

9 Migratory Birds, Migratory Scientists, and Shifting Fields

The Political Ecology of a Northern Coastline

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For some years now, I have studied the political ecology of the North Sea coast in Northern Germany. I started fieldwork on the topic of conflicts surrounding the implementation of a National Park on the coastal shelf and finally ended up studying the effects of climate change. In this chapter, I will reflect on my use of a multi-sited approach and its close relationship to actor-network theory as suggested by Latour. This approach does not exactly juxtapose different sites, since it focuses on the making of only one coastal landscape. But in order to understand the dynamics of this specific landscape, it is necessary to follow the connections and attachments to other sites that make up the web of relations that finally constitute it. The shift from conflicts about conservation issues to the challenges of climate change cannot be grasped by focusing on dichotomies such as nature and culture or inside and outside; instead, these shifts are identical with new formations in a web of power relations that is constantly rearranged. According to the credo of multi-sited methodology, following the actors, stories, discourses, and threads offers new insights into exactly these dynamics. Actor-network theory is based on the very same methodological premises, but it explicitly adds the non-human actors as integral constituents of these networks. There is always something at stake, such as the conservation of the coastal shelf and the migratory birds, or the rise of the sea level, storm surges, and coastal protection. According to actor-network theory, people and things cannot be treated separately; on the contrary, it is their interaction that makes up the coastal landscape. Consequently, during my fieldwork I focused on the maneuvers and movements of some of the main human and non-human actors, all of them representing nature in various ways, and all of them challenging the existing networks that make up this coastline. I followed both the scientists who identified the coastal shelf as a unique ecosystem according to global scientific standards and the mayors, farmers, and fishermen who inhabit this coastal landscape. I also followed both the migratory birds and the environmentalists who act

as their political spokespersons; and finally I studied how climate change unfolded as a new challenge at this coast and how it slowly becomes a new member in this network of people and things.

Even though my approach focuses on only one landscape and its connections to a global network, this is different from *seeing* it from various perspectives. There is not one nature or coast and various ‘cultural’ perspectives, or, as Latour (2004a:245) puts it, a multi-culturalism based on a mono-naturalism. Instead, the coastline is the result of complex human and non-human interactions in space on various scales. Applying multi-sited ethnography to only one landscape consequently means to localize the global and to reconfigure the local (Latour 2005:173–218).

In interpreting or extending Marcus’s multi-sited approach in terms of Latour’s actor-network theory, landscape itself gets a new meaning. Landscape is no longer cultural or natural, nor is it ‘out there’; instead, it is a sphere of existence as defined by the German philosopher Sloterdijk:

Spheres are the spaces where people actually live. I would like to show that human beings have, till today, been misunderstood, because the space where they exist has always been taken for granted, without ever being made conscious and explicit (Sloterdijk 2008).

The sea and the tides, the birds and the salt marshes, the mayors, the scientists and the environmentalists—all are in motion, creating a sphere in which existence is possible. In order to create this sphere, it is necessary to continually realign the networks that shape the coast, to incorporate new actors, whether human or non-human, and to resolve conflicts. Change is the only constant on the coast; ever-new attachments are demanded if the coast is to remain what it is or become what it should be. As I will show, the conflicts surrounding the National Park only ended after the non-human actors finally were integrated into the hybrid forums administering this coastal landscape. They had to be brought to the democratic negotiation table, with environmentalists and scientists as their spokespersons. This is different from making politics in the name of Nature (or nowadays increasingly Climate) while silencing the democratic process through Science. A multi-sited approach offers a different reality, where neither nature nor climate is absolute, and in which science offers propositions in order to facilitate the democratic assembling of the collective.¹

In the following, I will start with a theoretical outline of my approach based on my previous fieldwork in the field of cultural and political ecology. After presenting the North Sea coastline as a constructed landscape, I will focus on the difference between environmental discourse and practice in the conflicts surrounding the National Park. In doing so, I will prepare ground for my multi-sited case studies: I will follow scientists, environmentalists, and migratory birds and highlight the chain of associations that connect this coastal landscape to shifting fields. Finally, I will provide an

outlook on the future challenges climate change will bring to the North Sea coast and how even climate sciences can be brought into democracy.²

A MULTI-SITED APPROACH TO POLITICAL ECOLOGY

From the mid-1980s of the last century onwards, I repeatedly conducted fieldwork and wrote about environmental conflicts. Looking back, my own research trajectory reflects, in many ways, the respective ‘state of the art’ in cultural and political ecology. Anthropological theories change over time, and they do so in accordance with actual changes in the real world. Thus, cultural and political ecology were confronted with the growing awareness of environmental destruction and pollution, with the rise of environmentalism and ‘global change’, with climate change as its most recent and challenging issue.

As a ‘Green’ student in the mid-1980s, I thought it important to make a contribution to establishing the ‘ecological crisis’ as a field of study in (German) cultural ecology with my master’s thesis on the Swiss Alps (Krauss 1987). At that time the Swiss Alps were the terrain of Swiss *Volkskunde* (ethnology), with its main proponents making an argument against environmental determinism in theories of cultural identity. At the same time, the American anthropologists Cole and Wolf (1974) conducted fieldwork in the Italian Alps, challenging a biologically oriented cultural ecology and identifying national identity as an influence on what they now called the ‘political ecology’ of a mountain village.

In the 1990s, I conducted fieldwork in Portugal on a new kind of environmental conflict resulting from the establishment of National Parks, nature reserves, and the implementation of strategies for sustainable development (Krauss 2001).³ Locals protested against environmentalism, which subsequently became an object of critical analysis under the aspect of ‘knowledge and power’. Additionally, historical studies showed that conservation politics had long ago become power politics, even if ecological discourse continued to propagate a rhetoric of the underdog and an apocalyptic Jeremiad. In the aftermath of ‘writing culture’, post-feminism, and post-structuralism, nature underwent serious deconstruction in order to end all kind of ‘essentialisms’, with Latour’s battle cry ‘We have never been modern’ (1993) as its most poignant and polemical manifesto.

The anthropology of landscapes offered alternatives, using landscape as a term that could avoid the pitfalls of the nature-trap, while opening the field for research on symbols, discourses, and practices. While already conducting fieldwork in the region of North Frisia at the North Sea coast, my interest in the anthropology of landscape led me to a conference in Edinburgh, where I met the geographer and landscape researcher Kenneth Olwig. In his book *Landscape, Nation and the Body Politic* (Olwig, 2002), North Frisia serves as an historical example for his view of landscape, which

opened a new approach to the on-going conflicts surrounding the National Park. According to Olwig, in North Frisia, landscape, *Landschaft*, was a term that, early on, designated a political assembly, where influential people gathered in order to decide questions about property, dike safety, and taxation. *Landschaft* in this sense could be seen as a practice, an activity, and a place for the resolution of conflicts.⁴ It was always about something, about an issue, a *res*, that needed to be decided. As Olwig's more recent publications (2007) show, this idea of landscape is not a Heideggerian retro-fantasy but a definition that the European Landscape Convention, for example, has taken seriously. Based on this concept, contemporary attempts to push through environmental policy from above are increasingly making way for bottom-up projects.

Through another contact that came about in an interdisciplinary project, I was invited to a series of workshops launched by Bruno Latour and his then doctoral assistant Christelle Gramaglia on the subject of 'eco-governance'. Latour's demand for a new political ecology, familiar to me from reading and apparently so difficult to implement in practice, now took on a clearer form for me. At the time Latour was preparing the monumental exhibition 'Making Things Public—Atmospheres of Democracy' (Latour and Weibel 2004). His focus on things and the gatherings they bring forth was also right in line with my research. How are things made explicit or public? Who assembles? Who represents non-human actors? How is the collective assembled, and how are compromises reached and conflicts resolved? Using a variety of examples, we discussed how a thing, an issue, or a discourse calls forth its own assemblage, whether it be a polluted river, the re-naturalization of a stream, the building of an oil pipeline, or the founding of a National Park. Central are not the generic terms Nature and Culture, but rather the innumerable concrete 'matters of concern' (Latour 2004b). Most of all, actor-network theory involves the association of human and non-human actors and thus brings back the 'material world' that previously got lost in the endeavor to deconstruct essentialist nature. According to Latour (2004a:249), ordinary political ecology had failed to represent nature and had written science with a capital S, thus cutting off the political process that is necessary to finally bring the sciences and their objects of representation into democracy. In his view, a new political ecology will no longer rely on scientific facts disguised as truth; instead, they will be turned into propositions presented to the public and democracy.

From early on, political ecology was based on a multi-sited approach; in order to understand the ecology of a specific region, national and global connections had to be traced. In my book on the conflicts in Portugal, I already identified my field site—a small agro-town at 'the end of the world'—as the 'global village'. In this understanding, a multi-sited approach consists of 'tracing the associations' (Latour 2005) that make up the local, with nature and culture replaced through the ceaseless interaction of human

and non-human actors. Following these chains of associations became one of my strategies to interpret the 'ecologizing' of my field site at the North Sea Coast.

THE MAKING OF A COASTAL LANDSCAPE

One need not be a constructivist in order to see North Frisia as a 'constructed' landscape. Dike building and drainage, political alliances, technological innovations, pioneer spirit, and financial risk-taking have produced this unique landscape, on which terrible storm tides have inflicted great losses time and again. Even the dikes do not demarcate a definite boundary between the sea and the land; instead, this line is in permanent negotiation between human and non-human forces. It has been and will always be an extreme space for human existence, threatened from outside. These threats are not only natural ones but also geopolitical and ecological. Land reclamation and coastal protection are a permanent challenge and highly disputed. Between the world wars, coastal land reclamation became propaganda for a *Volk ohne Raum*; until the 1980s, coastal protection plans were meant to build dikes surrounding all of the tidal flat area, turning the so-called Wadden Sea into (agricultural) land; until the Iron Curtain fell, rivers such as the Elbe made the North Sea into a sewer for Eastern European industrial waste; and the dumping of dilute acid on the high seas finally almost turned it into a sewer.⁵

The National Park Schleswig-Holsteinian Wadden Sea, founded in 1986 beyond the last line of dikes, was a turning point in many respects: mainly, it marked the end of land reclamation and the rise of environmentalism. The Wadden Sea finally was labeled as a unique ecosystem and declared a National Park where natural processes without human interference should be saved for future generations. But the implementation of the National Park did not end conflict; on the contrary, it was the cause of ferocious conflicts with the coastal population lasting over a decade.

My research interest in the North Sea coast was aroused by a constellation of local conflicts. Many inhabitants of the coast had met the establishment of the National Park with embittered protest and closed fronts had formed, with farmers, hunters, and fishermen on the one side and conservationists, environmentalists, and National Park officials on the other. Each party defended its position in model fashion: the inhabitants interpreted the coast as a cultural landscape created by them and their forefathers; the conservationists took the view that this was one of the last natural landscapes in Germany, which it was their duty to protect for future generations. Their arguments appealed to the results of scientific research into eco-systems; science served as legitimation for environmental politics of nature. The conflicting arguments could be read on protest posters and in information brochures: 'Down with the eco-dictatorship:

God created the sea and the Frisians the coast' on the one side, 'Let nature be nature' on the other, and even scientific coastal research came under attack: 'The Wadden Sea is not a playground for researchers, but a livelihood for fishermen'. The lines of conflict were, to put it mildly, hardened: environmentalists insisted with the help of science with a capital S on the coastal shelf being a natural landscape, while the coastal inhabitants defended their rights of access to the tidal flat area in qualifying it as a cultural landscape. Of course, both were right from their side, and both were involved in a power conflict. I was very familiar with this constellation from my previous fieldwork in Portugal. So this was a good starting point for ethnographic study on the politics of nature as redefined by Latour. I was neither interested in further explaining how this constellation had come into being nor in debunking the rhetoric of the respective groups. Instead, I focused on the *res*, the things and issues that were at stake in these conflicts.

MIGRATORY BIRDS AND THE 'ENVIRONMENTAL SCHOOL OF THE NATION'⁶

In their attempt to protect the North Sea coastal shelf, environmentalists tried to freeze the coastal landscape. In their own jargon, the flow of natural processes in the tidal flat area should be preserved, and the Wadden Sea should be turned into an 'environmental school of the nation'. Scientific eco-system research was taken as proof for its environmental quality, and science seemed to offer a direct connection to the spheres of law. Consequently, protesting coastal inhabitants were either marked as backwards or as modernists; in any case, they were the negative 'other' of an ecologically sound coastal landscape. So far, so good, but this was only one side of environmentalism. Its practice was much more subtle, and revealing it leads to a much more democratic interpretation of this 'environmental school of the nation'. Applying a multi-sited approach, I started to follow virtually and in practice the human and non-human migratory actors.

Conservationists themselves applied multi-sited strategies in order to create the National Park and to protect birds. To do this, they made connections between such unlikely places as northern Germany and a Siberian peninsula. Hundreds of thousands of migratory birds are bi-annual guests at the Wadden Sea. They were there long before the National Park, though then less numerous, for they had many enemies, particularly the coastal inhabitants. On the islands and the holms and also on the mainland, they were competitors for grazing land, pre-destined victims of the local hunting clubs' passion for their sport, and by the 1980s the number of birds had been decimated. Today they are the flagship of the National Park, with the Brent Goose as their heraldic beast. And rightly so, for it was the migratory birds who stood at the beginning of the National Park, and it was the birds

who enabled the career of many environmentalists. Initially, the conflicts over the National Park were focused on the restriction and prohibition of hunting birds on the coast. Professional and hobby ornithologists, biologists, and conservationist organizations called attention to the fate of the migratory birds. They produced detailed studies of the species and ringed tens of thousands of birds, observed them in all kinds of weather, and drew up lists and traced their flight.

In autumn and spring, the migrating birds rest at the Wadden Sea on their journeys from Africa, England, and Siberia, and they gorge themselves on reserves sufficient to tide them over for their further flight. But they had enemies not only here; in their Siberian breeding grounds, a biologist told me, they fell victim to hungry farmers and inmates of the Soviet prison camps, the infamous Gulags. After the fall of the Iron Curtain, conservationists from the North Sea coast in association with the nature organization World Wildlife Federation (WWF) embarked on negotiations to set up a nature sanctuary in Siberia too, in which they succeeded. Thanks to the migratory birds, many a coastal ornithologist has made a career in transnational environmental protection.

But at home there were also complicated negotiations to be held and agreements to be made, particularly with the farmers outside the National Park. The farmers were given compensation for the loss of grazing land owing to the actions of Brent Geese. In long-term and arduous campaigns, the National Park succeeded in persuading farmers on the islands and the holms that, in the long run, the migratory birds brought in more money through tourism than was to be made by agriculture. To this end, it inaugurated a yearly celebration on one of the holms where citizens who had distinguished themselves by service to the Park were awarded the 'Golden Brent Goose Feather'. The concomitant 'Brent Goose Festival' has become a success with tourists and an opportunity to advertise the National Park.

The Brent Goose had been made explicit; it provoked conflicts and negotiations, and finally a compromise was found. Today the Brent Goose has its place at the negotiating table. It is not, however, a very reliable contractual partner. It and its relative, the Barnacle Goose, have discovered the seeds on farmland beyond the islands and boundaries of the National Park and are causing so-called feeding damage. In the course of other cuts, the government has canceled the initial compensation payments to the farmers, and now a new conflict must be resolved. The trouble is worth it: the birds have been accepted and have become a solid part of what makes up the coast. Local and regional parliaments finally turned into hybrid forums. Seen from this multi-sited perspective, the National Park really brought forth an 'environmental school of the nation' that now truly deserves its name as a democratic institution. But nature does not dissolve, even though in practice it turns out as consisting of multiple actors. I learned this from the National Park administrators, when they took me to another site. In doing so, they reminded me what environmentalism is also about.

MIGRATORY ENVIRONMENTALISTS: LOCALIZING THE GLOBAL

It was officials of the National Park who indirectly reminded me of how environmentalism had started. During my fieldwork in their administration, they invited me to join them as a participant at a conference they had organized in Seoul in South Korea. It was organized in order to support the national protest movement in their battle against their government: the ministry of development intended to turn a South Korean tidal flat area into agricultural land. The dikes were already under construction and threatened to destroy an area, which in terms of ecology is almost identical to the German Wadden Sea. For the German National Park administration, this conference was just like a journey back to their roots. The environmentalist movement on the North Sea coast had begun as a protest to prevent the large-scale diking of the Wadden Sea for protection against the danger of storm tides (and was partly successful). The National Park officials were acquainted with my critical publications on the subject and invited me to give a lecture at their South Korean conference.⁷

In Seoul we met Buddhists, Catholic nuns, militant anti-environmentalists, and scientists who were fighting against the already far advanced diking. On the spot, in the local tidal flat area, we witnessed how the population had already split into advocates, who hoped for new land for rice farming, and opponents, who saw their livelihood as fishermen threatened. The German environmentalists made simple and effective statements in front of the Korean press and argued for the protection of Nature, praising its uniqueness and beauty. They appeared on TV and in all of the national newspapers.

Our time there was too short and the scene too exotic for me to gain a real insight into the situation, but it was long enough to convince me that this conflict was in fact a question about something. In my opinion, it was not about nature, not about culture, but about solutions for human and non-human actors at specific places, and about 'good governance' and 'bad governance'. In her seminal book *Frictions*, Tsing (2005) gives an explanation for the paradoxes of environmental advocacy; it is precisely the frictions of local and global discourses that make up the universal and enable global activity. While the German environmentalists had learned at home in painful lessons that Nature was the end of politics, here in South Korea their 'simple' argument for Nature made perfect sense; the German voice was an influential one in this stage of the battle. It was my task to reflect on the long way to sustainable development, which would follow if the South Korean environmentalists could bring modernist destruction to a halt. Parliaments of things ultimately rely on democratic processes, and in South Korea and elsewhere environmental movements are multi-sited in a double sense: they need global support environmentally and politically. Having done their job globally, the German National Park administrators came back home in order to continue the tiring process of reshaping the local, while I started fieldwork on 'the tribe of coastal scientists'.

SCIENTIFIC COASTAL RESEARCH

Science is one of the closest allies of environmentalism, and this was especially true for the legal implementation of the National Park at the North Sea coast. But coastal researchers also had to pay a prize for this alliance. At a protest meeting of coastal fishermen one could see a poster emblazoned with the words: 'The Wadden Sea isn't a playground for researchers, but a livelihood for fishermen'. Science and local interests had clashed in the discussions about the National Park. What had gone wrong? In order to find out the dynamics of this conflict, I turned to scientific coastal research as an object of study. One could find them in the Wadden Sea tidal flat area, knee-deep in the mud with their laptops protected in plastic boxes, but mostly they sat in the offices of the Institute for Coastal Research behind their computers, far away from the coast. The director of the Institute invited me to come to his Institute to study the 'tribe of the coastal scientists' and their 'cultural baggage'. The question for me was not necessarily how coastal scientists perceive the coast; instead, I wanted to trace the chain of associations that connect coastal science and the coast. Like the environmentalists, coastal scientists turned out to be migratory, too, and following them sometimes meant drifting far away from shore.

The Research Institute specializes in research on coastal eco-systems and climate change. In the following, I will begin at a global level in order to demonstrate how both the coastal eco-system and climate are grouped into a category called 'global change'. In the next steps, I will show the difficulties of localizing 'global change', with different outcomes.

MIGRATORY SCIENTISTS AND GLOBAL CHANGE

As far as my restricted research budget permitted, I followed coastal scientists to a few of their conferences in the science-environment network. One of these conferences was called 'Challenges of Global Change' and took place in Amsterdam in the year 2001. It was organized by the Intergovernmental Geographical and Biological Program (IGBP), a global network of so-called concerned scientists with various sub-programs, such as Land Ocean Interaction in Coastal Zones (LOICZ). The conference was timed well, taking place before negotiations about the Kyoto process in the same year and shortly before the world summit for environment and development in Johannesburg in 2002. The intention was to present the science behind these political events, and the conference resulted consequently in a common declaration, called the 'Declaration of Amsterdam'.⁸

At the same time, this conference was, as usual, a networking event. Scientists from Northern Germany and all over the world used the occasion to present their Institutes and their research results, and to place them in a global network of research. Coastal and climate researchers

often circle the globe more than once in the course of a year. They are migratory scientists whose itineraries, like those of many migratory birds, are not genetically programmed but still follow a definite pattern. The summits determine the flight routes, and symbols and rituals serve as a common denominator. The more international the occasion, the more slogans such as 'global change' serve to bind together science policy and the individual activities of the researchers. Before specialists present their work in parallel sessions, keynote speeches frame this diverse community. The global environmental discourse and its symbols, such as Gaia, pictures of the blue planet, or cracking and crashing icebergs, appear in keynote speeches and joint declarations. Beneath this glitzy surface, data are being linked in systems; models are the common currency and serve as a means of inclusion and exclusion for this specific 'tribe' in the world of science. What invariably fascinated me most during this conference in Amsterdam was the reiterated, mantra-like statement: 'Global change is real'. The scientific models, satellite photos, and meticulously calculated and researched case studies left no doubt about the reality of global change and the challenges it already poses for human existence. But how does this reality relate to the protest slogan 'The Wadden Sea isn't a playground for researchers, but a livelihood for the fishermen'? How to bring back the signs of global change to the coast, from where the data originate? How to relocalize those 'ecosystems gone global', and what does this mean for the reshaping of the local? With those questions in mind I will return now into the middle of coastal conflicts.

LOCALIZING ECO-SYSTEMS

Science is one of the closest allies of environmentalism, but it is a delicate relationship, too. Without a doubt, the Wadden Sea is one of the best-researched coastal eco-systems worldwide, and coastal science played an important role in the conflicts surrounding the National Park. The Institute for Coastal Research had been a leading participant in an innovative project for the study of eco-systems that had minutely documented the ecology of the Wadden Sea. Officials of the National Park compiled this research in a survey report (Stock 1996) to serve as the basis for the amendment of a National Park law and presented it for public discussion in this form. It triggered a storm of protest that also aimed at science as an important social actor in the region. Scientists from the Institute had supposedly supplied the raw data, which conservationists then put into their context, which was the amendment of a law. The problem was not that the researchers had conducted their studies inaccurately. The authors of the report in the National Park Office told me that they had asked the scientists for an evaluation of the relevance of the data for the management of the coast but had met with no response.

Later on, after a year of public debates, demonstrations, insults, and even personal attacks, the administrators admitted that it had been bad policy to confront the coastal inhabitants with such scientific data—no one, probably, ever read the report. This tactical error concealed another, deeper problem: scientific facts were presented as indisputable truth in order to avoid political discussion. The chain of translations was not only shortcut in the democratic process, but also in science itself. A researcher who had taken samples in the Wadden Sea, which were then analyzed at the Institute, complained to me that he was never named as the author in the resultant publications, even though collecting data constitutes a process of construction. The samples were the result of a difficult process of translation, too, but this process was already made invisible in the construction of the scientific facts.

In our interviews, coastal researchers stressed again and again that they had nothing to do with politics. The conflicts, they said, were caused by the environmentalists' ideology. The public has been confronted with hard data, not with propositions based on good scientific practice. As a result, the coastal inhabitants associated the data exclusively with the (hated) environmentalists, and coastal researchers were identified as collaborators.

The intensity of local protest finally forced the National Park administration to present these scientific facts as negotiable quantities, as propositions. The environmentalists went to each mayor and interest group in order to debate every single element of the eco-systems with respect to customary rights of access, to the use of resources, to stakeholder interests, and so on. Only through these negotiations had the scientific eco-systems found their way into democracy, and the conflicts were solved. And finally, science had found its way into democracy. It is a long way from researching scientifically the Wadden Sea eco-system, putting it into a global scientific context, and bringing it all the way back to the coast. As I will show in the final part, this is obviously a lesson to be learned when it comes to climate change.

OUTLOOK: POLITICAL ECOLOGY OF CLIMATE CHANGE

The director of the Institute for Coastal Research, Hans von Storch,¹⁰ is on the move at least as much in matters of climate as in matters concerning the coast. He was engaged in the *Intergovernmental Panel on Climate Change* (IPCC), appeared as an expert witness before the American Senate and the German Bundestag, sits in committees of the coastal administration, and gives talks indefatigably to all possible interest groups. Not least, he and his research group are downscaling climate change in order to present localized scenarios for the German North Sea coastline.

Von Storch is a prominent scientist in the global community of climate science. Being neither an admonisher nor a skeptic, he argues for good scientific practice and tries to play the role of an honest broker (Pielke 2007)

in relation to public demands. He is decidedly skeptical about many colleagues who, in his view, too easily produce connections between a single extreme weather event and climate change. Such connections cannot be proven scientifically, he argues. In his opinion, the American discussion divided between skeptics and doomsayers has clouded the perception of the real phenomenon as much as the apocalyptic interpretation that can be heard in Germany. In such a heated political atmosphere, he complains, even the interest in the construction of knowledge about climate change is regarded as suspicious. The representation and articulation of the phenomenon essentially influence its perception and related political decisions, with far-reaching consequences. Following von Storch's arguments on climate in many ways reminded me of the previous nature discussion, even though the climate debate has not yet been as much under attack from the various schools of deconstruction or postmodern cultural theory.

As I have shown, the concept of Nature (with a capital 'N') in times of conflict had much to do with power struggles and little to do with the *res* of the *res publica*. Parallels to this situation may be found in the still dominant discourse about climate: moralizing the issue after the pattern of ecological discourse has the advantage of perceiving climate change as a universal problem, but the pitfall of writing Climate with a capital 'C' and climate science with a capital 'S' threatens to bear similar consequences. Von Storch seems to be aware of this when bringing climate change to the coast.

Turning to the North Sea coast, it at once becomes clear that climate change represents a very real threat, however the majority of humans may behave. Not merely mitigation, but also and above all adaptation, have become inevitable. Using available knowledge, von Storch and his climate researchers at the Institute attempt to generate realistic scenarios for the future consequences of climate change on the coast (Woth and von Storch 2007). Not every cluster of storm tides is unusual, as an array of records shows, but the models indicate that the incidence of storms will mount in roughly the next thirty years, accompanied by a significant rise of the sea level. This, of course, is an important piece of information for the coastal population, coastal protection, and administration. In order to spread the news and to give detailed advice, the Institute has set up a climate office on the coast, which is open to the public and to experts. Furthermore, von Storch tries to prompt a public debate about possible strategies to confront this challenge. He explicitly understands the scenarios as propositions; he does not hide the problems of downscaling, the problems with empirical data, and other uncertainties involved in the making of these scenarios. It is up to coastal politics to make the decisions, and climate research can offer new scenarios calculating or modeling the possible consequences.

During the debate over the National Park, it was impossible to raise the subject of the dikes. When a Wadden Sea researcher proposed opening some of the dikes and relinquishing part of the coastline so as to make the rest

more secure, he triggered a storm of outrage. Today, since the National Park conflict has been resolved and climate research more 'integrated' on the coast, this issue can be debated. Coastal and nature conservationists, entrepreneurs, regional politicians, and mayors are faced with the task of preparing themselves for the rise in sea level and the predicted increased frequency of storms. They are specialists in this. All coastal politics revolves around the safety of the dikes; otherwise this coast would not exist. Now climate has become a new actor that strengthens and redirects old networks. In this, too, the coastal inhabitants are specialists, as the debate over the National Park demonstrated.

Climate research results presented as propositions open up possibilities to locate climate change, and the calculated time frame leaves room for reshaping the local accordingly. Climate is a new actor made explicit, and in order to secure the coastal landscape as a sphere of existence, the subtle networks that shape and administer the coast will have to change again.

CONCLUSION

The coastal landscape in Northern Germany as a field site is not just 'out there', but it is the result of links to other sites. The ethnographic method is still suited better than any other to explore these networks, whose lines are densely clustered with stories of human and non-human actors and their often times unlikely associations. Instead of juxtaposing different sites, in my case study I deployed a multi-sited approach in order to understand the making of only one landscape, which I defined as a sphere of existence. Environmentalists and scientists made new aspects of this sphere explicit, such as eco-systems, migratory birds, and nowadays climate change. Once made explicit, these new phenomena and actors have to be slowly attached and integrated into already existing networks or hybrid forums that administer and shape the coastal landscape. This multi-sited approach to the political ecology of the Northern coastline is spatially oriented and unfolds through transdisciplinary approaches such as science and technology studies, landscape studies, or actor-network theory. As the various examples of migratory human and non-human actors have shown, multi-sited ethnography connects different sites as well as people and things, and it is constructive rather than merely critical. Its focus is on 'good governance' and 'bad governance' or, as Latour and Sloterdijk put it, on 'the atmospheres of democracy'.¹¹ Conflict is part of these 'atmospheres of democracy', as the protest of local inhabitants against the implementation of the National Park demonstrated, but closure is possible, too; this is especially true when environmentalism and the sciences leave the empires of absolute truth and find their way into democracy as spokespersons, offering propositions instead of cutting off the democratic process.

In order to replace the concept of 'society' as opposed to nature, Sloterdijk (2004) has employed the image of bubbles linked to each other by

transparent walls, from which continually new and temporary constellations emerge, which he calls 'foam'. The inhabitants of the North Sea coast are specialists in foam formation. Coastal networks are linked to the scientific Research Institute, to post-communist Siberia, or to the *Intergovernmental Panel on Climate Change*; bubbles are connected to one another and finally create a cluster of foam. Multi-sited ethnography closely follows the attachments that make up this fragile architecture formerly called 'society'. A multi-sited approach does not shortcut the slow construction of this coastal sphere, but it traces the chains of associations and attachments that it is made of. Bubbles and spheres are fragile and temporary entities, but the waves of the North Sea will see to it that heaps of foam remain the fate of those who live on the coast.

NOTES

1. 'Collective', 'hybrid forums', or 'making things explicit' is typical Latourian terminology. Their main characteristic is that they are composed of people and things or of human and non-human actors. Hybrid forums are not reduced to political parliaments; they can be formal or informal, institutionalized or temporary, on the level of daily life or of global scale, such as the UN or the Intergovernmental Panel on Climate Change (IPCC). For a detailed theory of hybrid forums, see Latour (2004a) and Krauss (2006a).
2. *How to bring sciences into democracy* is the subtitle of Latour's *Politics of Nature* (2004a).
3. The title of the book is *Hang the Greens* and quotes a local graffito that reflects the local attitude towards conservationists: *os verdes só enforcados* (Krauss 2001).
4. See also Krauss (2006b).
5. For a detailed history of German wetlands see Blackburn (2006).
6. See also Krauss (2008).
7. See Krauss (2003).
8. See http://www.sciconf.igbp.kva.se/Amsterdam_Declaration.html, accessed 1 October 2008.
9. 'Das Wattenmeer ist keine Spielwiese für Forscher, sondern Lebensraum für Fischer!'
10. homepage <http://coast.gkss.de/staff/storch/>, accessed 20 October 2008.
11. Latour and Weibel (2005) and Sloterdijk (2005). *Atmospheres of democracy* is the subtitle of the exhibition catalogue of *Making Things Public* by Latour and Weibel (2005), and the related 'Atmospheric Politics' is the title of Sloterdijk's article in the same catalogue (2005). Sloterdijk and Latour have engaged in fruitful collaborations for many years now.

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