo, Kepler, Newton…), in which the project of modern natural anatomy would be central. If anatomy is understood as a reading of the body's demarcated volume made possible by a specific theatrical and spatial geometry, and if, as such, it approximates its object (the body) to a mathematical model, the scopic regime of the anatomical theatre can indeed be understood as a technological mediation between the boundless, abstract space laid bare by modern sciences and the individual, corporeal bounds within which this mathematical space is witnessed, and thus inscribed in a normative fashion in the social sphere.

The prime metaphor for the modern world view (the universe as clockwork) itself indicates that the new natural sciences came into intimate dialogue with the expanding practice of making new mechanical instruments: technological devices that channeled, distributed, represented, and intensified the forces of nature for human use. Amongst these, we ought to inscribe optical devices and exhibition machines such as the anatomical theatre. In such automata, scientific modernity found its own mode of production of truth effects and social inscription: their epistemological macrocosm mirrored the new political macrocosm by creating specific hermeneutic conditions as well as new states of relationality within the new, boundless, mathematisable chain of mediation between the subject and the world.



Abraham Bosse,
Les perspecteurs, 1647.

A Dead Angle in the Perspectivalist Cone: the Clinical Gaze

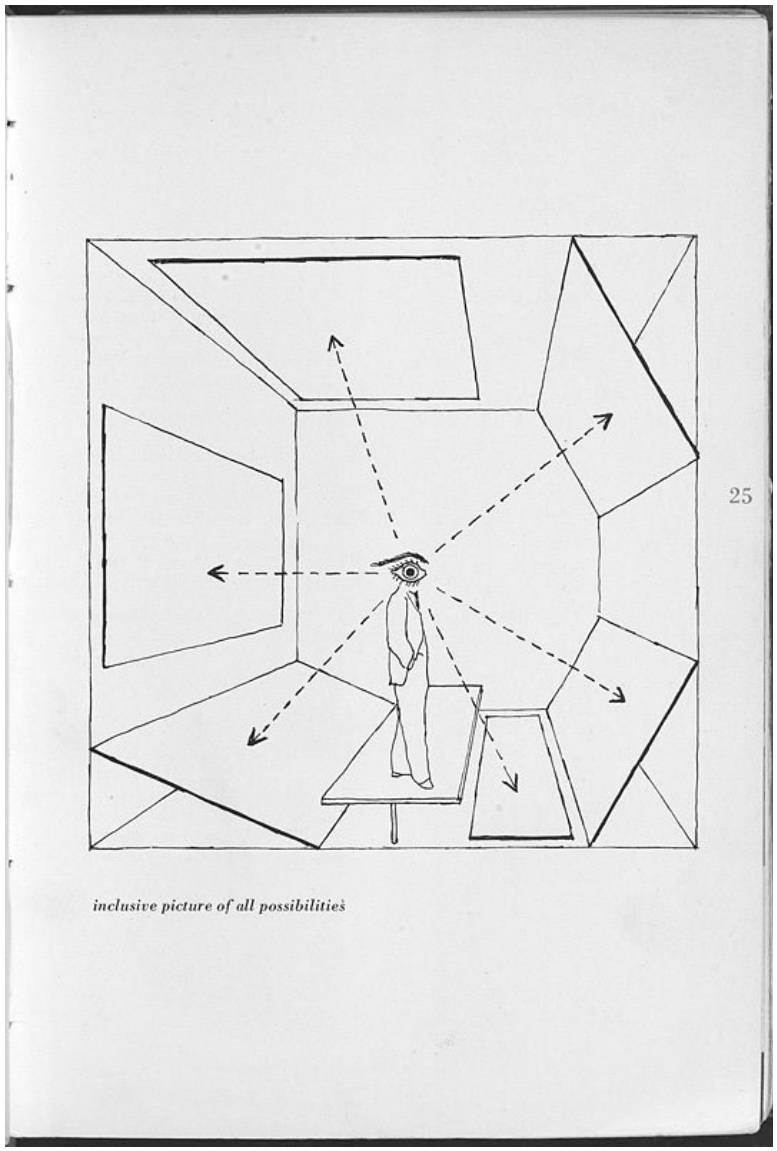
What had begun with Vesalius led to the emergence of anatomical theatres as cultural institutions in the seventeenth and eighteenth centuries. As Cynthia Klestinec (2011) or Ludger Schwarte (2005) detected, the anatomical demonstrations served as a performative paradigm for the other experimental sciences to reproduce, for instance, Abbé Nollet's physics spectacles in the eighteenth century. In 1680, Pierre Dionis and Joseph Guichard Du Verney set up special rooms in the Jardin des Plantes in Paris where students could perform dissections, which, one hundred years later, would lead to what Michel Foucault called *The Birth of the Clinic* (1963).

This new form of power, dramatised by the scopic regime of the anatomical theatre, is chiefly rooted in Cartesian perspectivalism. This new concept of space, geometrically isotropic, rectilinear, abstract and uniform, that Rosalind Krauss (1994) retrospectively called "Alberti's veil", forms so to speak the spatial backdrop of the modern psyche. The fundamental element of this scopic regime is the notion

of virtual pyramids anchoring the viewer as a fictional apex of the visible. Significantly enough, and as Jonathan Crary (1992) demonstrated, this ideal modern viewer was not modeled after the natural binocular vision, but as looking at a stage through a peephole. As Martin Jay (1994) showed, this scopic regime is typical of the modern dualism of subject and object, visually founded in the placement of a detached observer, a subject, at the apex of a perspectival cone whose sides lead to an infinity of objects against which the subject measures itself.

The architectonic operation of the anatomical theatre, and more broadly of institutions of exhibition throughout modernity, are pieces of technology largely dedicated to the social translation of this perspectivalism into truth effects. Effectively, the power of this scopic regime cannot be fully grasped without understanding its ontological ramifications. The modern institutions of exhibition such as the anatomical theatre can indeed be understood as sites of conversion of epistemic borders (relating to how we come to demarcate and know things, relatively to an order of knowledge rooted primarily in technological and socio-political spaces) into ontological grounds (relating to what things are). The archetype of this translation can be found in what Michel Foucault called the *clinic* (1961 and 1963) in his history of madness and archeology of medical perception. He elevated the clinical gesture to the rank of anthropological truth by demonstrating that the anatomico-clinical method of auscultation of symptoms on bodies (the activity of identification, delimitation, objectivisation, explication, and separation between the sane and the insane for instance) came to constitute the implicit lattice of the modern experience of knowledge at large. The epistemic model of the clinical gesture is essentially double in nature: the limits, or "cuts", it imprints in social space are eclipsed by the positivity of the institution in which it is enacted. Here we find the sleight of hand of the clinical gesture as well as of the way in which scientific modernity bore a new form of power. The clinic constantly produces limits which naturalise themselves by multiplying at all scales of knowledge, universalising their language, hence appearing as *facts* obscuring their existence as mere instruments of epistemic appraisal: the clinic denaturalises the objects it examines while naturalising the borders it imprints between them into a new ontological ground.

As the example of the anatomical theatre shows, the vanishing point of these truth effects (the stage of the universalisation of epistemic boundaries into ontological frontiers) is the spectator, the witness's eye, sensorium, and cognitive scaffolding. That



spectator's position at the apex of the perspectivalist cone is thus fundamentally twofold and equivocal: it is both the perspectival terminus of the anatomical experiment, and the site where its conditions of possibility are eclipsed, made transparent, elusive, and impalpable, for they transform the dialogism of the exhibitionary dramaturgy into positive binaries: objectified bodies and subjectified witnesses. Here, the delineation of objects is simultaneously the making of subjects. This co-production of subjects and objects outlines the central aspirations of the project of reason of Western modernity: the symmetrisation of "subject" and "world"; the orientation of thought towards the dismantlement, stratum by stratum, of the world of appearances; the systematic transformation of implicit background conditions in explicit themes of reflection; the extraction of the modern subject from nature; the attribution to subjectivity of its transcendent aspect via the rationalisation of its space of projection, the autonomous theatre of thought.

The theatricality of the exhibition genre is entirely shaped by these dialectics of objectivisation and subject-formation. Because of its function in the naturalisation of epistemology into ontology, the exhibition is a privileged site for understanding the ramifications in subjectivity of the making

Herbert Bayer, *The Fundamentals of Exhibition Design*, 1937.

of modern ontological designations. This is the site where the operation of the exhibition genre must be excavated: in the way it has crafted regimes of factuality by naturalising epistemic boundaries into ontological frontiers.

The Explicit *Theatron*

What is at stake here is the ontological engineering inherent of the scopic regime coding the exhibition spaces of modernity: the invention of a new scientific representation of nature was symmetrically the invention of a new individual – the modern spectator – by way of institutions and technological devices of presentation naturalising the conditions of its foundation as a subject of history. This scopic regime is a hermeneutical architecture whose positivist power lies in the eclipse (or naturalisation) of its mediations: it is a meaning-machine frozen into the hardware and logics of technology, picturing nature as a pure object of vision while in fact consisting of a technological production of nature through social praxis. In a context where the great divides inherited from modern universalism (nature versus culture, subject versus object etc.) have turned into multistable lines of conflict, we ought to question the ways in which the modern apparatuses of exhibition have contributed to the stabilisation of the ontological designations of modernity, in order to reconceptualise and demystify the conceptual traction the art institution can claim to produce on our social imaginaries and political horizons of expectation.

The matter at hand is to understand how the states of mediality, the modes of relationality and the semiotic processes that the exhibition genre invented have informed the historical transformations of the art exhibition throughout modernism and postmodernism, which this short text can only very briefly sketch out. Needless to say, the history of modernist art is founded on a critique of this positivist regime of rationality and the objectivist forms of knowledge it fostered, to the extent that it provided it with its negative image. Historically, this negativity has been a powerful resource for critique, questioning and dramatising the fabric of modern subjects by operating at the borders of the technological and social engineering of the modern psyche, instilling forms of perceptual synthesis in the chains of mediation that modernity produced between the subject and the world. However, as proposed in the editorial introduction to the first issue of the journal Glass Bead[2], this

2. "Castalia, the Game of Ends and Means", *Glass Bead*, no. 1, 2016, online.

conception of aesthetics as a bastion of immediacy standing up to the modern capitalist rationalisation of experience has led art, in its most symptomatic contemporary state as "global signifier", to picture itself as a space of production of affects intractable to rational thought, to the extent that it has receded into the ineffable, blind and deaf to the ways in which this immediacy, as well as the spontaneity of experience it claims to produce, are coded by the modern regimes of production of truth and value, and as such entirely mediated by capital.

In place of this immediacy, a critical discourse embracing the states of mediality afforded by the exhibition genre can be initiated by maintaining a realism of relations in place of the eclipse of mediations that characterised the modern spaces of exhibition, and that still codes the implicit, neo-positivist representational triumphalism of contemporary art. Hence the great attention a materialist history of exhibitions (one aiming at contrasting the spaces of art exhibition with the regime of rationality in which they emerged) should pay to the ontological, epistemic, semiotic, hermeneutic and social dimensions of the exhibition as the theatre of production of the modern psyche.

The theatrical model and its enclosure as a *theatron* ("beholding place") within which time, space, and the properties of bodies can be manipulated, largely scripts the exhibition space, and, as demonstrated by Bertolt Brecht, the political dimension of the theatre can consist of a sustained consciousness of its separation from society, allowing for the comprehension of this separation as a *fait social*, itself part of society. This is where a materialist history of exhibitions could gain a possible conceptual and political traction: in the refusal to further blur this separation in producing states of immediacy, and the commitment to make its inner mediations explicit.

ACKNOWLEDGEMENTS

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IMAGINING A CULTURE BEYOND OIL AT THE PARIS CLIMATE TALKS

MEL EVANS AND KEVIN SMITH OF LIBERATE TATE

l'internationale

Liberate Tate, *Time Piece* (2015). Photo: Martin LeSanto Smith.

I'm standing in the gallery in front of the sculpture. She looks back at me, and into the distance, at the same time. In this space we all try to be timeless, me and the artist and the artwork; we all glance at the past, imagine the future, and reflect on both ad infinitum.

The artist imagined me standing here. Without knowing who would come, she thought of someone looking at her sculpture like this. The bust of a man's face, this object moulded by her hands, manifests this dialogue between me – the audience – and the artist who is now deceased.

It is impossible to know the future. But it is possible to predict, to assess, to gamble. Right now, in preparation for the Paris COP 21 climate talks in December 2015, papers are shared, meetings arranged, journeys across the planet organised, and shortly the negotiators' casino will gather to discuss what steps might be taken by global governments to stem the rising carbon dioxide levels in the Earth's atmosphere.

Extreme weather events have made the climate crisis more present and the need to act on the threat more urgent, yet still societies around the world struggle to find a suitable space, vehicle or mechanism to join together and act. Museums occupy a curious location in the hunt to crystallise concerns around climate change into action to create climate safety. Galleries and museums present visitors with social questions on gender, racism, the environment, economics, nationality and more. Cultural institutions become centre-points of social discussion and sites in which the seeds of social change can be sown.

As such, museums have a specific role to play in opening up dialogue around our active response to the prospect of climate change, which – for the survival of the homes, habitats and species of the planet – would be to try and prevent the worst impacts from unfolding. Museum directors hold the key to significant decisions around buildings, curating, learning programmes – and funding.

Right now, too many large cultural institutions around the world allow oil sponsors to brand their entranceways, their catalogues and their events. For the oil companies this provides a valuable

social licence to operate, a guise of social acceptability masking the harmful impacts of the fossil fuel industry.

We are at a critical juncture in our societal evolution where we urgently need to address the issue of corporate power more broadly, and the power of the oil industry most specifically. There is very little precedent for the significant influence that oil companies wield in the political, financial and cultural spheres. A wide range of key figures involved in the struggle to prevent climate change have identified the influence that oil companies exert as being one of the single biggest obstacles to the urgent changes that are needed to make the transition to low carbon societies.

The power and influence oil companies have in the cultural sector stands side by side with the industry's actions to undermine climate legislation: from the United Nations climate talks, across the European Union, and down to our national governments. The trust companies like BP, Shell and Total garner from galleries is spent ten-fold in the access to key political figures and regulatory processes in parallel corridors of power.

And what of these companies in Paris? The original proposal which the UN put on the table to deal with climate change was a far more robust sculpture than what forms the centrepiece in Paris. The onus had been on those most responsible for carbon emissions to take the most action to stem the thickening clouds. Oil companies like BP and Shell, alongside a rogue's gallery of other corporates, were quick to form a highly effective lobby named the World Business Council for Sustainable Development. It successfully managed to replace mandatory emissions cuts with various flexible mechanisms and voluntary initiatives, effectively enabling the biggest polluters not only to avoid making cuts but in many cases actually make profits out of the fundamentally flawed carbon markets they had proposed.

BP and its allies have been similarly successful in obstructing effective climate policies in Brussels. In a recent ranking of European companies according to their records for lobbying and opposition to climate policies, BP was identified as the worst offender. According to Thomas Neil, the director of Influence Map, "BP has been consistently opposed to all the main forms of climate change regulation. There is very little positivity coming out of them and they are a board member of several obstructionist trade associations, some of which give a very dubious account of climate science."

This version of BP's character is precisely what it seeks to mask through its allegiance with Tate.

Liberate Tate, *The Reveal* (2015). Photo: Martin LeSanto Smith.

Oil companies' influence in the corridors of power is equally well displayed at national government level. BP and Shell had more ministerial meetings with UK government officials than the entire renewable energy sector combined between 2010-14.[1]

Tate and other cultural institutions are keen to stress the idea that oil money does not involve any influence over curatorial and programming decisions or any part of their operations. But there is enough evidence to suggest the contrary. In March 2015, Freedom of Information requests revealed Shell management questioned museum staff about the company's concern the climate change exhibit Shell sponsors might "create an opportunity for NGOs to talk about some of the issues that concern them around Shell's operations".

Shell obviously has clear ideas about how it desires the Science Museum to present and promote the company, and has a notably casual assumption that staff would indeed take strict note of its directions.

Liberate Tate was born during a workshop at Tate in which staff requested participants not criticise the sponsors, underlining the evidence of their insidious influence. There are so many reasons why we might be critical of BP, the third largest emitter of carbon dioxide in the world. Its presence at Tate, and other oil companies similarly positioned in other galleries elsewhere, obscures and undermines the potential – and indeed responsibility – of cultural institutions to enable visitors to consider climate critically, and imagine a pathway to a climate-safe future. Our response is to create artworks in opposition to BP's presence, opening up a space of dissent and potential change within the gallery.

Earlier this year, we spilled the tiny amount of money Tate receives from BP in fake 'Bank of Tate' notes adorned with the effigies of the Director Nicholas Serota and the Chair of Trustees, ex-BP boss Lord John Browne. The performance took place after Tate was forced to reveal it receives merely half a percentage of its annual spending from BP. It took a three year legal battle for this figure to be revealed, presumably because it is so embarrassingly small. In June 2015, we performed *Time Piece*, a 25-hour performance in which over 100 people transcribed texts on oil, art and climate change in a rising tide, on the slope up Tate Modern's Turbine Hall. This was a call to gallery directors to drop BP ahead of the Paris climate talks, against the wishes of the Head of Health and Safety – a nice man named Dennis. Then in September

1. Evans R., Bengtsson H., Carrington D. and Howard E. 2015, "Shell and BP alone eclipse renewable energy sector on access to ministers", *The Guardian*, 28 April, viewed 13 November 2015.

2015, Liberate Tate performed *5th Assessment*, in which thirty or so performers dressed in black and wearing black veils, uttered the Intergovernmental Panel on Climate Change (IPCC)'s report in a speedy monotone. We were not attempting to elucidate or educate on the content of the dense, complicated scientific report. We wanted to make the sounds an object in the gallery space littered with the BP logo, challenging Tate to either remove the IPCC's weighty words in our unsanctioned performance, or eject the sponsor.

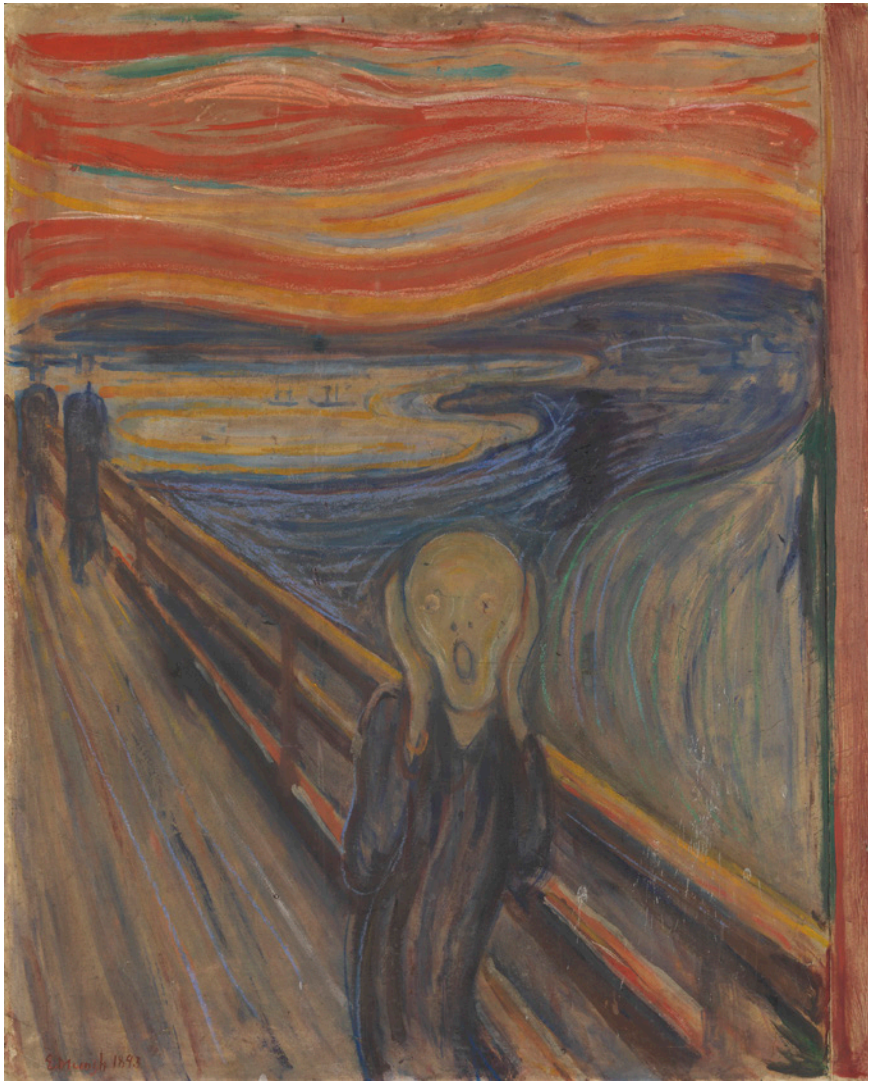
When politicians arrive at their meetings in Paris in December, they will feel the presence of hundreds of thousands of climate change and social justice activists on the streets around them. The role of social movements has been crucial in creating potential to halt climate change while the *United Nations Framework Convention on Climate Change* (UNFCCC) process has fumbled. The global divestment campaign and movement to end oil sponsorships are part of this push from the wider civil society to take the action on climate we truly need, and to usurp the power of the fossil fuel industry within our societies. Groups around the world who are campaigning to end oil sponsorship deals in their respective countries have announced they will join French artists, activists and gallery workers to oppose Total and Eni sponsorship at the Louvre with a protest during the climate talks. This sums up the challenge to the UNFCCC and museum and gallery directors worldwide: the people are leading the way to climate safety, will you follow?

We make monuments and artworks to mark, celebrate and learn about the past as we look ahead. While galleries carefully conserve artworks that hold sacred our stories for future generations, the climate movement is acting to protect the very landscapes we see in all those beautiful paintings. The climate talks and the mobilisations around them demand that cultural institutions separate themselves from the industry responsible for exacerbating climate change. Galleries are, in part, spaces to imagine the future, and what we need now is a culture beyond oil.

Liberate Tate, *5th Assessment* (2015). Photo: Martin LeSanto Smith. L'INTERNATIONALE ONLINE – MEL EVANS & KEVIN SMITH OF LIBERATE TATE – 109

CLIMATE RISKS, ART, AND RED CROSS ACTION: TOWARDS A HUMANITARIAN ROLE FOR MUSEUMS?

PABLO SUAREZ



Edvard Munch, *The Scream* (1893). Photo: Børre Høstland, The National Museum of Art, Architecture and Design, Oslo.

This is an open invitation to the L'Internationale community of museums and civic institutes where art is used for public benefit: How can you and the Red Cross work together for inspiration, reflection and debate on climate issues? How can we help accelerate action by influencing culture? Can we mobilise the power of humanity to address climate risks, through innovative uses of art?

When the Krakatau volcano exploded in Indonesia in 1883, it sent 20 billion tons of sulphate particles to the upper atmosphere, casting shadows. During the following months, the partial blocking of sunlight changed rainfall and temperature patterns around the world, and tainted the sunsets in Norway. Edvard Munch wrote of "clouds turning blood red. I sensed a scream passing through nature; it seemed to me that I heard the scream. I painted this picture, painted the clouds as actual blood. The colour shrieked. This became *The Scream*".

We know that a different phenomenon has been altering our atmosphere since before Munch's painting: our burning of fossil fuels has been adding

heat-trapping gases to the air, at an accelerating rate (about forty billion tons of CO_2 last year alone, and rising…). We are in trouble: greenhouse gases can stay up in the atmosphere for a century, slowly but surely warming up air and waters, with inevitable and somewhat predictable changes in winds, oceanic currents, and therefore forcing us to experience the unprecedented.

The science is unequivocal: our global climate is changing, raising sea levels and significantly increasing the risk of severe floods, droughts, heat-waves, forest fires and other extreme events[1]. Nature is already screaming at us. While the main greenhouse gases are not visible to our eyes, we are seeing the impacts of a changing climate on the very people who have done the least to cause the problem. Climate change is a humanitarian issue, and the humanitarian sector needs to rethink how we work, expanding our collaboration with organisations that can help people understand and address the problem – and what can be done about it.

It is crucial to ensure that vulnerable communities are prepared for the rising threats. While much remains to be done, collaborations between people at risk, disaster managers, government agencies, donors, scientists and other stakeholders in risk management are making remarkable progress. In Bangladesh for example, where past tropical cyclones have led to massive death tolls, improved systems are saving lives by turning early warnings into early action[2]. The Bangladesh Red Crescent and partners have tapped on the artistic inclinations of the population by using drama, song, poetry and visual arts[3] among its advocacy efforts to enhance cyclone awareness and motivate communities in disaster risk reduction.

At the Red Cross Red Crescent Climate Centre[4] we have been carrying out our mission to help address the humanitarian consequences of climate change and extreme events since 2002. Experience has taught us that science and humanitarian considerations alone seem to not be enough to inspire ambitious thinking and action needed given the scale of the problem.

1. IPCC, 2012: "Summary for Policymakers". In: *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation* [Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (eds.)]. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK, and New York, NY, USA, pp. 1-19, viewed 14 November 2015.

2. International Federation of Red Cross and Red Crescent Societies (IFRC), 2008, *Early Warning. Early Action*, Geneva, viewed 14 November 2015.

3. McNaughton, EG. 2009, *A Practical Guide to Advocacy for Disaster Risk Reduction*, International Federation of Red Cross and Red Crescent Societies (IFRC), Geneva and New Delhi, viewed 14 November 2015.

4. Red Cross Red Crescent Climate Centre

Red Cross Argentina, Planetarium installation.
Still from a video.

Innovative collaborations with artists have shown their humanitarian power[5].

When the Argentinean Red Cross was trying to help flooded rural communities in the northern province of Chaco, it decided to embark on an unusual endeavour: a collaboration with designers and government authorities in Buenos Aires. The resulting installation, Casa Inundada, 2009, consisted of a submerged home in the capital city, mounted in a pond next to the Planetarium's modern building. Art brought the message of solidarity to the heart of the city, helping to raise awareness of thousands of passer-bys, and to millions through TV and other media[6].

Filmmaking also offers unique opportunities to help address the causes and consequences of climate change. In addition to professionally produced films, recent initiatives have explored more interactive ways to use audiovisual tools. For example, participatory video involves a group or community in shaping, creating and filming their own film. It establishes trust and has the potential to create spaces for transformation. The Climate Centre has worked with partners to make participatory videos on climate change in Ethiopia[7], Malawi[8] and beyond, with illiterate subsistence farmers becoming filmmakers and promoting the dissemination of new farming practices that can help their peers adapt to changing conditions and promote food security. An additional innovation was offered during the UN Climate Conference in Doha (Qatar, 2012), where participants at the Development and Climate Days (D&C Days) were invited to first become film critics of existing conventional and unconventional climate-related videos, and then storyboard proposed short films together – like the Sudanese negotiator and the British researcher crafting a movie concept in the publication Beyond the Film[9].

Music also has much to contribute to humanitarian work in a changing climate. In addition to well-known campaigns supported by celebrities, there is room for more tailored approaches. For example, a sound art miniature competition co-convened by the Climate Centre and CEIArtE[10] invited musicians to

5. Note: no humanitarian funds were used for artistic endeavours.
6. For example; see Cruz Roja Argentina, 2009, *Casa Inundada*, viewed 14 November 2015.
7. Documentary on the Participatory Video Facilitation in Wage Wargaje, North West Ethiopia, Farmers Become Filmmakers, 2010, Ethiopian Red Cross, viewed 14 November 2015.
8. Documentary on the Participatory Video Facilitation in Salima District in Malawi, Farmers Become Filmmakers, 2008, Produced and narrated by Fernanda Baumhardt, Malawian Red Cross Red Crescent Society, viewed 14 November 2015.
9. Ryvola R. and Suarez P. 2013, *Beyond the film. Innovations in the participatory use of film at international conferences on climate*, Red Cross Red Crescent Climate Centre, Working Paper Series No.2, viewed 14 November 2015.

create 'soundscapes' about the growing risk of mosquito-borne diseases like malaria and dengue, which are showing new regional and seasonal patterns due to changing rainfall and temperature conditions. The winning submissions evoked the pervasive buzz of mosquitoes changing in space and time, disrupting and even threatening the listeners. The role of music was further explored at the D&C Days during the UN Climate Conference in Warsaw (Poland, 2013): a session was dedicated to how music improvisation[11] can teach key lessons to climate risk managers.

A rapidly growing, exciting new endeavour is combining creative design and system dynamics modelling: participatory games[12] that embody the feedbacks, thresholds, delays and especially the trade-offs involved in disaster risk management. Games involve decisions with consequences, and consist of a sequence of interesting choices. Serious yet fun gameplay sessions have been facilitated in over a thousand events, ranging from gender and climate in rural Kenya[13] to hurricane preparedness at the White House[14], inviting participants to reflect on potential individual and collective choices for managing risks in a changing climate. A particularly exciting approach is offered by engagement games[15], where play actions are taken not in a fictional setting but in the real world, in ways that enable people to understand and change their reality.

For example, we designed the game UpRiver in collaboration with EGL[16] to help Zambian farmers living along the floodplains of the Zambezi River to understand and contribute to flood warnings, providing incentives to monitor and report river levels in their village, and make predictions based on available information from upstream. UpRiver can improve science-based predictive models, as well as increase the trust of communities in early warning systems. Games are increasingly considered an art form, and have a lot to contribute to both museums and the Red Cross to help engage people in experiencing the emotional and intellectual complexity of changing realities.

10. Call for participation 2013, Electronic Arts Experimentation and Research Centre (CEIArtE) of the National University of Tres de Febrero in Argentina and the Red Cross/Red Crescent Climate Centre, viewed 14 November 2015.
11. Dupar, M. 2013, "Communications on climate: a role for music?", Red Cross Red Crescent Climate Centre, 21 November, viewed 14 November 2015.
12. Suarez, P. "Using games to experience climate risk. Empowering Africa's decision-makers", Final report: CDKN Action Lab Innovation Grant, Red Cross Red Crescent Climate Centre, viewed 14 November 2015.
13. *Climate & Gender Game – Video to support training of facilitators*, 2012, Red Cross Red Crescent Climate Centre, viewed 14 November 2015.
14. "Pardee Research Fellow Conducts Gaming Session at the White House", 2012, viewed 14 November 2015.
15. Gordon E., Walter S., Suarez P. *Engagement Games. A case for designing games to facilitate real-world action*, guide.
16. Engagement Game Lab (EGL).

UpRiver, Zambia
Photo: Wade Kimbrough, Engagement Lab

Participatory games can help people and communities inhabit the complexities of changing climate risks. The game UpRiver in Zambia has inspired farmers living on the Zambezi River Floodplain to embrace and contribute to early warnings. (For more information, see this journal article, or page 47-8 of this NASA publication.

Imagine you are a Red Cross worker. The world of museums seems irrelevant for your mission to address climate-related threats around the world. An unusual opportunity arises: you can propose via an out-of-the-box activity in the context of the UN Climate Conference in Lima in December 2014. What can you do to help event participants rethink the future? With support from numerous partners, the Climate Centre tried something new: Under the vision and guidance of Tomás Saraceno[17], a team of local volunteers set to work, including artists, students and Red Cross youth, as well as grandmothers and children from the slums near Parque Wiracocha. They collectively constructed a large, lighter-than-air sculpture made of plastic bags that would otherwise be trash. Named "Intiñán"[18] (a Quechua word meaning "way of the sun"), the sculpture aimed to harness the sun's power to make our thinking and action take flight. No need for helium or a burning flame feeding off fossil fuels: Just sunlight and the flame of motivated volunteers.

While *Intiñán* was absorbing the sun's power, many participants in suits and neckties removed

17. Tomás Saraceno, Becoming aerosolar, 2014, Invitation to an artistic experimental performance, viewed 14 November 2015.
18. Red Cross Red Crescent Climate Centre, 2015, "IFRC humanitarian cash for Albania after 'worst floods since 1971'", 9 February, viewed 14 November 2015.

19. Tomás Saraceno, *Becoming aerosolar*, 2014
20. Tomás Saraceno, *Becoming aerosolar*, 2014.
21. Tomás Saraceno. *Becoming Aerosolar*, 21er Haus, Vienna, 2015.
22. Tomás Saraceno. *Aerocene*, Grand Palais, Paris, 4-10 December 2015.
23. Development & Climate days.

their shoes[19] and crawled into this cathedral of light made of simple plastic bags. An artistic vision was uniting Lima's shantytown dwellers with Nobel-prize-winning scientists, Bangladeshi community organisers, TV crews, European donors and Ugandan disaster managers, all bonding and reigniting their commitment to a better world while looking up[20] to the luminous world of possibilities. On 7 December, 2014, *Intiñán* became lighter than air and lifted off the ground, in the middle of an event that included former heads of state, national ministers, and development workers from all continents. Intiñán incarnated what our world needs: We can mobilise the power of humanity, embracing science and art to rekindle our relationship to the world.

This collaboration between artist Tomás Saraceno and the Red Cross was featured at the "*Becoming Aerosolar*"[21] exhibition in Vienna's 21er Haus. Its spirit carries on with the artist's new endeavour, "*Aerocene*[22]", an installation at the Grand Palais for the 2015 UN Climate Conference in Paris. The Climate Centre has been invited to present insights at an Aerocene symposium on 6 December,

Tomás Saraceno, *Becoming Aerosolar* at Country Club Lima, Perú (2014). Hosted by "Development & Climate Days, 2014: Zero poverty, Zero emissions. Within a generation".
© Photography by Studio Tomás Saraceno, 2014.

The invitation to an artistic experimental performance, by artist Tomás Saraceno, said: "Join us to create and celebrate solar-powered, lighter-than-air sculptures, and engage in rethinking possible futures." The result, in collaboration with Red Cross partners, was Intiñán, which took flight harnessing sunlight and the flame of motivated volunteers.

hours after another out-of-the-box participatory session entitled "*Taste the Change*", which will explore our climate choices through food at the upcoming D&C Days[23] – in collaboration with the Senegalese culinary artist Pierre Thiam.

So what can museums and artists do to help address the humanitarian consequences of climate change? The best answers, of course, can only emerge from the art community itself. We trust that the exploration of this question is gaining momentum, and from the Climate Centre we look forward to contributing. Some thoughts for your consideration include of course the obvious task of reducing the carbon footprint of art-related endeavours, not only in terms of the lightbulb efficiency of museums but also other, more symbolically powerful aspects – from the materials and messages of selected artwork to the choice and climate-responsibility profile of sponsors. At the practical level there can be new or revised disaster management plans, examining the threats posed by extreme rains, winds, temperatures and other climate-related issues and what can be done to reduce losses of artwork as well as improve the resilience of workers, guests and local communities. At a deeper level, museums, artists and other stakeholders in the world of culture could help humanity by creating exhibits, installations, and other initiatives aimed at helping us all see with new eyes on the climate issue with new eyes . We need to infuse creativity into humanitarian work and beyond, expanding the range of what is perceived as real, and what is perceived as doable.

Tomás Saraceno, *Aerocene*, a model try-out at the artist's studio, October 2015. © Photography by Studio Tomás Saraceno, 2015.

BIOGRAPHIES

Ursula Biemann

Ursula Biemann is an artist, writer, and video essayist based in Zurich, Switzerland. Her artistic practice is strongly research-oriented and involves fieldwork in remote locations where she investigates climate change and the ecologies of oil and water. She works the findings into multi-layered videos by connecting the micropolitics on the ground with a theoretical or planetary macro-level. *Sahara Chronicle*, her earlier writing and experimental video work, focused on borders and migration. The recent projects *Egyptian Chemistry* and *Forest Law* examine the ecologies among diverse actors – from tiny water pollutants to major desert developers, from copper deposits to International Law. *Deep Weather* and *Subatlantic* engage with the larger temporalities of climate change. Biemann exhibits in museums and international art biennials worldwide and received the 2009 Prix Meret Oppenheim, the national art award of Switzerland. She has published several books and is part of the collective art and media project World of Matter. More on www.geobodies.org.

Candis Callison

Candis Callison is an Associate Professor at the University of British Columbia's Graduate School of Journalism where she conducts research on media change, social movements, journalism ethics, and science and environment issues. She is the author of *How Climate Change Comes to Matter: The Communal Life of Facts* (Duke University Press, 2014). Her research project on Arctic Journalism can be found at @arcticjourno. Callison received her PhD from MIT's Program in Science, Technology, and Society and her Master of Science from MIT's Program in Comparative Media Studies. She is a member of the Tahltan Nation. She previously worked in the United States and Canada as a journalist and producer in broadcast and online media. She tweets from @candiscallison.

Fiona Cameron

Dr Fiona Cameron is a senior research fellow at the Institute for Culture and Society, Western Sydney University, Australia. Fiona has researched and published widely on museums and their agency in contemporary societies around 'hot' topics and climate change to material culture, digital heritage and the posthumanities. Fiona was the lead Chief Investigator on the international research project, *Hot Science, Global Citizens: The Agency of the Museum Sector in Climate Change Interventions*.

Recent books include three co-edited collections, *Climate Change and Museum Futures* (New York: Routledge); *Theorizing Digital Cultural Heritage: A Critical Discourse* (MIT Press 2007), *Hot Topics, Public Culture, Museums* (Cambridge Scholars 2010); a co-authored monograph, *Compositions, Materialities, Dynamics: Theorizing Digital Cultural Heritage for a Complex, Entangled World* (MIT Press, 2016) and a multi-authored monograph, *Collecting, Ordering, Governing* (Duke UP, 2016). Fiona has published widely in *Continuum; Journal of Material Culture; International Journal of Heritage Studies; Museum and Society and Museum Management and Curatorship*.

Mel Evans and Kevin Smith of Liberate Tate

Liberate Tate is an art collective making unsanctioned live art in Tate spaces to free Tate from BP (British Petroleum) sponsorship. Both Mel Evans and Kevin Smith have been part of art collective Liberate Tate for over five years.

Mel Evans is the author of *Artwash: Big Oil and the Arts* (Pluto Press, 2015), co-editor of *Not If But When - Culture Beyond Oil* and her play, *Oil City*, was produced by Platform in 2013. Kevin Smith is the co-editor of *Not If But When - Culture Beyond Oil* and the editor of *Picture This - A Portrait of 25 Years of BP Sponsorship*.

Barbara Glowczewski

Barbara Glowczewski has a professorial research tenure at the National Scientific Research Centre in Paris, and coordinates the Anthropology of Perception team at the Laboratoire d'Anthropologie Sociale. She teaches at the EHESS. She has worked with Indigenous people in Australia since 1979 (specifically with the Warlpiri people from Lajamanu, Northern Territory, and Indigenous people of the Broome region, Western Australia) and has dedicated her work to advocating for Australian Aboriginal creativity employing a variety of artistic, cinematic and narrative modes of exploration.

Glowczewski has published many books such as *Totemic Becomings. Cosmopolitics of the Dreaming* (Sao Paolo, n-1, 2015); *Desert Dreamers. With the Warlpiri* (Minneapolis, Univocal, 2016), *Du Rêve à La loi chez les Aborigènes*, PUF 1991; *Rêves en colère*, Plon – Terre Humaine, 2004, as well many articles in French and English in scientific journals and in collective books. She has produced awarded multimedia work on art, ritual and Indigenous knowledge. As an adjunct Professor with James Cook University since 2004, she has contributed several publications to the JCU records, including a book on Palm Island (*Guerriers pour la Paix*, Indigène editions, 2008).

In 2010, she was appointed as a member of the International Advisory Board of the Cairns Institute. She was a guest professor in Brazil for six months in 2013, where she started new research on Afro-Brazilian cults. She is a member of several editorial committees: *Australian Aboriginal Studies, Anthrovision, Deleuze Studies, Mondes contemporains, Multitudes, Vibrant ABA, Polish Ethnographic Museum Journal*, and on the board of the digital programme (with European funding) of the Archives Audiovisuelles de la Recherche.

Vincent Normand

Vincent Normand is an art historian, writer, and occasional curator. He teaches at ECAL/University of Art and Design Lausanne, where he is director of the research project *Theater, Garden, Bestiary: a Materialist History of Exhibitions* (theatergarden-bestiary.com). He is co-director and co-editor of *Glass Bead* (glass-bead.org), a research platform and a journal concerned with transfers of knowledge across art, science and philosophy, as well as with their practical and political dimensions. He has curated exhibitions at the Centre Pompidou (Paris), LABOR (Mexico City), David Roberts Art Foundation (London), Kadist Foundation (Paris), Fondazione Nomas (Rome), and Forde (Geneva). He has given talks at Witte de With (Rotterdam), The Artist's Institute (New York), Centre Pompidou (Paris), the Banff Centre (Banff, Canada), or the Institut National d'Histoire de l'Art (Paris). He is also a member of Synapse – Curators International Network at Haus der Kulturen der Welt, Berlin. His texts are published in various exhibition catalogues, edited volumes and journals.

Nataša Petrešin-Bachelez

Nataša Petrešin-Bachelez is an independent curator and writer. Between 2010 and 2012, she was co-director of Les Laboratoires d'Aubervilliers and co-founder of the network of art institutions Cluster. Among the projects and exhibitions she curated are *Resilience. Triennial of Contemporary Art in Slovenia* at Moderna galerija/Museum of Contemporary Art (Ljubljana), *transmediale.08 at HKW* (Berlin), *Our House is a House that Moves* at Living Art Museum (Reykjavik), *Let's Talk about the Weather* at the Sursock Museum (Beirut), and in France *The Promises of the Past* at the Centre Pompidou (with Christine Macel and Joanna Mytkowska), *Tales of Empathy* with Nika Autor, Natascha Sadr Haghighian, Kapwani Kiwanga and Eszter Salamon at Jeu de Paume, *Société anonyme* at Le Plateau/FRAC Île-de-France (with Thomas Boutoux and François Piron).

She is a co-organizer of the seminar "Something You Should Know" at EHESS, Paris (with Elisabeth Lebovici and Patricia Falguières), and a member of the research group Travelling Féministe, at Centre audiovisuel Simone de Beauvoir. She is the editor of the online platform *L'Internationale Online*, and was the chief editor of the *Manifesta Journal* between 2012 and 2014.

Clémence Seurat

Clémence Seurat works at la Gaîté lyrique in Paris where she runs the publishing projects. During the COP21, she co-curates a series of meetings and events related to arts and ecology. During several years, she worked in the field of electronic music and media art; she coordinated an international artists' network and curated regular events promoting experimental and hybrid artistic pratices - listening-sessions, concerts, and talks. She often participated at the international jurys and festivals. In 2014-2015, she was member of Bruno Latour's reasearch laboratory in arts and politics based at Sciences Po Paris (Speap) and participated to the conception of *The Theater of Negotiations* and the curation of associated conferences and resources. Then, she co-founded Coyote, a collective working at the intersection of arts, philosophy, ecology and politics through publishing, conferences and performances.

Anna-Sophie Springer and Etienne Turpin

Anna-Sophie Springer is a curator, writer, and co-director of K. Verlag in Berlin. Her practice merges curatorial, editorial, and artistic commitments by stimulating fluid relations among images, artefacts, and texts in order to produce new geographical, physical, and cognitive proximities, often in relation to historical archives and the book-as-exhibition. She is currently researching her PhD. on the financialisation of nature and a new form of natural history exhibition in times of ecological collapse at the Goldsmiths Centre for Research Architecture, University of London.

Etienne Turpin is a philosopher studying knowledge infrastructure, data, and their socio-spatial consequences. He is a Research Scientist with the MIT Urban Risk Lab, where he coordinates the Humanitarian Infrastructures Group; he is also founding coordinator of the Urban Lab Network Asia, and founding director of anexact office, his design research practice based in Jakarta, Indonesia. He is the editor of *Architecture in the Anthropocene* (Open Humanities Press, 2013) and co-editor of *Art in the Anthropocene* (Open Humanities Press, 2015), and *Jakarta: Architecture + Adaptation* (Universitas Indonesia Press, 2013).

Together, as members of the SYNAPSE International Curators' Network of the Haus der Kulturen der Welt, Berlin, they are the co-founders and co-editors of the intercalations: paginated exhibition series, published as part of Das Anthropozän-Projekt. They recently co-curated the exhibition *125,660 Specimens of Natural History* at Komunitas Salihara in Jakarta, Indonesia. Currently on view is *The Lesson of Zoology*, their web-based curatorial contribution to *Unfold: The Volume Project*, curated by Sara Giannini.

Pablo Suarez

Pablo Suarez is associate director for research and innovation at the Red Cross Red Crescent Climate Centre, as well as visiting research fellow at the Boston University Frederick S. Pardee Center for the Study of the Longer-Range Future and honorary senior lecturer at the University College London - Department of Science, Technology, Engineering and Public Policy. He has consulted for the United Nations Development Programme, the World Food Programme, the World Bank, Oxfam, and about twenty other international humanitarian and development organizations, working in more than 60 countries. His current work addresses institutional integration across disciplines and geographic scales to inspire climate risk management, including through collaboration with designers and artists. Pablo holds a water engineering degree, a master's degree in planning, and a PhD. in geography.

Michael Taussig

Michael Taussig is an anthropologist known for his interesting ethnographic studies and commitment to writing. He was born in Australia in 1940 where he studied medicine and later earned a PhD. in sociology at the London School of Economics. He is currently professor of anthropology at Columbia University in New York and his works include theatre pieces on the sea and also the sun (*Berlin Sun Theater: The Mastery of Non-Mastery*, Whitney Museum of American Art, 2013) as well as several books such as *The Corn Wolf* (2015), *Beauty and the Beast* (2012), *Law in a Lawless Land, Walter Benjamin's Grave* (2006), *My Cocaine Museum* (2004), *Defacement: Public Secrecy and the Labor of the Negative* (1999), *The Magic of the State* (1997), *The Nervous System* (1992), *Shamanism, Colonialism, and the Wild Man* (1987) and *The Devil and Commodity Fetishism* (1980).

Sarah Werkmeister

Sarah Werkmeister is a freelance writer, editor, researcher, broadcaster and curator based in Melbourne. Most recently, she co-curated *The Number You Have Reached* at Success in Fremantle, WA—which examined the ways in which surveillance cultures are interrogated within contemporary artistic practice—and is currently researching for an exhibition on the history of eugenics in Australia. She has written extensively, and regularly contributes to *Art Guide Australia* and *Artlink*. She has lectured in Critical and Theoretical Studies at the Victorian College of the Arts (University of Melbourne), tutored within BoVA CAIA at Griffith University, and worked across marketing and communications roles at Next Wave Festival (2016) and the Emerging Writers Festival (2015). From 2008-2012 she co-directed Brisbane-based artist-run-initiative, The Wandering Room, and has worked in community radio for over fifteen years, producing most recently a critical arts show called No Brow on Brisbane's 4ZZZfm. She is currently undertaking her Masters of Art Curatorship at the University of Melbourne. Her research interest is in the transference of political, social and environmental urgency into the museum space.

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