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Being a Beast

Written by Charles Foster

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BEING a BEAST

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PROFILE BOOKS

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To my father,
who never came home without roadkill in a plastic bag,
who paid for my formalin and glass eyes
and whom I love and honour

'To ask "What is an animal?" – or, I would add, to read a child a story about a dog or to support animal rights – is inevitably to touch upon how we understand what it means to be us and not them. It is to ask, "What is a human?"'

Jonathan Safran Foer, *Eating Animals*

Author's Note

I want to know what it is like to be a wild thing.

It may be possible to know. Neuroscience helps; so does a bit of philosophy and a lot of the poetry of John Clare. But most of all it involves inching dangerously down the evolutionary tree and into a hole in a Welsh hillside, and under the rocks in a Devon river, and learning about weightlessness, the shape of the wind, boredom, mulch in the nose and the shudder and crack of dying things.

Nature writing has generally been about humans striding colonially around, describing what they see from six feet above the ground, or about humans pretending that animals wear clothes. This book is an attempt to see the world from the height of naked Welsh badgers, London foxes, Exmoor otters, Oxford swifts and Scottish and West Country red deer; to learn what it is like to shuffle or swoop through a landscape that is mainly olfactory or auditory rather than visual. It's a sort of literary shamanism, and it has been fantastic fun.

When we walk into a wood, we share its sensory outputs (light, colour, smell, sound and so on) with all the other creatures there. But would any of them recognise our description of the wood? Every organism creates a different world in its brain. It lives in that world. We are surrounded by millions of different worlds. Exploring them is a thrilling neuroscientific and literary challenge.

There has been a good deal of neuroscientific progress: we know, or can guess intelligently from work on parallel species, what goes on in a badger's nose and the olfactory areas of its brain as the badger shuffles through the wood. But the literary adventure has barely begun. It is one thing to describe which areas of a badger's brain light up on a functional MRI scanner as it sniffs a slug. It is quite another to paint a picture of the whole wood as it appears to the badger.

Two sins have beset traditional nature writing: anthropocentrism and anthropomorphism. The anthropocentrists describe the natural world as it appears to humans. Since they are writing books for humans, that's perhaps commercially shrewd. But it is rather dull. The anthropomorphists assume that animals are like humans: they dress them in actual (Beatrix Potter et al.) or metaphorical (Henry Williamson et al.) clothes and give them human sense receptors and cognition.

I have tried to avoid both of those sins, and of course I have failed.

I describe the landscape as perceived by a badger, a fox, an otter, a red deer and a common swift. I use two methods. First, I immerse myself in the relevant physiological literature and discover what is known from the laboratory about the way these animals function. Second, I immerse myself in their world. When I'm being a badger, I live in a hole and eat earthworms. When I'm being an otter, I try to catch fish with my teeth.

The challenge in relating the physiology is to avoid being boring and inaccessible. The challenge in saying what it's like to eat earthworms is to avoid being whimsically ridiculous.

Their sensory receptors give animals a hugely bigger palette of colours with which to paint the land than that possessed by any human artist. The intimacy with which animals relate to the land gives them an authority in their painting far greater than can be assumed even by a farmer whose ancestors have turned over every clod since the Neolithic.

This book is structured around the four ancient elements of the world, each of which has a representative animal: earth (badger, which tunnels into the earth, and red deer, which canters over it), fire (urban fox: bright lights), water (otter) and air (common swift: the ultimate air dweller, which sleeps on the wing, spiralling up with the thermals at night, and rarely lands). The idea is that when you get the four elements mixed up properly, something alchemical happens.

Chapter 1 is a look at the problems with my approach. It tries to deal pre-emptively with some of them. If you've got no problem, skip it and go straight down the badger sett in Chapter 2.

Chapter 2 is about badgers. It is set in the Black Mountains of Wales, where I've spent many weeks, in several seasons. I've spent about six weeks underground, some of it in Wales and some elsewhere, over many years. The chapter is a collage, pieced together from all of those times. It deals with a period of a few weeks, and a subsequent return.

It's a long chapter. It introduces many themes and some further scientific ideas which are relevant to subsequent chapters – for instance, the notion of a landscape constructed from olfactory rather than visual information. Other chapters are shorter than they'd otherwise be because of the length of this one.

Chapter 3 is about otters. They're long-distance wanderers. 'Local' for them is far bigger than for the other mammals examined in this book. They undulate along the wrinkles in the land, and to know their journeys is to know how the earth has crumpled. They live immersed in dilute solutions of the world itself. But then so do we, although we don't usually think of it like that. Their and our ancestors came out of the water, and otters went back. The return wasn't complete. This makes them more accessible to me than a fish.

The chapter is set on Exmoor, where I spend much of the

year. It ranges widely, as the otters do, but is based around the East Lyn river and the Badgworthy Water, the streams that course into them from the high moor, and the north Devon coast into which the river disgorges.

Chapter 4 is a look at urban man through the nose, ears and eyes of a fox.

The chapter is set in the East End of London, where I lived for many years. During that time I prowled the streets at night in search of the fox families.

In Chapter 5 I am back on Exmoor and up in the Western Highlands of Scotland among red deer.

We see them from our cars and think that we know them better than the crawling, burrowing things. Our mythology both confirms and denies this conceit. Horned gods high-step through our subconscious. They are big and visible, but they are still gods, and they slip off if we catch their eye.

I've spent a lot of my life trying to kill deer. This chapter is another sort of hunt – an attempt to wriggle inside the head rather than within 200 yards of the heart.

Chapter 6 is about common swifts, and is set in the air between Oxford and central Africa.

Swifts are air animals like nothing else is. They are as weightless as microscopic jellyfish.

I have been obsessed with swifts since I was a young child. A nesting pair scratches three feet above my head when I'm writing in my study in Oxford. The summer screaming parties down our street are at exactly my eye level. I've followed swifts across Europe and into west Africa.

The chapter opens with a set of 'facts' which many will understandably regard as controversial and tendentious. Yes, I know that the evidence for many of these assertions is bitterly contested. But bear with me, and let's see how we go.

By setting myself the subject of swifts I was setting myself up to fail. It was rather stupid. No words can come close to

them. That's some mitigation for the approach I've taken in that chapter.

In the Epilogue I look back at my journeys through the five universes. Were they fool's errands? Was I describing anything other than the inside of my own head?

I'd hoped to write a book that had little or nothing of me in it. The hope was naive. It has turned out to be (too much) a book about my own rewilding, my own acknowledgement of my previously unrecognised wildness, and my own lament at the loss of my wildness. I'm sorry.

Oxford, October 2015

1

Becoming a Beast

I am a human. At least in the sense that both of my parents were human.

This has certain consequences. I cannot, for instance, make children with a fox. I have to come to terms with that.

But species boundaries are, if not illusory, certainly vague and sometimes porous. Ask any evolutionary biologist or shaman.

It is a mere 30 million years – the blink of a lightly lidded eye on an earth whose life has been evolving for 3.4 thousand million years – since badgers and I shared a common ancestor. Go back just 40 million years before that, and I share my entire family album not only with badgers but with herring gulls.

All the animals in this book are pretty close family. That's the fact. If it doesn't seem like that, our feelings are biologically illiterate. They need re-education.

There are two accounts of creation in the book of Genesis. If you insist on seeing them as blandly historical, they are wholly incompatible with each other. In the first, man was created last. In the second, he was created first. But both tell us enlightening things about our family relations with the animals.

In the first Genesis account, man was created, along with all

the terrestrial animals, on the sixth day. That's an intimate sort of shared ancestry. We have the same birthday.

In the second Genesis account, the animals were created specifically to provide companionship for Adam. It was not good for him to be alone. But God's strategy failed: the animals didn't provide company that was quite good enough, and so Eve was created as well. Adam was happy to see her. 'At last!', he exclaims. It is an exclamation that we've all either uttered or hope one day to utter. There is a loneliness that a cat cannot assuage. But that doesn't mean that God's plan completely misfired – that animals are utterly hopeless companions. We know that's not true. The market for dog biscuits is vast.

Adam named all the mammals and the birds – so forging a connection with them which went to the root of what both they and he were. His very first words were the names.* We are shaped by the things we say and the labels we give. So Adam was shaped by his interaction with the animals. That interaction and that shaping are simple historical facts. We've grown up as a species with animals as our nursery teachers. They taught us to walk, steadying us, hand in hoof, as we tottered. And the names – which implied control – shaped the animals too. That shaping also is an obvious and often (at least for the animals) disastrous fact. We share with the animals not only genetic ancestry and an enormous proportion of DNA, but history. We've all been to the same school. It's perhaps not surprising that we know some of the same languages.

A man who talks to his dog is acknowledging the porosity

* Although the first *recorded* words of Adam are in Genesis 2:23, Genesis 2:19–20 says, 'Now out of the ground the Lord God had formed every beast of the field and every bird of the heavens and brought them to the man to see what he would call them. And whatever the man called every living creature, that was its name. The man gave names to all livestock and to the birds of the heavens and to every beast of the field ...'

of the boundary between species. He's taken the first and most important step towards becoming a shaman.

Until the very recent past, humans weren't satisfied with being Dr Dolittles. Yes, they spoke to the animals; yes, the animals spoke back. But that wasn't enough. It didn't sufficiently reflect the intimacy of the relationship. And it wasn't sufficiently useful. Sometimes the animals wouldn't give away the dangerous, valuable secrets, such as where the herd would go if the rains didn't come, or why the birds had deserted the mudflats at the north end of the lake. To get that sort of information you had to insist ecstatically on the reality of shared ancestry. You had to dance to the drum around a fire until you were so dehydrated that blood spouted out of your ruptured nasal capillaries, or stand in an icy river and chant until you could feel your soul rising like vomit into your mouth, or eat fly agaric mushrooms and watch yourself floating into the forest canopy. Then you could pass through the thin membrane that separates this world from others, and your species from other species. As you pushed through, in an epiphanic labour, the membrane enveloped you, like the amniotic sac in which you emerged from your human mother. From it you emerged as a wolf or a wildebeest.

These transformations are the subject of some of the earliest human art. In the Upper Palaeolithic, when human consciousness seems to have ignited for the first time in the neuronal brushwood left by evolution, men crept into the cold wombs of caves and drew on the walls pictures of therianthropes – animal-human hybrids: men with the heads and hoofs of beasts; beasts with the hands and spears of men.

Religion remained a therianthropic business even in the urbanised, systematised schemes of Egypt and Greece. The Greek gods were forever transmuting themselves into animals to spy on the mortals; Egyptian religious art is a collage of human and animal body parts. And in Hinduism, of course,

the tradition continues. An icon of the elephant-headed god Ganesha is looking at me as I write this. For millions, the only gods worth worshipping are amphibious ones – gods who can shuttle between worlds. And the worlds are represented by human and animal forms. There seems to be an ancient and earnest need to unite the human and animal worlds.

Children, who have lost less than adults, know this need. They dress up as dogs. They have their faces painted so that they look like tigers. They take teddy bears to bed and want to keep hamsters in their bedrooms. Before they go to bed they make their parents read to them about animals who dress and talk like humans. Peter Rabbit and Jemima Puddleduck are the new shamanic therianthropes.

I was no different. I desperately wanted to be closer to animals. Part of this was the conviction that they knew something I didn't and which I, for unexamined reasons, needed to know.

There was a blackbird in our garden whose yellow-and-black eye looked *knowing*. It maddened me. He flaunted his knowledge, and hence my ignorance. The winking of that eye was like a glimpse of a pirate's crumpled treasure map. I could see that there was a cross on it, which marked the spot; I could see that what was buried was dazzling and would transform my life if I found it. But I couldn't for the life of me make out where the cross was.

I tried everything I, and everyone I met, could think of. I was a blackbird bore. I sat for hours in the local library, reading every paragraph that mentioned blackbirds and making notes in a school exercise book. I mapped the nests in the area (mostly in suburban privet) and visited them every day, carrying round a stool to stand on. I described minutely in a pillaged hardback accounts book what was going on. I had a drawer in my bedroom full of blackbird egg fragments. I sniffed them in the morning to try to enter the head of a nestling so that I might

grow up that day to be more like a blackbird, and in the evening in the hope that I might be born in my dreams as a blackbird. I had several dried blackbird tongues, wrenched with forceps from road casualties, lying on beds of cotton wool in Swan Vestas matchboxes. Taxidermy was my other ruling passion: blackbirds with outstretched wings circled above my bed, suspended from the ceiling on lengths of thread; deeply distorted blackbirds squinted down from plywood perches. I had a blackbird brain in formalin by my bedside. I turned the pot round and round in my hand, trying to think myself inside the brain, and often went to sleep still holding it.

It didn't work. The blackbird remained as elusive as ever. Its abiding mysteriousness is one of the greatest bequests of my childhood. If I had thought for a moment that I had understood, it would have been a catastrophe. I might have ended up as an oilman, a banker or a pimp. An early conviction of mastery or comprehension turns people into monsters. Those mysterious blackbirds continue to rein in my ego and convince me of the exhilarating inaccessibility of all creatures, including, perhaps particularly, humans.

But that doesn't mean that we can't do better than I did with the blackbirds. We can.

I don't for a moment deny the reality of true shamanic transformation. Indeed, I have experienced it: I have a tale about a carrion crow, which is for another time. But it is arduous and, for me, too downright scary for regular use. And it's too weird for its results to be convincing to most. There are plenty of reasons to read a book about being a badger written by someone who has taken hallucinogens in his living room and believed he's become a badger, but a desire for knowledge about badgers or broadleaved woodland probably isn't among them.

The same is true for the quasi-shamanism of J. A. Baker, whose canonical book, *The Peregrine*, might be thought to do for one species what I'm trying to do here for five. He pursued

his peregrines to the point of assimilation with them. His express purpose was to annihilate himself. 'Wherever [the peregrine] goes, this winter, I will follow him. I will share the fear, and the exaltation, and the boredom, of the hunting life. I will follow him till my predatory human shape no longer darkens in terror the shaken kaleidoscope of colour that stains the deep fovea of his brilliant eye. My pagan head shall sink into the winter land, and there be purified.'

If Baker is to be believed, it worked. He found himself unconsciously imitating the movements of a hawk, and the pronouns change from 'I' to 'we': 'We live, in these days in the open, the same ecstatic fearful life.'

No one admires Baker more than I do. But his way is not my way. It can't be: I don't have his desperate unhappiness, his desire for self-dissolution or his conviction that the neck-snapping, baby-disembowelling, profligate natural world embodies a morality better than anything humans can devise or follow. As a method, dissolution also creates great literary difficulties. If J. A. Baker really disappears, who is left to tell the story? And if he doesn't, why should we take the story seriously? Baker seeks to solve this problem by developing (as Robert Macfarlane observes) a new language: wingless nouns stoop and glide; burrow-dwelling verbs somersault on the edge of the atmosphere; adverbs behave disgracefully. I love the strangeness, but it teaches me more about language than about peregrines. Always we're left with the question: Who's speaking here? A peregrine given a Cambridge education? Or Baker peregrinised? Because we're never quite sure, the method never quite convinces. It's of the nature of poetry that it never quite declares its hand.

Shamanic transformation possibly aside, there will always be a boundary between me and my animals. It's as well to be honest about this and try to delineate it as accurately as possible – at least for the sake of coherence. It might be rather prosaic to be able to say of every passage in the book, 'This is Charles Foster

writing about an animal', rather than 'This might be a mystical utterance from a man-badger', but it's a lot less confusing.

The method, then, is simply to go as close to the frontier as possible and peer over it with whatever instruments are available. This is a process radically different from simply watching. The typical watcher, huddled with his binoculars in a hide, isn't concerned with Anaximander's vertiginous question 'What does a falcon see?', let alone with the modern, wider, neurobiological translation of that question: 'What sort of world does a hawk construct by processing in its brain the inputs from its sense receptors and construing them in the light of its genetic bequests and its own experience?' These are my questions.

We can get surprisingly close to the frontier at two points. It is there that I have set up my own hides. These points are physiology and landscape.

Physiology: Because of our close evolutionary cousinhood, I am, at least in terms of the battery of sense receptors we all bear, quite close to most of the animals in this book. And when I'm not, it is generally possible to describe and (roughly) to quantify the differences.

Both mammals like me and birds, for instance, use Golgi tendon organs, Ruffini endings and muscle spindles to tell them where the various parts of their bodies are in space, and free nerve endings to scream 'Horrid!' or 'Hot!' I collect and transmit these types of raw sensory data in a way very similar to that of most mammals and birds.

By looking at the distribution and density of the various types of receptors, we can work out the type and volume of the inputs to the brain. Look at an oystercatcher stabbing the sand phallically in search of lugworms. On the edge of its bill it has huge numbers of Merkel cells, Herbst corpuscles, Grandry corpuscles, Ruffini endings and free nerve endings. The stabbing sends shock waves through the wet sand, and the network of receptors notes, like a submarine's sonar, the discontinuities

in the returning signal that might indicate the presence of a worm. Some receptors, sensitive to minute vibrations, pick up the scrape of the worm's bristles on the side of its burrow. This is like nothing in human experience so much as sex. One very good argument against circumcision is that it makes you less like an oystercatcher. The inside of the human prepuce has similar concentrations of Merkel cells and other receptors which are massaged rapturously during sexual intercourse (the poor glans has little except free nerve endings, often buffeted almost to extinction by decades of self-abuse and the attrition of rough trousers). In terms of the naked intensity of signal, estuarine worm hunting by waders is tectonic. It's like wandering down the food aisles in Sainsbury's in a state of perpetual tumescence – pushed to the cusp of orgasm when you see the breakfast cereal you're after.

Except that it's not. Everything's in the central processing. Destroy the cerebral cortex of the horniest German porn star and he'd never have another orgasm. It's not true that men's brains are in their trousers. Even the most thoughtless abuser of women only ever has sex in his head. And an oystercatcher only ever feels lugworms in its head.

So that's my problem: the weird transformation of signal into action or sensation. The universe I occupy is a creature of my head. It is wholly unique to me. The process of intimacy is the process of becoming better at inviting others in to have a look around. The sensation of loneliness is the crushing acknowledgement that, however good you get at giving such invitations, no one will be able to see very much at all.

But we need to keep trying. If we give up with humans, we're wretched misanthropes. If we give up with the natural world, we're wretched bypass builders or badger baiters or self-referential urbanites.

There are things we can do. I've read lots of physiology books and tried to paint somatotopic pictures of my animals

– pictures which present the body parts as having the size justified by their representation in the brain. Humans come out with huge hands, faces and genitals but spindly, wasted torsos. Mice have vast incisors, like the sabre-toothed tiger of a caveman's worst nightmare, big feet and whiskers like hose pipes.

We have to be careful about somatotopic pictures: they say nothing about the nature of the processing that goes on, or of the output. They simply say that a lot of hardware is devoted to whiskers – not that a mouse lives in a world that is subjectively dominated by its whiskers. Yet they're a good start.

We can draw cautious parallels with our own responses to particular situations.

Yes, it's ultimately in the processing, but there is every reason to suppose that when a fox and I step on a piece of barbed wire we 'experience' something similar. The inverted commas are important in the case of the fox. I will return to them shortly, but for the moment I mean simply that pain receptors in the fox's foot and mine fire in a more or less identical way and send electronic impulses along more or less identical tracts in the peripheral and central nervous systems to be processed by the brain, which in each case sends a message to our muscles saying 'Take that foot off the wire' – if indeed a reflex hasn't already achieved that. The brain processing will certainly, in both the fox and me, ingrain the lesson 'Don't step on barbed wire: it's not nice'; this will become a part of the experience which we have genuinely shared. It happened to both of us in a neurologically identical way: we both know what stepping on barbed wire is like, in a way that people and animals who have not stepped on barbed wire do not know. I take it that there are many neurological sequences which it is possible meaningfully to say I share with an animal. If a wind blows down the valley in which we are both lying, we both feel it similarly. It may (it will) import different things for us. For the fox its main significance might be that the rabbits are likely to be grazing in the wood by

the horse chestnuts; for me its main significance might be that I'm cold and need to pull on another layer. But that doesn't mean that we haven't both felt it. We have. And the differing significance can be deduced by observation.

We humans tend to denigrate our own sensory lives – to assume that all wild things 'do' the wild better than we do. I suspect this is because we want to justify to ourselves our own dismally unsensuous urban lives ('I have to live in a centrally heated house and get my food in tins because I couldn't ever live in a tree and catch a squirrel') and also because it makes a statement about our own supposed cognitive superiority over the animals ('They smell and hear more acutely than I do because I've moved on from such basic, brainstem functions. I don't need to smell: I think instead, and that's much more useful'). But in fact we don't do so badly at all. Young children often hear sounds of a frequency greater than 20,000 hertz. That's not so far from a dog (typically 40,000 hertz) and much better than a teal (up to 2,000 hertz) and most fish (generally not much above 500 hertz). And we're far better than many small mammals at low frequencies. It's a good reason, were any further reasons needed, not to go to a nightclub. Even our sense of smell, which we normally think of as atrophied by civilisation, is surprisingly (for most) intact. And useful. Three-quarters of people can detect, out of three worn T-shirts, the one *they've* worn. More than half can find that T-shirt out of ten presented to them. Like it or not, we are multimodal sensory animals, in a reasonable position to know something of what is wafted or beamed or vibrated to our cousins in the fields and woods.

We have, too, a number of advantages. There is the cognitive advantage, which helps us to make allowances for our own cognition and our own physiological differences from the animals and therefore to describe the respects in which we are different and similar. But there are other reasons why a human is better placed to write this book than a meerkat would be.

We are good physiological generalists – a result of our omnivorousness: a meerkat would be too olfactorocentric to be a credible author. And we have perspective. When my ancestor on the east African savannah hoisted herself for the first time on to her hind legs it was a journey of far more than a few feet. It was a journey into a new world. She was immediately a creature whose world was framed not by the top of the grass and the baked mud of the ground but by the far horizon and the stars. The Genesis account was suddenly true: she had visual dominion over the things that crept and crawled. She saw them in a way that they did not see her: they looked up to her, and she couldn't help looking down on them. She saw the connections of their trails through the bush in a way that they did not. She saw their backs, their contexts and the patterns of their lives. In some ways she now saw them better than they saw themselves. This was a consequence simply of bipedalism. Her massively expanded cognition (whether it came then or later) multiplied massively the ways in which this was true.

Sophisticated cognition lets you generate and test (in the comfort of your own cave, rather than in the scary world of arrow, horn and hoof, where you usually get only one chance) many hypotheses, with many variables, about what the wildebeest will do next week. It requires the writing and running of computer programs. We do it all the time: it's called thinking. It means that the human hunter is likely to have a better idea than the wildebeest itself about what the wildebeest will be doing on the following Tuesday. One might even say that a successful spear thrust is prima facie evidence that the hunter knows the animal better than it knows itself. My ancestors were extremely successful hunters.

With cognition (although not merely with raw processing power) comes Theory of Mind – the ability to think oneself into another's position by a route that is probably different from the what-will-the-wildebeest-do-next-week type of reasoning.

Women have more Theory of Mind than men, which makes them nicer people – less prone to start wars or engage in egocentric monologues at the dinner table.

There's no reason to restrict Theory of Mind to an ability to put oneself into another's shoes. It involves too an ability to put oneself into another's hoofs, pads or fins. Broadly, it is the ability to appreciate the interconnectedness of things – the very thing that brought out the ducking stool and stoked the fires of the medieval witch finders. It's no surprise that the church burnt far more witches than warlocks, or that witches are more commonly said to have animal familiars, into whose pelts they can readily slip. Shamanic transformation is the natural corollary of highly developed Theory of Mind. If you can think your way into the mind of another species, you can think your way into its skin, and ultimately you'll see feathers sprouting from your arms or claws springing from your fingers.

Since the shamans of hunting cultures are crucial to animal finding and animal killing, this will create a conflict within you which can be resolved only by real bereavement and costly ritual. All civilised hunters, bound to their prey by the same Theory of Mind which makes us empathise with our children, mourn the death. It's dangerous not to do so, says the old wisdom; and the old wisdom is right. The planet, if not its horned gods, will judge our modern ecocide sternly.

I've put down my guns and taken up my tofu, but there was a time when I crept heavily armed through the woods and over the mountains. African antelopes look resentfully down at my laptop as I type this. Every October I caught the train north to stalk red deer in the Northwest Highlands of Scotland. I had a genocidal passion for the roe deer of Somerset and the wildfowl of the Kent salt marshes. My wife used to come out as a rifle rest when I was after rabbits. I bought my daughter a .410 shotgun when she was ten. I whipped in to beagles, rode to foxhounds and staghounds, and had a monthly column in

The Shooting Times. My name is in gold-embossed Game Books in some nice country houses. I've been photographed smiling next to mounds of dead wood pigeons in Lincolnshire. I've fished throughout the night for sea trout in pools on Kintyre, and I can still do the Spey cast I learned when chasing spring salmon on the Royal Dee. I sing 'Dido, Bendigo' in pubs, using the inflections I heard at the Rydal Hound Show where I first heard it. I still go to the Game Fair, and still stroke walnut stocks lasciviously.

I'm embarrassed by all this, and regret a lot of it. It calloused me. Many of the callouses have taken a long time to wear off. But I learned a lot too. I learned to crawl and to lie still and silent. I've lain in a stream in Argyllshire for three hours with the water running in through my collar and out through my trousers. I've sat in a wood in Bulgaria watching the horseflies queuing up to bite my hand, and in a river in Namibia, where I watched the leeches looping up my ankles en route to my groin. I've started many a day on the marshes with my eyes at a mallard's height above the mud. I know how the shadows from two sycamore branches dance in winter on the Somerset Levels, why the eels leave the River Isle and head across grassland to a rhyne near Isle Abbots, and the difference between the smells of the dung of two roe bucks that live not far from Ilminster.

It gave me back my senses: a man with a gun sees, hears, smells and intuits much more than the same man with a bird book and a pair of binoculars. It's as if the death or potential death of an animal flicks on some old, deep switches. Death needs to be in the air for us to be fully alive. Perhaps this is because many hunts, before we started to go with high-velocity weapons after harmless herbivores, carried a serious risk of the hunter dying, and every neurone had to be strained to keep the hunter physically alive. Perhaps it is because death is the one thing that, without any caveats whatever, we will share with the animals; perhaps the first, exhilarating fruit of that perfect

reciprocity is an ability to sense the world as the prey does: it sometimes feels as if you've got two nervous systems running ecstatically in parallel – yours and the stalked stag's.

Hunting rolls back the evolutionary and developmental clocks: you get the senses of your ancestors, which are the senses of your children. All children, if they're allowed to, hunt all the time. Mine are constantly tracking, scenting, turning over stones and being frankly clairvoyant about where the desired animals are. My oldest son is now eight. He's known around us as 'Little Tommy Toad-Catcher'. If you take him into a previously unvisited field he'll look around for a moment and then walk straight across it – perhaps 200 yards – and lift up a stone. There will be a toad beneath. Ask him how he does it and he says: 'I just know.' A few thousand years ago that skill would have either martyred him or made him fat, rich and respected and given him the wives of his choice. If there's a genetic element to the gift, it would have been selected for strongly. And no doubt it was. The gift lies dormant in many an actuary. It was protected by natural selection much more robustly than the ability to read a balance sheet ever has been or will be. And it can be quickly rekindled in even the most hapless corporate drone.

We're hunters. We can go hunting for pieces of animals' worlds just as we used to go hunting for their pelts – and using exactly the same skills.

But our splendid cognition isn't always helpful in this hunt. It means, for instance, that I get both bored and interested in ways that, presumably, a fox does not.

Foxes often lie up overground during the day, typically rolling between doze and alertness in a sheltered place. For the fox chapter I did that. My foxes were inner-city foxes, and so I lay in a backyard in Bow, foodless and drinkless, urinating and defecating where I was, waiting for the night and treating as hostile the humans in the terraced houses all around – which wasn't hard.

It was a useful day: it taught me something about being a fox. But most of what went through my mind was not authentically foxy. I was fascinated by the community of ants that wove its life just in front of my face as I lay prone on the flagstones. I couldn't stop trying to work out the relationships and wondering how they communicated. Foxes presumably don't do that. I wondered whether I was smelling turmeric in the saag aloo scent that drifted over the fence; a fox would simply note that there was food in that house and think that the bin might need checking later. And I was bored – desperate for distraction of almost any kind: a book, a conversation, an intrigue.

Animals do get bored. Or at least relatively bored: a dog in the back of a car would rather be off chasing rabbits. But I doubt that the stress of complete non-event is quite as debilitating for them as it is for me. Perhaps they never have such stress. Perhaps there is always the perceived possibility of annihilation, sex or food to give piquancy to their long, wakeful days. I, lying in my own dung in London E3, was variously less or more realistic about those possibilities, and it was hell.

I have been dancing around the question of consciousness. This, of course, is because, like everyone else, I have no idea how to dance with it. In just about every book on animal perception, there appears, as a handy epigraph, the line of the American philosopher Thomas Nagel: 'What is it like to be a bat?' It's an ironic citation, since Nagel meant to point up the insuperable problems of writing books that purport to say anything about the consciousness of a non-human creature. First: we simply don't know, in many cases, whether a particular species has consciousness (or whether particular members of particular species have consciousness – might one not have talking, self-reflective and non-talking animals, as in the Narnia Chronicles?). And second (and this was Nagel's main point): consciousness cannot be said to be 'like' anything else, which makes exploration with simile impossible, and exploration with metaphor tricky.

Consciousness is subjectivity: my sense that there is a Charles Foster who is distinct from other beings. And distinct, indeed, from my own body. The Charles Foster that I have a robust conviction that there is, *is* me in a way that my body is not. Lots of the cells that presently make up my body did not exist last week and will be dead next week, and yet I say today that Charles Foster walked up a hill in Somerset last week and will be in Athens next week. By saying this I really mean that there is some essential *I* that inhabits my body. It sounds suspiciously as if I'm talking about my soul.

No one has the faintest idea about the origins of consciousness. The reductionists insist that it is an artefact of my neurological hardware – a sort of substance secreted by my brain. But no one has ever been able to suggest convincingly how it erupted in the first place, or why, when it did, it should have been favoured by natural selection.

We can see the fingerprints of consciousness in the human historical record: it seems to have emerged sometime in the Upper Palaeolithic, as evidenced by an explosion of symbolism; by the proliferation of things that shout 'I and not you'.

It has been convincingly suggested that the induction of altered states of consciousness by ascetic practice, exhaustion, dehydration or the ingestion of hallucinogenic substances might have been the catalyst of a process of which consciousness was the end product. But that, while interesting, doesn't begin to explain the nature of consciousness, or the reasons for its survival, or its location. T. H. Huxley observed that the emergence of consciousness from electronically irritated nervous tissue is just as mysterious as the genie emerging from the lamp when it was rubbed by Aladdin. Modern neuroscience has nothing to add to that observation.

It's a sickening problem for the reductionist, because no one has any idea what consciousness is for, and nor are there any suggestions of the useful quality of which consciousness might

be an incidental by-product. You don't need consciousness for anything on which natural selection can bite. You don't need it to catch food or to mate. A sense of 'I' doesn't increase the incentive to stop your body being chewed by a predator. Theory of Mind might well confer a selective advantage, but you don't need consciousness for Theory of Mind. We even show visual discrimination without consciousness. Take, for instance, Lawrence Weiskrantz's experiments on a patient who was cortically blind in the left visual field. His eye worked, but the connections to or in the visual cortex of his brain did not. He therefore said that he could not see objects in the left visual field. But when he was forced to say what was there, he was much more accurate than chance suggested. If a letter box was vertically aligned, he would tend strongly to orientate letters vertically. He was good at mimicking the expression of an 'invisible' person in the left visual field. He dealt quite well with a world with which he had no idea he had any relationship at all. The 'he' he described to himself didn't impinge on the world of the left visual field. And yet his body did.

Consciousness is certainly present in some animals. It has been convincingly demonstrated in, for instance, New Caledonian crows – often by experiments involving self-recognition. The better we get at looking for consciousness, the more we find it. The earth seems to be a garden good at growing it. But consciousness has not been shown, so far as I know, in any of the species described in this book. I'd be surprised if it were absent – at least in the fox and the badger – but I've not assumed that it is present (as almost all children's and many adults' storybooks about animals do). Even if consciousness had been demonstrated, it couldn't make much difference to the book. Where consciousness is present, as in humans, its workings in even one individual can be explored only by novelists and poets. And the best of them will conclude that the individual is elusive. That's even when, as fellow humans, we've

got some limited idea of how consciousness might operate in another human. What might it mean to be a particular conscious fox? That's an enterprise on the wild frontiers of poesy. And if an answer were possible, it might not tell us much about the world of foxes in general.

It's quite interesting enough, and certainly hard enough, to try to say what it's like to be a generic, sensate fox.

So much for physiology. I share a lot of physiology with my animals, and what I don't share I can have a reasonable go at probing. The second point at which I meet them is landscape. I can go to where they are. The same rain falls on us; we're pricked by the same gorse; we feel the same shudders through the ground as the juggernauts pass; we see the same farmer walk past carrying the same gun. They mean different things to us, of course. The gun is unlikely to mean death to me; the rain will mean earthworms on the surface, which will be more interesting to a badger than to me. But we still share something real and objective, the badger and I. Yes, our individual worlds are bespoke, tailored inside our heads by our unique neurological software; yes, it is truly hard to say how a rock on a moor appears to any other creature. But that doesn't mean that the rock doesn't objectively exist, or that the attempt to perceive it through the sense receptors of a non-human is doomed to meaninglessness or incoherence.

The animals and I speak a shared language: the language of the buzzing of our neurones. Often they speak in a difficult – though never quite incomprehensible – dialect. When it is difficult to make out what is being said, context helps. The context is always the land.

The animals are made out of the land. Almost every molecule of a typical badger came from somewhere in the area of 150 acres around its birth sett. After being squeezed through its mother's birth canal, deep inside the earth, it enters the dusk of its wood through another tunnel, this time made of earth. It

will go back through the same or a similar tunnel at the end. It is likely to die underground, surrounded by the same earth. Its body will be incorporated into the wall of the sett and will be food for worms, which in turn will become parts of the bodies of the next generation or two. You'd expect a deep, fecund resonance between land and animal. And that's what you find. Few animals export well.

I'm much less local. Despite my best efforts, many of my molecules come from China and Thailand. I have to work a lot harder to get any kind of resonance. Yet there are many things that can help: history books, the songs and tunes of dead farmers, the stories that cling to the land and to my mind like earth clings to the back of a badger. I can slowly learn the mythological language in which the land speaks both to me and to the badger, and it suffices for some sort of conversation, even if the badger and I falter in our neuronal dialects.

For this, of course, it helps to be an unabashed hippy. Frank Fraser Darling insisted on going barefoot, year round, on his beloved island, on the basis that it was hard to feel the pulse of the universe through half an inch of Commando sole, and I'm sure that he was an even better zoologist as a result. So off with the kit and on with the instincts. Animals don't wear clothes outside Beatrix Potter and Alison Uttley. Gore-Tex is just another layer standing between you and the way that the less heavily furred animals sense the world. Someone I knew walked naked for hundreds of miles across England.

The English, being English, simply refused to acknowledge that there was anything unusual when they met him, and wished him an uncomplicated 'Good morning'.

Wetsuits are condoms that prevent your imagination from being fertilised by mountain rivers.

Learn old tunes; eat food that comes from where you are. Sit in the corner of a field, hearing. Put in wax earplugs, close your eyes and smell. Sniff everything, wherever you are: turn on

those olfactory centres. Say, with St Francis, 'Hello, brother ox', and mean it.

Evolutionary biology is a numinous statement of the interconnectedness of things – a sort of scientific *advaita*: feel it as well as know it. Feel it to know it properly.

What's an animal? It's a rolling conversation with the land from which it comes and of which it consists. What's a human? It's a rolling conversation with the land from which it comes and of which it consists – but a more stilted, stuttering conversation than that of most wild animals. The conversations can become stories and acquire the shape and taste of personality. Then they become the sort of animals we celebrate, and the sort of people we want to sit next to at dinner.

I want to have a more articulate talk with the land. It's just another way of knowing myself better, and my self-obsession insists that that's worthwhile. A good way to go about it is to have a more articulate talk with the furry, feathered, scaly, whooping, swooping, screaming, soaring, grunting, crushing, panting, flapping, farting, wrenching, waddling, dislocating, loping, ripping, springing, exulting lumps of the land that we call the animals.

You get good at talking by talking. You get good relationships by relating, which takes time. You also need to know some facts about the other party. So I read books about photosynthesis and standing stones and schist and scat and scent. I pasted leaves into my notebooks and stroked them. I bought audiobooks of bird calls and realised, on the Tube between Paddington and Farringdon, that I could tell a lot about the personality of a bird and the details of its life by hearing the noise it made. Without knowing what it was (since some of those audiobooks blessedly don't ram the species name down your ears), I knew somehow that a blackthroat danced fearfully in deciduous summer shadows, looking for death from above, and picked insects with a beak like the finest surgical forceps, and fluffed and fussed and went south early.

'Pretentious mystical claptrap', boomed my farmer friend Burt, whom we'll meet in the next chapter. Yet it was so. And on the Tube between Farringdon and Paddington I realised that this wasn't at all surprising; that you could have a fair guess at the history and politics of Russia by listening to Russians talk in Russian about shopping and the weather – even if, and perhaps because, you didn't understand a word.

But most of all I hung around. I sat naked and shivering on a moorland, watching the clouds break. I swam into the dark holes of the East Lyn river, where the eels lie. I dug a hole in a Welsh hillside and lived in it. I lay by the side of a big road, outraged by the headlights, feeling the tarmac shudder beneath me as the lorries went past. And, like everyone else, I shuffled in an unnecessary coat through the park with the kids on a Sunday afternoon and fed the ducks. And slowly, slowly, I picked up a few words, and knew too that my words were heard.

Wittgenstein said that if a lion could speak, we couldn't understand a word it was saying, since the form of a lion's world is so massively different from our own. He was wrong. I know he was wrong.