Throughout the world wild animals raid crops, attack livestock, and threaten people. Wildlife pests are actively resisted by local communities while routinely 'controlled' by state authorities. Yet the background to many people–wildlife conflicts is human encroachment on wildlife territory, and some 'problem animals' may themselves become endangered and arouse conservationist concern.

Natural Enemies examines people–wildlife conflicts from a social anthropological perspective. The authors focus on the human dimension of these conflicts – an area often neglected by specialists in applied ecology and wildlife management – and on their social and political contexts. Case studies of specific conflicts are drawn from Africa, Asia, Europe and America, and feature an assortment of wild animals and birds, including chimpanzees, elephants, wild pigs, foxes, bears, wolves, pigeons and ducks.

Examining the symbolic, as well as material, dimensions of wildlife pestilence, anthropologists can reveal the cultural character of many of our 'natural enemies'. These reports from the 'front line' show that human conflict with wildlife is often an expression of conflict between people.

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The European Association of Social Anthropologists (EASA) was inaugurated in January 1989, in response to a widely felt need for a professional association that would represent social anthropologists in Europe and foster co-operation and interchange in teaching and research. The series brings together the work of the Association’s members in a series of edited volumes which originate from and expand upon the biennial EASA Conference.

Titles in the series are:

<table>
<thead>
<tr>
<th>Title</th>
<th>Editor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceptualizing Society</td>
<td>Adam Kuper (ed.)</td>
</tr>
<tr>
<td>Other Histories</td>
<td>Kirsten Hastrup (ed.)</td>
</tr>
<tr>
<td>Alcohol, Gender and Culture</td>
<td>Dimitra Gefou-Madianou (ed.)</td>
</tr>
<tr>
<td>Understanding Rituals</td>
<td>Daniel de Coppet (ed.)</td>
</tr>
<tr>
<td>Gendered Anthropology</td>
<td>Teresa del Valle (ed.)</td>
</tr>
<tr>
<td>Social Experience and Anthropological Knowledge</td>
<td>Kirsten Hastrup and Peter Hervik (eds)</td>
</tr>
<tr>
<td>Fieldwork and Footnotes</td>
<td>Han F. Vermeulen and Arturo Alvarez Roldan (eds)</td>
</tr>
<tr>
<td>Syncretism/Anti-syncretism</td>
<td>Charles Stewart and Rosalind Shaw (eds)</td>
</tr>
<tr>
<td>Grasping the Changing World</td>
<td>Vaclav Hubinger (ed.)</td>
</tr>
<tr>
<td>Civil Society</td>
<td>Chris Hann and Elizabeth Dunn (eds)</td>
</tr>
<tr>
<td>Nature and Society</td>
<td>Philippe Descola and Gisli Palsson (eds)</td>
</tr>
<tr>
<td>The Ethnography of Moralities</td>
<td>Signe Howell (ed.)</td>
</tr>
<tr>
<td>Inside and Outside the Law</td>
<td>Olivia Harris (ed.)</td>
</tr>
<tr>
<td>Anthropological Perspectives on Local Development</td>
<td>Simone Abram and Jacqueline Waldren (eds)</td>
</tr>
<tr>
<td>Recasting Ritual</td>
<td>Felicia Hughes-Freeland and Mary M. Crain (eds)</td>
</tr>
<tr>
<td>Locality and Belonging</td>
<td>Nadia Lovell (ed.)</td>
</tr>
<tr>
<td>Constructing the Field</td>
<td>Vered Amit (ed.)</td>
</tr>
<tr>
<td>Dividends of Kinship</td>
<td>Peter P. Schweitzer (ed.)</td>
</tr>
<tr>
<td>Audit Cultures</td>
<td>Marilyn Strathern (ed.)</td>
</tr>
<tr>
<td>Gender, Agency and Change</td>
<td>Victoria Ana Goddard (ed.)</td>
</tr>
</tbody>
</table>
Natural Enemies

People–wildlife conflicts in anthropological perspective

Edited by John Knight
Contents

List of contributors vii
Editor's preface ix

1 Introduction 1
JOHN KNIGHT

2 Wildlife depredations in Malawi: the historical dimension 36
BRIAN MORRIS

3 Half-man, half-elephant: shapeshifting among the Baka of Congo 50
AXEL KÖHLER

4 Chimpanzees as political animals in Sierra Leone 78
PAUL RICHARDS

5 Wild pigs, 'pig-men' and transmigrants in the rainforest of Sumatra 104
SIMON RYE

6 Animals behaving badly: indigenous perceptions of wildlife protection in Nepal 124
BEN CAMPBELL
Contents

7 Culling demons: the problem of bears in Japan
   JOHN KNIGHT
   145

8 The wolf, the Saami and the urban shaman:
   predator symbolism in Sweden
   GALINA LINDQUIST
   170

9 The problem of foxes: legitimate and illegitimate
   killing in the English countryside
   GARRY MARVIN
   189

10 The Great Pigeon Massacre in a deindustrializing
    American region
    S. HOON SONG
    212

11 Ducks out of water: nature conservation as boundary
    maintenance
    KAY MILTON
    229

Index

249
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Editor's preface

The origins of this book lie in the Politics of Wildlife workshop convened as part of the Fifth Conference of the European Association of Social Anthropology, held at the Johann Wolfgang Goethe University in Frankfurt in September 1998. The book chapters comprise a selection of the Frankfurt papers, along with additional papers prepared especially for this publication.

I would like to thank all of the participants in the Politics of Wildlife workshop, as well as the organizers of the EASA conference, especially Ms Jean Lydall, the Conference Co-ordinator. My own participation in the Frankfurt conference was supported and encouraged by the International Institute for Asian Studies (IIAS) in Leiden, The Netherlands, and especially its Director, Professor Wim Stokhof. Much of the editorial work that went into the preparation of this volume was done at this same institution. The final stage in the preparation of the manuscript took place in the School of Anthropological Studies at Queen’s University Belfast. To both institutions and their staff I am grateful.

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Chapter 1

Introduction

John Knight

The problem

Conflict between people and wildlife is ubiquitous. Rats in Asia ruin the rice harvest, lay waste to grain stores and cause hunger and malnutrition, elephants in Africa plough up crops, bulldoze villages and cause human injury, and wild pigs everywhere feed on crops, trample fields and cause great economic loss. Jaguars in Central and South America attack cattle, tigers in India snatch village animals, and the reintroduction of wolves in Montana is opposed by ranchers fearful of livestock losses. Tigers, wolves, mountain lions, bears, dingoes and eagles all feature in occasional reports of attacks on people. These are just a few examples of people-wildlife conflicts; a great many other wild animals (crows, cormorants, monkeys, hippos, crocodiles, seals, kangaroos etc.) find themselves similarly at odds with nearby human populations.

The wildlife threat elicits a variety of human responses. East African pastoralists ritually sacrifice cattle to protect sorghum and maize fields from monkeys and birds (Fukui 1996: 377), Spanish shepherds invoke Christian saints to protect their sheep from wolves (Catedra 1992: 45), and Japanese farmers bury Buddhist amulets in their fields to ward off wild pigs, deer and monkeys (Kawaoa 1994: 720). In their struggle against rats southeast Asian villagers use traps and cages, employ rat-catchers, cats and dogs, and try to poison, drown and gas the hated rodents (McNeely and Sochaczewski 1994: 296). Cameroonian farmers ‘sleep in the crop fields to guard them from elephants’ and children ‘lose many school days when they have to help their parents guard the farms or chase [away] the elephants’ (Tchamba 1996: 38). American cattle ranchers, when they encounter protected wolves, simply ‘shoot, shovel, and shut up’ (Youngblood-Petersen 1995: 545).

Human conflicts with wildlife assume a variety of forms, take up much
human time and energy, and are often multifaceted in character. People–wildlife conflict is universally found – on land and in rivers and seas, in the north and the south, in the city as well as the country – but tends to be especially marked in human settlements in forest-edge regions. As a threat to agricultural production and an impediment to rural development, wildlife depredations are an area of state concern and an object of expert intervention (‘wildlife control’ etc.), but also overlap with the issue of wildlife conservation (especially in the case of larger wild mammals).

A number of different kinds of people–wildlife conflict can be distinguished. These include:

- attacks on people (wild predators);
- attacks on livestock (wild predators);
- crop-raiding (wild herbivores and birds);
- forestry damage (wild herbivores);
- competition for wild forage with human gatherers, with livestock or with game animals (wild herbivores);
- competition for prey with human hunters (wild predators);
- house and other building infestations (roosting birds, rats, mice etc.); and
- threats to other natural species and to biodiversity – i.e. ‘environmental pests’.

In addition, there are a number of other kinds of conflict.2

This book brings together ten social and cultural anthropologists to examine the phenomenon of people–wildlife conflict. Case studies of particular conflicts are drawn from Africa, Asia, Europe and America, and feature an assortment of wild animals, including predators such as lions, bears, wolves and foxes, and crop-raisers such as baboons, chimpanzees, elephants and wild pigs. In addition to these mammalian pests, two bird pests (ducks and pigeons) are examined in the final two chapters. As anthropologists, we are concerned not just with the material dimension of these examples of wildlife pestilence, but also with their social and cultural dimensions. In particular, we focus on the tensions and divisions in human society that affect conflicts with wild animals. One of the main contentions of this book is that many people–wildlife conflicts can be understood as people–people (or people–state) conflicts.

This Introduction identifies some of the main themes that emerge in this anthropological examination of people–wildlife conflicts. These themes include the socially constructed character of pestilence discourses,
the relation between wildlife pestilence and conservationism, the symbolic dimension of the wildlife threat, the moral specification of dangerous animals, and the variety of ways in which conflicts with wildlife overlap with conflicts among people.

**Specifying people–wildlife conflicts**

There is an extensive English-language vocabulary for inconvenient, bothersome or damage-causing wild animals: ‘nuisance animals’, ‘troublesome animals’, ‘problem species’, ‘pests’, ‘vermin’, ‘varmints’, etc. As these terms suggest, the wildlife pest is defined in anthropocentric, utilitarian terms.

People–wildlife conflicts are relations of rivalry or antagonism between human beings and wild animals which typically arise from territorial proximity and involve reliance on the same resources or a threat to human wellbeing or safety. People–wildlife conflicts thus include both competition and predation: *competition* for food between humans and other animal species and wild animal *predation* on people. In the first case, the conflict is indirect in character (over a third [plant or animal] species) and between two species which (with respect to the object of competition) share the same trophic level. In the second case, the conflict takes the form of a direct antagonism between species at different levels of the food chain. This book examines both kinds of people–wildlife conflict – ‘horizontal’ competition and ‘vertical’ predation.

An important qualification must be entered here. As we are dealing with an anthropocentric phenomenon, important aspects of both kinds of conflict are not addressed in this book. Logically, competition works both ways: if wild animals are rivals for human (or human-claimed) foods or territory, human beings are also rivals for the food and territory of wild animals. Predation likewise works in both directions, involving not just wildlife attacks on people, but also human attacks on wildlife – that is, hunting. However, with respect to human livelihood, human hunting represents a different, inverse relation to wildlife in which the prey animal forms a part of (rather than a threat to) human subsistence. This book is principally concerned with the wildlife threat to people, rather than the human threat to wildlife.

A further qualification concerns the scope of the book. The people–wildlife conflicts examined in the following pages concern vertebrate pests, but clearly invertebrate pests would invite similar kinds of analysis. It is also the case that human conflict with other species extends beyond other animals to include plants – that is, weeds (see Knobloch
The weed would be the vegetal counterpart of the animal pest. The farmer's crop is threatened 'horizontally' by weeds as it is 'vertically' by pests. Weeds compete with crops to grow; pests compete with the farmer for the crop. The farmer is involved in a twofold struggle – with weeds at the early stage of crop growth and with pests at later stages.

Sometimes horizontal and vertical people–wildlife relations overlap. In what is known as 'garden hunting', game animals are killed as they come to feed on (usually swidden) crops which serve, in effect, as a kind of hunting bait (Linares 1976; Wadley et al. 1997: 253–254). In other words, competition (between human and animal) leads to predation (human on animal). But there are other permutations: in the case of crop-raiders such as bears or livestock-predators such as tigers or wolves, 'horizontal' rivalry (over crops and livestock respectively) can lead to 'vertical' predation – that is, 'maneating'.

**Anthropology and people–wildlife conflicts**

There is a large and wide-ranging literature on the subject of people–wildlife conflicts. This is mainly from fields such as applied zoology, applied ecology and wildlife management, and is concerned with the measurement of wildlife damage, the assessment of wildlife pest numbers and population dynamics, the determination of the causes of pestilence, the development of technologies of damage limitation and pest control, and the application of such technologies. It is an interdisciplinary area of research which brings together many different specialists in search of practical responses and solutions to wildlife pestilence, ranging from more efficient techniques of obstruction and repulsion and more effective methods of culling and eradication, to habitat management, crop replacement, and fertility control.³

The topic of people–wildlife conflicts has not attracted much interest from anthropologists. Occasional references to people–wildlife conflicts are made in some of the classic works of anthropology. In *The Golden Bough* Frazer gives examples of exotic customs for controlling farm pests and other bothersome animals (Frazer 1996 [1922]: 637–638), in *Coral Gardens and Their Magic* Malinowski refers to the spells recited by Trobriander ‘garden magicians’ to ward off wild pigs (Malinowski 1935a: 117–119, 469n; 1935b: 48), and in *Nuer Religion* Evans-Pritchard points out the link between totemic ritual and problem animals among the Nuer (‘lions should refrain from killing the cattle of those who respect them, crocodiles should not injure those who respect them, and ostriches should not eat the millet of those who respect them’) (Evans-
In general, people–wildlife conflicts, if they appear in anthropological texts at all, do so in the margins and attract little, if any, analytical attention in their own right.

Yet a case can be made for anthropologists paying more attention to people–wildlife conflicts. First, conflict with wildlife is found in a great many societies. In fact, human conflict with wildlife tends to be at its sharpest in the remote, forest-edge locations where much anthropological fieldwork has been – and still is – carried out. Such conflict with wildlife is set to continue into the foreseeable future as small farmers from Brazil to Indonesia colonize frontier land in tropical forest regions (Rudel and Roper 1997).

Second, an anthropological input into the study of people–wildlife conflicts would also make a contribution to the field of wildlife management. The importance of the human aspect of wildlife management is becoming increasingly recognized among wildlife managers, especially those who deal with ‘problem wildlife’.

[A] wildlife damage manager is a professional ‘buffer’ between wildlife and humans, protecting humans from animals, while at the same time protecting wildlife from humans. The wildlife damage management professional needs to be able to understand humans as well as he or she understands wildlife. Ironically, this human element tends to be a weak link in our educational chain . . . [Damage managers] tend to be well-trained in their technologies and in wildlife biology, and not well-trained in sociology, anthropology, economics, history, psychology, or political science – the ‘human dimension’ fields.

(Schmidt and Beach 1999: 2)

Anthropology is in a position to offset this deficit in understanding of the ‘human dimension’ of wildlife management, especially where this involves cultures different from that of the wildlife professional. One contribution anthropology can make is to document and highlight the existence of local or indigenous knowledge and practices in the area of wildlife management and control (for example, Parrish 1995).4

Another can be to help ensure that wildlife management strategies are culturally compatible with the local context in which they are applied. By ethnographically documenting local perspectives on wildlife, anthropology provides a cultural contextualization of wildlife that could help achieve a more locally sensitive wildlife management policy (Breitenmoser 1998: 288).
Anthropology can also contribute to wildlife management by taking it as an object of study in its own right, focusing critically on the cultural assumptions underlying it. Kay Milton has argued that ‘anthropologists are well placed to become theorists of environmentalism’ (1993a: 6), and the same point can be made with respect to the field of wildlife management and conservation.

**People–wildlife interfaces**

Many wild animals adapt to, and benefit from, humanized environments. This phenomenon of other species subsisting in human spaces is sometimes referred to as ‘commensalism’, the spaces involved as ‘commensal habitats’, and the animals in question as ‘human commensals’ (Southwick and Siddiqi 1994: 224). According to optimal foraging theory, wild animals ‘tend to feed in a manner that maximizes their nutrient (energy, protein, minerals etc.) intake in the minimum possible time’ (Sukumar 1994: 308), and anthropogenic sites can offer prime foraging opportunities. For wild predators, domestic livestock often makes for easier prey than wild herbivores; for wild herbivores, cultivated crops tend to be more appealing and digestable than wild forage. Other examples of wild animals which exploit humanized environments include house rodents, barn swallows, trawler- or tractor-following birds, garbage-raiding raccoons, and mammals and birds that feed on roadside vegetation (see Budiansky 1996: 219–221; 1999: 50–51).

In many cases, wild animals are indirectly beneficial to humans (in addition to the direct benefits wildlife brings through its contribution to livelihoods). This is most clearly the case with the natural predators of pests. Snakes keep down rat populations, birds control harmful insect populations, hedgehogs and frogs eat slugs, and wild predators such as tigers and wolves keep down the numbers of crop-raiding herbivores. But the benefits of wildlife are not confined to such ‘regulatory predation’ (Newsome 1991). The ‘honey guide bird’ (Indicator indicator) guides human gatherers of wild honey (Budiansky 1999: 47–49), crocodiles improve river ecosystems to the benefit of the people who depend on the river (McNeely and Sochaczewski 1994: 205), and elephants create useful inroads in the forest (Richards 1993: 151–152).  

Despite these human benefits of shared territoriality, wildlife proximity to human spaces often leads to conflict. The title of this book – *Natural Enemies* – refers to the rivalry between humans and animals with respect to their material conditions of existence. Much human settlement is predicated on the environmental displacement and territorial expulsion
of other large mammals. This theme of an original conquest over wild animals is evident in many local rites and myths relating to land reclamation or pioneer settlement (Leach 1992: 79–80; Richards 1996: 307). Cultivators in the Trobriand Islands recite spells to expel wild pigs from the new swidden fields they cut from the forest (Malinowski 1935a: 100–101), founders of Japanese mountain villages are depicted as brave men who removed wild animals from the territory that became the village (Nebuka 1991: 52), and ‘wolfers’ in colonial America are remembered as ‘the bulwark of western progress’ because, by eradicating wolves, they made new frontier land safe for livestock and settlement (Steinhart 1995: 41).

This people–wildlife rivalry may persist long after the human colonization of a territory because of the appeal of human spaces to many wild animals. People who live and cultivate in the forest zone must exercise constant vigilance towards the threat of wildlife forays into village space and must be prepared to violently resist invasive wildlife through regular trapping and hunting in and around the settlement. Indeed, forest-edge farming might be said to consist of two kinds of labour: the labour of production and the labour of protection necessary to secure the fruits of this production from the threat of wild animals.

Control of commensal and other wild pests has been routinized as civic duty in many societies. This takes the form of communal labour tasks directed to pest defences (field-guarding, patrolling, maintenance and repair of protective barriers, etc.), community pest hunts (‘wolf chases’, ‘rattlesnake round-ups’, ‘pigeon-shoots’, etc.), and even taxes and fines levied in pest carcasses. Protection of the community from harmful animals may well be formally institutionalized as a social or political duty and publicly honoured as heroism. In Andean villages, in recognition of their efforts at protecting the communal potato crop, young male ‘potato guards’ are rewarded with an elevated social status (Urton 1985a: 265–266). The vanquishing of predators tends to assume a special importance. One of the roles of African kings was to defend their people from predators and other harmful animals (Simons 1992: 265–269; see also Lienhardt 1961: 213–214, 240–241), jaguar-killing among Amerindians is ‘a route to gaining and maintaining social prestige’ (Saunders 1994: 107), and wolf-killers in many societies are feted and rewarded by the wider community.

Other forms in which this conflict with wildlife is culturally institutionalized include rituals, festivals and children’s games. African harvest-time masquerades (in which elephant masks are worn) simulate ‘elephant intrusions into human space’ (Kasfir, in Ross 1992: 18), in
rural Japan annual festivals (such as ‘deer dances’ and ‘monkey-chasing festivals’) ritually re-enact wildlife crop-raiding and village resistance to it (Moon 1989: 156–162; Nomoto 1995: 128), and in the livestock-based communities of northern Spain children play a wolf-hunt game in which they act out the roles of mounted hunters, horses and wolves (Fernandez 1986: 32–33). The human experience of people–wildlife conflict is therefore a twofold one: the conflict is both directly experienced through the confrontation itself and the protective labour entailed by it, and indirectly experienced through these assorted cultural practices and performances which refer to it.

**Pestilence discourses**

One theme running through this book is that of the distinction between wildlife pestilence and discourses of wildlife pestilence – between, as it were, objective and subjective pestilence. Many claims of wildlife pestilence are inaccurate, exaggerated or ill-founded. Some claims of wildlife damage may even be ‘illusory’ (Putman 1989a: 9), with many supposed wildlife ‘pests’ serving as the ‘scapegoats’ of human society (Anderson et al. 1989: 252; Dunstone and Ireland 1989). There are a number of reasons for the exaggeration of wildlife pestilence: because inefficient farmers seek to save face, because of a desire to maximize compensation or because of inflated perceptions of risk among marginal peoples whose fears of what could happen (devastation of the whole crop by crop-raiders or lethal attacks by predators) outweigh their recognition of what generally does happen.

A number of chapters in this book call into question local pestilence claims and, by extension, the ‘pest control’ operations which they justify. In Chapter 7 John Knight examines the bear’s status as a pest in Japan and shows that, in general, the scale of concern over bears greatly exceeds the actual damage done by the animals. While bears are widely denounced as pests, there are also local voices which challenge the bear’s pest status and suggest instead that, given the extent of human colonization of bear territory, it is really people who are the ‘pests’ in relation to bears, and not bears in relation to people.

At a time when a proposal to ban fox-hunting is being debated by the British parliament, Garry Marvin in Chapter 9 examines the well-known defence of fox-hunting in England in the name of pest control. Foxhunts are said to benefit the countryside by keeping in check a farm pest, but Marvin shows that this claim is highly questionable. First, the emergence of elite foxhunting in early modern Britain involved the rejection
of the image of the fox as vermin in favour of an image of the fox as a worthy adversary. Second, foxhunting's claim to be a form of pest control begs the question of its efficiency, as opposed to other, more direct methods such as trapping.

In Chapter 10 S. Hoon Song reflects on the justification of a regional American pigeon-shoot in the name of pest control. Despite the claims of his informants that pigeons are ‘rats with wings’, Song concludes that local antipathy to the birds, as manifested so graphically in the pigeon-shoot, cannot be accounted for in terms of actual pigeon damage to farms or other human spaces. The shoot’s claim to be a form of pest control is further undermined by the fact that most of the pigeons involved in the shoot are not local birds at all, but birds brought in from outside! Song argues that pigeon pestilence claims should be understood instead as a rationalization for a practice — pigeon-shooting — which is subject to a different set of (social and political) motivations.

These case studies challenge the self-evident status of pestilence discourses by setting them in their wider social context and analysing them alongside the cultural symbolism of the animal in question. They also recall the widely reported tendency for some animals to be selected for attention as pests, while others (though responsible for damage) receive little if any attention. In particular, the more conspicuous animals tend to receive an inordinately large share of the blame for damage — such as wild primates in East Africa (Hill 1997: 82), wolves in Indian Himalaya (Mishra 1997: 342) and bears in Arizona (Pavlik 1997: 481). Other animals, such as smaller mammals, domesticates and ferals, may, for one reason or another, be relatively ignored, despite being responsible for similar kinds of damage.10

Wildlife pestilence changes over time. Pest status changes according to changes in land-use. The extension of farming into the forest interior, the establishment of timber, rubber or oil palm plantations and the introduction of a livestock economy respectively make wild animals into farm pests (browsing and rooting herbivores), plantation pests (browsing and barkstripping herbivores) and livestock pests (carnivores). However, changing historical circumstances can lead to the disappearance, and not just the emergence, of wildlife pestilence. For example, the decline of swidden farming meant the end of the swidden pest; of course, farm pestilence might well continue, but permanent farms typically lack the peculiar vulnerability of swidden fields surrounded by forest (Mehta and Kellert 1998: 330).

The threshold of tolerance of damage also changes over time. Wildlife damage has often been treated as natural or axiomatic; many cultivators
expect a certain amount of loss to wildlife. For example, in Chapter 2 Brian Morris points out that Malawian farmers have a saying that 'in planting maize you need to put three seeds in the hole – one for yourself, one for the guinea fowl, and one for the bush pig', and similar sayings have been reported elsewhere (for example, Sutlive 1978: 75). However, in the modern era wildlife damage becomes the object of a new kind of social accounting. Pesticides and other new technological inputs, because of their promises of preventability, can have the effect of lowering a farmer's tolerance of damage, which is consequently denaturalized to become 'pestilence'.

In addition to the focus on particular pestilence discourses, we should recognize the dualistic character of pestilence discourse in general. Despite the reality of people–wildlife co-territoriality and co-existence outlined above, pestilence discourses are premised on a dichotomous view of people–wildlife relations, according to which wild animals in human space are deemed unnatural and something to be removed. Such dichotomies are of course familiar to anthropologists; the related dichotomies of nature–society and nature–culture have been the focus for much critical reflection within the discipline. More specifically, anthropology has helped to demonstrate the variation in cultural understandings to which wild animals are subject. Certainly, the idea of wilderness, as a category of environmental space beyond human control, is evident in many cultures (Descola and Pålsson 1996b: 9–10), and it would follow that the idea of wild animals as animals beyond human control (in contrast to tame animals) is also widely held. However, anthropologists have shown that in other cultures wild animals may not be viewed as beyond human control: many hunter-gatherer groups believe that they can influence the behaviour and reproduction of prey animals through ritual activity (Ellen 1996: 117; Howell 1996: 136). Nor is the opposition between wild and domestic animals universal: in some cases it is undermined by a belief that the realm of the wild is a kind of domesticated order in its own right and that the animals in question are herded by a spirit guardian with which human beings enter into a relationship (Reichel-Dolmatoff 1985: 119–120; Descola 1996: 257–258).

The anthropological critique of pestilence claims would therefore range from (ethnographically informed) 'reality checking' into particular local contexts of supposed pestilence to a (theoretically based) questioning of the assumptions underlying pestilence discourse in general. Moreover, the analysis of pestilence discourse extends, as we shall see, to the areas of symbolism and morality. But first, we should recognize that
the dualistic categorization of wildlife is also found within conservationism. Indeed, pestilence discourses that exclude wildlife from the human realm recall conservationist discourses that exclude human beings from the natural realm.

**Conservationism**

Many of the animal pests discussed in this book are also objects of outside conservationist concern. The chapters that follow feature a number of what might be called (inter)nationally protected local pests. The notion of the *protected pest* is somewhat counterintuitive because pests tend to be associated with excess and proliferation and do not therefore self-evidently seem to be in need of protection. But the background to wildlife pestilence is often one of habitat depletion, the effect of which is *both* to endanger the reproduction of wild animal populations and to displace these animals on to human territories in a kind of compression effect. Larger mammals, because of their sizeable home ranges, tend to be particularly vulnerable to habitat loss.

Although wildlife pestilence arises in large part from the human colonization of animal territories, pestilence can also be exacerbated, even generated, by conservationism. Much wildlife conservationism is based on a dualistic view of nature and society, according to which nature is a sphere that should be free from human resource appropriation. According to this kind of conservationism, sometimes referred to as 'preservationism', the presence of local people tends to be viewed as the problem and their removal from protected areas in favour of wildlife populations the solution. Some critics even see modern wildlife conservationism as a new kind of authoritarianism which creates a *lebensraum* for protected animals that are free to invade vulnerable rural communities (Guha 1997: 16).

The clash between wildlife pestilence and conservationism is mentioned in a number of chapters. National parks and other wildlife reserves make up one much reported source of people–wildlife conflicts, and in Chapter 6 of this book Ben Campbell describes one such site of conflict in Nepal. Tamang villagers living next to Langtang National Park have little share of the wealth generated from park tourism, but incur major costs in the form of restricted access to the natural resources of the park and increased vulnerability to park wildlife (which they are not allowed to control themselves). The local sense of inequity at this state of affairs disposes the villagers to try to get something back – by ‘poaching’ park animals or by collecting grasses inside the park – and thereby restore
some degree of balance in the village–park relationship. But in the longer term, the effect of the de-linkage of park wildlife from village livelihoods, encouraged by the preservationist views of nature on which the national park as an institution is founded, is to make local people hostile to wildlife conservation.

Even in the absence of a wildlife reserve, crop-raiders or livestock-killers receive national legal protection or are the object of national conservation campaigns. In some cases, strong (inter)national concern for wildlife can lead to the alienation of local people from the wild animals in question, which come to be associated with outside interference. In Chapter 8 Galina Lindquist shows how, for the Saami reindeer-herders of northern Sweden, the wolf is a local pest, which, incongruously, enjoys national protection. The reindeer-herders feel powerless to challenge this national conservationism; in desperation, they attempt to shock the rest of Sweden into recognition of their problems by high profile protests such as that staged in the run-up to Christmas in 1995 when in a public square in Stockholm they dumped the dead bodies of reindeer killed by protected predators, to the horror of the Christmas shoppers passing-by.

Dualistic conservationism is also evident in the case study of the ruddy duck campaign presented by Kay Milton in Chapter 11. But in contrast to the usual scenario, whereby outside conservationist involvement is in defence of an animal deemed locally to be a pest, in the ruddy duck problem it is (inter)national level conservationism which specifies the duck as a pest to be culled, while local land-users generally tolerate its presence. Milton shows that one of the boundaries that the conservationists attempt to maintain, in addition to the species boundary (threatened by hybridization), is the nature–culture boundary, based on the idea of nature as a sphere which excludes all human agency and contact. Because of the human involvement in the spread of the North American ruddy duck in Britain and continental Europe, these new duck populations (in the words of one conservationist) have ‘nothing to do with nature’.

The kind of exclusionary conservationism evident in these examples has attracted much criticism from anthropologists and other scholars. A new conservationist orthodoxy—variously known as ‘community-based management’, ‘co-management’ and ‘participatory conservation’—has emerged in which emphasis is placed on the involvement and participation of the local population in conservation initiatives. One of the main arguments for participatory conservation (in addition to that of equity) is in terms of efficacy—that local inclusion makes for more effective wildlife management because, in order to become committed to conservation initiatives, local people require ‘incentives’ or ‘benefits’
Much local or participatory conservationism appears to be premised on such utilitarian logic. But this is the same utilitarian logic, *mutatis mutandis*, on which pestilence discourses tend to be based. This raises the following question: What about situations in which wildlife is useless rather than useful, or indeed harmful rather than beneficial? It follows from the utilitarian reasoning above that, where such a local stake in wildlife is absent or, *a fortiori*, where this or that wild animal is a source of disutility (as in the case of the pest), conservation would be locally ineffective. The only local ‘incentives’ offered by the pest would be to its eradication rather than conservation.

On narrow utilitarian grounds, the argument could be made that it is totally rational for livestock herders to remove wolves that threaten their livestock, for farmers to eliminate wild pigs that raid their crops or for fishermen to cull seals that deplete their fish stocks. To the extent that wild animal numbers are excessive, conservation arguments would not apply, but, as we have seen, many wildlife pests are in fact endangered and therefore do merit conservationist concern. The new utilitarianism would appear to offer little basis for the conservation of animals locally viewed as obnoxious and dispensable.14

The phenomenon of the endangered pest poses a challenge to the new conservationist orthodoxy because its utilitarian logic offers no obvious grounds for conservation. However, many anthropologists would point out that utility is not the sole basis of local evaluations of wildlife to begin with, and would argue that the symbolism of wild animals also needs to be taken into account. Utilitarianism is an important basis for the appraisal of wildlife, but it does not follow that local views of wildlife can be reduced to a simple utilitarian calculus. One main objection to applied utilitarianism – whether in the form of pestilence or conservationist discourse – is that, in assuming the existence of local utilitarian determinations independent of cultural context, it neglects the fact that much of the human experience of nature, including wildlife, is symbolically mediated.

**Symbolism**

Anthropologists have contributed to the understanding of human–animal relations through their emphasis on the symbolic aspect of these relations. In Lévi-Strauss’s famous critique of the functionalist explanation of totemic animals (and plants), the particular species ‘are
chosen not because they are “good to eat” but because they are “good to think” (Levi-Strauss 1969: 162). Much of the subsequent anthropological work on animals has documented the human practice of thinking with or ‘signifying’ animals in different cultures (Willis 1990; see also Shanklin 1985; Urton 1985b). Central to this structuralist approach to animal symbolism has been an emphasis on the role of classification in fixing the meanings of animals.

Symbolic analyses of human–animal relations have spread beyond anthropology to the other human sciences. There are even examples where scientific specialists on wildlife pestilence have incorporated some of the insights of symbolic analysis. The following definition of pests was put forward in the Introduction to a book on mammalian pestilence:

much as we may define a weed as a plant in the wrong place, or a pollutant as a perfectly respectable chemical in the wrong place or in inappropriate concentration, so some animal pests too are only pests when in inappropriate numbers or in the wrong context.

(Putman 1989a: 2)

For anthropologists, such comments readily recall the work of Mary Douglas on pollution beliefs according to which ‘dirt’ is ‘matter out of place’ (Douglas 1966: 35) and therefore a product of social understandings of environmental order. Along similar lines, pests would become examples of animals out of place (and indeed of dirty animals par excellence – ‘filthy vermin’, ‘dirty rats’, and so on). In her examination in this book of the reaction against introduced ruddy ducks in Europe (‘environmental pests’), Kay Milton draws on this insight (entitling her chapter, ‘Ducks out of water’).

The disorderly character of pests readily follows from structuralist models of animal symbolism. According to structuralist principles, culture consists of the dichotomous ordering of the world into so many discrete classes, but certain phenomena resist such classificatory schemes and are consequently viewed as anomalous. A wide variety of ‘anomalous animals’ have been identified in the anthropological literature, including the pig, the cassowary, the monkey and the whale.15 These are all physically anomalous animals, but another common form of animal anomaly is in terms of space. Where space is culturally divided into different spheres, each of which carries a distinctive moral evaluation, it can serve as a basic classifier of animals. Among Lele animals, the pangolin, the wild pig, the baboon and the antelope are all anomalous because, despite being land mammals, they are also associated with a different sort of
Another kind of boundary-breaching arises with domestic animals: as animals that straddle the nature–culture boundary, livestock (and pets) have also been ascribed an anomalous status by anthropologists. Another kind of boundary-breaching arises with domestic animals: as animals that straddle the nature–culture boundary, livestock (and pets) have also been ascribed an anomalous status by anthropologists.17

Routine territorial boundary-crossing behaviour forms another basis of anomalous status. Where such mobility occurs, the spatially based taxonomic order is threatened, with the result that a particular moral significance attaches to the animal in question. In the well-known example from rural Thailand offered by Stanley Tambiah, the buffalo, civet cat, toad and otter are all marked as anomalous creatures because of their perceived spatial boundary-crossing behaviour (Tambiah 1969: 450–451; see also Condominas 1994: 116–117; Jackson 1975: 398–399). A number of scholars, including anthropologists, have applied this perspective to wildlife pests: rodents in Britain are disgusting and inedible because they are beasts of the field which invade the human domain of the house (Fiddes 1991: 142–143), hyenas are stigmatized because (in addition to their apparent sexual ambiguity) they cross culturally important spatial boundaries when disturbing gravesites (Glickman 1995: 527–528), and coyotes are tricksters because they inhabit ‘liminal regions’ (Meléndez 1987: 204).

A major influence in this style of analysis has been Edmund Leach, who, in a famous essay on animal symbolism, interpreted ‘vermin’ in terms of boundary-crossing – as an intermediate category of animals that breach symbolically marked spatial boundaries (Leach 1964: 45). One of the animals mentioned by Leach in his study of English conceptions of social space was the fox, and in Chapter 9 of this book Garry Marvin, in his examination of the symbolic logic of English foxhunting, critically engages with Leach’s argument that foxes have a special anomalous or ambiguous status because they straddle the boundary between field animals and remote wild animals. In short, this anthropological perspective suggests that at least some wildlife pestilence is about boundary-crossing animal behaviour as such as much as its economic consequences.

Whether ‘anomalous’ or not, wildlife pests are frequently the object of negative symbolism and liable to be attributed an immoral character. Crop-raiding wild primates are ‘thieves’ in Uganda (Naughton-Treves 1997: 41), ‘criminals’ in Japan (Knight 1999: 628), and an evil omen among Costa Rican Amerindians (Gonzalez-Kirchner and Sainz de la Maza 1998: 17). Wild predators invite especially strong moral condemnation as violent deviants: in parts of Africa the leopard is an ‘evil’ animal (Douglas 1975: 301), in Spain wolves and bears are ‘accursed animals’

In this volume too we encounter examples of negative anthropomorphic terminology applied to animal pests. Japanese newspapers refer to bears as ‘criminals’ which merit ‘the death penalty’ (Chapter 7); Saami reindeer-herders liken wolves to ‘thieves’ (Chapter 8); foxes in medieval England were ‘assassins’ and ‘murderers’ (Chapter 9); pigeons in rural Pennsylvania are seen as AIDS-carriers (Chapter 10); and ruddy ducks from Britain mating with native ducks in continental Europe are ‘lager louts’ (Chapter 11).18

If, as many of these examples suggest, pestilence is crime, pest control becomes a kind of law enforcement. In sixteenth-century France rats were accused by an ecclesiastical court of having ‘feloniously eaten up and wantonly destroyed the barley-crop’ of a certain province (Evans 1906: 18), in early modern England foxes were trapped and killed using a ‘noose . . . as if they [were] human criminals’ (Fissell 1999: 11), and on British shooting estates use is still made of ‘gamekeepers’ “gibbets” where the corpses of weasels, stoats, rats, crows and other vermin are displayed, ostensibly to serve as a warning to others’ (Serpell 1996: 200).

Predator control is especially prone to take on a ‘moralizing’ character: in the American mid-west, according to one widespread view, ‘if you don’t just kill a predator, you execute him’ (in Steinhart 1995: 56).

The moral specification of wildlife does not always have this absolute character. Underlying many people–wildlife conflicts are ideas of balance and reciprocity, with respect to which the behaviour of this or that animal may be deemed to be problematical. In seventeenth-century England, ‘[b]ooks on vermin-killing often noted that vermin died because they ate “greedily”’, this invocation of ‘greed’ serving to ‘displace any anxieties about killing vermin . . . as though the vermin invited their own deaths because of their greedy behaviour’ (Fissell 1999: 5). Predators too are condemned for ‘greed’, ‘avarice’ and ‘blood lust’ (Meléndez 1987: 204; Worster 1977: 277). This perception is reinforced by the phenomenon of surplus damage or surplus killing. In this book, Japanese farmers complain that bears cause wanton damage to crops (Chapter 7), Sami reindeer-herders complain of excessive wolf-predation (Chapter 8), and English farmers complain that foxes kill more hens or lambs than they eat and are ‘vicious’ animals guilty of ‘senseless’ killing (Chapter 9).

However, the logic of reciprocity can also work the other way round, such that destructive wildlife behaviour points not to animal immorality...
but to earlier morally questionable human conduct. According to Quechua mythology, pumas (mountain lions) ‘eat the llamas of guilty people’ (Zuidema 1985: 192); in the Trobriand islands wild pig damage to taro gardens is evidence of earlier illicit human behaviour (such as fornication) near the fields affected or of malevolent human sorcery (Malinowski 1935a: 119); and in southeast Asia tiger attacks can be interpreted as punishments of those who have sex outside marriage, those who usurp the rights of others, and, more generally, those who ignore the Prophet’s teachings. Wildlife damage or attacks become acts of judgement against the people who suffer them.

**Shapeshifting**

There is another respect in which wildlife dangers point to human immorality. The above specification of natural predation in human terms would seem to indicate an underlying concern with human predation. The connection is only reinforced when human violence and killing are denounced in the idiom of natural predation – when criminals and war enemies are branded ‘jackals’, ‘wolves’, ‘mad dogs’, etc. These idiomatic crossovers give expression to a pervasive human belief in (and fear of) human–animal continuity with respect to predation. Predatory animal behaviour disturbs not just because it is an outside threat, but also because it is potentially internal to the realm of human actions. The predator looms large in the pervasive human belief in ‘the beast within’, according to which human beings have inside them an animal core, and human morality is predicated on controlling and transcending this inner animal element (Midgley 1979; Salisbury 1994). One of the most striking expressions of this concern with the predatory potential of human beings is the belief in human-to-animal shapeshifting.

Shapeshifting beliefs have been widely documented, from werewolf lore in Europe to beliefs involving elephants, baboons and chimpanzees in West Africa, jaguars in Central and South America, tigers, crocodiles and wild pigs in Indonesia, and foxes in Japan. In shapeshifting beliefs the behavioural overlap between wild predator and human being arises from temporary physical identity, and the human relation to predation moves from latent potential to occasional or periodic actualization. The were-animal is an outwardly, and not just inwardly, transformed person. Striking examples of such human-to-animal shapeshifting beliefs are presented by Axel Köhler (Chapter 3), Paul Richards (Chapter 4) and Simon Rye (Chapter 5) in relation to elephants, chimpanzees and wild pigs respectively.
All three animals are pests, but some are much more serious than others. Among Javanese rice farmers in Sumatra, crop-raiding wild pigs are a major livelihood threat, and call into question the viability of farming on the edge of the rainforest. For Baka hunter-gatherers, elephants are the prime game animal on which livelihood depends, but elephants can also actively interfere with Baka livelihood in certain ways. Although elephant crop-raiding is not a significant problem among Baka foragers (as it is for nearby Bantu farmers), elephants compete for the wild plants gathered by the Baka and destroy Baka campsites. Among the Mende villagers of Sierra Leone, chimpanzees are occasional raiders of cocoa and fruit crops. But unlike the Sumatran case, in neither of these African examples are the animals a serious livelihood threat. Both elephants and chimpanzees are capable of horrific acts of lethal violence against the human beings they encounter, and to this extent pose a physical threat to people living in or near the forest, but the full horror of such violent actions has to do with the suspicions of human involvement through shapeshifting that they arouse. Notwithstanding the physical dangers involved, the major threat posed by these animals would appear to be a moral one.

If, as noted above, wildlife crop-raiding threatens symbolically important spatial boundaries, shapeshifting threatens the very distinction between humans and animals. Because of their radical, boundary-breaching character, one would expect were-animals, even more than the anomalous animal mentioned above, to arouse a strong human reaction. Thus some historians account for the fear of werewolves in medieval Europe in terms of anxiety over boundary-breaching and interpret the violent punishment of werewolves as a means of boundary restoration on the part of society (Cohen 1994: 65). The fear generated by were-chimpanzees, were-elephants and were-pigs might be similarly understood in terms of an elemental concern over boundary-breaching, especially where this involves human beings taking on the aggressive and predatory nature of dangerous animals. But there are important differences in the way in which the Baka, the Mende and the Javanese migrants view the social distribution of this human predatory potential.

In the case of the ‘human elephants’ of Central Africa and the ‘human chimpanzees’ of West Africa, local people attribute the capacity for metamorphosis to themselves and to others. For the villagers of Sierra Leone, ‘chimpanzee business’ (attacks on people by human chimpanzees) is something of which everyone is capable, even though it is particularly associated with the ‘mandingo’ chiefs (of outside origin) of the past who sold local people into slavery. But in the were-pig beliefs of the Javanese