

# 14

## Culture and Climate Change

### *Experiments and Improvisations – An Afterword*

RENATA TYSZCZUK AND JOE SMITH

#### 14.1 Introduction

For this afterword we have been invited to look back on our experience of working at the culture–climate change join across 25 years. It is an opportunity to try to identify useful discoveries and unwritten rules, and acknowledge some blind alleys, as we look back on a variety of design, media, arts and other creative collaborations. To begin, we offer some thoughts about the nature and role of this kind of work. We then describe some of our projects and reflect on what we have learnt along the way as we have sought to support, convene, catalyse and understand cultural work on climate change.

The chapters collected in this book together emphasise the importance of cultural work on climate change. This respects Mike Hulme’s observation that ‘however our contemporary climatic fears have emerged . . . they will in the end be dissipated, reconfigured or transformed as a function of cultural change’ (2009:5). However, there are no blueprints for cultural work on climate change. Work in this area does not offer an instant remedy for public detachment or policy failures. But it can open up more expansive understandings of the many ways in which the world is being altered, or might be in the future, not simply physically but also imaginatively. Moreover, climate change calls for new strategies of deliberate transformation (O’Brien 2012) that recognise not only different understandings of agency and human–environment relationships but are an adaptive challenge in themselves (O’Brien 2016; O’Brien and Selboe 2015). These deliberate transformations are often latent with a political charge that requires or invites exploration and dispute. Cultural work can help to surface or support this.

Most climate research is rooted in the ‘cultures of prediction’ (Mahony, this volume; Heymann *et al.* 2017), which pervade the science and cultural politics of

global environmental change. Other forms of knowledge (such as indigenous understandings) and meaning-making (for example, generated by the arts and humanities) struggle to achieve anything more than marginal status. Yet such contributions are within reach, as this volume demonstrates. For example, Ulloa, working in the Colombian context, argues for the importance of located, indigenous climate knowledges and yet also demonstrates the need for ‘strategies of dialogue’ if these voices and experiences are to be given appropriate recognition rather than a token presence. Bringing historical rather than geographic range, Endfield and Veale show how varied (though, as they note, not necessarily inclusive) archival accounts of extreme weather in Britain can contribute to a cultural imagination of climate change in the present. Postigo’s presentation of an Andean case holds together both geographic and temporal dimensions of the experience of weather and climate with an eye on practices of adaptation. A further geographically rooted case of transition as opposed to adaptation is offered in Clammer’s account of the re-emergence, or reinvention, of traditional food systems, *satoyama*, in Japan.

These insights support our argument that it is a profound mistake to view cultural work as a kind of communications ‘finishing school’ for the prior work of the natural science and policy communities or as part of the psychological ‘rewiring’ that some suggest is required in response to climate change (Marshall 2015). Furthermore, while we are in step with O’Brien *et al.*’s promotion of research practice that actively supports positive transformations, we find they pose a problematic question. They ask ‘how culture can be harnessed for transformation rather than being an impediment to change’ (this volume). We argue that cultural work is not available to be ‘harnessed’, let alone contained. It is an unruly field of practice that is energetic precisely because it can generate unanticipated outcomes.

Nevertheless, there has been growing recognition that cross-disciplinary, more culturally rooted, work will need to play a much more prominent role in shaping humanity’s responses to the risks associated with climate change. This pressure will surely grow in the context of what Grevsmühl (this volume) terms increasingly ‘mobile’ climates. This has led Hulme, O’Brien and others to argue for more prominence for social sciences, arts and humanities contributions to climate change research. In our own work we have often argued that this should not be understood as some kind of resolution of communications challenges, or as a form of ‘completion’ of environmental research, but rather as an ‘opening out’.

A shift in the ‘intellectual climate’ would involve incorporating a range of environmental humanities writing on, for example, values, responsibilities, rights, perceptions, faith and care pertaining to the ‘human dimensions’ of global environmental change (Castree 2016). An example is given in this volume discussing the pertinence of Buddhist and other world views for deliberation of climate

change. The chapter nicely illustrates the potential of cultural perspectives drawn from a range of world views, from its attention to notions of interconnectedness to its provocative reading of the ‘precarious’ nature of the dominant model of happiness. There is plenty of work going on in the arts, in the media and in academia in this territory, and we don’t intend to claim exclusivity or any exceptional status for our projects – on the contrary. Indeed, in the first in our series of *Culture and Climate Change* books (Butler *et al.* 2011), we attempted to place the range of cultural work on a timeline. Keeping up with emerging work was impossible and omissions embarrassing: we quickly gave up on this ambition. As the varied contributions to this volume demonstrate, this is now a vibrant field, both creatively and academically.

We come from two fields of study and practice, geography and architecture, which share much in common in relation to climate change and wider environmental research. They are deeply inscribed with multi- and inter-disciplinary working and are distinctive within universities in drawing together in one place insights and practices from across the humanities and the natural and social sciences. Both are concerned with space, place and processes of change – both social and natural. More recently, these disciplines are also among the most prominent centres of research and practice related to global environmental change and economic and cultural globalisation. Both architecture and geography are expected to respond to and, to some extent, to be responsible for these issues. We have explored what this means in our own disciplines; in architecture, in terms of agency (Kossak *et al.* 2009) and provisionality (Tyszczyk 2018); and in geography we also draw on the experience of working at the join between global environmental change issues and broadcast media (e.g. Smith 2000, 2005, 2011, 2013a, 2013b, 2014, 2017; Smith *et al.* 2018).

Our culture and climate change projects are rooted in collaborative and inter-disciplinary approaches. They have also tended to be experimental and hence often risk taking. They have generally sought to support more plural and dynamic representations of global environmental issues rather than ‘communicate the facts’. The work has often been driven by the objective of bringing together different communities of interest and experience. Related to this, the work has tended to take a less settled view of the underlying issues surrounding climate change than many would. For example we are wary, and on occasions directly critical, of attempts to drive society towards specific objectives that might be derived from the natural sciences but are packaged into particular conclusions or directions by NGOs or the wider policy community. Instead, we are learning by doing: improvising.

If thought of in terms of ‘improvisation’, discussions around climate change might serve as a context for exploring the future, by opening up different

possibilities and potentialities for living on a fragile – for humans – and dynamic Earth. We could refer to this as ‘constructing for the unforeseen’ – acknowledging the root of the word improvise in the Latin *improvisus*, ‘unforeseen’ (Tyszcuk 2011). The centrality of experiment and improvisation in our work is informed by how we understand the cultural politics of climate change. We argue that climate change has six distinctive yet often interacting elements. These comprise: its global pervasiveness, its inherent uncertainties, its interdependencies (both social and ecological), the reverberations of history (particularly colonial and postcolonial), the centrality of interdisciplinary approaches in research, and a constantly shifting distribution of human vulnerabilities and responsibilities across time and space (see Smith 2011, 2014, 2017). These distinctive features of climate change mean that it is present in every aspect of human lives, politics and culture. Indeed:

climate change is too here, too there, too everywhere, too weird, too much, too big, too everything. Climate change is not a story that can be told in itself, but rather, it is now the condition for any story that might be told about human inhabitation of this fractious planet. (Tyszcuk 2014:47)

All six dimensions are relevant in diagnosing why climate change is a difficult story to tell. These are not properties that are unique to climate change, but they are unique in combination and are constantly being reconfigured by the generation of new knowledge, representations and events. The work we reflect upon here is all rooted in the fact that climate change is interesting as well as urgent and important. We have also developed our work with a clear understanding that our role as academics working from within arts, humanities and social science traditions is not to serve as adjuncts to policy or in the service of campaigners. Rather, we feel it is our responsibility to experiment, learn and share what we find in prototyping shared futures. At the same time our practice, while sharing elements of laboratory practice in the natural sciences, above all ‘the time of the experiment’, enjoys some freedoms unavailable to those spheres of research.

This has allowed us to follow a hunch that experiments and improvisations may prove more effective tools for thinking in a climate-changed world than attempts to perfect communications strategies or polish change agency models. We suggest that researchers and their creative partners could invest their ingenuity, freedom and distinctive skills in cultural mediations, rather than in simply amplifying a particular brand of ‘approved thinking’. We recognised our notion of ‘mediations’ in Ciara Healy-Musson’s account of the special nature of ‘thin places’, her description of her own practice as ‘thin curating’ and her pursuit of ‘deeper engagements’ between human and non-human (Healy-Musson, this volume). This (and the admission that she knew these experiments to be about friction – and to be professionally risky) resonated with our interest in improvisation and experimentation in a series of

projects. Our initiatives have all gone under the banner of Culture and Climate Change, working in partnership with arts bodies, NGOs and charities, and also in RCUK-funded (Research Councils UK) projects, such as Interdependence Day and Stories of Change. Although we have throughout the life of these projects both contributed to and engaged with social science research into climate communication and engagement, this is an account of our ‘learning by doing’ rather than a portfolio of ‘how to’ guides. Furthermore, we are sceptical of the suggestion that the mass of people are wrapped in ‘overwhelmedness’ or ‘apathy’ (Moser, this volume). Similarly, we want to test Ford and Norgaard’s (this volume) contention that there is a failure of popular mobilisation.

With consistent polling around the world that suggests across many years now that clear majorities believe climate change to be happening, and to be human caused, we are convinced that some key messages about climate change have been effectively shared, despite the difficult nature of this knowledge. Furthermore, the progress of the UNFCCC process, which has within a couple of decades established near unanimous political commitment to a programme of ratcheting actions that relate individual acts in the present to future outcomes for the global atmosphere, is a remarkable political achievement. This is particularly notable given that climate change emerges as an issue in an exceptionally lively period of economic, technological and societal transformations. In other words, as Krupnik noted in the context of the Alaskan village he studied, people have ‘other things to worry about’ (Krupnik, this volume). We think the cultural, and more importantly, political work ahead is messier but also more interesting than simply making sure everyone ‘gets it’. Indeed, one way of understanding our work is to see it as a series of attempts to open out the political and ethical space in and around climate change knowledge rather than mobilising a particular kind of response to it. Quite apart from the latter approach being unlikely to work, it seems perverse to suggest that everything is about to change except the world view of a category of (mostly western) academics and policy analysts. Our projects start from the assumption that climate change changes us.

### 14.2 Interdependence Day: An Unruly Mix

The Interdependence Day project, 2005–2010, amounted to a programme of experimental events, publications and other interventions that could both test different framings of sustainability thinking and innovate in the forms of engagement between academics, publics and creative and policy partners. The activities were designed to probe the potency of the concept of interdependence at a time when the density of relations between the ecological, the social and the political was becoming so evident. Interdependence Day was

politically explicit but frank about its experimental and uncertain status. The ideas were shaped by conclusions of much earlier social research that had confirmed that publics had a good nose for authenticity when it came to government encouragement for everyone to ‘do their bit’ in response to global environmental challenges (Smith *et al.* 1999, 2000). It was informed by work in human geography that addressed the ethical and political implications of ‘thinking space relationally’ and thus ‘geographies of responsibility’ (Massey 2004) and also by radical traditions of participation, interactivity and co-production in architectural design teaching (Tyszczyk 2007).

We sought to test means of navigating present and near-future environmental challenges ‘in public and with publics’. Among other things, we were motivated to explore tones and approaches to publications and events that avoided both the monotonous ‘too little too late’ intonations of the environmental NGOs and also the hubris of other, and in our view naive, responses that stressed the availability of sustainable solutions and that emphasised the honing of ‘correct’ communications design. Our goal was to find ways of describing and responding to our state of global interdependence that respects but isn’t confounded by its complexity. The Interdependence Day project started from the assumption that ‘it is impossible to reach a viewing point from which we can fully account for myriad ecological and economic inter-relations: we are simply too enmeshed’ (Tyszczyk *et al.* 2012:4). The events and publications all sought to contribute to a collage of careful but purposeful responses to this complex state of interdependency (Smith *et al.* 2007; Tyszczyk and Smith 2009; Tyszczyk *et al.* 2012; Smith 2012).

The Interdependence Day project acknowledged the complexity and seriousness of contemporary political problems and the way they have served to leave many people feeling disempowered. We therefore sought to try out new kinds of public event that would be both interactive and participatory. The three sold-out events tested a range of experiments in participatory exchanges around global themes. The first two were held at the Royal Geographical Society and the third at Queen Elizabeth Hall on London’s South Bank. These all included ‘unconference’ elements, collaborative writing groups, workshops, installations and exhibitions, as well as more standard (short) talks formats. The interactive workshops included the creation of a new *mappa mundi* in the Map Room of the Royal Geographical Society as a ‘living’ and ‘provisional’ exhibition. Participants stitched their stories into a linen world map laid out on a table; their conversations were recorded and later transcribed and fed into publications (Tyszczyk 2012). We also devised ‘Doctor’s Surgeries’ where small groups experienced and contributed to guided conversations about global themes ‘in the company of experts’ (academic researchers from a range of sustainability-related disciplines). The events revealed a strong and otherwise largely unmet appetite amongst attentive publics to talk through

themes such as climate change, economic globalisation and biodiversity loss in the company of others.

The three Interdependence reports, co-written and co-published with the new economics foundation (NEF), were another element of this strategy of testing new framings (Simms *et al.* 2007; Simms *et al.* 2007, 2009). The qualitative and quantitative research that had explored community and household perspectives on sustainability (Smith *et al.* 1999, 2000) had left us convinced that the ‘sustainability’ policy idiom had little purchase on the public imagination. Indeed, it tended to encourage cynical responses about government and business failure to lead. Hence, we sought to find easy ways to communicate some of the perverse outcomes of an economic system that failed to place a value upon natural resources and ecosystem services. With a focus on honing concise news-friendly phrases and images, we translated complex arguments about perverse trade, low values on material and natural resources and future planetary-scale jeopardies into very contained narratives. The first report led BBC radio bulletins and also the ITN evening news, with giant gingerbread biscuits swapping places on a global map graphic. Our writing on off-shored carbon emissions in another of these reports, *Chindependence* (Simms *et al.* 2009), was the first time the concept had appeared in wide circulation. A further popular and policy-facing publication was the edited book *Do Good Lives Have to Cost the Earth?* (Simms and Smith 2008). It included contributions from leading figures from all of the main UK political parties, as well as artists, writers, designers and others that gave their accounts of how strong environmental actions could deliver improvements in quality of life. Our editorial line and introduction and conclusion drove home arguments rooted in our academic research: that acting to mitigate climate change offered the best opportunity for generations to create a vision of better cities, work and everyday life. The themes of the book, following the design of the project as a whole, located action in visionary and strategic approaches to policy and politics, but framed these around the construction of mainstream cross-party consensus.

The extensive national broadcast news and print coverage of the reports, and the appearance of some of our concepts in political speeches, was only possible on account of our investment in relationship building with NEF, their skilled phrase making, and their work with media networks and designers. The Interdependence Day project demonstrated the centrality of generous, patient partnerships, full of give and take. It also demonstrated that a great deal can be achieved on very modest budgets indeed. We learnt from this work that the main currencies you need to invest in are ideas and collaborations. The main public-facing achievements of the project also required willingness to purposefully step away from ‘conference mode’, to stop worrying about academic reaction to the published work, and to behave like you want busy

people, including government ministers and officials, journalists, family and friends, to engage with your ideas.

Our use of the term ‘Atlas’ to describe the main book publication of the project (Tyszczyk *et al.* 2012) – with all its implied completeness and dominion – was intentionally playful. Similarly, the title allowed us to nod towards Atlas, the fated hero, doomed to carry the weight of the world or hold up the heavens, depending on your point of view. The book allowed a glimpse of the ideas, art interventions, expert witness stories, and scientific responses to global environmental change of the project – what we characterised as an ‘unruly mix’. It was a collection of responses for an unprecedented present and an unpredictable future. Many of the contributions recognised that small, niche-based gestures and practices could be understood as deft responses to uncertain conditions, or as seed-beds for testing alternatives to an unsustainable status quo. *Atlas* thus highlighted the value of ‘tracings and probings of worlds which are currently in the making ... a guide to journeys that open new pathways; connections that may become networks; practices that could become effective institutions and niche experiments which might nourish purposeful change’ (Tyszczyk *et al.* 2012:7).

Further insights from Interdependence Day – about the lack of continuity or short termism of most climate change-related projects – led to an ambitious project based around tracking how understandings of environmental change evolve over time. The Creative Climate project comprised a time-series online and broadcast diary project generated by the Open University and BBC World/World Service. In addition to five TV documentaries and dedicated segments in nine radio programmes, a series of ten short films by young filmmakers were co-commissioned with BBC Comedy. The commissioned materials and the central device (diary keeping) were designed to also serve as higher level (upper school/university) teaching and learning content and activities. These materials in particular reached big global audiences and also worked hard as teaching and learning materials. However, the participatory media elements were of very limited impact. Creative Climate taught us to contain expectations of ‘the digital’ as a realm of mass participation without appropriate institutional investments and commitments to social media. We recognised the need to anticipate and plan for institutional limitations in this area and to play to strengths. This led us to sharpen our resolve that our primary role as academics in much of this work, notwithstanding the news media and policy impacts of the Interdependence reports, or the direct value of the media seminars programme, was as incubators, experimenters and innovators rather than mass-communicators. These lessons directly informed the shape and purpose of our next collaboration on culture and climate change: *Stories of Change*.

### 14.3 Stories of Change: Prototyping Energy Transitions

The Stories of Change project allowed us to focus on the use of stories, narratives and storytelling in energy and climate change research. The project took decarbonisation of the energy system as its central theme. Our starting point was the simple fact that the ways in which humanity has lived with energy in the past has often changed – and will change again. The question is: what changes do we want and how do we tell these stories of change? Stories can help us rehearse for change. ‘Stories do not just passively relate meaning – they create it, and they transform it. Ultimately they are like prototyping, a way of working out what to do next’ (Smith and Tyszczuk 2018:103).

The project set out to support more dynamic public and policy conversations about energy by looking in a fresh way at its past, present and future. The project was shaped around the cross-party commitments to decarbonisation that sit at the heart of the UK Government’s Climate Change Act of 2008 and was further energised by the UN Paris Agreement of 2015. Research has shown that many people feel disengaged, disempowered or actively hostile to changes to the United Kingdom’s energy system required to meet the targets embedded in the Act. At the same time it is clear that there is wide acceptance that actions will be needed to reduce demand, decarbonise the energy supply system and prepare to cope with future environmental hazards. Stories of Change set out to experiment with novel ways to work through areas of concern and test shared ideas about energy system transformations.

By drawing on an unusually broad mix of history, literature, social and policy research and the arts, the project sought to encourage a more open approach to current and future energy changes and choices, and to explore elements of a collective vision. Above all, we have aimed to encourage a more imaginative and vigorous approach to future energy choices that takes much more account of the interests of people and places that are vulnerable to climate change now and in the future.

Stories of Change was organised around three research projects, or ‘stories’. The first, *Demanding Times*, gathered together a novel mix of communities with interests around energy policy, mostly focused on London, often seen as the world’s first ‘global city’. It has generated new accounts of energy and politics past, present and future. The second, *Future Works*, was rooted in the English Midlands, unearthing fresh accounts of the long relationship between energy, industrial making and landscape, and exploring where it might go next. *Everyday Lives* examined the ways energy resources have continued to shape communities’ lives in South Wales. Within the life of the project we saw young Londoners with little prior experience of policy, the media or environmental issues gain the

confidence to interview leading policy figures and hold these experts to account for their role in shaping the future. Student and apprentice collaborators in the English Midlands worked with a wide range of businesses and institutions to devise industrial energy strategies for ‘factories of the future’. A pop up storytelling studio in the South Wales Valleys helped reconnect people to their significant role in global-scale energy stories – whether coal mines or wind farms.

We have shared the very varied outputs publicly with performances and events, exhibitions, a web platform, and a free printed project book, *Energetic* (Smith and Tyszczyk 2018). All of the material has been presented publicly and was designed for easy sharing via Creative Commons licences. The project book, *Energetic*, gathers insights and images from across all of the work. Indeed, if the Stories of Change project were an exhibition, then this would be its catalogue. Following our scepticism about the ‘openness’ of publicly available academic texts, we followed the example of the *Atlas* Interdependence Day project book in bringing together short approachable pieces, and plenty of high-quality illustration and design. *Energetic* expresses the mix of creative writing, songs, photos and portraits, interviews, short films, performances, and museum and festival events that we co-produced in collaboration with our community, creative and research partners. A more comprehensive collection of material is held in the online Stories Platform. There it is possible to create new ‘stories of change’, by threading material together using the digital tools provided, browse individual items in the library or follow designed and edited pathways (stories) through the collection.

Just as with the Interdependence Day and Creative Climate projects, the design and ethos of Stories of Change was heavily influenced by the example of the Mass Observation movement’s accounts of everyday life in mid-twentieth-century Britain (Hubble 2010). Their work combined a desire to give ordinary people a voice, radical innovations in social research, and bold new ideas about documentary media and the arts. They took an innovative approach to valuing and supporting lay social researchers and developed a groundbreaking blend of arts, social sciences and media applied to goals of social change. Mass Observation also made novel use of documentary tools to create a mould-breaking account of the life of people in the United Kingdom at work, at home and at play. One of the key members of the movement, Humphrey Jennings, had spent years developing a manuscript that amounted to an ‘imaginative history of the Industrial Revolution’ (Jennings 2012:xiii). This was published posthumously under the title *Pandaemonium* in 1985. Jennings had initially gathered various texts to support his regular Workers’ Education Association lectures, and their collaged nature as a collection of what Jennings called ‘images’ offered further inspiration for the design of our book, web platform and its devices. Like *Pandaemonium*, both our *Energetic* book and web platform assume active readers and listeners who

participate in sense-making and story-making rather than simply receive content. We designed many aspects of the project's work in such a way that people would not simply engage with the narratives generated but also see themselves as agents within them.

While energy systems change was a focus, our wider aim was to explore the degree to which playfulness, the imagination and the sharing of stories might play a profound role in preparing the way for the wider body of transformations that will be required if we are to respond to pressing environmental risks, from air pollution to climate change. All of this relates to the simple insight that one key feature of stories is that you can always change the ending. In other words, stories were understood to have agency. Our ambition was to extend storytelling beyond being understood as a form of communication into a mode of understanding and acting in the world.

Our experience suggests that creative and experimental methods rooted in the creation of, listening to and telling of stories can play a powerful role in energising engagement in policy issues that are not only important but also complex and at first glance uninviting. The approaches we have taken have drawn variously on fun, memory, emotion and connection to place, family, friends or work in order to expand the terrain of public conversations about energy systems change. It is not so much that stories in themselves drive transformations. Rather, we propose that stories have the capacity to invite many more constituencies to engage in imagining change and consequently have the confidence to participate in it. The key thing about encouraging people to tell and share energy stories isn't that there are transformative narratives waiting to be polished but rather that by being given the permission to participate in recalling the past or anticipating possible futures, participants feel they have both a stake and a potential role in positive transformations. Our goal has specifically not been to test and refine the 'right' transformative narrative and inoculate the population with it. On the contrary, we argue that, where a democratic system is faced with a complex or challenging topic such as energy transitions in spheres such as space heating, or personal mobility, the quality of public debate can be improved by anticipating and providing for people's need to hear their own ideas and concerns represented in public narratives (Smith *et al.* 2017).

#### **14.4 Culture and Climate Change Scenarios: 'We Are All Climate Researchers'**

The Scenarios project has been carrying some of the same principles but in relation to climate-changed futures. It is our most recent project in the Culture and Climate Change series and was launched in Paris at the UNFCCC COP 21 in

December 2015 with the ambition of bringing greater cultural depth to public conversations about future climate scenarios. Scenario thinking has long been a prominent strand in the work of the IPCC and the UNFCCC and draws on predictive scientific knowledge, based on computer models and simulations. Scenario and forecasting techniques have been widely applied in business and policy. Mahony *et al.* (this volume) note that the way society thinks about climate futures is ‘informed and shaped by authoritative scientific projections of future environmental states, which oscillate between a disarming uncertainty about the near and far future, and a seductive offer of control over the global earth-system’. Our starting point is that, given the far-reaching influence of scenarios-based thinking in this field, it is vital to understand, engage with and open out this mode of thinking.

Scenarios are essentially stories of change and can thus be understood as collective acts of imagination about possible futures in human-natural hybrid systems. Moreover, their origins as a cultural form lie in the improvisations of *commedia dell’arte* street theatre in the sixteenth and seventeenth centuries. The term *scenario* here indicated the synopsis of a performance that responded to the complexities of the everyday. Scenarios presented to describe future climates tend by their nature to invite contestation. Bearing in mind that the root of scenarios is in improvisation and trial-and-error, rather than in the pursuit or definition of a complete ‘solution’ or answer, we have argued that these fundamental characteristics of scenarios should not simply be acknowledged: they need to be embraced.

The project involved the appointment of four artists (Teo Ormond-Skeaping, Lena Dobrowolska, Emma Critchley and Zoe Svendsen) who from July 2016 took part in an experimental model of ‘networked residencies’, which explicitly sought to both mirror and engage with the distributed but interconnected nature of climate research. The artists were challenged to explore and open up thinking on climate scenarios in the wake of the Paris Agreement. Across the year, their work on the residencies was detailed in monthly diary accounts and presented at public workshops and festivals (see the Scenarios project on the Culture and Climate Change website: <http://www.cultureandclimatechange.co.uk>).

The Scenarios project is another attempt to defy the widely held view of cultural responses to climate change that limit them to late-phase communications or engagement aids that come after the science and policy is done. The project started from the presumption that arts and humanities practices were not a response to, but rather an expression and component of, climate research. The experimental and co-productive elements of the Scenarios residency centred on the structuring of a sequence of hybrid and experimental encounters with different researchers and between different modes of climate change knowledge making and sharing. Over the year the artists engaged with a range of approaches to climate scenarios – including the models of

research scientists, the designs of urban planners, and the forecasts of policy-makers. At the same time, working with moving image, photography, installation, theatre, and performance, they explored and extended the ways in which society might reimagine scenarios of climate change. The improvisational and reflexive intentions inherent in scenarios have served as a touchstone for the project. Our framing for the Scenarios residency was one of ‘collective improvisations’. This referred to both the origins of scenario making in improvised street theatre and the ‘collective experiments’ of climate change. It drew on Bruno Latour’s observation that laboratories had turned ‘inside out’ to become ‘the worldwide lab’ such that ‘we are all engaged in a set of collective experiments’ in the ‘confusing atmosphere of a whole culture’ (2003:30–31). This aligns with cautions regarding how the predictive knowledge of climate research tends to set the terms for running a worldwide sociocultural experiment, that is, ‘bringing the worldwide emissions of greenhouse gases under directed management’ (Hulme and Mahony 2010). With this context in mind, we proposed paraphrasing artist Joseph Beuys, that ‘we are all climate researchers’ (Tyszcuk and Smith 2018:59).

The Scenarios residency project gives an idea of the potential of a sustained collaboration between the natural and social sciences, arts and humanities in the public spaces of climate research. The varied projects are ongoing and iterative and hint at the multiple possible ways of responding to the complexities of climate change (Tyszcuk and Smith 2018). Ormond-Skeaping and Dobrowolska explored the scenario mode of their documentary photography and film practice in their project provisionally called ‘Anthropocenes’. Their field-based research in Lao (PDR), Bangladesh, Uganda and the United Kingdom engaged with climate change adaptation in places where climate change is no longer a future scenario – and the impacts are intensifying. It explored the ways in which communities deemed most ‘vulnerable’ to climate change were also providing practical and intellectual leadership in demonstrating capacity to adapt to climate change. Their scenario making opens up a dialogue about a yet-to-be-determined future, asking important questions about political inequalities as well as new modes of governance and inhabitation in unsettled times. Who decides ‘future scenarios’ (when climate change is already here), who is involved, how and for whom are liveable futures worked out?

Visual and sound artist and diver Critchley’s *Common Heritage* project engages with the ‘frontiers’ or thresholds of human reach, including the deep sea and deep space. The feature length film she is making asks why these spaces, and by implication the Earth, are treated like frontiers of conquest, rather than home. Critchley’s scenarios are generated through collaborations with deep sea ecologists and climate researchers (Universities of Southampton, Plymouth, Cornell, Washington and Cambridge with the

British Antarctic Survey). Part of her research has been about acoustic pollution and its impacts on cetaceans/sound-oriented creatures. Sound here is not just an indicator of global environmental change but a powerful metaphor for climate change – something it is possible to be immersed in yet falls on different registers. *Common Heritage* not only considers the embodied and experiential aspects of change in the non-human natural world but also aims to show the inseparable relationships between that domain and the distinctively human world of international politics, resource exploitation and territorial ambitions.

Theatre maker Zoe Svendsen used the residency to develop *WE KNOW NOT WHAT WE MAY BE*, a performance installation at the Barbican (September 2018). Zoe was drawn to the economic and related social and cultural consequences of a climate-changed future. Her investigations have been rooted in a series of ‘research in public’ conversations with economics, politics, business and social science climate researchers who have been challenged to imagine what it might *feel* like to live in a society and economy designed in the best possible way to respond to climate change. The performance installation will involve audiences exploring these alternative economic futures, involving various economic measures (e.g. universal basic income, carbon tax), ideas about the future of food and land, the impact of robotics and AI, and the changing relationships to work. Participation in the event will lead to the creation of a collective vision of an alternative future, shared live and online.

Our ambition with the Scenarios project has been to support future imaginings that might better reveal a world where multiple, differentiated and uncertain futures are possible.

The collaborations around climate scenarios between the artists and their climate research community co-researchers (including ourselves as both convenors and participants) recognised the diversity and contested nature of climate change research, with its porous thresholds and ‘indeterminate boundaries between science and its others’ (Hulme and Mahony 2010). The ‘collective improvisations’ of the Scenarios residency explored ways of expanding the ethical, material and imaginative registers that living with uncertain climates might mobilise and to explore knowledge making in climate research in collaboration with others. Indeed, in the wake of reading Mahony *et al.* (this volume), we would argue that the initiative should be understood as experiments in co-production at the boundary of climate research and action. We argued that such collective scenarios could provide a ‘rehearsal space’ that might also result in more robust and considered responses in the near term to the prospect of surprising social transformations that are inevitably part of climate-changed futures (Tyszczyk and Smith 2018).

### 14.5 Conclusion

This volume has demonstrated the potential scope of cultural dimensions of climate change. We have sought to add some reflections on our body of work in this area. These projects had to be achieved ‘in the gaps’ between teaching and more ‘traditional’ academic publication and practice. Before terms like engagement, impact, and interdisciplinarity were considered respectable, indeed desirable, dimensions of academic life, most of the projects described here were often considered by others to be dilettante or displacement activities. Conditions are changing for the better, and there is a much more substantial community of practice and critique developing around cultural work on climate change. This leads us to want to share a few headline conclusions as to what we believe this work can do and how it can best be achieved.

We have characterised the complexities of climate change as an *unruly mix* of diverse knowledges, multiple framings, entanglements of human and non-human agencies, and unsettling responsibilities and vulnerabilities. These are seemingly incommensurable and yet, as Latour observes, ‘there they are caught up in the same story’ (1993:1). Our responses however can only ever be partial attempts at what Sheila Jasanoff describes as the ‘reintegration between global scientific representations of and local social responses to the climate’ (2010:235). At the same time, the unexpected nature of the process of engaging with climate change knowledges brings new skills, networks, and insights.

Like *prototyping*, our responses have been incremental and iterative, reflecting the processes of change as much as being involved with and within the change. And these changes are at once technological, social, political and cultural. Climate change understanding is itself evolving and changing. As Margaret Atwood opines, ‘It’s not climate change – it’s everything change’ (2015). Mike Hulme adds: ‘Climate is therefore becoming everything, but also nothing’ (2017:152). Prototyping shared climate futures in the current climate is therefore also about a commitment to careful risk-taking without guarantee and to learning through trial and error.

Climate research and how we make sense of this unsettling terrain can take on many forms – and should not be limited to the domain of natural and physical sciences or social sciences or even be confined to the academy: *we are all climate researchers*. Indeed, wider professional and public participation in climate research – doing research in public and with publics (Smith 2013b) – is not just a device for increasing engagement and commitment: it is reciprocal and changes the nature of the research. We propose that a diversity of perspectives, views and approaches is essential both to sense making and also to meaningful debate and stable decision-making, particularly within democratic systems.

Finally, we acknowledge the *time of our experiments and improvisations*. Some of the most lightly resourced projects described here have depended on investments of time and attention across many years. They were experiments that had to be left to run and sometimes required patient watching in order to see when the conditions could be right to take a particular theme or idea further. The most recent projects will likely continue finding their way through the world, sometimes with our help, sometimes not, for years to come. Experiments and improvisations in the sphere of culture and climate change require generosity of both time and spirit, time to get things right, redundant time, and time to let things unfold. This is not to suggest that the issue is not important or urgent. Rather, we want to suggest that insisting on one urgent fact, or one important figure, is in danger of making it more difficult for many people to attend and respond to this difficult new knowledge. Our experience leads us to argue that cultural responses to climate change will be all the more energetic, and ultimately effective, by building over time the many stories, of different voices, into waves of polyphony. Polyphonies are structures which support improvisation, yet still manage to bring many people together around a theme. The results can be moving, powerful and timely.

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