Introduction

Nature Beyond the 'Ontological Turn'

> I'll tell you all my ideas about Looking-glass House. First, there's the room you can see through the glass – that's just the same as our drawing room, only the things go the other way . . . the books are something like our books only the words go the wrong way . . . she began looking about, and noticed that what could be seen from the old room was quite common and uninteresting, but that all the rest was as different as possible.
>
> —Lewis Carroll, *Through the Looking-Glass*

Beyond 'The End of Nature' and 'Post-nature'

I have called this collection of essays – perhaps provocatively – 'Nature Wars'. The phrase is also deliberately ambiguously polyvalent, the warring factions in the various disputes being sometimes eco-warriors, sometimes indigenous peoples defending their patrimony, sometimes official guardians of various vested interests and status quos, and on the other hand academic anthropologists and scientists plying their trades by disagreeing how best to portray and dissect how people perceive and engage with their material and biological worlds. 'Nature wars' suggests episodes and phenomena, as diverse and as historically separated as Agent Orange despoliation, industrial deforestation, atmospheric pollution, GM pharmacopeias, angst over appropriate clinical interventions to redefine gender, micro-plastic contamination of marine life, and our attempts to combat them, through the socio-economic institutions and processes that make them possible, whether neoliberal global capitalisation, the blind and remorseless central planning of the old Soviet Union or the People's Republic of China, or remorseless consumer demand and globalisation fuelled by social media and other modern communications. The hyperbole is, I believe, justified: the issues involved are very real for many individuals and globally and collectively transformative. People fight over resources and material advances that redefine nature, but equally find that the conceptual tools at their disposal are inadequate for the purpose,

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sometimes illusory mirages or at best transient and precarious – if convenient – props. Alice walked through the looking glass only to look back to find that what was on the other side was no more real than it seemed when she was there. There is a tension between the necessity to operate with nature-like concepts and the recognition that at every stage of enaction, these same concepts are compromised by their embeddedness in particular social situations.

An intellectual engagement with the concept of 'nature' has been seemingly at the centre of debates in anthropology (and especially anthropologies of the environment) forever. This should be no surprise as explication of the concept seems to address the very essence of what it means to be human, in the sense of 'our nature' and what is 'natural', and in its problematic semantic contrast with 'culture' and 'society'. Since the 1960s, however, there has been a heightened awareness of some special implications of its deployment, as the world has self-consciously addressed issues of environmental degradation and biodiversity loss. A naive definition of what nature might be – a fixed mechanistic thing, phenomenon or quality, or merely a backdrop for important events – soon led to attempts to deconstruct it and show its intrinsic socialness, including its gendered dimensions, together with cultural interpretations that varied between different populations and languages, and between contexts within the same culture, and meanings that slipped away as soon as some firm grasp was apparently attained. Those who talked about nature as if it were a real thing, unreflectively, and not in a nuanced or ironic way, were often associated with a natural science vision of the world, or a vision unduly influenced by simplistic scientific generalisations.

Part of the issue was always the scale at which the concept was employed, for what might be acceptably described as nature at one level can be shown to be nature-social entanglement of a very intricate kind when you dig deeper (e.g. Howell 2011). Ethnography, whether of scientific practices in laboratories or of anthropological field sites in specific locations, is subversive precisely because it puts back all the social and cultural connective tissue into the process through which scientists and others actually test hypotheses and gather data that had earlier been stripped out in the simplifying knowledge-making process that produces the scripts that others consume, such as scientific papers and communications. Indeed, in its most recent iteration in the context of the so-called 'ontological turn' (about which more later), nature disappears altogether. Nature is problematic not only because it can be viewed both from an outside looking in and from an inside looking out (Ingold 1993), but also because it is simultaneously held to be something out there that we study – something beyond our own apparatus for studying it – and yet

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compromised by the fact that we can never escape the influence of ideology and culture in defining it.

Many anthropologists have followed Bill McKibben (1989) in announcing 'the end of nature'. McKibben had in mind a very material nature increasingly inseparable from human controls or the consequences of human cultural actions, and was less concerned with whether or not it was a conceptual necessity. By contrast, for Latour (2009: 2) the critique of nature : social dualism and the repeated demonstration of how nature more generally is always culturally constructed 'destroys the nature of nature as an operating concept covering the globe'. Kirsten Hastrup (2011: 1) seems to think we are fortunately no longer saddled with the handicap of dualism and that the battle against it has been won; all that is necessary now is to routinise a new critical anthropology of 'nature-cultures' and celebrate the true 'deep-seated entanglements of natural and social' . . . 'beyond the dualism'. Indeed, she shares Descola's (1996: 99) optimism that the concept of nature will somehow go away once its ontological shortcomings have been asserted. I beg to differ.

While nature is often discussed as an abstract analytic category in works such as this, it impinges on our ordinary experiential lives in more specific contexts, such as through biogeographic categories that are thought to typify it (such as forest or 'jungle', themselves no less culturally compromised). But in debating the dualistic reinforcement of the concept, it is important not to conflate or elide 'nature : society' contrasts with 'nature : culture', 'nature : nurture', 'human : environment' or 'nature : human' contrasts. These are not always implying similar contrasts. We can agree with Anna Tsing (2011: 27) that the concept of sociality does not distinguish humans from non-humans, and that, of course, species other than humans display sociality, both between members of the same species and between species. Indeed, students of animal behaviour have long written sympathetically about animal social relations – long before the advent of evolutionary psychology or sociobiology – and therefore society and nature are not always or necessarily opposed in these senses. But while it is tempting and legitimate to contest and undermine dichotomies of many kinds, there are good intellectual and practical reasons why we find ourselves reinventing and relying on them (Kopnina 2016).

The concept of nature is much more complex and interesting than simply another socially constructed idea, everywhere integral to social life, and everywhere malleable and ductile. It is interesting partly because as a concept it is so resilient despite the critique. It is such a useful concept that it does not seem to go away. In responding to the 'end of nature' consensus, there are four powerful arguments. The first is a revisionist argument – that those seeking its demise have over-simplified and car-

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icatured past scholarship and science; the second is the argument that received notions of the concept of 'nature' were key to the rise of global science and for this reason necessary; the third is the argument deriving from the rhetorical power of the concept in everyday and ideological discourse; and the fourth is the cognitivist argument claiming, despite the ambiguities and the social framing and cultural variation, that there do indeed exist underlying cognitive predispositions which encourage 'nature-like' concepts.

The first argument in defence of the concept of nature is that for rhetorical effect, and paradoxically to emphasise a dualism between their own monism and previous conceptions of nature, those arguing against nature : human dualisms have tended to draw the difference between their own position and those of their predecessors far too starkly, downplaying or ignoring previous attempts to recognise and get round the problems posed by dualist conceptions. Thus, when it comes to the 'co-constitution' of species, we should note that biologists have long worked with the concept of co-evolution as an underlying system dynamic, and developed sophisticated models of ecological dynamics which emphasise intricate interdependencies reflected in Darwin's description of 'an entangled bank'. The ecological anthropology model as it developed in the 1960s and 1970s, with the centrality it accorded to the concept of adaptation, did not – as some have suggested (e.g. Hastrup 2011) – somehow foster a simplistic binary concept of nature-culture. This is a very shallow reading of a complex history. Such a criticism might have been more accurately directed at the older Stewardian model that the smart young systems-oriented ecological anthropologists such as Roy Rappaport and Pete Vayda overtly rejected (Vayda and Rappaport 1968). The new systems approach was certainly borrowed from biology, but broke down the binary division between nature and culture by emphasising the connection and co-constitution of elements within both, and accepted that nature had been much modified by culture. Moreover, the kind of feedback relationships identified by Rappaport (1968) in his work in turn fostered the highly productive historical ecology paradigm that developed through the efforts of such researchers as Bill Balée (e.g. Balée 1989) and Carole Crumley (1994), the ideas of whom served to entrench this critique. Likewise, we find here the precursors of a raft of bio-cultural approaches within the environmental humanities and anthropology, which in turn have undermined further more conventional ideas of where 'nature' might lie.

The second argument in defence of nature derives from the observation that since the emergence of science as an idea in European natural philosophy from the sixteenth century onwards, nature has been constructed as the object of scrutiny, necessary at every turn in framing an issue to be

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investigated, but always contingent and temporary, falling away to reveal a new nature once the superficiality and inadequacy of the first has been revealed. The very fact that we argue about the concept of nature is testament to the fact that while in all systems of folk knowledge nature-like concepts are a flexible ill-defined idea, in Western philosophy there have been repeated attempts to control and define it to serve the purposes of the emergent sciences (Pálsson 2018). Fair enough, but in the formal histories of 'nature' and in the emerging critique, perhaps too much emphasis has been placed on etymology, which can be dangerous, and ultimately pointless. Concepts of nature have always adjusted to current and specific realities, whether scientific or social.

The third argument in defence of nature is well articulated by Rayner and Heyward (2014: 125), who object to the calls to abandon the concept of nature on the grounds that it is an 'indispensable rhetorical tool'. Their example is the science and politics surrounding global climate change. All societies, they argue, invoke nature in moral discourse, even if they have no word for it, since as an idea it has such 'coercive power'. Although we might be advised to refrain from deploying appeals to nature as a standard for political action, the idea is so thoroughly entrenched that dispensing with it is just unrealistic. As Latour (2008) puts it, matters of concern are generally instrumental in the constitution of fact, as we shall see later in this introduction and elsewhere in the book.

Finally, precisely because nature-like concepts have become such a powerful conceptual prop everywhere in working out how the world works and in pursuing symbolic political ends, it might be thought that this is in itself evidence for something even more fundamental in terms of how humans apprehend and make sense of their environment. I have previously (e.g. Ellen 1996a, 1996d) argued for the existence of a small number of cognitive imperatives underpinning the ways in which all peoples shape their world, and will return to these ideas below. I contend that it is possible to accept that nature is constantly being defined and redefined and yet still be something 'real' and not illusory. Rather than announcing the 'end of nature', it might be more realistic to explore how people 'redefine' – or even better 'reconfigure' nature-like semantic spaces to deal with new socio-environmental situations.

In this book I use the trope of nature to bring together a number of essays I have written since 1986, essays that explore the tensions between nature as a subject of investigation and as an analytic and symbolic concept. It attempts to engage with the different ways in which we use the word or its cognates, and illustrates some of the irresolvable and resolvable problems encountered when we use the word at the interface of different discourses: across the many discourses of science, in the specific

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literature of anthropology, and the non-specialist popular and folk usages across cultures and in ordinary 'common-sense' language.

Defining Our Terms of Reference

The larger part of this introductory essay has its origins in an invitation to write an afterword to accompany a collection of seven indicative and influential papers published over the last ten years on what is sometimes called the 'ontological turn', at least as this applies in anthropology. This was a daunting commission given the enormous body of existing commentary on the subject and its seemingly exponential growth, almost in equal measure by authors inspired or exasperated by it. What I offer here, therefore, is no more than a partial review of a few issues as they relate to ethnographic practice, comparative anthropology and anthropological generalisation, from an anthropologist who has taken a professional long-term interest in how one people (the Nuaulu of eastern Indonesia) apprehend and conceptualise other species and entities which comprise their world.

A 'turn' in the present context might be understood to be a movement in general intellectual practice, somewhat short of a paradigm shift, signalling a general change in direction, and with a rather loosely defined focus. This is a bit like the way in which the term concept metaphor has been used in circumstances where we would not wish to imply something as explicit and thought-through as a theory (Ellen 2010b). When this particular use of 'turn' began is unclear, but it seems to have emerged (at least in anthropology) with those currents of interpretivism that followed the decline in the influence of structuralism. By contrast, the term 'ontology' has good philosophical precedents, but some divergent meanings. Here are just a few definitions from anthropologists writing on the subject (see also Kohn 2015). For Descola (2005b: 8) it is 'the main framework through which people perceive and interpret reality'. For Carrithers (in Carrithers et al. 2010: 160) it is 'a set of propositions urging a particular viewpoint on reality'. For Scott (2013: 859) it is 'the investigation and theorization of diverse experiences and understandings of the nature of being'. For Pina-Cabral (2014) it is no less than 'worldview' or perhaps 'cosmology'. Rather differently, in computer and information science, an ontology is what formally represents knowledge as a set of concepts within a domain, using a shared vocabulary to denote the types, properties and interrelationships of those concepts. In yet other texts, a large part of its intention is covered by the phrase 'a framework for thinking'. But if this is so, then it comes close to Clifford Geertz's (e.g. 1973) 'webs

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of significance', which was of course his pithy definition of culture. And it might be relevant to note also that the word 'ontology' is not mentioned at all in a key paper by Vilaça (2002) considered widely to be central to the debate. So, the fact that there are many ways of defining it suggests one reason why ontology is causing so much trouble. For the time being, I prefer to remain agnostic as to which definition, if any, is the most persuasive.

The chronological order of original publication of the papers examined here is as follows: Ingold (1995, revised 2000), Vilaça (2002), Viveiros de Castro (2004a), Descola (2005b), Kohn (2007), Pedersen (2007) and Holbraad (2008). But this sequence is slightly misleading if we are interested in the dissemination and development of ideas. Thus, the revised version of Ingold's 'A Circumpolar Night's Dream' was able to benefit from fast-moving developments in several areas between 1995 and 2000, while the piece by Descola draws on work going back to 1992 at least, and Vilaça takes his cue very much from what Viveiros de Castro was already saying in the 1990s. Moreover, the last three in this list – Kohn, Pedersen and Holbraad – are clearly separated from the rest, providing a distinctive, and possibly more self-conscious second wave of reflection. Between them, these selected authors draw on the work of a number of key thinkers, among whom Michel Foucault, Marilyn Strathern, Gilles Deleuze, Félix Guattari, Bruno Latour, Jakob von Uexküll and Martin Heidegger are perhaps the most important for understanding what has motivated and validated their standpoints. In this commentary I want to draw out certain themes as these have emerged, more or less chronologically, in the literature, and which are reflected in this selection. What is loosely called the ontological turn loosely connects a number of semi-detached debates: the deconstruction of nature, the notion of ontology itself, animism, perspectivism, the meaning of 'life', human exceptionalism, the new materialities, and recursivity, all part of the fall-out from the perceived collapse of the major hegemonic paradigms during the 1970s.[1]

It also needs to be noted that many of the strongest proponents of the ontological turn work in particular parts of the world, partly – we must assume – because the problems that they seek to address are most acutely posed in the ethnography of these places. Of the present group of papers, four discuss work in Amazonia, one Native North America, one Mongolia and one Cuba. Among them, perspectivist worldviews are prominently associated with Amazonia. However, there is a danger here that we might slip into a kind of typological thinking based on geography, overemphasising difference rhetorically to make some general point. I am suspicious of any claim that the cultures of certain parts of the world said to display 'radical alterity' thereby require a completely different scientific

mind-set to understand them (Ellen 1998c [Chapter 2 in this volume]; see also Laidlaw 2012).

The Deconstruction of Nature

The group of ideas that are the focus of work described as the 'ontological turn' have their roots firmly situated in some very old and venerable debates in anthropology and philosophy (some of which I return to below), but the contemporary discourse, judging from patterns of citation and reference, begins to emerge with the culture/nature debates of the 1970s onwards. It is no coincidence that in the human sciences – and especially in anthropology – the rise of the concept of ontology has been especially connected with ways of apprehending the natural world embedded in nature-culture dualism, the idea of the social construction of nature, and recognition that not all peoples everywhere or in different contexts of engagement define nature in the same way, if at all. Ontology, after all, is often understood as being about the nature of being, and the nature of different beings.

The deconstruction of nature literature begins with the critique of materialism in ecological anthropology: that nature 'out there' is elusive in empirical terms, both because it is constantly being reworked through human action on the world (culture), and because despite a shared evolved cognitive framework (the extent and influence of which is contested) different people see the world in different ways, through various 'cultural constructions' and local culturally-inflected experiences of ecology. But at the same time that the meaning of 'nature out there' was being questioned, Lévi-Strauss's notion of 'nature in there' was also being interrogated. Lévi-Strauss had never had much to say – except implicitly – about nature as an analytical construct underpinning realist science, but he was part of a long philosophical tradition attached to naturalism as a paradigm (Leach 1965, 1970). This is one reason why he was content to assume that the nature-culture distinction was intrinsic to the working of the human mind, even if it was difficult to find words in other languages that conveyed precisely the same meanings as seemed evident in a naturalist sense of nature.

The deconstruction of nature debate begins by demonstrating that the received Western concept of nature does not exist in many cultures, and in the Western tradition is anyway historically situated, with its precise intent in the present depending on social positioning. In other words, its definition is relational. Indeed, Escobar (e.g. 2017) and many earlier writers have argued that the contemporary divide between nature and culture

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and between modern and non-modern is historically co-emergent and co-sustaining, a product of the discovery of 'science' in the Western tradition. These issues were debated in a number of influential texts throughout the 1980s and 1990s (e.g. McCormack and Strathern 1980; Descola and Pálsson 1996; Ellen and Fukui 1996; Roepstorff, Bubant and Kull 2003). While some were content to defend the critique as a relativist victory, others acknowledged that while there was cultural variation in how nature was constructed, there remained considerable evidence for underlying shared commonalities. Such views tended to come from cognitive anthropology and ethnobiology. Thus, the tradition rooted in ethnoscience could demonstrate a pan-cultural body of concepts for making sense of biological diversity and organising it through language. These data supported the existence of a shared notion of something like 'nature'. Ellen (1996a, 1996d), for example, suggested that one way of modelling the diversity of natures was through a tripartite scheme of essence, thinginess and otherness: all cultures attributing essential inner qualities to people and things that we might call their 'nature'; all cultures having a notion of natural kind or natural 'things', including a basic species-like concept, that provides a means of modelling the relationship between organisms based on different degrees and kinds of resemblance; and all cultures organising their world in terms of distinctions between the human self and some less-than-human other (e.g. village : forest, land : sea). Inevitably, these notions interconnect and present themselves to ethnographers as different kinds of representation of nature. Others went still further and made claims for an evolved taxonomic framework underpinning all cultural variations in the classification of biodiversity (Atran 1990), even proposing the existence of a separate natural history module in the mind (Mithen 1996).

Strikingly, though perhaps not surprisingly, those approaching the perception of the natural world from cognitive science and psychology tend to see all human populations operating with a single ontology (e.g. Atran 1990), though there are differences in the claims made for that ontology. Thus, Susan Carey (1985) sees human children early attributing human-like life essence to all living organisms, while Frank Keil (1979) emphasises the evidence for the opposite – the domain specificity of living things. Others have argued for a reinvention of the nature-culture distinction as a cognitive universal based on experimental and ethnographic data (Astuti 2001), and for domain mutualism in general as a necessary means of representing or 'thinking through' anything in the mind. This is because nature (that which is non-human) cannot be understood except through the metaphors of the social (that which is human), and the social through the metaphors of the natural. It is characteristic of that body of work that I am here discussing that it seeks to 'get beyond these sorts of

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dualisms and the mixtures that often serve as their resolution' (Kohn 2007: 5), such as Latour's 'nature-cultures' (Franklin 2003). However, despite its internal contradictions, 'nature' as a concept does appear to have been remarkably resilient in both science and everyday discourse over the last two decades of what we have now come to call the Anthropocene. Indeed, the defiant claim that 'its foreseeable demise . . . will . . . close a long chapter of our own history' (Descola 1996: 98) now seems rather premature. To say that the concept of nature in this sense is resilient is, of course, not the same as assuming that the facts evinced through the naturalist paradigm are out there unadorned and uninfluenced by how we perceive them, or always independent of the contexts in which they are used, and of the instruments employed to measure them. We might say that they are Latourian 'factishes'. But when different conceptions of nature come into contact, or are compared, there is, as Blaser (2009) might say, an 'appearance of an agreement', of a unified environment, a single reality 'out there', achieved despite multiple and different performances.

Making Sense of One Ontology: Irving Hallowell on the Ojibwa

Tim Ingold has probably done more than anyone to revive interest in the work of Hallowell (1960), who explicitly develops the notion of ontology in relation to his Ojibwa ethnography. Hallowell's data are rich and grounded in a secure fluency of the language, which makes it ideal for Ingold's sustained meditation, and the demands he makes of it. As an account of the perspectives on the world of a non-Western people it was path-breaking in its time, but the kinds of observations he makes are now commonplace in many ethnographic accounts. Many of the issues raised by proponents of the ontological turn find an appearance in Hallowell's work, so there is some sense in examining it first as an exemplary text.

For a start, Hallowell shows how persons in the Ojibwa world can take on a great variety of forms, and how powerful humans can change into non-humans and back again, and how for Ojibwa the sun is also perceived as a person in an 'other-than-human' class, not intrinsically a natural object to which person-attributes are later attached but a person because it is so experienced. Hallowell also says that Ojibwa do not experience stones as animate as such, but that the animate stone is less a living thing than 'alive', which depends on the relational context in which it is placed. For Ojibwa (and for Ingold 2000b), therefore, life is not a property of objects, but 'a condition of being'. Like other similar traditional peoples, Ojibwa acquire knowledge by moving around, which tends to yield personal

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rather than propositional knowledge, in which 'the self exists in an ongoing engagement with the environment', employing a 'poetics of dwelling rather than science' (Ingold 2000b: 100), where the self is relational rather than in the head.

But in the hands of Ingold, the Ojibwa ethnography, and perhaps Hallowell's handling of it, raises lots of other questions. Thus, if knowledge is purely relational, non-propositional and not 'in the head', what happens in those moments of knowledge transfer between individuals where a previous personal context cannot be entirely shared? I think we can reasonably presume that there must be some cognitive mechanism for moving from the personal-episodic to the shared-semantic. Similarly, Mary Black (1969), who worked with Ojibwa during the 1960s, claims that Ojibwa classification is therefore 'anti-taxonomic', that it is impossible to find a neat classification of the kind beloved of ethnoscience. Ojibwa metaphysics certainly pose a challenge to our own ontological certainties, but as some of the cases examined here indicate, they are by no means unique in this. I cannot think of any people that do not treat some animals as both persons (and therefore by implication possessing souls) and things, or for whom persons can be both human and non-human, if not universally or simultaneously, then in different contexts as pragmatically required.

Ontologies as Comparative Schemata: Descola

In anthropology the ontological turn is particularly associated with the work of Philippe Descola (e.g. 2005b), who distinguishes animist, totemic, analogical and naturalist ontologies. For Des Fitzgerald (2013), Descola offers us 'a grand project in the old style', one that flirts with a dangerous sociological holism, if not explicitly with mechanistic determinism. Although in his work Descola was initially responding to the special difficulties he faced in accounting for Amazonian perceptions of the world that seemed inherently positional, relational and unstable, by the time he elaborated his distinctions he had been, as we have seen, working around the problem of nature as a cross-cultural and analytic category for some time. Provoked by the difficulties of accounting for his own fieldwork data through existing tools, he came to see these differences as essentially ontological. Having established that the construction of nature varied between cultural groups, he attempted to find different types of ontology that might explain regularities in the cross-cultural data and develop it into a model that could be applied cross-culturally and comparatively. For Descola (2005b: 3), 'rather than experiencing the duality of nature/culture we all experience physicality and intentionality', which combine in differ-

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ent ways in totemism, animism, analogism and naturalism. Thus, Descola establishes four types of ontology, 'which provide anchoring points for socio-cosmic forms of aggregation and conceptions of self and other'.

Descola's first two types are *totemism* and *animism*. If for Lévi-Strauss totemism was a universal classificatory device employing discontinuities between natural kinds to map social relations, then animism employs social experience to map the relations between humans and natural objects. However, Descola argues that this inversion is too neat, and does not do justice at least to Amazonian cosmologies. Rather than deriving ontological properties from relational processes, he suggests the reverse, that social realities are subordinate to ontological realities. Descola's third ontology is *analogism*, in which all entities are 'fragmented into a multiplicity of essences, forms and substances, and then re-combined' (2005b: 7), and his fourth is *naturalism*, the idea that there is a single unifying nature and many cultures, an idea that emerged as a coherent ontology in its usually known cultural form in Europe and North America between the seventeenth and nineteenth centuries, and is approximately coterminous with 'science'.

For Descola, the four modes of identification are not mutually exclusive, 'but one of them is always dominant at a specific time and place' providing 'the main framework through which they perceive and interpret reality' (2005b: 8). These modes are sufficiently dominant to be correlated with distinctive social patterns: egalitarian in the case of totemism, egalitarian and mono-specific in the case of animism, hierarchised and segmented in the case of analogism (Descola 2005b: 12–13). These Descola sees as 'alternative schemata of practice' with a characteristic geographic distribution.

The problem with Descola's formulation is – in common with other often quasi-relativist positions – that in setting up totemism, animism, analogism and naturalism as separate and ideal types, he has nevertheless (and paradoxically) had to adopt a meta-naturalist position in order to provide a basis for comparing different ontologies in the first place. In other words, he has had to make the comparison between all four, by accepting the priority of one – naturalism.

A second problem, though by no means restricted to Descola, is found in the claim 'that the major part of humankind has not, until very recently, made stark distinctions between what is natural and what is social' (2005b: 9). This is an idea that I have already broached and recognised above. However, the claim does tend to downplay significantly the findings of much cognitive anthropology of the biological world (e.g. in the work of Brent Berlin and Scott Atran), which strongly supports shared modes of cognising plants and animals that cut across social boundaries, allowing generalisation and communication between cultures. This is not

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to deny that all cultural groups organise their experience of the natural world in culturally specific ways.

Descola's quadripartite distinction is a helpful way of identifying contrasting ways of organising knowledge about the world, but we might doubt that the variation can be restricted to four, that the ontologies are as distinct as he claims, that they map as easily on to geographic discontinuities as he suggests, or correlate as simply with other features of social organisation. How does one draw the boundary between one ontology and another? If we have difficulty in identifying basic units for comparison in terms of observable and verifiable practice (e.g. residence patterns), how much more difficult is it going to be with ways of thinking? So, when we look at actual cases it is clear that all four ontologies can in principle – as among the Nuaulu – co-exist within the same society, different underlying assumptions emerging as contexts vary.

If we understand ontology in terms of the logical relations and cosmological assumptions underpinning a particular discourse or set of practices, there is also ambiguity in the way specific philosophical themes are nested within broader cultural traditions. So, how does something called 'Western' ontology relate, say, to Cartesian or Kantian ontology? There are plainly major differences in terms of epistemology and basic working assumptions between scientific disciplines and between theoretical strands within the same discipline, which in other respects might be said to share aspects of a single overarching ontology. Moreover, in terms of the convenient binaries we like to invent, we might ask whether 'Western ontology' is constructed in the same way as other ontologies we distinguish on quasi geo-cultural grounds when we reify cultures and speak of – say – 'Nuaulu ontology' or 'Ojibwa ontology'.

All peoples rely upon ontologies, but problems arise when we seek to taxonomise and reify them, treat them as culturally discrete entities that can be subjected to empirical 'ontography' (Holbraad 2008; Pedersen 2007: 154). Indeed, the suggestion that many cultural populations have recourse to 'polyontologies' (Scott 2013) suggests that ontological types are not a particularly robust means of distinguishing between cultural groups. While we need clarity in our concepts, the delineation of bounded ontological types is possibly only achievable in philosophical texts rather than in the complex patterns generated in ethnographic data.

Perspectivisms, Local and Global

If animism is the attribution of sentient life and agency to other organisms and objects, then perspectivism is the claim that those organisms

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have views on the world, and that humans can in certain circumstances access these. The idea is implicit in Descola's notion of animism, in which different animal species are claimed to have the same type of interiority but a different physicality, which determines their worldview and induces contrasted perspectives on the world. This is said to be especially evident in the positional quality of some Amerindian cosmologies. For Viveiros de Castro (2004a: 5–6), the existence of such viewpoints reveals a kind of human cosmology or 'cosmo-praxis' in which there is one shared cross-species culture but many natures, in which what one species sees as one thing another sees as something different: for example, what jaguars see as manioc beer humans see as blood, where jaguars see a muddy salt-lick humans see a ceremonial house. Some peoples claim to see themselves from the perspective of a jaguar. Such worldviews inherently presuppose a comparison of ways in which different kinds of body '"naturally" experience the world as an affectual multiplicity'. Perspectivism, therefore, 'supposes a constant epistemology and variable ontologies' (Viveiros de Castro 2004a: 6–7), while 'what is literal and what is metaphoric shifts' (Kohn 2007: 12), depending on the perspective adopted.

Pedersen (2007) takes Viveiros de Castro's notion of many natures or multi-naturalism as a starting point in his analysis of shamanic practice among Dahad Mongolian pastoralists. Pedersen (2007: 158) explains how Dahad divide the world into a multiplicity of 'ontologically discrete' bodies (notably humans and game animals) that share the same invisible intentionality and capacity to have body-specific perspectives. But Pedersen takes this further and shows how artefacts too take on the appearance and perspective on non-human entities. Thus, if a man is to be a good wolf hunter, he must make a wolf 'Ongon', and when a shaman puts on a costume he is transformed into a multi-natural entity. Both Ongon and costume allow each person to see itself from the viewpoint of the other (Pedersen 2007: 160) and builds capacity to personify as many disparate relations as possible. The 'perspectival traffic' in Dahad shamanism, therefore, hinges on a shaman's ability – using the materiality of art objects as vehicles – to transgress the human/non-human divide and to personify multiple social worlds that are otherwise hidden.

Thus far, Viveiros de Castro's insights are illuminating. The problems lie, as in so many anthropological theories, when claims are made for their generalisation, first to a regional level, and then to a pan-cultural level, and finally in the claims about what a perspectivist account might tell us about anthropology as a theoretical practice. Thus, although there is 'an Amazonian preoccupation with inhabiting the points of view of our non-human selves' (Kohn 2007), it is not present in all Amerindian societies. On the opposite side of the world, Nuaulu readily provide mythic accounts of

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soul-bearing (especially totemic) animals, which replicate the institutions of human society, including the distinctive Patalima-Patasiwa divisions of the wider Moluccan world, while they also use such knowledge when interrogating animal spirits and explaining the interiority of other species, for example when hunting. However, I do not think that they are thereby claiming that different species have essentially different worldviews, but rather that they in fact share the same basic worldview as people.

The Meaning of Life, Living Organisms and Persons

Another theme running through studies utilising the concept of ontology is what we might call the anthropology of life. One route into this is through Ingold's (2000b: 89) discussion of why we call plants and animals 'living things' and yet call humans 'human beings', and whether 'an organism is a thing or a being'. He suggests that if life is tantamount to 'being then an organism is a material way of being alive' (Ingold 2000b: 96). Such considerations about what it might be that makes something alive or animate have revitalised our thinking about animism.

Kohn (2007) too argues for an anthropology of life, but also for an expanded ethnography beyond the human. Like Pedersen, he follows Viveiros de Castro (2004a) in arguing for the importance of recognising the perspectives of other species that engage with humans, and adopts multi-natural perspectivism as a 'way of understanding relations [that] allows people to account for the distinctive qualities that characterize different kinds of beings' (Kohn 2007: 7). But while Viveiros de Castro is apparently content to accept that non-human perspectives are ultimately part of a particular human ontology, Kohn argues that the objective 'worldviews' of non-human species must be taken into account in explaining the terms of their engagement with humans. His point is that how we know and interact with other species has implications for anthropology, since how other species represent us influences the kinds of encounters we have. Our world is defined by how we get caught up in the interpretative worlds of other species with which we interact. His approach to this is through embodied and emergentist understanding of a semiosis beyond (but including) language of the kind promoted by Terrence Deacon (e.g. 1997), for whom representation, intention and basic signing processes appear wherever there is life, even the most elementary. Since both humans and non-humans perceive and represent their surroundings, 'how other selves represent us can come to matter vitally' (Kohn 2007: 7). Kohn explores this by examining upper Amazonian Runa 'dog-human becomings', how Runa address dogs, how dogs have penetrated Runa social

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worlds in their understanding of human communication, and how different communicative modes emerge to protect people against the dangers of 'blurred ontological boundaries'.

Recursiveness: Specific Alterities and General Ontologies

A number of recent studies taking inspiration from the ontological turn stress the centrality of recursiveness – either directly or by implication – in anthropological interpretation. Kohn, in his grappling with Runa understandings of dog perspectives on the world, achieves this by using it as a springboard for discussing cross-species semiosis in a naturalist sense. However, it is Holbraad (2008: s106) who addresses the issue most directly in examining the notion of 'prueba' (proof) used by practitioners of Afro-Cuban religion in Havana 'as a lever for transforming' notions of evidence in anthropology as a scientific and scholarly practice. Following Viveiros de Castro, but like many others before him, he suggests that what makes the people we study interesting is the mutual misunderstanding that leads us to question and revise initial assumptions and conceptualisations. This might entail, for example, our willingness to ask 'what is a spirit' rather than 'how do Cubans think of spirits' (Holbraad 2008: s101). In the hands of Viveiros de Castro (2004a: 3), the study of societies where perspectivism underpins worldviews is that it also tells us something about anthropology as a subject: that it is a 'hybrid . . . the result of a recursive imbrication in Western anthropological discourses', rooted in modern 'multiculturalist and uni-naturalist ontology'.

The ideas at stake here address two perennial issues in anthropology: that other people often think in different ways from the observing investigator, and given that this is so, how we can best investigate them. Much conceptual development in anthropology is in effect 'recursive'; indeed, for Viveiros de Castro (2004a: 4) this is 'anthropology's defining problem'. While such a claim might be said to confuse the 'translative' project of ethnographic fieldwork with anthropology as it has emerged historically as a diverse and encompassing subject admitting many legitimate perspectives, it is certainly a fundamental and recurrent problem. Anthropologists have repeatedly refined their critical comparative apparatus by borrowing and modifying concepts such as 'totem' and 'taboo', by using the emic to fortify the etic. When a Zande woman notes termites eating through the piles of a granary, does she move away because she fears the working out of physical and biological laws, or witchcraft, or both? When Holbraad (2008: s102) says 'that a [Cuban] house is occupied by spirits [this] is not to describe an existing state of affairs, but rather . . . [brings] such a state

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of affairs about', he is pointing to an idea widely found in the literature on spirit causation. When Nuer say that twins are birds, or cucumbers are oxen, or when a Catholic priest claims that a blessed wafer *is* the body of Christ, how are we to interpret this? These are all problems of understanding that arise with any cross-cultural comparison. What is helpful about such examples is that they allow us to stand back and reflect on (often arbitrary) 'common sense' WEIRD (Western, Educated, Industrialised, Rich, and Democratic) assumptions (Henrich, Heine and Norenzayan 2010) and to work things through using recursiveness.

The ontological movement within anthropology, therefore, shows a clear intellectual pedigree with previous attempts to explain startling disjunctions between worldviews, that goes back at least to James Frazer in the British tradition, and as typified by the classic posing of questions pertaining to 'belief', 'metaphor' and 'alterity' in the classical ethnographies of the mid twentieth century. As we have seen, there are several examples of such conundrums in literature reviewed here: Holbraad's meditation on Afro-Cuban pruebas, Kohn's on Runa claims about dog communication, Hallowell's assertion that the Ojibwa treat the sun as a person. Vilaça covers the same intellectual ground, but starts instead from Lucien Lévy-Bruhl's observation that some peoples reckon that a child born to a woman is not necessarily human, but could be an animal. Vilaça's solution to this problem is that the observing ethnographer accept that biological and social consubstantiality are constantly being produced through acts of sharing, in which the intimacy and physical reality of shared domestic life is equivalent to the social universe.

However, the problem with ontologists is not that they recommend that we take seriously various counter-intuitive chunks of ethnography, but rather their preoccupation with the exceptional rather than with the ordinary, the claim that a special 'revelatory moment' can somehow define, or is more important than the ordinary. Chua (2015: 645) has recently shown how dramatising 'uncommon occurrences' normalises alterity at the expense of a balanced analysis of everyday otherness with which most ethnographers engage. Why are only certain things 'taken seriously' and why should we accept that ontologists do a 'better job of thinking through ethnography'? For Chua (2015: 645), the danger of such recursive strategies is that they progressively distance 'certain singular ethnographic encounters or episodes from the wider relations of interaction in which events are embedded'. Such encounters become a privileged 'conceptual trampoline' (Vigh and Sausdal 2014: 62), focusing on certain kinds of informant and excluding others. Like most ethnographers, Chua was confronted with a very mixed set of viewpoints in a time of rapid social change for the Bidayuh, the people with whom she worked in Malaysian Borneo.

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But, rather than assuming a fundamental incommensurability between 'Bidayuh thought' and the interpretive frame of the ethnographer, she recognises that anthropological knowledge is continually co-produced by ethnographers and their research subjects in a variety of ways.

It is precisely because (assuming a basic linguistic competence) we are able to understand much of what is going on within more or less the same ontological frame that such episodes on which ontologists focus can be reified. Ontologists overstate and overinterpret 'the agency and aptitude of the ethnographer', conferring a degree of unaccountability and invulnerability that is separated from and inconsistent with the 'messy reality' of fieldwork. As Chua (2015: 655) notes, 'politics and methodological constraints of ethnography does not feature highly on ontological agendas', which are more about theoretical experimentation and a grand programme to reinvent anthropology. In such a context, the reflective concerns of the ontologist do not seem to have much bearing on the real-world concerns of the people who have them, except where there is an explicit focus on how ontologies are articulated in moments of conflict (see below).

The Paradox of Naturalism

The imperative of the ontological turn has been to challenge the conventional Western concept of nature on the grounds that it is internally problematic and that other peoples do not share it, indeed to such an extent that ontological differences make translation between one and the other difficult, if not impossible. And yet there is a paradox here, for the very demonstration that there are many natures requires accepting some kind of meta-ontology for the purpose of making the comparison, and in practice this baseline is that set of conceptual assumptions, and epistemological and methodological practices, that we all share as anthropologists. It seems that we can only understand other ontologies anthropologically, can only recognise that different societies and contexts generate different underlying ontologies, if we do this from our own shared baseline for ontological translation. Thus, the diagram in Ingold's (2000b) figure 6.1 depends on an assumption that his readers share a dualistic ontological difference, while Scott (2013: 862) is happy to draw up an entire table of binaries contrasting naturalist and non-Western ontologies, without commenting on the irony of so doing. The more we understand about how the symbolic potential of humans might have evolved from a phylogenetically dispersed semiosis (pace Deacon 1997), and the more we understand about the relationship between analogue and digital processes in the brain, the more it seems likely that Lévi-Strauss was correct after all

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in his assertion of a central role for binary distinction in establishing and reinforcing meaning in language.

Anthropologists and scholars have long been aware of the 'ontological paradox', which to put it another way is that their etic framework is another anthropologist's emic framework (for example, the ethnographer at work in a forensic anthropology laboratory). Ingold (2000b: 90) pursues the conundrum: 'to be human . . . to exist as a knowing subject – is . . . to be a person', but is a scientist a person or an organism? How can we be both in nature (the world) and outside it (as scientists)? This is an enduring and ultimately irresolvable puzzle at one level of contemplation, but in practice anthropologists and other scientists and scholars have found a way round it in a kind of naturalism. We cannot, of course, know the world by 'taking ourselves out of it'; a brain with no sensory perceptors cannot think as it has nothing to think about, just as a line has no length until it is measured. The act of thinking is determined by what there is to think about, or as Kohn (2007: 5) might put it, 'the analytical object becomes isomorphic with the analytics'. We can accept that what scientists do requires suspending a certain kind of inferential logic, and is no more than a convenient set of conventions; but these conventions have worked sufficiently well for them to continue to be used as a reliable basis for communication in a professional context, and to underpin otherwise life-threatening engineering and medical assumptions. There must be limits to the notion that we are victims of our organs of perception, for if not how have we effectively adapted to the hazards of the biological world that we inhabit, including how we understand animals as part of a wider semiotic community? In anthropology, such an approach is consistent with the approach of those who argue for a 'middling' or 'critical' realism that is prepared to accept the shared conventions of ethnographic practice (e.g. Herzfeld 1997: 165; Morris 1997; Zeitlyn and Just 2014).

The naturalism we associate with science is a complex cultural phenomenon and set of practices that have been exported and embraced by a global scholarly community. But this is only possible because versions of a naturalist ontology exist everywhere, which help ordinary folk cope with the data input and social interaction of everyday life. There is plenty of evidence to show that humans can simultaneously operate using multiple and cross-cutting frameworks for thinking. The fact that we cannot understand the natural world – whether as scientists or ethnographic subjects – without making recourse to the cultural content of our everyday lives, does not prevent us from understanding that we can transcend cultural differences. For science and folk science to work, there needs to be a framework of assumptions about how the world is constructed and how human actors relate to that world. Such a framework often corresponds

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to what we conventionally call 'nature', although anthropologists tend to disagree on the extent to which 'common sense' naturalist and cosmic ontologies are logically and operationally separate in the lives of ordinary people (Atran 1990: 268, 286–87, 290).

This framework does not have to be everywhere constructed in the same way or need to be universally the same, only sufficiently robust to serve as a shared point of investigative departure. Newtonian physics does not provide a perfect explanation of what we now know about the properties of the universe, but it does serve as a practical basis for technology. Likewise, the Micronesian *etak* system of navigation employs a set of conventions rooted in a partly imaginary cosmos, a convenient fiction that allows real-world and real-time assumptions related to navigational practice that are sufficiently correct most of the time to be considered reliable (Chapter 5 in the present volume).

Speaking, Listening, Reading and Writing Ontology

Inferences about ontological difference have a complex relationship with language. While it is possible that some languages may complicate certain ontological positions due to the absence of compliant semantic and morpho-syntactic resources, and while some features may reveal themselves through non-linguistic indicators, we can only really infer ontological difference by hearing people talk about their experiences. But the use of a different language (e.g. Runa trans-species pidgins) is not evidence in itself of ontological difference, neither are grammatical differences in Ojibwa. That there is a distinction between animate and inanimate nouns may be no different from the role of male and feminine forms in other languages that do not have semantic consequences, or grammatically embedded forms of classifier that while they may once have served a semantic purpose have become inert.

But it is not only the intrinsic relationship between language structure and ontological difference that has become a matter for examination, but – to speak recursively – the language of the ontological turn itself. Chua (2015: 657) has noted how many 'ontologically-inflected monographs' also contain rich ethnography irrespective of their meta-theoretical prescriptions, but the challenge for beginner and sceptic alike is the theoretically dense and occasionally convoluted and obfuscating language in which the debate is conducted, where, for example, something 'counterinvents the equivocation it enables' (Viveiros de Castro 2004a: 15), or where 'the anthropocene . . . is . . . an opportunity for pluriversal worldings' (de la Cadena and Blaser 2018: 14). Moreover, there are sometimes doubts as to

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why the term 'ontological' is used at all. If we remove the word in a phrase (as in 'ontological division', or 'ontologically separate'), frequently nothing changes in an argument. The word ontology has been embraced with a quasi-religious passion in some quarters, and used where it need not be. While difficult subjects cannot be addressed without the difficulty being reflected in the language used, ontologists often test the endurance of readers like myself, who are left with an impression of gratuitous playfulness for stylistic effect. Where style results in obfuscation and rhetoric obscures an argument, we should be concerned. On such occasions, it might be useful to have a guidebook or an 'app' of the kind Alfred Gell (1999: 29) offers in his teasing engagement with the sometimes challenging prose of Marilyn Strathern, to warn the easily impressed to avoid 'citation for effect rather than sense'.

The Present Collection

Here I have introduced the themes of the book as a whole, by reviewing the apparently persistent (and some might say pernicious) problem posed by the concept of nature, a concept that much recent work in anthropology – most saliently that characterised by the phrase 'the ontological turn' – has sought to dispense with, but which stubbornly does not seem to go away. I argue that this is because it is too useful a concept in the context of current concerns about environmental change, has a necessary function in how science has developed and continues to operate, and is anyway rooted in certain pan-human cognitive imperatives that shape the ways all humans see and engage with the world.

Chapter 1 picks up on the observation that some prominent adherents to Green causes during the growth period of environmentalist movement between the 1960s and 1980s often saw in traditional small-scale societies a vision of ecological reverence and sustainability lost in the West, and then runs with it. Where such populations are small, the demands they make on the environment around them are often slight, and the frugal use of resources permits a kind of ecological sustainability. However, this is an idea that has subsequently developed further and become a handy form of self-identification for traditional peoples in their political struggles. I show that as a generalisation the claim is weak, without denying that many peoples have knowledge of the environment that was often previously denied them by outsiders, and which we need to recognise and respect.

Chapter 2 focuses on some work from Melanesia conducted before 1998, but it could have been about virtually any apparently coherent eth-

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nographic area. It explores the idea of the plurality and unstable character of ideas about nature looked at in the context of a region where we might expect a degree of homogeneity. In reviewing accounts of nature concepts in New Guinea, I develop points of contrast and similarity with how Nuaulu living on the western boundary of Melanesia, but still in a biogeographic zone that is recognisably southwest Pacific and dominated by tropical forest, conceptualise their relations with the material world around them.

Chapter 3 addresses how Nuaulu conceptions of nature were changing during the 1980s, as they became increasingly concerned and politically active about threats to their traditional resource base, as it became increasingly eroded by transmigration resettlement on the one hand and logging incursions on the other. It was in some respects the sequel to an earlier paper (Ellen 1993b) that portrayed a more passive view of Nuaulu engagement with forest resources and authorities, as this existed in the early 1970s. I report how conflict has occurred in the Ruatan transmigration area leading to the imprisonment of Nuaulu, but how Nuaulu were also able to successfully defend some land claims in the courts, and in their representations to outsiders have become increasingly articulate about the threats posed to their environment. The chapter argues that as material and social change has taken place, so Nuaulu have renegotiated their conception of forest, what it means in their lives, and are strongly motivated to articulate its uses for them. The main question the chapter seeks to answer is why, given their traditional knowledge of the market and deliberate modification and destruction of forest, and former resistance to ecological thinking, Nuaulu now appear to be engaged in environmentalist rhetoric that we would recognise as such. Though historically prior, the account evokes other recent discussions relating to the contestation of nature in a variety of settings (e.g. Blaser 2013). The chapter reminds us that we have to be attentive to the power relation between different knowledges (Blaser 2009; Escobar 2017) – political ontologies if you must – and that concepts of nature shaped by interactions between local people, states and non-governmental organisations engaged in environmentalist programmes become governmentally-compliant, what Agrawal (2005) – adapting Foucault's notion of governmentality – has called 'environmentality', that is 'environmentalised' by government (though see Cepek 2011).

Chapter 4 was originally co-written with Holly Harris as an introduction to the book *Indigenous Environmental Knowledge and Its Transformations*. It explores the concept of indigenous knowledge that was becoming increasingly widely employed in development studies, environment conservation programmes, and in the political rhetoric of international funding agencies, non-governmental organisations and national governments

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by the beginning of the twenty-first century, and partly arises from the kind of politics broached in Chapter 1. During this period, 'indigenous knowledge' was being increasingly adopted as an insurgent claim of indigenous minorities and regional movements throughout the developing world. The book that it introduced was among the first concerted critical examinations of the uses and abuses of the concept from an anthropological perspective. It interrogated the idea of indigenous knowledge and its specific applications within the localised contexts of particular Asian societies and regional cultures, such as the problems of translation and mistranslation of traditional practices and representations of resource management, the match and mismatch of practical reasoning in indigenous subsistence regimens and their depiction by outsiders, and the developmental and political consequences of contemporary ethnic and regional claims rooted in an ideology of 'traditional' indigenous knowledge.

Chapter 5 begins by examining the response of the organised scientific community to the claims of the indigenous knowledge lobby, and with some observations on the dichotomy between science and traditional technical knowledge. It reiterates the view that the potency of the distinction arises from a fusion of the general human cognitive impulse to simplify the processes by which we understand the world, reinforced by the socially driven need of science to maintain an effective boundary around the practices in which scientists engage. The chapter goes on to argue that the existence of these two epistemological meta-categories obscures the presence of different ways of securing predictive knowledge of the material world, each of which is characterised by a distinctive configuration of cognitive and technical features, and which in several ways cut across the usual dualism between science and traditional knowledge. The argument is illustrated using examples from the history of biology and the ethnography of ethnobiological knowledge. It engages critically with insights drawn from cognitive psychology, the philosophy and sociology of science, and cognitive anthropology, as well as with scientists' own descriptions of what distinguishes the mental operations in which they engage.

Chapters 6 and 7 belong together, and indeed overlap. Both examine 'official', scientific and political aspects of the classification of secondary biodiversity through what James Scott (1998) calls the 'administrative ordering of nature', in relation to Nuaulu understandings of forest diversity. That local peoples have a profound knowledge of forest diversity is now hardly doubted, but what light can this shed on the problems faced by scientists and others in describing it, and how can we account for discrepancies in the lexicalisation of knowledge for people living in ecologically very similar environments? Chapter 6 attempts to answer this question by reporting on a study that compared local knowledge elicited from

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Nuaulu informants concerning eleven 0.5-hectare plots in ecologically varied kinds of vegetation cover. The differences between the plots reflect altitude, geomorphology and anthropic influences, and the objective was to measure the extent to which knowledge varies according to different kinds of forest, geographic area and between informants, and why. The analysis demonstrates a high ability to name trees consistently, irrespective of locality and ecology; a high degree of shared knowledge between male informants; and the extent to which Nuaulu understanding of forest diversity and patterning matches recent ecological modelling in rainforest science as a complex mosaic.

Chapter 7 begins with the observation that available data on the folk classification of forest habitats and biotopes globally suggest significant variation in the extent to which recognition of compositional diversity translates into complex, fixed and labelled categories for different types. Although there are some early references to the importance of establishing ethnoecological categories for the Asian tropics, the pioneer work on this subject was conducted in the Amazon, and has since extended elsewhere. Dependable data for island Southeast Asia are sparse, but what evidence there is suggests relatively limited labelling of forest types. By contrast, a number of researchers working in the Amazon region have recently reported folk classifications of forest evidently more terminologically refined and extensive than the Southeast Asian ethnography suggests. The chapter uses the same dataset introduced in Chapter 6 to show how Nuaulu eschew the detailed lexically-coded habitat classifications reported for some Amazonian peoples in favour of a less lexically-fixed but no less knowledgeable approach. An attempt is made to specify a general model which accounts for how Nuaulu perceive and represent different kinds of forest, which addresses the general propositions that (a) not all knowledge, everywhere, is equally lexicalised, (b) that ecological and subsistence differences influence the extent to which people categorise and lexicalise, and (c) that models based on the structure of folk taxonomies generated in studies of folk systematics bias our methodologies when studying ethnoecological categories.

Chapter 8 changes tack completely, to examine one of the main themes of the British Homegardens Project that preoccupied me, some colleagues and several cohorts of Kent ethnobotany students during the mid 2000s: how gardening skills and knowledge are transmitted inter-generationally in the modern world. While it is recognised that print and electronic media are an important element in the late twentieth-century growth of UK recreational gardening, an underlying hypothesis has been that because gardening is ultimately a practical bodily skill it must be acquired through direct physical activity and interaction between skilled and less

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skilled gardeners. Contemporary anthropological literature has much to say about knowledge and skill transmission, but mainly in relation to either abstract bodies of knowledge (e.g. plant name recognition) or in relation to craft activity, that is 'making'. Weeding is a synaesthetic process in which the hand mediates a relationship between plant and body. It involves the mastery of various types of manual dexterity and tool manipulation, the coordination between tactile skills, visual competence and the other senses in relation to acquired background knowledge. However, these are not necessarily the same as those employed in making things. I conclude that from an evolutionary point of view, weeding is a secondary cultural adaptation of a general foraging facility that involves the same cognitive and manipulative skills and which must have evolved early in human history.

Chapter 9 is an intervention in the revived debate on animism, which – as this introduction notes – has come to occupy a special place in the comparative study of how life and nature are conceptualised. The chapter reminds us how humans and other animals attribute the qualities of living matter and agency to what we call tools and other cultural objects. In both cases a paradox may arise when autonomy is attributed to the object at the same time that it is recognised that its life-like characteristics are motivated by human actions. The chapter shows how Nuaulu describe many kinds of object as having qualities we might otherwise reserve for biological organisms. Nuaulu also distinguish entities that have many of the qualities of life but which ordinarily have no corporeal existence (spirits). While all cultural objects are potentially regarded in this way, in practice some objects are more alive and have more agency than others. I argue that part of the problem with existing anthropological treatments of the category 'living things' is that they are either logical extrapolations through polythetic extension or based on formal taxonomic deduction/induction (ethnoscience). Using examples of meat skewers, outboard motors, coconut graters and sago-processing devices, together with certain 'peripheral' forms of biological life, I demonstrate how Nuaulu ideas of what is animate and agentive are always fuzzy and contingent, and that by combining data from different kinds of ethnographic context, using different elicitation procedures, a more complex picture emerges.

Finally, Chapter 10 brings us back to the vexed question raised by the ontological turn, and offers a critical examination in relation to ethnobotany. Competing definitions and problems are first assessed for recent work in anthropology and the history of science. This is followed by a review of seven areas of current ethnobotanical investigation where there are disjunctions of approach that could arguably be said to be ontological: post-Linnean taxonomic orthodoxy versus local plant classification,

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pre-Linnean natural history versus science, phytopharmaceutical orthodoxy versus medical anthropology, museum practice versus lived practice, ecological versus phylogenetic explanation, plant movement versus knowledge movement, and shifts in understanding contingent on membership of different intra-cultural domains. In the light of these examples, a threefold meta-conceptual distinction is suggested: between cultural domains (distinguishing knowledge and practice on the grounds of content), epistemes (distinguishing knowledge in terms of the methods and approaches used to acquire it), and ontologies in the strict sense (defined in terms of underlying logical relations and cosmological assumptions).

Conclusion

Despite Sahlins' (2013) view that ontologism really does represent a paradigm shift, the big 'utopian' claim (Bessire and Bond 2014: 449) that it is a fundamental reinvention of anthropology necessary for the whole subject to move forward is probably unsustainable. Like several previous 'turns' in the past, it will no doubt prove to have been a refreshing diversion, 'an unmoored form of speculative futurism' (Bessire and Bond 2014: 441) that has reinvigorated our sense of 'wonder' (Scott 2013), and a series of analytically subversive meditations that has helped refine approaches that are broadly and inevitably framed by a naturalist and realist ontology. Its claim (by implication) to be the only approach that 'takes ethnography seriously' cannot itself be taken seriously (Chua 2015: 643). Nevertheless, I have over the last few years relaxed my resistance to the apparently irresistible tide of the ontological turn, as those around me all seem to think that an argument has to ontologise just about everything. While acknowledging that there is an important debate going on (in fact several important debates), what I think many are trying to say is often what scholars and scientists have been grappling with for a long time, only using different conceptual baggage. And in apparently offering pretty much a 'theory of everything' when it comes to the Anthropocene, some are in danger of stretching the credibility of their arguments.

If, as Henare, Holbraad and Wastell (2007: 27) suggest, 'there are as many ontologies as there are things to think through', then the concept of ontology might be considered entirely superfluous. Much of what is so described can often be expressed through other forms of radical conceptual disjuncture. We can refer to contrasting paradigms, perspectives, frameworks for thinking, worldviews, schemata, cosmologies and epistemologies. While I accept that these notions are not necessarily identical, and in some instances express important and subtle distinctions that we

need to respect, according to the definitions and usages of many they are virtually interchangeable, while the meaning of ontology in some quarters itself has become woolly and inconsistent in its application, and virtually devoid of precise meaning (Woolgar and Lezaun 2013). Someone needs to issue a danger warning, to advise that the term be used sparingly, lest we risk over-complexifying our analyses and undermining its productivity altogether. As even Viveiros de Castro (2004b: 484) puts it, simply producing increasingly 'richer ontologies' is not the answer. It may well be that lived ontologies are not preformed things that determine all else at all, but rather emergent and changeable processes for making sense of experience that our current modes of analysis just find convenient to reify. In this set of essays I attempt to further engage with the sometimes muddled thinking surrounding our use of the word 'nature' – through discussions of indigenous knowledge of the environment, science, concepts of 'life', knowledge acquisition, and ontology – in order to better anchor our analyses and understanding.

Note

1. The list of authorities referred to here is inevitably partial and many other recent works speak quite directly to the central concerns raised by this volume, and specifically issues articulated through the larger 'ontological turn'; for example the writings of Marisol de la Cadena (especially de la Cadena 2015, but see Blaser [e.g. 2009, 2013]), which relate to a broader intellectual project framed around Arturo Escobar's work on relationality and the 'pluriverse' (e.g. Escobar 2017; see also de la Cadena and Blaser 2018), works explicitly articulated around environmental conflicts and disputes.

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