

## Part 1

### What are Geographies of Nature?

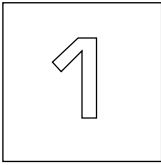


**Figure I.1** A small woodland in Greater Manchester, England

Are spaces for nature self-contained, sealed areas from which all trace of people has been banished? In Manchester, the city in England where I grew up, I remember that most woodlands were strongly fenced off, with warning signs nailed onto the trees saying, 'No trespassing', 'Keep out', and so on (Figure I.1). I ignored the signs, as did most children. The site in Figure I.1 is fenced off from the public, it's a local state-owned 'private' woodland. The positive side is that it has remained a woodland for as long as I can remember, the negative side is that most people cannot access it. Manchester City Council still has a policy of keeping nature reserves and people apart, fearing that people will interfere with wildlife. Its spaces for nature are, in theory and

to some extent in practice, people-less. When applied to bigger areas, like, for example, wildlife reserves in Kenya, the term that is sometimes used for this kind of spatial practice is fortress conservation (Adams and Mulligan, 2003). The fortifications, which include guns, police and permits as well as fences, keep the world of people and the world of nature apart. And yet, when you start to observe these places you quickly note that not only are there numerous surreptitious border crossings (ranging from the rather innocuous fence climbing of my youth to the poaching parties that threaten tiger reserves in India), there are also lots of other crossings. Wildlife officers and volunteers enter the woodlands to clear sycamore saplings, brambles and holly under bush – all in order to maintain the habitat. In the larger projects and parks in India and Kenya, wildlife police, tourists, farmers, children, conservationists, scientists, animals, plants, remote sensing devices and animal medicines all pass through the parks. Meanwhile, fortress nature has long since been a contested practice. There are ongoing arguments over the best way to conserve nature – should people and wildlife be kept apart, or is it better (more realistic, more democratic?) to work towards the *in situ* co-presence of people and nature?

Both discourses of community participation and sustainable development have been mobilized to undermine what is sometimes regarded as the imperial practice of fortress nature. Whatever the answer, the point is that spatially things are not quite so pure and not so singular. Rather than watertight containers, spaces for nature are more permeable and multiple matters. So how do we think such spaces? This part of the book discusses some possibilities. In Chapter 1, I expand on the (im)possibilities for pure, sealed spaces. The focus is on spatial practices of conservation. The question is raised that, perhaps, given this porosity, is it that there are no spaces for nature, other than in our imperial imaginations? In Chapter 2, I discuss the possibility that nature exists more in human imaginations than on the ground. I look at some of the history of nature, focusing on changing understandings of evolution. In Chapter 3, I introduce a third type of spatial practice, that of enactment. The aim here is to use a number of examples, but mainly ones drawn from understandings of disease transmission, and specifically Bovine Spongiform Encephalopathy (BSE or mad cow disease), to explore the spatial multiplicity of nature. In Chapters 4 and 5, I build some more specificity into this discussion of enactment. In Chapter 4, I investigate common metaphors used to describe naturecultures, including interaction and hybrids. In Chapter 5, I take this forward to a discussion of nature and difference. By the end of this part of the book the aim will have been to suggest that nature is practised in ways that are spatially multiple. In Part II, the empirical practicalities of geographies of nature, how and why they matter, become the focus.



## Nature's reality

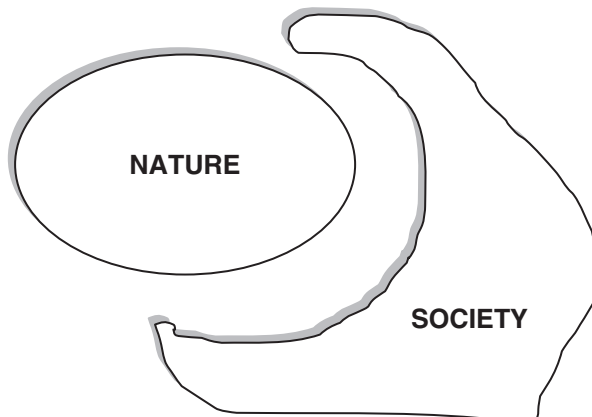
### Introduction

How do we think about and 'do' nature? And what does this mean for the ways in which we spatialize nature? In this chapter I want to explore and make some preliminary judgements upon three possibilities. We can sketch them quickly:

1 Nature as an independent state (but threatened by invasion)

The first possibility is that we understand nature as something that is distinct from, absolutely separate to, the social world (Figure 1.1). Nature is another country, or is a part of ancient history, or buried deep in our make-up. It follows that Nature is real, 'out there'. 'Out there' meaning beyond us, or perhaps outside the 'in here' of our minds (so out there can include parts of our human bodies, those parts that are subject to natural urges, rhythms and involuntary movements).

It may also follow that there is little of this nature left – for the social world is spreading, present as much in Antarctica as it is in our hormones. For most of the planet's inhabitants and history, 'in here' has had little or



**Figure 1.1** Nature as independent state [threatened by invasion]. Nature and Society are separate spaces, but Nature is about to be or has been engulfed by Society.

no bearing on the workings of out there. Nature has gone on regardless of human imagination, dreams and schemes. Up until the agricultural, scientific and industrial revolutions of the last millennium, Nature out there was still much the same as it was when humans had barely started to scratch the surface of the planet. More recently this pure unadulterated Nature has become increasingly polluted in some form or other by human processes. The pollution takes at least two forms. First, there is the mixing of forms. Artificial molecules turn up in Antarctica. Second, there is the march of a form of rationality that sees the world as standing reserve, as of value only for human ends. Both mark the death of nature as Carolyn Merchant called it (1990), or the *end of nature* as McKibben (2003) termed this state of affairs. Not only is nature denuded, humans also suffer through an invasion of their own tissues but also through the repercussions of treating nature as an object to be governed.

In some form or another, this is probably the most common version of nature in Western societies. It informs many types of environmentalism, from the triumphalism of human mastery over nature to Western versions of stewardship and even some deeper green philosophies where nature needs saving from humankind, and humankind from itself. (The literature is vast but two of the best books remain Glacken, 1967 and O'Riordan, 1976).

## 2 Nature as a dependent colony, a holiday home

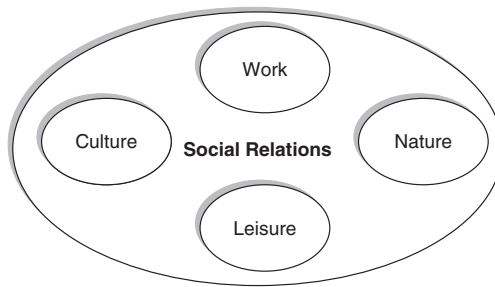
The second possibility regards nature as mainly, if not wholly, the product of human imagination. It is an idea. What is understood as natural is nothing but a product of the ways in which people order the world. Nature is ideological. It is socially contrived, produced by people and their value systems, political systems, cultural sensibilities. If there is reality, then that reality is social (Figure 1.2). Out there can be explained by in here. Nature, in this version of affairs, is a comforting illusion, or even a trick that people use to convince others of the faultlessness of their arguments ('it's natural that we do this, there's no point trying to change what's natural'). When we are told that the English Lake District or Niagara Falls are largely artifice, the product of hundreds of years of farming, design, literary and visual work, that they are ways of seeing rather than natural wonders, then we are starting to argue that what is taken to be natural in some quarters is, on the contrary, social all the way down. Likewise, when we contest fixed sexual identities, we're unsettling the fixity and conservatism of an ideological and already always political nature. Contesting the ideology of nature is often attractive politically, especially for a political project that is interested in gaining freedoms, or opposing those who would constrain liberties.

## 3 Nature is enacted (a co-production)

The third possibility I want to consider is perhaps the hardest and we will have to work at the spatial imagery. It suggests that nature and society

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**Figure 1.2** Nature as dependent state. Nature is but one of many categories that emerge from and exist within the realm of human actions and orderings. It is therefore dependent on and not prior to social relations.

make one another (so thus are not independent), but aren't necessarily reducible to one another (so thus are not strictly dependent). This is more difficult, but the basic argument will be that society and nature need not be considered as a zero-sum game. In other words, we do not need to think of a set amount of nature which is progressively eroded as society expands. Rather, the more activity there is in one, the more we might expect from the other.

This might be a more radical and interesting way of understanding nature, and one that this book is in part an attempt to elaborate upon. It's radical because it might well change the ways in which we attempt to practise nature. So, for example, nature conservation might well be a different practice once we view nature as neither totally independent of, nor totally dependent on, social worlds. It's also the least intuitive version of nature and requires us to do the most work.

Three possibilities, each of which has numerous variations and possible trajectories, and which will need a certain amount of teasing apart. You might, as we expand on each of these possibilities, become adept at spotting them in action (indeed, they are at work, practised in all manner of situations). But before we go on, I want to add that they are often mixed together in the same setting, making it more difficult to attach them as labels to organizations, people, or modes of thinking than might be supposed. My hope in raising the third possibility is not necessarily to call for some kind of absolute clarity. Rather, it is to suggest that where nature is concerned, things are often unclear, or not as clear as they seem. Our question then becomes how do we proceed, and proceed well, when clarity is always accompanied by murkiness. But before we get into these debates, it will be useful to use this three-part taxonomy, our three possibilities, to discuss how nature is mobilized in various settings. We will look in more detail at each in turn. In this chapter we will look at the possibility of nature as an independent entity (or, more

accurately, its impossibility as I provide a critical review). In Chapter 2, we will explore nature as something dependent on society and culture. Again, the tone is largely critical, and, in being so, both these chapters start to trace the other possibility that I have called co-production. So the remainder of this chapter and the next involve laying groundwork for later chapters.

## Nature out there

In our everyday language, we tend to treat nature and society as separate entities. If something is social, then almost by definition it can't be natural. And if something is described as natural, then it is unlikely to have much to do with society. So, for example, when we describe a landscape as 'natural' we often mean to suggest that it is undeveloped, untouched and that the social or human-made world is largely absent. But such a view, attractive and seductive though it can be for some, is often difficult to sustain. William Cronon, in a landmark essay entitled 'The trouble with wilderness' (1996a), launches a critique of this independent state version of nature, one that he argues has recently re-emerged in relation to the ways in which biodiversity and its conservation are imagined:

The convergence of wilderness values with concerns about biological diversity and endangered species has helped produce a deep fascination for remote ecosystems, where it is easier to imagine that nature might somehow be 'left alone' to flourish by its own pristine devices. The classic example is the tropical rainforest, which since the 1970s has become the most powerful modern icon of unfallen, sacred land – a veritable garden of Eden [Figure 1.3] – for many Americans and Europeans. And yet protecting the rainforest in the eyes of First World environmentalists all too often means protecting it from the people who live there. Those who seek to preserve such 'wilderness' from the activities of native people run the risk of reproducing the same tragedy – being forceably removed from an ancient home – that befell American Indians. Third World countries face massive environmental problems and deep social conflicts, but these are not likely to be solved by a cultural myth that encourages us to 'preserve' peopleless landscapes that have not existed in such places for millennia. At its worst, as environmentalists are beginning to realize, exporting American notions of wilderness in this way can become an unthinking and self-defeating form of cultural imperialism. (Cronon, 1996a: 81–2)

One way in which nature independent gets done is, then, to expel all 'invaders' no matter how long they have been there, and no matter that they had a role in creating this landscape in the first place. It is worth reflecting too that these people were once simply labelled as part of nature, at a time when the separate continent of nature was not thought worthy of saving. As a part



**Figure 1.3** Rainforest as Eden, 'La Forêt du Brésil', Johan Moritz Rugendas

of nature, the people living there were often treated as unworthy of respect, rights or political representation – a racism buttressed by naturalism. So whether part of nature or not, people living in the continent called nature have been anything but respected for their roles in ecological productions.

The message from Cronon and other environmental historians is clear. So-called wilderness areas are peopled, have histories and geographies, and in being so are in some way or another social as well as natural productions. In a similar vein, forested and non-forested lands on the African continent are as Fairhead and Leach (1998) have demonstrated, similarly peopled, and are in fact co-produced landscapes, landscapes where people have had a hand in

developing the characteristic flora and fauna. Likewise, wild animals living in Kenya, so often visited by western tourists in search of the wonder and spectacle of nature-independent, are in some sense there on account of cohabitation with people (Thompson, 2002; Western et al., 1994). The list could be extended, but the point is made that what might look natural or wild to a western metropolitan eye is already mixed up with human worlds. To think otherwise and thereby to act otherwise (see Box 1.1) is to potentially do great damage to those people and to the landscapes, plants and animals that they have helped to make (and that have helped to make them).

### Box 1.1 Thinking and acting

There's an unfortunate tendency to imagine that thinking and acting are either *unrelated* or *only related in certain ways*. In the first case, it is common to say that actions speak louder than words. We also often say that people think one thing but often do another. And the power of thought is weak compared to the power of bulldozers. Thinking seems harmless enough, compared, for example, to the violence that can be done with other tools. The phrase 'sticks and stones can hurt me but names never will' is something that many learn as a means to cope with the evil thoughts of others that in the end, we are taught, matter little. But as any child knows, names and thoughts are incredibly powerful and hurtful (a matter that feminist literary theorists like Judith Butler (1997) have usefully demonstrated). Thought matters, and can have effects. So thinking and acting are related. The way we think has repercussions. It follows that the way we think about something or represent a thing or an issue often shapes the way we enact it. If I think that wilderness is a people-less space, then I might feel the need to keep it that way. On the other hand, if historians convince me that this has not been the case, then I might think of ways to enact different kinds of wilderness, ones where people cohabit with wildlife. So thinking and acting are related to one another and it is not useful to make a hard and fast distinction between thought and action. An important adjunct to this argument is that even while this is often accepted, we still tend to assume that thinking and action are related in particular ways. So we might also note that it isn't simply that thoughts have effects, and are therefore important and powerful (as important and powerful as hammers and chainsaws). This would assume a cognitivist account, a linear narrative that first we think and then we act. This clearly is not the case. Actions and thoughts are not easily placed in such a sequence. Being frightened, for example, and running away or tensing muscles, may come before any sensation or experience of fright. Indeed, the release of adrenaline and



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the reflexions of muscles are prior to thought. So actions shape thinking as much as thinking shapes action. We act to think. In doing so the world enters our thoughts (just as our bodies enter our brains through signals from nerves and muscles). We will have more to say on this later in the book, but it will suffice to say for now that thoughts are not made prior to action, and it is not a matter of some being enacted while others remain just thoughts. Rather, the world is the homeland of our thoughts (Ingold, 2000). Some thought-action assemblages will perform themselves more effectively than others, but their efficacy is not a matter of their purity or their neat sequencing – on the contrary, it is the more entangled, mixed-up thought-action assemblages that affect change in the world. So even though we can say thoughts are powerful, this does not suggest some form of crude idealism (whereby a state of affairs can be wished into existence). Thoughts are already of the world. Their agency, their ability to enact something, will already be interconnected or entangled with all manner of materials, tools, and others of all shapes and sizes.

This is an area of serious debate for it impinges on the ways in which natures are enacted, or practised. The important point to note is that Cronon and others are arguing that it's the idea of wilderness, as a people-less place, that threatens livelihoods and landscapes. So conservation for these authors is not necessarily about reducing the impact of people, it is about conserving some kinds of impacts, or disturbances, and viewing the space of wilderness not simply as a bounded territory but as a *collection* of effects, many of which connect to other places and times. The shape of the collective becomes a matter for political work (rather than a pre-ordained end, in the name of which all manner of atrocities of purification can be committed).

In addition to the observation that wilderness is not a people-less place, a territory independent from human societies, there is the point that by labelling and looking at wilderness, it becomes a social matter. The fact that wild-scapes are valued, pictured, imagined, visited, monitored and measured also starts to unsettle the sense that they exist purely and simply elsewhere, divorced from and entirely separate to human and social worlds. All of these practices in some way or another touch the worlds that they seek to value, measure, picture, and so on. So even if wildernesses are 'successfully' depopulated, their 'enframing' as objects to value, to view and maintain is itself already a form of inhabitation. It too has effects. I return to this point in more detail in the next section.

Hopefully, you are starting to be convinced that 'independence' is a rather dangerous metaphor (even more so when we link it to ideas of purity). But even so, even if landscapes, animals and perhaps species of plant are tangled

up with humans, so that their histories and futures are intertwined and depend upon one another, might it be the case that Nature still exists, separate to people, at a more fundamental level? Cronon, in places, and other environmental historians argue as much (see, for example, Worster, 1988). So we need to go a bit further in order to explore the independence of nature, its apparent out there-ness. One place to start is an ancient distinction between natural objects and natural forces.

## Two species of Nature

The difference between talking about nature as an object (a scene, an animal, etc.) and nature as a force (or process) has been around since at least the Middle Ages in Europe. The two ways of approaching a discussion of nature are sometimes expressed in the terms *natura naturata* and *natura naturans*. The first of these, *natura naturata*, is used to describe the products of nature that we can observe with our senses (trees, mountains, animals, micro-organisms, wind, and so on). The second, *natura naturans*, is the so-called invisible or less tangible force of nature (see Adam, 1997: 30).

Following Cronon and others, we have already suggested that what might appear to western eyes as natural objects, as *natura naturata*, turn out to be tangled up with humans, their material effects, their ways of seeing, their ways of ordering the world. But what about natural processes, *natura naturans*, surely, these are what they seem? Even if people have inhabited wilderness areas for millennia, even if elephants and people walk together in Amboseli, even if forests exist partially as a result of human actions, even if organically produced tomatoes are still co-productions, surely this is a surface level phenomenon, and underneath it all are the biochemical processes, and geological upheavals that range from sub-atomic to interplanetary spatial scales, and from nano-seconds to billions of years. Surely these are elsewhere to the social, out there or deep in there, outer and inner spaces, unaffected by and indifferent to people with their axes, arguments and aesthetics?

Here are two arguments that suggest otherwise. The first argument is the suggestion that natural processes are now so polluted and mixed in with contemporary society that they have ceased being very natural at all. The sociologist Barbara Adam makes this kind of argument:

Animals grazing peacefully on a hillside, waves lapping gently up the pebble beach, a pine forest whistling in a storm, a river bursting its banks, a hurricane tossing houses and cars in the air like play-things, a bush fire raging out of control – all are images of nature, some idyllic, others threatening. Can we be sure, however, that this is nature in the conventional meaning of the word, that is the result of forces uncontaminated by human activity and production? What becomes of this understanding of nature when those grazing animals are

contaminated with radiation or suffering from BSE, when the pine forest (a monoculture, likely to have been planted during the last century) is suffering from the effects of acid rain, when the flooding is due to agricultural practices that have led to oversilting, when the extreme weather conditions are linked to global warming, and when the bush fire and the scale of its damage have been facilitated and exacerbated by human actions? During this century it has become increasingly difficult to sustain the division between nature and culture. When even the stratosphere is affected by the industrial way of life, when the sun is turned from source of health and well-being to health-hazard and danger, when the air we breathe causes respiratory diseases and allergies, when the traditionally conceived untamed, raw power of nature is so extensively influenced by human action then the traditional separation between nature and human culture collapses. (Adam, 1997: 26–7)

For Adam, this merging of nature and society is linked to a specific period of human history. As more and more of nature became affected by the 'industrial way of life', so nature became less recognizable as a pure category in the nineteenth and twentieth centuries. In making this argument, Adam was drawing on similar resources to those of Bill McKibben, who famously declared the end of nature in 1989 (McKibben, 2003). McKibben drew attention to what he saw as two reversals in the relative status of social and natural worlds. The first of these referred to nature's time, the second to its space.

McKibben suggested that contrary to the notion that nature moved in another time to people, and that there was an infinite slowness to natural processes that made human time scales (their life times and their parliamentary times) look either irrelevant or at least puny, the world was now so infected with the human organism that it was speeding up. It was changing in rapid and dangerous ways. Climate change was the paradigmatic but not the only example cited. Related to this was another reversal. People had become used to viewing themselves as small players in a large world, but, as has now become a common feature of globalizing stories, people, or at least some people, are now large (in number, in effect, in reach) with the result that the world had become a good deal smaller. In sum, then, nature, whether characterized as objects or as forces and processes, was infected with humans, so much so that its great times and spaces had been overridden. Nature was now small and fast running out. The independent state of nature (which *had* existed, at least for McKibben) was at an end.

The second way of making the argument that natural processes are not purely natural draws upon an important form of analysis in social science thinking for which I will use the term ontological politics (see Mol, 1999). The body of work is complex, varied and easily misunderstood (for an excellent account, see Law, 2004a). It informs a good deal of the arguments in this book but let me make a start by suggesting two ways in which it can be thought. First, the way that nature is viewed, understood, made sense of,

written about, pictured and used is in part a result of the position or place within which viewers find themselves. As the geographer David Livingstone (2003) has put it, science and knowledge have geographies (as well as histories). What is made present in a field, a laboratory, a research article, a poem is in part a product of the sedimented practices that inhere in the ways in which laboratories and languages, to name but two, work. Place and space matter. The all-seeing, god-like view, divorced from all the messiness of worldly matters, is a trick, a god trick (this is the famous view from nowhere, a device rendered in landscape painting in the seventeenth century, see Alpers, 1989). It is a view that was taken up in the development of scientific practice and in particular at a time when objective or viewer-independent accounts of the world were deemed to be important (for a classic account of this moment in Western science and politics, see Shapin and Schaffer, 1985). The obliteration of the practice of observation and the resulting focus only on the object being observed produced a strange account of the world where such objects became independent of their human relations, and could therefore be treated as lonely matters of fact.

Against this purification of objects and facts, it may well be more useful to think about views from somewhere, situated knowledges, or partial perspectives (Haraway, 1991b). Viewers are embodied, passionate, political, social, temporal and spatial, which is not the same as saying they are local. They are spatialized, connected and disconnected in varying ways to others and lots of elsewheres (Massey, 1999). So this is not an opposition between local knowledges and global science. Or between particular views and universal laws. Rather, all knowledges are situated and more or less connected or connectable in order to make more or less consistent spaces for that knowledge. What follows from this is that any understanding of nature as thing or force (*natura naturata*, *natura naturans*) is infected by all those things, allies, journeys, languages, loves, funds, and so on that go to make that understanding possible. That, in any case, is one argument, but we need a second one. Otherwise, it might sound as though 'location', 'perspective' or 'social context' is the only thing that matters.

Second, it is important to add here that this is not simply a matter or an issue of epistemology (or simply put, the way in which the world comes into view). It is not simply that there are multiple ways of viewing the world. To say so would not do much work if we are intent on unpacking the purity of *natura naturans*. Even if it is acknowledged that there are many viewpoints on an object, some more or less polluted by politics, emotions and other kinds of bias, this might only delay the moment when nature proper is declared. Once we have cleared away all the bad views, we can get to the truth. Once we have progressed from all the quaint, old views, we can truly consider ourselves enlightened by the one true version of affairs. So if we stopped at epistemology we could get into the long and painful history of epistemological politics, charting some of the battles that have been waged over different

views of what are ostensibly the same thing (and then arguing over the grounds on which we can demonstrate or agree that one of these views is more accurate than the others). The argument in this book is more demanding than this notion that there a number of possible perspectives on the same thing, and that either we can decide which is the best (often that which approximates closest to the god-trick or disembodied view from nowhere – traditionally a view from an objective, white-coated, male, emotion-free science – or sometimes reversing the polarity and valorizing those who are deemed to be closer to nature, historically often essentialized subjects called woman, indigeneous, and so on), or agree to differ and say that all kinds of beliefs are possible (a form of relativism, or, in political terms, liberal pluralism, accepting the views of a plurality of positions as of equal validity).

### **Box 1.2 From the view from nowhere to the view from whereabouts**

The development of a view from nowhere in western epistemology foregrounded the viewed object and made viewing practices invisible. It is a view that clearly parallels and supports an independent nature – for the object can stand by itself and is independent to the processes of bringing it into a frame of reference or view.

Citing the impossibility of viewing without having some kind of interference between object and subject, social scientists tend to talk of a *view from somewhere*. Instead of the disembodied and invisible god's eye view, we have an embodied practitioner with all their equipment, stories, funding agencies, language, and so on.

The tendency, however, in stating that there is always a view from somewhere can be (and this was certainly not Haraway's intention) to place the viewer in a fairly static field (defined by their gender, their language, their time or their economics). So there may be a better way of getting at the complex practices of viewing.

One place to start is Merleau-Ponty's very different sense of a view from nowhere (Merleau-Ponty, 1962). In his case, rather than suggesting the bird's eye view was one that effaced practice, he focused on the complex practices involved in generating more than one view of something, and the process then trying to piece those different practices and views together. Merleau-Ponty used the example of a house which can be viewed from a variety of somewheres – inside, from the landing, from the road, above if you were able to fly over it or could climb to some other vantage point. But

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what Merleau Ponty is interested in is not the proliferation of possible views, but the way in which these views are combined together to form a view from nowhere. Tim Ingold summarizes this nicely.

The house is progressively disclosed to me as I move around and about, and in and out, not as the sum of a very large number of images, arrayed in memory like frames of a reel of film, but as the envelope of a continually changing perspectival structure. Observation, Merleau-Ponty claims, consists not in having a fixed point of view on the object, but in 'varying the point of view while keeping the object fixed' (1962: 91). Thus the house is not seen from somewhere but from nowhere – or rather from everywhere. (Ingold, 2000: 226)

This seems useful, but there are two problems. First, the *view from everywhere* sounds too totalizing. Even though views can combine, the result is surely more partial than that. Second, the focus seems to remain thoroughly human, and the 'fixed' objects seem to be waiting there passively to be sensed in this albeit more active way (see also Chapters 4 and 5 for a discussion of this aspect of phenomenology's anthropocentrism). So we need a view that doesn't hold the object fixed, but allows some movement of subjects and objects. Later chapters will expand on this multiplicity, but for the moment I want to suggest that we use the term '*the view from whereabouts*' to figure two things. First, there is likely to be more than one practice involved in making a view. Second, the thing being viewed will not be fixed but can also move and alter, so that its location, like that of the viewer, may be approximate, or whereabouts.

The argument that I want to pursue here draws on the work of Haraway (1991b), Latour (1999; 2004b), Mol (2002), Law (2004a) and others, all of whom work in a loosely defined or gathered field called science, technology and society (STS). Their take is roughly as follows; it is not simply that there are many views on the same thing, it is rather that views and things depend on one another (see Box 1.2). Views enact things differently (and actions can alter views). This may sound counter-intuitive. But let's go back to the case of tropical and subtropical forests. Cronon (1996a) and Fairhead and Leach (1998) all make the case that first world conservationists have viewed forests as peopleless places, the inhabitation of which causes a threat to the vegetation and wildlife that currently live there:

Not only did the development of scientific ideas about West African forests have its own complex intellectual history and sociology, in which certain theories or debates were able to rise to the exclusion of others. But also, and crucially, these views dovetailed with the administrative and political concerns of the institutions with which they co-evolved in a process of mutual shaping. Ideas about forest-climate equilibria, or the functioning of relatively stable forest ecosystems, for instance, fed directly into a conceptual framework and set of scientific practices for conservation, which was about external control. (Fairhead and Leach, 1998: 189)

The point here is that views can have effects. To be sure it takes the right circumstances and some neat joining together of knowledges and ways of thinking (in this case, a dovetailing of colonial rule and imperial knowledge). There's a performance of a god trick too, as scientific expertise is presented as placeless, or better, applicable everywhere, in order that it can take over the running of forestry practices (and thereby displace other practices, regarded in this case as non-expert, local and unscientific).

Anthropologists and indigenous forest dwellers, meanwhile, view the forest differently. We don't have to romanticize these views or even suggest that they are somehow more natural, to nevertheless suggest that they enact the forest differently to the scientific ecological view. Indeed, rather than seeing the forest as a delicately balanced ecosystem, Fairhead and Leach suggest that forests and forest margins are lived as dynamic, changeable places, where adaptability is key to survival and where boundaries between forest and savanna are in flux.

On the one hand you could characterize this situation as two views on what is essentially the same thing. But another argument would be to say that the forest is different depending on which one we listen to. There may be some similarities between the two views and the two objects that they help to shape, but there are also some pretty big differences (one is peopled, the other is or 'should' be people-less; one depends on people, the other depends on their being made to leave; one is accorded a natural balance, the other is part of a dynamic of continual disturbance). In epistemological terms, we want to be able to decide who is right and who is wrong. We could subject them to the same trials of knowledge, the winner being whoever has the dominant vocabulary of causation. But the sociology of science has taught us something else – it isn't the power of argument alone that wins. Those who can make the world in the image of their arguments, who can, as Bruno Latour famously put it, 'make of the outside a world inside which facts and machines can survive' (Latour, 1987: 251) are the ones who carry the day. So in disputes it is not simply epistemology that matters, it is also necessarily a question of which side is building the more robust networks, who is turning arguments into actions (see Box 1.3).

**Box 1.3 From single reality, to multiple realities, via discourses and associations**

How do things get done, how do they get made? After divine ordination came rationality and nature. Things were done this way because that is the way things are, in nature. Again, nature independent looms large in this kind of story. But what if rationality, nature, and so on are not so fixed and are also in the making? For many in the social sciences, the answer lies not in fixed logic or the timeless order of things but in the power of discourses, or linguistic and material arrangements which convince others of the importance of their arguments. This is, in any case, a common reading of early Foucault and is somewhat present in the notion that ideas develop in historical contexts and then shape the way things happen. (The quotation on page 19 from Fairhead and Leach provides an exemplary case in point.) A good deal of actor network theory takes a different approach, arguing that it is more than ideas that make things happen. For authors like Latour, in his famous case study of the Pasteurization of France (Latour, 1988), it was not ideas or logic that produced change in the French countryside but the hard practical work of demonstrating the advantages of the method on farms, of enrolling farmers onto the programme, of solving problems in the field or making the world outside one where the world inside the laboratory could work. Making things work was therefore a practical and material matter of association, not one of convincing others through logic and ideas (see also Mol, 2002: 61–71). A subsequent step in this shift from human ideas to the practicalities of things would be to ask, what if more than one thing was being enacted simultaneously (in our case, more than one forest)? Is it simply a case of one forest becoming associated and the others dying out, or can they coexist, inhabit more than one network and even work in other kinds of space? Is there more than one forest, and more generally, more than one space for nature? The inspiration here is in the work of Mol, Law and others (see Law, 2002; Mol, 2002). We will come back to this issue of the multiple in subsequent chapters.

So both versions of the sustainable forest are more than ways of seeing, they are ways of intervening and engaging, and they perform their objects differently. Another way of saying this is that they are interventions in the making of forest. We will look at many more examples of this enactment of knowledge within the book, but the main issue to note for the moment is that we are starting to mix questions of epistemology (ways of looking, what is known about something) with questions of ontology (ways of being, or enacting what is). And because we are suggesting that things are not settled, timeless or given,



then these realities are in the process of being made. We're now starting to open a politics not simply of who has the best view, but which is the more effective and active form of world-making. This is what Annemarie Mol (1999) has referred to as ontological politics. There is, in this case, not one forest which must be secured to the exclusion of all other versions, but possible forests that can be enacted differently, depending on, in this case, both the knowledge *and* the politics of forest inhabitation. Meanwhile, just as there is more than one forest, we could also add that these versions overlap as well as pull in different directions. Another way of saying this is that the number of forests is not unlimited or infinite. They are multiple but also connected (see Box 1.3). The possibilities are not endless, but neither is unity or absolute agreement between all the people and all the things necessarily possible or desirable. A mantra of ontological politics is that there is always *more than one but less than many* forest/s, disease/s, city/cities, aeroplane/s, water vole/s. That's the exciting if challenging aspect of the politics that inhabits the pages of this book. It is neither a politics that is necessarily subservient to Science which is asked to adjudicate on all matters of substance, in order to find the one true version of affairs (back then to epistemology wars). Nor is it a politics that is happy to let anything go, to accept as many truths as there are parties, to think that all these versions of forest can coexist happily if only we could agree to differ. So neither uni-verse (one world) nor pluriverse (many worlds) will do. In philosophical terms, neither monism, dualism or pluralism will do. The numbers are going to be more difficult to imagine. Fractions rather than fragments are needed. A term that is commonly used is multiple, which in this case is not equivalent to plural. So when Annemarie Mol talks about the body multiple (Mol, 2002), for example, it is not to suggest that there are endless ways in which a body can be viewed. It is simply to underline that there will never be a single body which dictates what happens next. There are multiple versions, realities, being performed, which are not mutually exclusive, as they affect one another. The ways in which this multiplicity and connectivity are dealt with become the subject of various forms of dealing with difference, including negotiation, indifference, struggle, and so on.

The point has been to suggest that it has become difficult to sustain a view of nature as an independent state, not simply because of human expansion into all corners, into the tiniest and the largest of earthly matters. It is also that, first, all these matters are viewed and made sense of in ways that cannot be totally divorced from their times and spaces, and, second, in *making* a view (and I should emphasize making), the viewed thing is also being made, it can be affected by the very process of being attended to. To be sure, the degree of effect may be variable, and it is not something that humans do on their own – ontological politics involves trees, elephants, soils, ants, mountains, water, ocean currents as much as and often more than human beings. But that's part of the task, to work out a politics that is more than human (Whatmore, 2004), that is attendant to the mixtures and separations that make things and make nature.

## Conclusion

Maybe you are convinced that some forms of nature, like landscapes, can be co-productions, but highly doubtful as to whether the smaller stuff and the really big stuff, the things that look indifferent to humans, can be anything but independent. You may now be partly convinced that independence is not always as clear as can sometimes be suggested. The quote from Barbara Adam is a useful reminder of the depth to which human and nonhuman worlds have become enmeshed. But you probably still have a lingering doubt over the argument that independence has had its day, even when the intricate arguments of ontological politics are introduced. If you do have doubts, then these are well placed. There is much more work to be done before we can dispense with independence and find other ways of understanding nature. Nature's reality and indifference to humans *are* an issue and one that I start to pick up again in later chapters. But for now we need to look at the second possibility, that of dependence. This is the subject of Chapter 2.

Here are some preliminary conclusions to the argument so far:

Firstly it's difficult to find pure nature.

Secondly even distinguishing form and process doesn't necessarily help as humans have managed to infiltrate most aspects of the world, and even where this can be doubted, their engagement with an object is also part of an intervention (no matter how insignificant this may seem) in that object's world.

Thirdly we need to attend to the ways in which nature is addressed as both real and made. To do this we need a more subtle spatial imagination than 'independence threatened with invasion'.

## Background reading



Noel Castree's (2005) book *Nature* is a clear review of geographers' engagement with nature, and includes a useful review of the power of ideas in shaping how worlds are made. Bill Cronon's (1996a) wonderful essay remains the best introduction to thinking through the idea of wilderness.

## Further reading

James Fairhead and Melissa Leach's (1998) work on African forests and forestry is a detailed work on the role of people in making natural landscapes. Barabara Adams' (1997) work extends the current argument to consider time in more detail. John Law (2004a) provides an extremely clear introduction to the sociology of science and to ontological politics.