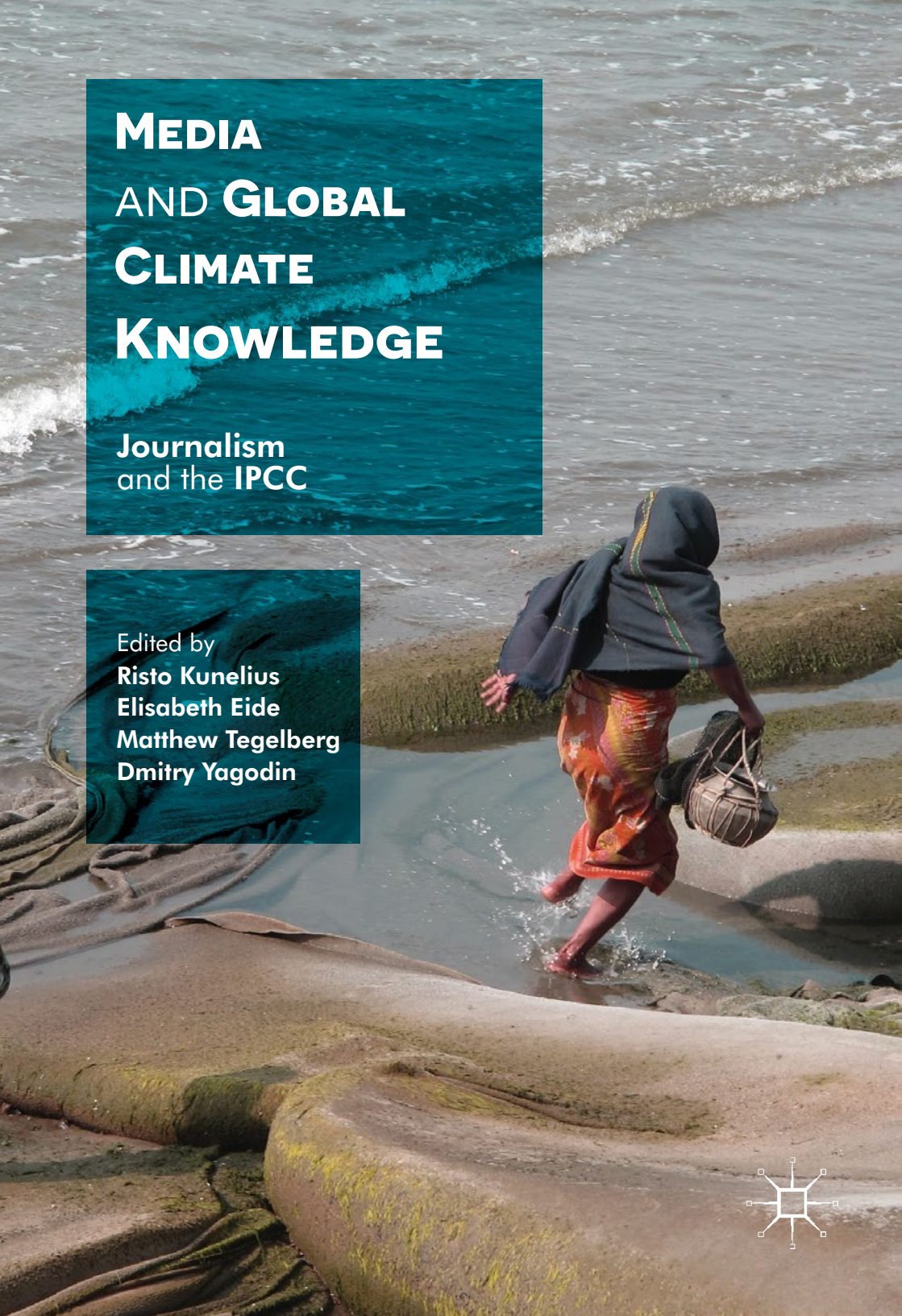
Media and Global Climate Knowledge

Journalism and the IPCC

Edited by
Risto Kunelius
Elisabeth Eide
Matthew Tegelberg
Dmitry Yagodin



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Foreword

This book would not have been possible without an enduring network collaboration between researchers in more than 20 countries. The *MediaClimate* network started its work after the UNFCCC Bali summit in 2007 (COP 13), with the firm conviction that climate change is one of the major global challenges of our time. We believe that journalism, in all its variety of forms and outlets, plays an important role in informing and engaging citizens faced with this challenge. Journalism is also crucial in building the public pressure to help decision-makers shape urgently needed policies. This is much more than a normal challenge of spreading and popularizing complex scientific knowledge. As we argue in this book, climate change digs deep into many, if not all, areas of social and political life. Thus, journalism must not only follow the science but also demonstrate the interrelatedness between climate change and other major challenges, such as migration, financial crisis and the unequal distribution of wealth.

This book takes the *Intergovernmental Panel on Climate Change's Fifth Assessment Report* (IPCC AR5) as its point of departure. The report was published in four parts between September 2013 and November 2014. This extended event offered a unique opportunity to take stock of the science–journalism relationship in all its complexity. To underline the importance of the results and the gravity of the situation, the IPCC organized a conference (Our Common Future) in Paris in July 2015. At this event, leading scientists highlighted their findings and—albeit sometimes between the lines—urged politicians and other stakeholders to take them seriously. Loaded with potential political impact, the AR5 report was

released in due time for the world leaders who gathered in Paris for COP 21 in December 2015. These events were unique moments for our team to study media content and interview scientists and journalists concerning their views on the challenges of communicating climate science. We are grateful to the IPCC scientists and reporters who found time to share their valuable experiences and insights with us during busy days in Paris, and at other meetings.

MediaClimate has been monitoring coverage of the global climate summits every second year from COP 13 in Bali (2007) to COP 21 in Paris (2015). During this time, the network has grown to cover over 20 countries across all continents. Our deepest gratitude goes to all those who have helped the authors of this volume by contributing their work. We have relied upon a large, skilful group of coders and colleagues who have brought their local knowledge and commitments to the project. The study would have been difficult to pursue without Amin Alhassan, Armèle Cloteau, Caroline D'Essen, Katherine Duarte, Lew Friedland, Kemantha Govender, Heli Heino, Daniel Hermann, Amanda Hines, Nissim Katz, Ville Kumpu, Zbyszek W. Kundzewicz, Wytold Kundzewicz, Emma Larsson, Heba Metwally, Mulatu Moges, Anja Naper, Elisa Ricciardone, Arin Sen and Henning Tegelberg.

Many aspects of this work have been presented at international conferences and seminars where numerous colleagues have provided important feedback and criticism. Their names would make an even longer list. We offer our collective thanks.

Over the years, the network has been generously supported by *Helsingin Sanomat Foundation* and the GIMD facility provided to Oslo and Akershus University College by the Norwegian Ministry of Foreign Affairs. The IPCC AR5 project, in particular, relied heavily on *Helsingin Sanomat* support. It has been a pleasure to work with the Foundation leaders, Heleena Savela and Ulla Koski. We would also like to acknowledge support from the Academy of Finland (Mediatization of Governance, 2015–2019). Finally, we would like to thank all of the universities whose academics have contributed to this network for providing the opportunity for our colleagues to take part in this endeavour.

June 2016 Oslo, Tampere and Toronto,
Elisabeth Eide, Risto Kunelius,
Matthew Tegelberg and Dmitry Yagodin

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List of Abbreviations

ACC	Anthropogenic Climate Change
AR4	Fourth Assessment Report (2007)
AR5	Fifth Assessment Report (2013–14)
BRICS	Brazil, Russia, India, China, and South Africa (association of five emerging economies)
CO^2	Carbon Dioxide
COP	Conference of the Parties
COP 21	Paris Climate Summit
G77	Group of 77
GDP	Gross Domestic Product
GHGs	Greenhouse Gas Emissions
IPCC	Intergovernmental Panel on Climate Change
NGO	Non-Governmental Organization
SPM	Summary for Policy Makers
SYR	Synthesis Report (2014)
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
WGI	Working Group I : The Physical Science Basis (2013)
WGII	Working Group II: Impacts, Adaptation, and Vulnerability (2014)
WGIII	Working Group III: Mitigation of Climate Change (2014)
WWF	World Wildlife Foundation

Note on IPCC AR5 abbreviation. Throughout this book IPCC AR5 is the abbreviation used to refer to the Intergovernmental Panel on Climate Change Fifth Assessment Report (2013/14). In the chapters, after initially referring to the IPCC AR5 the title is condensed further to AR5.

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CHAPTER 1

The Problem: Climate Change, Politics and the Media

Risto Kunelius and Elisabeth Eide

The stakes are massive, the risks and uncertainties severe, the economics controversial, the science besieged, the politics bitter and complicated, the psychology puzzling, the impacts devastating, the interactions with other environmental and non-environmental issues running in many directions. The social problem-solving mechanisms we currently possess were not designed, and have not evolved to cope with anything like an interlinked set of severity, scale and complexity.

(Dryzek et al. 2011: p. 3). The Oxford Handbook of Climate Change and Society

[Climate change] can disperse power into the hands of the many rather than consolidating it in the hands of the few, and radically expand the commons, rather than auctioning it off in pieces. And where right-wing shock doctors exploit emergencies (both real and manufactured) in order

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> *to push through policies that make us even more crisis prone, the kinds of transformations discussed in these pages would do the exact opposite: they would leave us with both a more habitable climate than the one we are headed for and a far more just economy than the one we have right now*
>
> *(Klein 2014: p. 10). This Changes Everything. Capitalism vs. The Climate*

The quotes above—one from a handbook by social scientists and one from an action manifesto by a radical global journalist and author—say the same thing in different ways. Climate change is a historically unique problem. Indeed, it is key proof that humans and their actions have become "central" on a planetary scale. This importance betrays a daunting sense of weakness. Perhaps we have become too central in our political and organizational capacities. Thus, paradoxically, from the overwhelming complexity of climate change as a challenge (in Dryzek), dawns a glimmer of radical system critique (in Klein): in order to adapt to what is coming, we must transform ourselves.

This book examines a specific moment in the ongoing global political process of trying to come to terms with what should be done: the publication of the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR5). We focus on a particular aspect of this moment: the role of mainstream journalism in translating the "global knowledge" of the IPCC for local publics. By focusing on the launching moments of the four sub-reports of AR5 (during 2013 and 2014), we map how the media builds a discursive and social *space of interpretation* where the impacts of climate change are negotiated. By using the publication of the IPCC reports as an entry point to the flow of global, journalistic climate communication, we map some key aspects of the transnational communication infrastructure that is mobilized around global climate politics.

Three overlapping aspects of the climate change problem frame it as a communication challenge. First, there is the exceptional *scale*. Climate change saturates decision-making from everyday life and local politics to global governance; it penetrates deep into the structural conditions of modern societies and their social order and reaches from the distant past hundreds of years into the future. Hence, there is *no outside* position from which to formulate questions, construct knowledge or give advice. Every participant in the climate debate is part of the problem, an interested party. We take part in the discussion from our particular corners governed by the horizons and social rules of our own localities. The space of interpretation

is, in this sense, fragmented and diverse. At the same time, we know there is another scale at work: the problem is a global one and thus demands a well-functioning dialogue that can transcend localities and help to negotiate and justify joint action.

Second, there is the *complexity*. It grows not only from the fact that the earth's climate system is itself a dizzyingly complex whole, but also from the fact that almost "everything" is or can be linked to climate politics (see Klein above). The debate about "climate" is never only about climate, but also about something else: energy, power, water, economy, land, employment, culture, tradition, identities, justice, survival, religion, food, mobility, lifestyle, democracy, freedom and so on. In this sense, our discussion about climate change resembles other "global discourses" such as debates about "human rights" or "free speech". Such universalities are always articulated through particularities. Imagining solutions calls for translation between different kinds of knowledge and vocabularies. This underlines the importance and difficulties of communication.

Third, the combination of scale and complexity becomes sharply articulated as a *political* and democratic challenge. Climate change extends the limits of the narrow jurisdiction of political institutions. It provokes anxiety about a fundamental temporal mismatch between climate policy and electoral democracy as a way of coordinating legitimate action. It raises fundamental questions about what democratic politics is and should be. Since the media is fundamentally paired up with our democratic imagination, these tensions also make themselves felt, particularly when we talk about journalism.

In order to understand media and journalism, it is necessary to look at the broad context in which it is situated. Hence, we anchor our analysis of *climate* journalism, by first briefly considering the three aspects introduced above: scale, complexity and (democratic) politics.

Scale: Width, Depth and Time

Climate change is an exceptionally *wide* challenge. The emission of greenhouse gases affects all humans and other living beings, the dynamics of the earth's climatic system and the entire planetary ecosystem. Greenhouse gases travel easily and have consequences far beyond their place and time of origin. This underlines the interdependency of peoples, localities and generations. Global warming effects transgress the borders of modern political communities (mostly nation-states) that make up the fragile system of international governance. Climate is not the first nor the only

global problem that highlights the "Post-Westphalian" or "Post-National" conjuncture in which we find ourselves (Habermas 2001, 1992; Fraser 2007, 2014). However, historically, it is arguably the most difficult and complex problem that humanity as a whole has faced. As recent attempts to write "global history" show (Mann 2013; McNeil and McNeil 2003; Fernández-Armesto 2011), climate change appears as perhaps the test case for the emerging twenty-first-century globalized system of power. History teaches us that so far rescaling systems of governance to the level of inclusive global problem-solving has never been done effectively. Success on this scale entails formidable communication challenges, not only in terms of constructing broadly shared realities concerning what we know about climate change but also in terms of what would be a reasonable and justified path to react to it.

Climate change also poses an exceptionally *deep* problem regarding the base structure of our social system. Its roots are our roots, the "solid ground" on which the dominant economic, political, cultural and social order of our world is based. Modern societies are "carbon-thirsty" by definition (Urry 2010) with structures of power intimately linked to the ways they have organized themselves around energy solutions. As economic growth curves, measures of material well-being or human mobility (social and geographical) have pointed upward, the roots of the fossil fuel economy have dug deeper into the ground on which we stand. Whether a shift to alternative sources of energy can provide the grounds for further "growth" in the current system of global capitalism remains uncertain. Ignored in the past, the economic "externalities" of pumping carbon into the atmosphere are forcing themselves back into our calculations. Doing so has proved difficult and wrought with political disagreements. The dominant economic debates mostly limit themselves to arguments concerning what big investments would be "rational" in a climate change cost-benefit analysis. (Stern 2007; Nordhaus 2008; Piketty 2014; Dietz and Stern 2014). Such calculations naturally assume that the system must remain in place (i.e. the current, albeit messy, relationship between states, politics and the economy) and that we can move from carbon to other energy sources quickly and effectively (i.e. in a matter of decades). However, the emission curves still point alarmingly upward. Furthermore, we know that cost-benefit models of economics tend to factor into their calculations values that "…are rooted in the economy we are trying to leave", as Dryzek et al. (2011: p. 46) point out. Putting this more clearly, Malm and Hornborg (2014) argue that "…uneven distribution is a condition for

the very existence of modern, fossil-fuel technology" (p. 3). Sagoff (2011) suggests that climate change is not a "market problem" at all, as it may be unsolvable within the language and conceptualizations of market economists. These critiques point to the depth of the climate challenge and to the narrow limits of mainstream economic calculus in addressing problems with system-level catastrophic risks.

One key instability in economic assessments reflects yet another scale dimension of the climate problem: the exceptional *time* horizons of climate politics. In economic disputes this circulates around estimations of the proper "discount rate" with which future hazards and benefits are brought forward in today's choices. But climate change also shakes our timescales in more fundamental ways. Dominant public identities in modern societies are characterized by a sense of being situated in a time of progress, in a continuum that stretches from pre-modern to late modern societies—and sometimes beyond. Strong narrative tropes in our cultural imagination present this continuum as a story of growth that continuously generates higher levels of development. At the same time, a variety of counter-narratives challenge this naturalized story of "development by capitalist growth". Climate change has activated both of these cultural plots, provoking apocalyptic predictions and fantasies about engineering the future of nature (Hulme 2010, 2014), demonstrating the pervasive sense of both *teleological* time and fatalism inside modernity. Yet debating climate change demands a multi-timescale view of politics. On one end there is a need to relate to extremely long developments in the climatic system. Can we actually "make sense" of what hundreds of thousands of years mean? Do we actually care about life (some) hundred years from now? An investigation of laypeople's views on future socio-economic and climatic change in the UK and Italy revealed that that participants "…felt 50 years to be a very long time-span for personal visioning. Imagining long-term futures also proved difficult as the quickening pace of (societal) change over the last 50 years meant the past could not be relied upon as a yardstick for future change" (Lorenzoni and Hulme 2009: p. 391). The knowledge produced by the IPCC is itself a good example of the complexity of simultaneous timescales, arguing at the same time on horizons such as "the last 800,000 years", "since the pre-industrial time" (about 250 years) and the "space for solution" closing in 2030 or 2050 (15–35 years).

Each of these dimensions—width, depth and time horizon—of the climate challenge, then, call for *recognition* of the all-embracing universal scale of the problem. A credible and effective solution to the fast mitigation challenges by means of a global agreement demands a binding

inclusive target and a fair "deal" with no free riders. Thus, a plausible and sustainable solution to move beyond global, carbon-thirsty capitalist modernity would call for fundamental re-considerations of identities, economic and social orders, and political practices. At the same time, action toward these goals must be designed in a world where such boundary crossing arguments or agreements do not command universal obedience. This framework sets the stage for thinking about how to communicate climate science and climate politics. How will journalism be able to report the science and its predictions to differently situated publics around the world? How can it critically cover transnational negotiations and international governance efforts, while enhancing their necessary authority? How are the voices of people in radically different situations, locations and time horizons to be included in the debate that informs such governance?

Complexity: Knowledge, Civic Epistemology, Institutions, Inequality

The earth's climate system is itself a complicated, dynamically balanced entity. This complexity makes climate change an illustrative case of an object of modern science where the things *not* known and the institutionalized practice of *doubt* are constitutive characteristics. Considering this legacy of scientific doubt and the complexity of the object, the volume of multi-disciplinary knowledge collected and *synthesized* by the IPCC is a remarkable achievement. For instance, the Synthesis Report (December 2014) reaches an increasingly conclusive level of language:

> Anthropogenic greenhouse emissions have increased since the pre-industrial era, driven largely by economic and population growth, and are now higher than ever. This has led to atmospheric concentrations of carbon dioxide, methane and nitrous oxide that are unprecedented in at least the last 800,000 years. Their effects, together with those of other anthropogenic drivers, detected throughout the climate system and are extremely likely to have been the dominant cause of the observed warming since the mid-twentieth century. (IPCC 2014: p. 4)

"Extremely likely", in the technical language of the IPCC, translates to 95 to 100 percent certainty. Here, we see complexity turned into clarity. There *is* a clear enough causality, a practical certainty concerning the core mechanism and causes of warming. There is a correlation between emissions and

the rise of global temperature. We know that we have already spent 65 percent of the "carbon budget" at our disposal if we are to have a reasonable chance of staying under two degrees of average global temperature rise. Considering the epistemological culture of doubt that drives modern science, there is little chance of that verdict getting any more conclusive.

However, the complexity of the problem quickly returns when we try moving from these synthesized findings to practical responses. First, complexity reappears in the diverse nature of knowledge itself. Hulme (2010) has argued, for instance, that the "global knowledge" produced by the IPCC is often too abstract (e.g. the *average* two degree temperature limit). It is also based on globalizing particular environmental values (such as the *economic* cost-benefit language). Thus, while recognizing the need to address climate change with such globalized models and measures (to at least raise attention), Hulme (2010) warns against knowledge that is "…insensitive to the peculiarities of place and context, and that "…opens the way for unitary globalized explanations and predictions of environmental change" (p. 559). Against such evidence "…masquerading as universal truths [that] assert themselves as the unassailable view from everywhere", he subscribes to a more "cosmopolitan view". From this perspective, developed in more detail by Beck (2010), Hulme (2010) argues:

> Rather than seeking a consensual global knowledge which erases difference and allows the most powerful to determine what is "known", we need to pay greater attention to the different ways knowledge comes to be made in different places and how different kinds of knowledge gain hold in people's minds, traction in different cultures and assent in global fora. This is *spectral knowledge* which emerges from a cosmopolitan perspective. (p. 563; emphasis added)

The call for spectral knowledge underlines the very locality of knowledge itself. It also begs the question to what extent (and in what sense) knowledge can be detached from its context of use and production. Thus, beyond the complexity of the physical phenomena (that the IPCC captures, synthesizes and simplifies) emerges another complexity of cultural, social and local conditions and experiences. For Hulme, this is not merely a matter of the complexity of "applying" the same global knowledge, but that the world consists of independent "ways of knowing". In other words, there is unresolved complexity at the heart of the very knowledge that the IPCC is to

trying synthesize. For our study of journalism and climate communication, this presents a huge challenge. How can climate science be mediated in a way that takes heed of the dire, globally necessary abstract warnings but at the same time makes room for local knowledge and life experiences?

Second, diversity appears as a *plurality of civic epistemologies*, the varying political cultures, traditions and institutional arrangements that go into shaping local policy. Even if scientists could reach a unanimous, accurate, final global agreement on the facts—a unity is counter-intuitive to contemporary science—it would not translate into policy in a uniform manner since global climate facts are *domesticated* by local institutions and networks of power. The interpretation processes that are mobilized to craft policy vary according to political traditions, earlier institution-building and contemporary struggles. Jasanoff (2011), for instance, has pointed to such variations of governance by comparing the USA, the UK and Germany. She illustrates how the same message from science in different local "civic epistemologies" has resulted in different landscapes for climate policy. The common law culture of the USA—that sees the "truth" emerging in an adversarial courtroom style encounter—has produced polarized debates and has largely resulted in national inaction. The UK culture of empiricism has been more favorable to scientific authority, focusing on science and evidence but also remaining open to climate skepticism and denial. The consensus minded political culture of Germany, in turn, has supported more coherent political action, at least in the short run. One needs only to point out that these three countries are situated *within* a broad and largely shared Western legacy of democratic imaginaries to realize how much more local or national diversity the *global* context might mean. Whatever joint actions are called for in global climate politics, they must be crafted into national and local policies in political and administrative machineries that vary in structure and effectiveness as well as in the traditions of argumentation and the production of legitimacy and consent. Third, the complexity of the climate challenge is amplified by *the intensified and porous boundaries between* modern institutions of governance. If civic epistemology refers to the inherited local varieties of institutional configurations for crafting policy, the boundary issue highlights another example of how climate change forces us to rethink our modern legacy. Here at stake is the constitutive self-image of modern societies as social systems made of differentiated, autonomous sub-systems (science, politics, journalism, religion, etc.) with functionally distributed capacities and interdependencies. This challenge is effectively illustrated by the basic idea of "post-normal science", introduced by Funtowicz and

Ravetz (1993) to mark the "…passing of an age when the norm for effective scientific practice could be a process of puzzle-solving in ignorance of the wider methodological, societal, and ethical issues raised by the activity and its results" (p. 86).

The "post-normal" situation challenges the institutional division of labor that informs our everyday theories about how modern societies work and shape the interaction between experts and professionals. Instead of an imagined division of labor between different institutions and domains, we now have problems that force actors and the seemingly differentiated "logics" of separate domains to overlap. Problems present themselves as *risks* rather than *obstacles*, and we have arrived in a situation where "… facts are uncertain, values in dispute, stakes high and decisions urgent" (Funtowicz and Ravetz 1993: p. 86). Consequently, there is increasing pressure for researchers to move from the role of neutral expert to advocate for particular solutions. The role of socially responsible scientists (also called "concerned scientists") is not a new one, of course. Neat institutional boundaries have always partly been a modern illusion that has covered up real hybridity and boundary activity (Latour 1993, 2013). In the case of climate change, these tensions and boundaries have become exceptionally intense and important, partly because climate change has been a problem predominantly identified in the field of (natural) science (and less through other institutions or everyday experience). As the stakes for climate policy have increased, this has created added political pressure for scientists and the platforms where policy is crafted. Indeed, as an institution the IPCC itself functions as a hybrid platform where interaction between science and governments is built into its mandate. As this hybrid platform of knowledge production becomes the object of media reporting and public debate, there is a heightened sense that the negotiations that went into crafting this knowledge will be reopened in the public domain. In the recent history of climate politics, the 2009 case of hacked and leaked emails is an extreme example of this boundary leaking (Pearce 2010; Mann 2012).

Finally, climate change is a complex problem because of the way it exposes large-scale inequalities of the world in which we live. Beck (2010) underlines this insightfully stating that "…if we want to locate climate change at the heart of sociology *and* politics, we have to link it internally to the power and conflict dynamics of social inequalities" (p. 267). He sees social inequalities and climate change as "two sides of the same coin" (Beck 2010: p. 267), and as we begin to witness the rising risks and hazards of ongoing climate change, these issues will become ever more

pronounced. The impacts, risks and levels of preparedness for forthcoming consequences are so unequally distributed, it is clear that climate change means very different things to different people. For some, climate change means a consumer choice of what kind of car would be "proper". For others, it can mean change of livelihood or the necessity of migration. The varieties of complexity discussed here point directly to the role of media and communication and pose difficult but inspiring questions: how to negotiate global knowledge with local sensibilities and the "spectral" demand? How to take into account the diversity of local political cultures and institutional arrangements without which necessary global agreements will be neither effective nor legitimate? How to imagine and develop new practices of cooperation and interaction between different stakeholders so that they retain their critical autonomy (of science, of journalism)? How to reimagine global professionalism—of scientists, journalists and so on—in a climate risk world?

Political Imagination: Planning, Challenging, Deliberating

Issues of scale and complexity play out in the many ways that climate change problematizes our thinking about *politics*. Some thinkers see climate change as a problem that underscores the need to overcome traditional frames of political thought. Giddens, for instance (2009: pp. 91–94), calls for a "post-political" consensus, combined with a return to a stronger role for the state in framing long-term political directions and facilitating change. He urges nation-states to start managing climate change as part of a more diverse set of risks and to promote more political and economic convergence. He wants to see states acting simultaneously as interested actors (because stakes are high) and uninterested facilitators (remaining neutral to particular solutions). A particularly interesting aspect of Giddens' argument is his call for a "return to planning" (Giddens 2009: p. 94). In this blueprint, a new kind of government planning is counter-balanced by the role of NGOs, businesses and other kinds of policy entrepreneurship. As part of this arrangement, Giddens also wants to partly de-politicize the issue of climate change arguing "…the issue is so important and all-encompassing that the usual party conflicts should be suspended or muted" (2009: p. 114).

Calling for such a post-political "concordat" illustrates how climate change provokes re-evaluations of what politics is good for, putting "democracy on hold" for a moment (Lovelock 2010; Randers 2015).

A provocative example that develops this line of thought is a recent essay by Oreskes and Conway (2014) which imagines global warming leading to the demise of "Western Civilization". Their fictional history of the "Second People's Republic of China" is set in the year 2393. It predicts that China, partly due to its undemocratic governance structure, is best equipped to adapt to rapid demands for policy change. In contrast, "Western Civilization", despite its public commitment to "knowledge", "science" and "evidence-based policies", was unable to gear into action quickly or effectively enough (see also Dryzek et al. 2013: pp. 94–101).

More or less explicitly authoritarian climate governance is not, however, the only imaginable solution. Some thinkers take an alternative path urging us to politicize climate change more thoroughly. In such views, bracketing partisan political energy from climate politics would not only be wrong but also fatal. This is Klein's (2014) argument for changing "everything". In more theoretical language, Mouffe's (2005, 2013) arguments against a "consensual" politics is that such visions always exclude important voices from social debate and cause new problems in place of those they claim to solve. In the context of climate change, a "post-political", state-sponsored "concordat", then, would necessarily exclude some actors, limit political motivation and generate antagonism toward the political efforts among the excluded. Taken on the scale of global policy formation, this political tension is of course clearly manifest in critical debates about the post-colonial legacy that also extends to climate issues. While perhaps in national arenas states can partly appear in the Giddensian role of facilitators, the Post-Westphalian power realities of global climate politics position them as self-interested actors. Thus, despite its merits of raising consciousness and building an essential sense of urgency, the idea of "solving" climate change with a globally binding transnational agreement, or with a political consensus (once agreed and then acted upon), is politically very problematic. Hulme (2014), for instance, argues for pluralism (in line with Mouffe) and propagates a pragmatist approach:

> …a world of more than 7 billion people cannot move together. Such a world will not agree on a single thermostat setting. The corollary of pluralism is philosophical and political pragmatism (…) Pragmatism is thus content to recognize and name problems like climate change as being super-wicked in character: non-definable and not solvable. Instead of using science and technology to "fix" wicked problems, pragmatism is content to pursue multiple and clumsy solutions to regularly reframed problems in order to achieve merely incremental gains. (Hulme 2014: pp. 137–138)

Illustrating a similar tendency from a different theoretical background, Ostrom (2009) has pointed out how "single policies" adopted at a global scale are "…unlikely to generate sufficient trust among citizens or firms so that collective action can take place in a comprehensive and transparent manner that will effectively reduce global warming". Instead, she argues for a "poly-centric approach" with active oversight of local, regional and national stakeholders:

> A polycentric approach has the main advantage of encouraging experimental efforts at multiple levels, leading to the development of methods for assessing the benefits and costs of particular strategies adopted in one type of ecosystem and compared to results obtained in other ecosystems. This problem [climate change], and having others also take responsibility, can be more effectively undertaken in small- to medium-scale governance units that are linked together through information networks and monitoring at all levels. (Ostrom 2009: p. 1)

The pragmatist and polycentric views offer crucial insights to climate politics. Theoretically, however, there are also deeper questions than asking whether we should put party politics on hold or at which levels and scales politicization and policy-making should take place. One such discussion emerges around the politics of epistemology. It is evident that pluralist, constructionist and pragmatist views have been extremely valuable in opening critical space for diversifying questions concerning power, history and justice, and they hold important potential for doing so in relation to climate politics. Yet, such tendencies can also run parallel and (however unwittingly) resonate with a tendency to deny the "reality" of climate change, or to blame scientists for constructing conspiracies. This is not to say that organized skepticism or climate denial was caused by academic theory, constructivist epistemologies or pluralist views of politics. Denialist movements and networks clearly emerge with massive systematic political and economic support from particular stakeholders, like the fossil-fuel lobby (Oreskes and Conway 2010; Dryzek et al. 2013: pp. 20–37), rather than from political or social theory. Their persistent grasp of parts of public opinion is linked to classic characteristics of individual psychology and its reactions to situations of dissonance between information and existing beliefs and behavior. Still, the more we have come to accept constructivist epistemologies in public life, the more difficult it has become to make scientifically valid authoritative claims about reality. In climate politics, *some kind* of shared knowledge about reality seems to be an essential ingredient