

# ALONG ECOLOGICAL LINES

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*What does it mean that art is now being made in the context of a climate crisis that threatens our very existence on the planet? As our species begins to experience the consequences of its ecocidal practices and, with painful slowness, considers its response, what do artists do and how do they do it? Confronted with images of devastation, narratives of failure and practices of looking away, what can art show, tell or enact differently? As one way of life shows signs of coming catastrophically to an end, what role can art and artists have in the transition to what follows?*

I can't quite remember when I decided to cycle around Europe on a folding bicycle, talking to artists about climate change, but the idea emerged between 2010, when I first became familiar with the coming together of a global climate movement,<sup>[1]</sup> and 2015, when the COP21 climate change conference in Paris was met with the D12 protests and an unprecedented level of artistic activity. It seems likely that it was also influenced by my decision to move from Zurich to join a group setting up an eco-community in the forests of the north of Catalonia in 2013. This new context for my life and work raised many questions for me, and I found myself thinking about art differently, working with my students in new ways and reading and researching more broadly than ever before. I fell into a space where art, activism and the pursuit of another way to practise life started to look increasingly aligned. In John Jordan and Isabelle Frémeaux's film *Paths Through Utopias*,<sup>[2]</sup> a road movie set in a post-capitalist future, they drive through Europe visiting

individuals and collectives involved in the new forms of community that follow the collapse of civilisation as we know it. The trick in the film is that the squats, camps, homesteads and worker-run factories we encounter are no figment of the imagination but real projects, stranded this side of the inevitable changes to come, anomalies that may soon become the norm. Self-organised, de-grown, resilient and fiercely resistant, the film's protagonists, who play along with the playful premise in the interviews, appear prescient and visionary. When I first encountered the film I realised that I was drawn to it because of a certain familiarity with its subjects. I knew these people from the future, not exactly the ones depicted in their movie but others like them. At first I met them by accident, but after a while I sought them out and eventually they came to find me.<sup>[3]</sup>



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Rooh's bender, Landmatters Cooperative Permaculture Project, Devon, England. Film still from *Paths Through Utopias* by John Jordan and Isabelle Frémeaux, 109 mins (2011).

The community in Catalonia, and the practices we developed there, provided me with a space from which to launch sporadic road trips of my own and the impulse to interrogate the diversity of artistic responses to the burgeoning climate crisis. Over a period of two years my travels for this project took me to Barcelona, Madrid and Vienna, and via the school where I teach in Sierre to Geneva, Bucharest, Budapest, Zurich, Basel, Lüneburg, Barrow-in-Furness and Dundee. Although I do not yet fully belong to the no-flying club, I endeavoured to conduct these journeys on my little bicycle as far as my legs would carry me and otherwise by coach or

rail, with the bicycle travelling with me as luggage. I prepared myself carefully for these trips, envisaging the lines I was drawing across the geopolitical space of Europe, taking time to use the bicycle to experience the spaces in between the cities where most of my encounters took place, slowly traversing agricultural, post-industrial and suburban landscapes on my route. The interviews in this book, with the exception of those conducted by Yesomi Umolu and Andrea Phillips, were gathered along these lines around Europe, while the further essays and project descriptions elaborate practice and research I had the luck and privilege to come into contact with along the way.<sup>[4]</sup>

#### ENVIRONMENTALLY ENGAGED ART

What began as a series of chance encounters soon formalised itself as a decision to elaborate my long-standing interest and involvement in socially engaged art practices with an enquiry into how specific artists are working with ecological and environmental themes. This book offers readers a deeper insight into the practices of five of the artists whose work I became particularly interested in over the past three years: Ursula Biemann, Fernando García-Dory, David Haley, Oliver Ressler and Marie Velardi. Yet, as the essays by Maja and Reuben Fowkes, T.J. Demos, Laurence Schmidlin and Sacha Kagan attest, these are just a handful of the many artists working in this field, and by nature any discussion of this kind of work is by no means art-specific. As Naomi Klein explores in her book *This Changes Everything*, discussions about climate change and associated debates on ecosystem degradation and species extinction are no longer sensibly separable from that of a debate on the workings of global neoliberal capitalism:

*‘Our economic system and our planetary system are now at war. Or, more accurately, our economy is at war with many forms of life on earth, including human life. What the climate needs to avoid collapse is a contraction in humanity’s use of resources; what our economic model demands to avoid collapse is unfettered expansion. Only one of these sets of rules can be changed, and it’s not the laws of nature.’<sup>[5]</sup>*

The geopolitical effects of neoliberal capitalism on human populations have long been the focus of socially engaged artists whose work focuses on social justice, community and democracy. In keeping with Klein’s observation that the climate crisis is now the issue that unites all other activist and social justice issues, in the

first half of this decade I started to observe how artists who I had worked with on various projects, were gradually paying more attention to ecological and environmental issues in their work. This is not to say that their approach changed: that their work stopped examining social issues, or that they decided from one day to the next to ‘green’ their practice and become environmentally engaged – quite the opposite. What has started to happen is an expansion of the ‘social’ in social engagement to include the non-human, and this new framing of subjectivity changes both the art practices we observe and our understanding of the act of observing art itself. A task for me was to go back into the archives of the artists whose practice I found interesting and see then how clearly environmental concerns were evident in work that I would previously have interpreted differently.

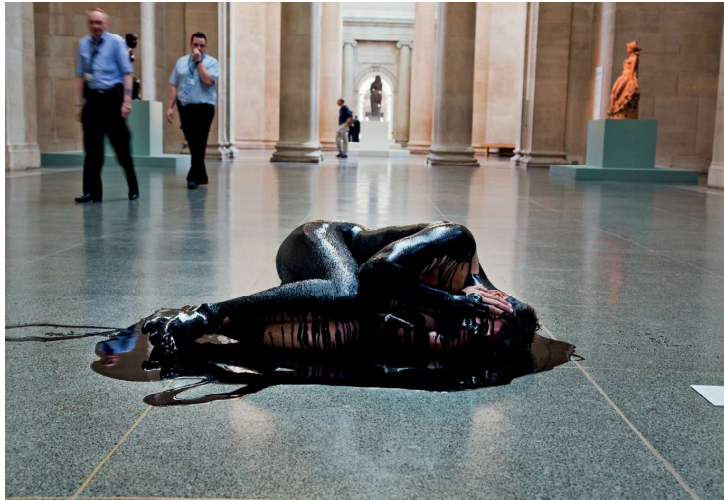
Since I started working with fine art students on the master’s at the édhéa in Sierre, in the Canton of Valais in the south of Switzerland, we have had a focus on art in the public sphere. It is perhaps unusual to map this term, which most frequently has urban connotations, onto a small town in this rugged, mountainous region. However, the human processes here of land use, migration, industry, agriculture and tourism, for example, though highly specific to the region, are immediately identifiable as global in nature. The students, who join the programme from around the world, bring with them their own diverse experiences of public space questions and the school in Sierre provides a kind of ‘translocality’ for research and production. One of my colleagues at the édhéa is the ethicist Eric Maeder.<sup>[6]</sup> He works with the students on environmental ethics, specifically on the history of human concepts of nature and the natural. With my own teaching in the area of social practice, we often noted that were exploring similar ground. It was with Eric that I first discussed turning my interest in this ecological turn into a period of research, and what followed was a series of lengthy conversations and exchanges on topics ranging from environmental justice and conservation to sustainable development and care ethics. From these discussions, two distinctly different questions crystallised: firstly, to what extent can we talk about the contemporary art world as in any way sustainable? And secondly, which kinds of art might be able to talk about an ethics of the non-human world?

#### DIVESTING ART AND ITS INSTITUTIONS

With its reliance on hyper-itinerancy, unethical sponsorship and speculative capital, the business of contemporary art, regardless of the practices it deals with, clearly contributes to climate change and ecological collapse rather than mitigating it. The art world has undergone a variety of changes over the last thirty years that together have compounded its negative environmental impact. The growth of the art market, art fairs, travelling exhibitions and biennales has resulted in an increased itinerancy of artists, their works and their publics. Artists need to travel more and further to be successful within such a system; their exhibitions become part of the experience economy encouraging weekend tourism and international travel, while their works are shipped ever longer distances to reach their equally itinerant publics. Over this time, in keeping with the growth in the number of museums and galleries showing contemporary art, we have seen an increase in sponsorship of art institutions by companies with poor environmental records interested in improving their public image, in incidences of what has been termed ‘art washing’.<sup>[7]</sup> The list of sponsors involved in this activity includes big oil companies such as Chevron, ExxonMobil, BP and Shell, who seek to buy into the respectability of the major institutions they give money to.

Meanwhile, the overall art market has grown at a staggering rate, with reports estimating that the market grew on average 13% per year between 2000 and 2015.<sup>[8]</sup> This in part due to the growing importance of China as a market, but also due to an increased financialisation of the market in general, where fund managers approach contemporary artworks as assets to be indexed and traded rather than

those with over a million dollars to invest, hold around 10% of their wealth in art and antiquities. Artworks have always been bought and sold, and art institutions have always been supported by wealthy donors, but the last thirty years have seen contemporary art attract the sustained interest of the ‘one per cent’ and the corporate world.<sup>[9]</sup> It is common knowledge that currently 1% of the world’s population own 50% of its wealth, and that the world’s very rich, when they are not actively denying climate change, are noticeably inactive in supporting action on the issue, because this threatens their hyper-consumptive lifestyles and challenges the principles of growth that guarantee their ongoing wealth. It is precisely individuals like these who have become extremely important to the contemporary art market, which has become ostentatiously synonymous with luxury and speculation.



▲ Liberate Tate, *Human Cost*, Tate Britain, London (2011). Photograph – Immo Klink

However, the ethics of the art world are not uncontested, and although the term ‘business as usual’ resonates as markedly in the art world as it does in other sectors, calls for large institutions to reconsider their connection to destructive sponsors are now common. The high-profile activities of the activist art collective Liberate Tate serve as a good example of resistance and activism from within the art community. Liberate Tate’s primary focus was to end the Tate gallery’s funding by the oil company BP. Their activities included an open letter to the director, publications exposing the connections between Tate and ecologically damaging activity, and direct interventions into the Tate’s exhibition spaces by performers faking oil spills and installing a wind turbine blade as a sculpture. In early 2016, BP and Tate announced their decision to cease their arrangement after 26 years<sup>[10]</sup> and £3.8 million pounds of sponsorship, a sum only made public after Tate lost a case at a freedom of information tribunal brought about by the activists. While both Tate and BP maintain that their decision was not influenced by the protests and the public concern they engendered, artists and activists celebrated the decision. When Liberate Tate chose to challenge the Tate as an example of one of the many arts organisations sponsored by oil and petrochemical

giants, they sought not only to make a very visible point that the arts have an ethical base that should be respected, but also to name artists as an active part of civil society, engaged in the far wider-reaching process of ‘divestment’.

#### SUBVERTING ANTHROPOCENTRIC IMAGINARIES

Encountering the video essay *Deep Weather* by Ursula Biemann, I was struck by her juxtaposition of film shot in two distant but related places: the tar sands of Alberta and the flood-threatened deltas of Bangladesh. The footage of the former, captured from the air, shows the immense scale of what has become the world’s largest industrial project, an unimaginable expanse of blackened earth, stripped of the boreal forests that once covered it. She leads the camera over the refineries and the tailing ponds, artificial lakes filled with the washout of the bitumen separation process, poisoned with heavy metals and hydrocarbons, and swathed in clouds of acrid smoke. In the latter she films thousands of Bangladeshi citizens as they fill and place a seemingly endless number of bags of sand, by hand, constructing a defensive wall against rising water levels, which threaten their livelihoods on the banks of the rivers and deltas. Biemann’s camera, again, reveals to us the scale of the operation, the lines of bodies moving the white bags, stacking and throwing them into the water, to turn, walk back and begin again. The images are at once spectacular and matter of fact, in the way that the reality of human agency can sometimes seem stranger than fiction. The video, which seems far longer than its modest nine minutes, draws a causal line between two sites of human industry, one extractive, lucrative and toxic, and the other constructive, urgent and Sisyphean. Avoiding pathos, the work narrates these scenes as a story of water and oil, exploring the global exchanges, flows and circulation of non-human matter that occur parallel to and interdependent with human activity.





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Bangladeshi communities building flood defences.  
Ursula Biemann, video still from *Deep Weather*, 9 mins. (2013).

This exploration of the human world and of environmental ethics through attention to the relations between human and non-human actants has been a trait of Biemann's recent works, and a central facet of the art and media project *World of Matter*.<sup>[11]</sup> Meetings taking place within this interdisciplinary grouping engendered Biemann's collaboration with the Brazilian architect and urbanist Paolo Tavares. Visiting Amazonia together in 2013, they conducted research into the case of the inhabitants of the Sarayaku territory, who successfully launched a legal defence of the forest against oil and mineral prospectors that laid the foundations for the multimedia installation and related publication entitled *Forest Law*.<sup>[12]</sup>

It is in *Forest Law* that we first encounter the figure of the indigenous scientist in Biemann's work<sup>[13]</sup>—a figure whose research focuses on the reintegration of the biological and the cultural. In the work of Fernando García-Dory, we encounter (often in person) similar figures, pastoralists whose practices of cultivation and animal husbandry date back centuries, and whose understanding of the relationship between the human and non-human differs from the now dominant industrial, extractive ones. *INLAND*, as he titles his ongoing collaborative project, takes the form of a 'para-institution'<sup>[14]</sup>—a cultural and economic entity whose varied fields of production test how the rural, long abandoned as a site of knowledge, can provide tools for dealing with the many facets of the current crisis. With a specific focus

on peasant culture in Europe, relating to García-Dory's biography growing up between Madrid and a remote rural community in the north of Spain, *INLAND* refuses a romantic or idealising point of view of the countryside. Although recognising that many of these practices are close to dying out, it counters the idea that their value has become purely nostalgic or touristic. Instead *INLAND* adopts, with a dose of irony, entrepreneurial agency, tethering these practices to the hyper-itinerant, globalised market in contemporary art objects and their makers. In doing so it poses critical questions about modernity and solidarity, reinserting the knowledge bases these practices represent into the spaces opened up by new technologies, post-democratic political conditions and the experience economy. *INLAND* avoids claiming morally higher ground for the indigenous knowledge and traditions it engages with, preferring to pitch their pragmatism (predicated on sustainable systems design and models of inter-species cooperation) against the disconnection and dysfunction that underlie contemporary consumerist ways of life.

As with García-Dory, David Haley's work begins with an interest in systems. Where *INLAND* creates spaces for modelling sustainable life practices in dialogue with the rural, Haley's working method, exemplified in his recent work *VIEWPOINT*, involves a process of meditative enquiry into the interrelatedness of natural things where the human, though present, is never primary. In this sense, the protagonists of *VIEWPOINT* are the rivers Cocker and Derwent that converge in the town of Cockerthorpe in Cumbria, which in recent years has seen devastating flooding. The conversations that Haley's work takes as a starting point are those he conducts with concerned residents on the one hand, and those between the stones that line the riverbeds—slate, limestone, yellow sandstone, black basalt and bluestone—on the other. Here, geological entities talk of millennia of change, of the presence of volcanoes, of a planet covered by sea, of millions of extinct species become sediment. Coming from a background in community arts, Haley's interest in ecology quickly brought him into contact with pioneers of 'environmental art' Helen Mayer Harrison and Newton Harrison, who he went on to work with on a number of projects. In keeping with their work, he also employs creative mapping processes and metaphor, both to provoke reflection on the ecology of the places he engages with and to ask broader questions about how we might take steps towards 'capable futures'.<sup>[15]</sup> Haley explores place as an arena of multiple intertwined temporalities, whether on the Kai Tak River in Hong Kong or in the catchment area of the rivers Cocker and Derwent. The long time-base of his practice of 'sitting and looking' leads to the co-creation of multivalent works, where he brings the residents and the elements together in acts

of reintegration, performing again, in new ways, the courting rituals that we have been dancing together for millennia.

There are parallels here with the in-the-field approach taken by curators Maja and Reuben Fowkes in their project *The River School*, where the natural and cultural histories of the Danube formed the starting point for study days, workshops and exhibitions involving artists, scientists and historians and, of course, the river itself. The sense that our abilities to understand and adequately respond to climate change are tied up in our cultural perceptions of time also forms the starting point for Marie Velardi's work. Her works on paper that make up the series *Terre-Mer* also relate to maps, as she begins by tracing pencil outlines of real or imagined coastlines, from satellite images or historical documents. The swathes of blue watercolour that marble the surface of the paper spread out from this fixed temporal point in a speculative representation of coastlines of the present, past and (near) future. As the sea rises due to the changing climate, land is lost, but in Velardi's representations the narrative force of this move from more to less is challenged in the foregrounding of a new temporal territory. These images of *Terre-Mer* are beyond the dialectics of sea and land or past and future; instead, as Laurence Schmidlin notes, they describe 'a sort of thicker present'.<sup>[6]</sup> This thickness, in the blue in between, opens up a space of potential, an imaginary ebb and flow space of being present 'in' change, rather than subject 'to' it.

#### RED LINES

Looking back to the events that triggered this research, what made 2015 so important for environmentally engaged art has everything to do with Paris, and what makes now so important is how far we seem to have come since then. Artistic presence and engagement at COP21 were unprecedented, both in terms of the number of art-related events, exhibitions and discussions held in the city at that time, but also, and more importantly in my mind, in terms of the diversity of ways in which artists contributed to the civil society activities that sprang up around the UN-convened meeting of government representatives to discuss, once again, climate change.<sup>[7]</sup> As artists and art specialists, including Maja and Reuben Fowkes and Sacha Kagan, sat on panels at the 'conference of creative parties' organised by the arts organisations Cape Farewell and Coal, there were prominent works on view in the public space, such as Olafur Eliasson's *Ice Watch*,<sup>[8]</sup> installed on the Place du Panthéon, and Yann Toma's *Units of Artistic Energy* installation at the

Eiffel Tower. Christie's held an auction in Paris with funds raised going to climate change charities. The largest exhibition at the Sorbonne, entitled *Le Méridien Climatique*, showed work by, amongst others, Lucy and Jorge Orta, Taryn Simon and Tomás Saraceno, while smaller galleries and art centres took the opportunity to programme one-off environmentally themed exhibitions.

Artists were also involved in the protests that surrounded the COP. Jordan and Frémeaux's project *Climate Games*, for example, gave protesters training and tools to outwit the police and engage in creative acts of civil disobedience.<sup>[9]</sup> The focus on breaking the law to expose lawlessness also produced one of the most powerful images to emerge from the COP21. In a city that had been placed under a state of emergency due to terrorist attack, 15,000 protesters illegally formed a red line from the Arc de Triomphe to the financial district of the city, dressed in red and holding long strips of red fabric above their heads or laying them on the cobblestones. This action, organised by a coalition of scientists, activists and NGOs under the title *Red Lines Are Not For Crossing*, referred to the urgent need for governments to act on what its organisers termed 'minimal necessities for a liveable planet.' The protest, which was echoed around the world in smaller demonstrations, involved drawing a figurative line, representing limits that could not be crossed without catastrophic consequences, bodies arranging themselves in a last line of defence against political intransigence.



▲ Red Lines activists contest the UN Climate Change Conference in Paris (2015). Photograph – Joel Likhovi.

The *Red Lines* action, and the meetings leading up to it, are the focus of the first of four films in Oliver Ressler's ongoing series entitled *Everything's coming together while everything's falling apart*.<sup>[20]</sup> In these documentary essays, which weave footage with commentary, the artist follows the activities of the growing global climate movement. He documents the activists as they plan and undertake large-scale acts of non-violent civil disobedience against the perpetrators of climate crimes. These include protests like those in Paris but also blockades, occupations and acts of

For Ressler, in documenting these activities he is capturing the first stages of what he believes is the beginning of a 'climate revolution' – 'the moment', as he describes it, 'when popular resistance began to reconfigure the world.' In relation to this, of all the voices that came out of Paris, including the familiar ones of politicians making promises they had no intention of keeping, the most caustically clear were those of the scientists and activists who reminded all present that this COP, like the twenty before it, was a 'fraud'<sup>[21]</sup> and that the process behind the talks was 'broken'.<sup>[22]</sup> Corporate interest, these voices told us, would persevere; the COP's unbinding agreements were essentially confetti thrown around at a 'save the world' party, where the real deals (the ones sustaining climate change) were being carved in stone, secretly, elsewhere. The *Red Lines* action in Paris spoke of defiance and of resistance, but also of fragility in the face of systemic violence.

When I write of the diversity of the artistic presence in Paris, I refer to the radical difference in approach and, for want of a better word, message that works addressing climate change can adopt and deliver. In Paris, some of the artists approached the topic in a descriptive way, with photographic exhibitions seeking to image the problems and raise awareness in the viewer, while others created dialogical spaces where the issues could be discussed in other ways – by inviting indigenous knowledges to the table, for example. Some work sought to elicit emotional reactions, ominously depicting how time was running out, or optimistically pointing to the potential of human energy for change. Some presented artistic-technological structures imagining future solutions to the crisis, while others explored philosophical spaces of humility and acceptance of our Anthropocene realities. Some focused on our individual consumerist habits and gave us tools for how to live more sustainably, while others chose to call out the hypocrisy of the COP itself, name the enemy and bring people out onto the streets to oppose it.

#### THE BRINK

*Who announces the end? The anthropos? Or the police and the bureaucrats? Who tells us how to feel it, or think it, or obey it? We prefer not to be told – trying to inhabit a suicidal system assumes a sad defeat from the outset; it is an approach lacking in both numeracy and imagination.*<sup>[23]</sup>

conferences came and went, but who could now openly dispute the inefficacy of these meetings to really address the underlying causes of climate change? None of the ensuing meetings have had the sense of urgency and importance that countries felt in Paris, not because the crisis has abated, but because the conference has lost much of its credibility. The much-talked-about 'moment to act' now lies in the past and the red lines drawn in Paris have been repeatedly crossed, to growing public concern, but with little or no response from the politicians who claim to represent them.<sup>[24]</sup> Meanwhile climate change has been put into context as only one of an intricately connected collection of human-extinction-hastening processes that require our urgent attention, and as such now battles in the ratings with mass species extinction, biodiversity loss, ocean acidification and ecosystem degradation. The tone has become dark, with scientists and journalists now fleshing out the ugly reality of where, they increasingly believe, we are headed.<sup>[25]</sup> Four and a half years on from COP21 it is clear that the promises of 2015 are not being honoured and the long-term strategies necessary for the change we need to survive are not being put in place. The IPCC has calculated that continuing on this course will result in a global rise in temperature of 3.2 degrees Celsius by the end of the century. At such temperatures and with such a high level of ecosystem degradation and biodiversity loss, the Earth will be all but uninhabitable by human beings.

The fight against this eventuality is growing quickly. The fledgling climate movement I first came into contact with at the beginning of this decade is now a global phenomenon and civil society campaigning and acts of civil disobedience are raising public awareness on an unseen scale. Ten months after Greta Thunberg's decision to skip school and sit with a sign outside the Swedish Parliament, in March and May 2019 1.4 million young people marched in climate strikes in more than 1,400 cities around the world. In April 2019, assuming the title Extinction Rebellion, thousands were involved in week-long occupations of key sites around London. In an open letter signed by one hundred academics in support of this movement,



they argued that ‘The “social contract” has been broken, and it is therefore not only our right, but our moral duty [...] to bypass the government’s inaction and flagrant dereliction of duty, and to rebel to defend life itself.’<sup>[26]</sup> Although there is cause for scepticism about whether a political response is possible without a full-scale overhaul of the capitalist project, these radical actions and others like them are having an effect on politics. Shortly after the first climate strikes and occupations, the Labour Party in the UK called for a declaration of an environment and climate emergency. Green parties saw a surge of support in the European Elections in 2019, essentially making them kingmakers in the fragmented European Parliament, promising support only for those who will help them to ‘deliver on ... three key principles: climate action, civil liberties and social justice.’<sup>[27]</sup> In the United States, the Democrats are talking about a Green New Deal, an idea politically unvoiceable just a couple of years ago.

In the period of a lifetime, we humans have brought ourselves to the brink: the edge of what we know we can ever possibly reverse. In the period of another,

civilisation will collapse and give way to unprecedented global levels of starvation, destruction, migration, disease and war.<sup>[28]</sup> So where we are now, the brink, is a liminal space and a hiatus before the nearly inevitable tumble down to the bottom. At this precarious point, those of us living in the wealthy consumerist parts of the world today can use our technological tools to see everything and every-when. A myriad of possible past and future futures so intricately entwined with one another lie in a tangle in front of us, and if we take the time we can follow these threads and imagine where they lead. Art, both in its making and in its viewing, opens up spaces of difference, including the different worlds we might choose to live in. At the brink, art can provide a space in which we pause to explore unpredictability, complexity, multiplicity, processuality and improvisation. Ironically, of course, we find ourselves here with no time left, but at the same time ‘a feeling of history happening all at once.’<sup>[29]</sup>

Inhabiting the Anthropocene, then, is as profound as it is exhausting. The view from the brink fills us with guilt and dread. We see death everywhere: dead animals, trees, soil, seas and inevitably dead us, probably dead all of us. Yet if we can avoid the path of anxiety and helplessness, the brink is also where we get a glimpse of a new ‘us’, an urgent sense of the once-distanced planetary collective we now belong to, made up of the human and non-human. The brink is where our entanglement in all earthly matter, process and being becomes unavoidably

clear and if we choose not to look away in the face of such calamitous change, we cannot help but feel intensely connected, awake and engaged. This is the ‘engagement’ in today’s environmentally engaged art.

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- 1 / The name given to a coalition of diverse organisations involved in the civil society campaign addressing climate change, from 350.org and Avaaz to Fridays for Future and Extinction Rebellion.
  - 2 / *Paths Through Utopias*, John Jordan, Isabelle Frémeaux, Kypros Kyprianou. La Découverte/editions ZONES (2011).
  - 3 / My first meeting with François Schneider from the degrowth collective Can Decreix was one such chance encounter. I was in Cerbère with students working on quite different issues when our paths crossed and he kindly invited us to join him, on his small patch of land above the town. Similarly, it was a purely functional part of our life in Catalonia, the wish to source local organic supplies to supplement what we could grow ourselves, that led to our membership of the Catalan Integral Cooperative (CIC). It was only later, in conversation with members of a neighbouring community, that I made the link to the work of *Urban Farm Communities: From seeds* other circles. On a day foraging for mushrooms in the forests of north-west La Garrotxa, we ran into the anarchist communitarian Didac Costa, one of the founding members of the hacker community Calafou, who showed us around the land he had obtained for a new community of plants, animals and eventually humans.
  - 4 / I had many conversations and conducted many interviews on my travels, but sadly cannot publish them all here. I have, however, tried in the Acknowledgements to credit those who so generously took the time to meet.
  - 5 / Naomi Klein, *This Changes Everything: Capitalism versus the Climate* (New York: Simon and Schuster, 2014), p. 21.
  - 6 / See Eric Maeder, *Mapping Ecologies: A Short Introduction*, in chapter seven of this book.
  - 7 / The term is introduced and discussed in detail in Mel Evans, *Artwash: Big Oil and the Arts* (London: Pluto Press, 2015).
  - 8 / CITI report *The Global Art Market: Perspectives on Current Drivers and Future Trends*, 2015—[https://issuu.com/widewalls6/docs/a17f8\\_337b321569f6ce](https://issuu.com/widewalls6/docs/a17f8_337b321569f6ce) (accessed May 2019).
  - 9 / Chin-tao Wu, *Privatising Culture: Corporate Art Intervention Since the 1980s* (London: Verso, 2002).
  - 10 / Nadia Khomami, ‘BP to end Tate sponsorship after 26 years’ in *The Guardian* (11 March 2016)—<https://www.theguardian.com/artanddesign/2016/mar/11/bp-to-end-tate-sponsorship-climate-protests> (accessed 10 June 2019).
  - 11 / World of Matter—<https://www.worldofmatter.net> (accessed May 2019).



- 12 / See the interview with Ursula Biemann, case study and testimonials in chapter five of this book.
- 13 / Indigenous scientists also appear as protagonists in Biemann's later works, *Subatlantic* (2015) and *Acoustic Ocean* (2018).
- 14 / See the interview with Fernando García-Dory and his conversation with Andrea Phillips in chapter two of this book.
- 15 / See the interview with David Haley in chapter six of this book.
- 16 / Translated here from the French 'une sorte de présent épaissi'. See Laurence Schmidlin, 'Marie Velardi: The Art of Prediction', in chapter four of this book.
- 17 / See Barnaby Drabble, 'Contemporary Art at the Tipping Point' in *Seismopolite – Journal of Art and Politics*, Issue 14 (Oslo, 2016).
- 18 / For a discussion of this work see Maja and Reuben Fowkes, *Facing the Unprotectable: Emergency Democracy for Post-Glacial Landscapes* in chapter one of this book.
- 19 / For an in-depth discussion of this project see T.J. Demos, *Against the Anthropocene: Visual Culture and Environment Today* (London: Sternberg Press, 2017), pp.103–108.
- 20 / See the interview with Oliver Ressler and the case study on this film series in chapter three of this book.
- 21 / The much-reported opinion of the former NASA scientist James Hansen.
- 22 / D12 protest organisers in their *Red Lines* proposal (originally available at <http://www.parisclimatejustice.org> – now no longer online).
- 23 / Heather Davis and Etienne Turpin (eds), *Art in the Anthropocene: Encounters Among Aesthetics, Politics, Environments and Epistemologies* (London: Open Humanities Press, 2015), p.20.
- 24 / *The U.N. Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming and the G20 Transition to a Low Carbon Economy, Brown to Green Report*, both published in 2018, show that only a handful of the signatories of the 2015 agreement on global warming are on target to meet the limit of two degrees; that at current rates global temperatures will rise above 1.5 degrees as early as 2030; and that far from CO<sub>2</sub> output being reduced, global emission rates have risen annually since 2015 and continue to rise each year. The G20 countries, which currently produce 80% of the world's emissions, still meet 82% of their energy needs by burning fossil fuels and in 2016 the same countries provided subsidies of \$147 billion to oil, gas and coal companies.
- 25 / For example, in Jem Bendell, 'Deep Adaptation: A Map for Navigating Climate Tragedy' (FLAS Occasional Paper 2, University of Cumbria, 2018), and David Wallace-Wells, 'The Uninhabitable Earth' in *New York Magazine* (July 2017).
- 26 / Extinction Rebellion – [www.xrblog.org](http://www.xrblog.org) (accessed May 2019).
- 27 / Ska Keller, cited in John Henley, 'Greens surge as parties make strongest ever showing across Europe' in *The Guardian* (26 May 2019) – <https://www.theguardian.com/politics/2019/may/26/greens-surge-as-parties-make-strongest-ever-showing-across-europe> (accessed May 2019).

- 28 / Jem Bendell, 'Deep Adaptation: A Map for Navigating Climate Tragedy' (FLAS Occasional Paper 2, University of Cumbria, 2018), p.11.
- 29 / David Wallace-Wells, 'The Uninhabitable Earth' in *New York Magazine* (July 2017).