

Introduction:

Environmental Experts in Context

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Ever since the concept ‘environment’ became a household term in the 1970s, it has been a constant object of controversy. The way we should deal with natural resources, and, more generally, how we should relate to nature as a whole has over the previous decades continuously been discussed by politicians, civil society, journalists and academics. The stakes of these discussions are high. According to sociologists such as Ulrich Beck (1992) and Anthony Giddens (1999), our modern society is characterized by high levels of environmental risk. What is more, Beck and his colleagues have stressed that contemporary society increasingly acknowledges human agency in both the production of environmental risks, and the possible mitigation of those risks. In order to organize this mitigation successfully, expert knowledge is considered crucial by most stakeholders involved. Therefore, experts of all kinds are called upon to settle controversies about how to deal with the environment. It is exactly this role of experts that constitutes the topic of this volume.

Surely, experts also engage in management of the environment that remains *un-*controversial. Focusing on controversies, however, offers a methodological advantage. Controversies, after all, show things that remain hidden in ‘normal science’. The STS-scholars Brian Martin and Evelleen Richards have formulated it as follows: “Controversies are particularly rewarding sites for [...] research. They allow the analyst to study science that is still in the making” (1995, p.513). Many controversy scholars have claimed that the study of science-in-the-making shows that expert knowledge is not directly given by nature, but socially constructed. Studying the engagement of experts in environmental controversies thus sharpens our eye not only for uncertainties within the expert community, but also for the vested interests this community embodies and the social strategies it devises to gather authority around its claims. All this, certainly, does not mean

that the relation between the social world and the world of knowledge should be seen as unidirectional. STS scholars have stressed that, while the social is crucial in the creation of expert knowledge, also the reverse is true: knowledge plays an essential role in the constitution of social life. Bruno Latour (1993) and Sheila Jasanoff (2004) have referred to this process as one of 'co-production'. Controversies show this co-production process while it unfolds.

The term 'expert', crucial to this volume, can mean various things. There is a variety of definitions to be found in both academic literature and common parlance. A minimal definition, however, seems to consist of at least two elements. A first requirement for the expert is to possess some kind of specialist knowledge (of which the delineation is of course highly subjective). A second requirement is that he or she has an audience – such as policymakers, politicians, the media or the public at large – that is willing to recognize his or her authority. Expertise is relational. It does not only involve an expert who makes claims about nature; it also involves a third party who needs to be convinced the expert claims make sense. Experts, thus, need to build trust with the audience by the words they speak or the acts they perform (Shapin and Schaffer, 1985; Hartelius, 2011; Carr, 2010).

Expertise is never a given. It is the object of active demarcation strategies that Thomas Gieryn (1983) has described as 'boundary work'. These strategies have to discern 'science' from 'non-science' – or, in the context of this volume, rather 'expertise' from 'non-expertise'. The question who can and who cannot be seen as a true expert is often at the heart of environmental controversies. In these controversies, furthermore, the expert role is certainly not only reserved for academics or people with a scientific training. All kinds of experiences can result in the claiming (successfully or not) of an expert status. This also means that the boundaries between 'experts' and 'audience' are not permanent. People of various backgrounds can challenge the knowledge claims of experts and take up the role of counter-experts. This means the expert status is never fully secure or absolute. Controversies, in particular, make that very clear.

The terms 'nature' and 'environment' might even be more convoluted than the 'expert' concept. Traditionally, nature has often been presented as the place unaffected by human activity. Environmental historians, critical geographers, sociologists and ecologists have, however, highlighted how the natural environment of the last centuries is continuously shaped by humans. Even seemingly unspoiled wilderness, so it has been argued, often shows the material traces of human activity (e.g. Franklin, 2002; Meyer, 1996; Neumann, 1998). In an age of global warming it is not hard to understand that no place on earth escapes human influence in one way or another. Furthermore, the very categories we use to understand nature and the environment are mediated by human culture as well.

The historian William Cronon (1995) has shown for instance how ‘wilderness’, as an unspoiled and eternal object *out there*, is a relatively recent Romantic invention – born out of a particular set of cultural sensibilities. Therefore we cannot expect environmental experts to provide us with an unmediated mirror of a non-human nature. Rather they painstakingly explore a world that carries human traces all over it – and they do so looking through a cultural lens.

It is not the aim of this volume to pass a judgment about how expertise should ideally be used to inform policy (as for instance is done in Collins and Evans, 2007; or Pielke, 2007). Rather we want to explore how expertise is constructed in environmental controversies that take place in the real world. For this we build on various strands of scholarship that deal with controversies, expertise and the environment. Next to the sociological and historical work already referenced, this scholarship includes a range of disciplines across the humanities and the social sciences. Media studies (e.g. Hansen, 2010) help us understand the role the media play in framing experts, and thus, indirectly, in attributing them authority. Political scientists (e.g. Fischer, 2000) have highlighted, amongst others, how knowledge plays a role in the interaction between citizens and policymakers. Additionally, environmental philosophers (e.g. Drenthen, 2005) provide useful insights as to the different cultural perspectives with which nature can be approached. The individual papers in this volume do not have the ambition to integrate all these different angles at the same time. Yet, they all try to look over the established disciplinary fences.

The four essays in this volume address the role of experts in environmental controversies by focusing on particular cases situated in contemporary western societies. The methodological angles used and the actors focused on, however, differ significantly from case to case. In this way, we hope to offer a kaleidoscopic view of the workings of environmental expertise in the modern world. Taken together, the papers illustrate the multifarious processes that are involved in creating and substantiating expert knowledge about the environment.

The first paper’s focus, written by Maximilian Matuschka, is on the coverage of the geoengineering controversy in leading German news media, clarifying how experts are used in framing the issue. Primary source for this analysis is the complete corpus of news articles on geoengineering until May 1st, 2014, taken from *Der Spiegel*, *Die Zeit*, *Süddeutsche Zeitung* and *Bild*. The topic of geoengineering is surrounded by much uncertainty and confusion. Who is identified as expert and how designated experts are represented by news media to reinforce certain cultural frames is therefore of great interest and forms the main question of this research. An inductive frame analysis within a broader content

analysis, as instruments of media studies, was chosen as best-suited method to answer this question. Ultimately, it is shown that in this case of news coverage on a scientific high-uncertainty topic, additional interpretation by the journalists in constructing a meaningful article is considerable.

In the second essay, Luise Beddies takes a closer look at one specific technology within the field of geoengineering. The technology at hand is Carbon Capture and Storage, short CCS, which has caused a heated debate during recent years. A CCS project planned by the Swedish energy company Vattenfall in Germany in 2009 served as a case study of an unsuccessful project due to a lack of public acceptance. Taking up an STS perspective, this work closely examines the motives for public resistance within environmental controversies. It does so by studying the circumstances and influences that formed (local) people's opinion and the role which expert knowledge and scientific facts played in shaping this opinion.

In the third paper, Alina Dausendschön uses the STS tradition to throw light on a debate of a rather new technology and its uncertain risks. It examines how expertise is used to make a claim in a public debate. For this purpose, the paper analyzes how expert claims are used after a controversial state bill resuscitated the public debate of hydraulic fracturing in Pennsylvania. The private groups without policy-making power that were supporting fracking as well as those opposing the application of the technology used a variety of expert claims to convince the local citizens of their position. The study shows that both camps use rather similar tactics in presenting external scientific experts for making their cases as well as presenting themselves as practical experts to make their own claims.

The fourth essay, written by Eline Schmeets, takes a more philosophical angle by focusing on the role of experts in evolving ideas of wilderness. The Dutch nature reserve *Oostvaardersplassen* serves as a case. Experts have played an important role in establishing and maintaining the *Oostvaardersplassen* as new wilderness, both physically as well as mentally. This reserve provides an interesting case study, as experts had to not only establish physical wilderness here, but also make people understand the product of their labor as wilderness. The *Oostvaardersplassen*, although celebrated and considered inspirational by many, has also been the subject of an ongoing controversy. This study considers the critical role the received idea of wilderness as pristine and untrammled plays in the controversy, as it is used to advance the practice of rewilding. Supposing that pristine wilderness no longer exists – at least in the Netherlands – allows for human intervention to create or construct new wildernesses which may later emanate the same values. The concept of 'scripting space' will help analyze the narrative created around the

Oostvaardersplassen to solve, rhetorically, the tension between what this nature reserve is (new wilderness) and what it ought to be or at least, look like (pristine wilderness).

The papers in this volume, thus, bring different kinds of actors in the limelight: German journalists, a Swedish energy company, American anti-fracking activists, Dutch filmmakers, and many more. Although several of these actors were not experts themselves, the papers show how they nonetheless play important roles in the ways in which expertise is created, framed, received, contested and understood. Expertise, these essays show, is a relational concept indeed. And the relations involve actors of the most various kinds.

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