Ethics and Welfare: the Case of Hunting

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People hunt wild animals to obtain food, to control pests, to manage populations, to protect the environment, and to enjoy the sport. I wish to consider a particular line of argument against hunting in all five of those contexts. I use the word 'hunting' to mean the art of pursuing and killing an animal by the use of a pack of hounds. Shooting, trapping and fishing are often discussed in the same breath as hunting. However, they differ from hunting in the following morally relevant respect: they pit a human being directly against the quarry, and use technology which neutralizes the quarry's innate means of defence. Hunting, by contrast, is a managed adaptation of a natural form of predation, which the quarry avoids by instinct.

The argument that I have in mind derives from 'animal welfare science'—an applied discipline that arose in recent decades in order to answer questions concerning the management of domestic animals, and which is now being extended to the study of animals in the wild. I shall call it the argument from welfare, since it holds that hunting involves the infliction of an unacceptable level of suffering or 'poor welfare'. Those who advance the argument may add either that we should not cull the quarry species at all, or that it should be culled in a kinder way. I shall assume that, in the case of species that are commonly hunted in Britain (mink, fox and deer), some form of population control is necessary for both agricultural and environmental reasons. But my argument will not depend upon the truth of this assumption.

The argument that tells us that hunting is wrong because of the suffering that it causes presupposes first, that we can know how much and in what way an animal suffers; secondly, that we can reason clearly from the suffering caused to the immorality of causing it. A physicalist utilitarian, who identifies pain and fear with processes in the nervous system, and who regards all moral questions as settled by cost/benefit analysis, would see no problem in deciding whether hunting is wrong. But physicalism is obscure at best, and utilitarianism is demonstrably wrong. Before addressing

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the argument, therefore, I consider the basis of moral judgment and the nature of animal minds.

Moral Judgment

Moral judgment tells us what we can and cannot do, and also what it is good to be or do. Its fundamental concepts are those of right and wrong, obligation and permission, virtue and vice, and all of those concepts derive their sense from our habit of praising, blaming, applauding and condemning the actions, feelings and characters of people. Utilitarianism holds that moral judgment is a matter of calculation, requiring us to consider the interests of those involved and to act so as to maximize utility overall. But who exactly *is* involved? Which members of the infinite set of sentient creatures affected by my action should be considered when deciding what to do? The obvious answer—namely, those to whom I have a duty of care—introduces the concept that destroys the intellectual basis of utilitarianism: the concept of duty. You may be rightly blamed for not spending your savings on medicine for your sick wife, since you have a duty towards her. But you are not rightly blamed for withholding this help from a distant stranger, however much her predicament resembles that of your wife. Those who set aside their duties in order to achieve the 'greatest happiness of the greatest number' are surely to be condemned, not applauded—a point amply made by Dickens in the character of Mrs Jellaby. Furthermore, there are things that you cannot do, either because they infringe individual rights, or because they are categorically forbidden, like murder of the innocent. Morality is not so much a matter of calculation, as a matter of setting the boundaries where calculation stops.

The first call of morality, therefore, when approaching the question of animal welfare, is to decide on the nature of our duties towards animals. We are not responsible for, nor can we blamed for, the welfare of all animals in the universe. Each of us has a sphere of responsibility, determined by the history of our relations with animals, and the benefits we receive from them. Although the fox with a broken leg suffers as much as my pet dog with a similar injury, I have a duty towards my dog that inevitably gives him a prior claim on my concern. Likewise, I have a duty to attend to my suffering cow which takes precedence over any duty I have to attend to the cows belonging to my neighbour. As with human relations, duties spread out with diminishing force across the surrounding sea of need. Without a clear conception of who or what has precedence,

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moral beings could not begin to satisfy either their conscience or the judgment of their fellows. A morality without specific duties—such as the morality put forward by classical utilitarianism—is strictly inapplicable by finite beings, and therefore of no conceivable use to them.

Moreover, while we can deliberate in a cost/benefit manner when considering what to do with the animals in our charge, there are certain things that we cannot do, since they are morally unacceptable. For example, you could benefit a pride of hungry lions by throwing your old dog into the midst of it, and maybe the welfare benefit would outweigh the welfare cost to the dog of being eaten. But this kind of behaviour towards a pet is morally unacceptable: you have a duty of care towards your dog of a kind that you do not have towards any wild animal, just as you have a duty of care towards your child which you do not have towards children in general. Such duties are tacitly undertaken, in exchange for the benefits of an exclusive tie, and their logic is similar to that of duties which are *explicitly* undertaken, such as the duties of contract or promise-keeping[1]. What matters morally is the predicament, peculiar to rational beings, of having 'undertaken an obligation'.

Furthermore, what is good for an animal depends upon the web of human relations in which it is embedded. To capture the wounded fox and take it to an animal rescue centre might be the worst possible thing that I could do to it, even though this action is a direct imitation of the best thing that I could do for my dog. Domestic species—including farm animals and pets—have acquired emotional lives shaped to and by the regime in which they are immersed. The common view that we should promote the welfare of wild animals by treating them as we treat our pets not only is mistaken, but also shows a profound failure of imagination.

The Minds of Animals

We know that mental states cause and are caused by physical events. The mind therefore occupies a place in the chain of causation. We observe the behaviour of animals, their structural similarity to ourselves, and the parallel connections between stimulus and response, and draw the inevitable conclusion that animals too have minds. Mental concepts feature in the best explanation of animal behaviour, which is a conclusive proof that animals have minds[2].

[1] See J. R. Searle, *Speech Acts* (Cambridge: Cambridge University Press, 1970), 54 et seq.

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It is also obvious that many animals are conscious, since they are some of the time, but not all of the time, unconscious. When asleep, anaesthetized or knocked out, a dog is not conscious, as it is when alertly running about the garden. To describe a dog as conscious is to imply that it is aware of its environment, responds to it, learns from it and feels its impact on itself. The dog has the kind of consciousness exhibited by its mental repertoire—which means that it is conscious as dogs are conscious but not as humans are conscious.

Ontological parsimony has been an accepted part of scientific method since Occam first sharpened his razor. It is known in animal ethology as Lloyd Morgan's Canon[3], and tells us that the mind of an animal is just as rich in states and capacities as is necessary to explain its behaviour. The birth of cognitive science has meant that explanations of animal behaviour are now far more complex than any that would have been envisaged by the behaviourists—or by Lloyd Morgan. Nevertheless, we have grounds for accepting them only if they are not more rich than is necessary to explain what we observe. If a horse stops dead and stares, it would be an explanation that he had suddenly hit on a proof of Fermat's last theorem. But the alternative suggestion that he has heard the approach of a pack of hounds is surely preferable, since it makes more parsimonious assumptions about his mental capacities.

It is clear on purely philosophical grounds[4] that a creature's beliefs depend upon its conceptual capacities, and that conceptual capacities are hierarchically ordered. For example, an animal could have the concept of present danger without that of past, future or possible danger, but not vice versa. When describing the cognitive capacities of animals we must bear this fact in mind, and recognize the severe limitations that it places on their emotional lives—for emotions depend upon beliefs and therefore upon conceptual capacities.

[2] Gilbert Harman, 'The Inference to the Best Explanation', *Philosophical Review*, **74** (1965), 83–95; J. Fodor, 'A Theory of Content' in *A Theory of Content and Other Essays* (Cambridge, Mass: MIT Press, 1990).

[3] C. Lloyd Morgan, *Habit and Instinct* (London: Arnold, 1896).

[4] See Bruce Aune, *Knowledge, Mind and Nature* (New York: Random House, 1967); Jonathan Bennett, 'Thoughtful Brutes', *Proceedings and Addresses of the American Philosophical Association*, **62** (1988), 197–210; and Jonathan Bennett, 'How is Cognitive Ethology Possible?' in *Cognitive Ethology: the Minds of Other Animals*, C. A. Ristau (ed.) (Hillsdale, NJ: Lawrence Erlbau Associates, 1991).

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When describing cognitive behaviour we make unavoidable reference to the content of a mental state: the proposition whose truth is in question. The terrier thinks that the rat is in the hole; it is surprised that the hole is empty; it sees that the rat is running across the floor of the barn and so on. In all such cases the word 'that'—one of the most difficult, from the point of view of logic, in the language—introduces the content of the terrier's state of mind. The use of this term is forced on us by the phenomena; but once we have begun to use it, we have crossed a barrier in the order of things. We have begun to attribute mental states which are 'about' the world and which are focused upon a proposition. The term 'intentionality' has been adopted to describe the 'aboutness' of our mental states —not because there is any agreement concerning its explanation but because it calls out for a name. It is possible to relate to a creature with intentionality, as we do not and cannot relate to a creature without it. An animal with intentionality is one to which we can appeal and which therefore can appeal to us. We can even join with it in a common enterprise, as when a shepherd and his dog work side by side.

Davidson has argued that we can describe a creature as making mistakes, correcting itself, discriminating between what is true and what is false, only if the creature has the concept of belief. In other words, only those animals which have the concept of belief can have beliefs[5]. If valid this argument would imply that no creature without language can have beliefs, and therefore that no non-human creature has emotions, in the proper sense of the word. However, the argument seems to me to be based on a confusion of perspective. It is *we* who need the concepts of the true and the false, of mistaken belief and correction, in order to describe a dog's behaviour. The dog itself has no need of those concepts, since it is not attempting to describe, still less to explain its own behaviour, but merely to exhibit it. If we need intentional concepts to explain the dog's behaviour, then the dog has beliefs.

Desire, like belief, belongs to the cognitive level of mental life. A desire may be rooted in a drive—as sexual desires are rooted in the drive to reproduce. But, unlike drives, they have intentionality: they focus on a particular object and pursue it, as the cheetah pursues the antelope or Don Giovanni pursues Zerlina. The horse that desires to regain its stable is not the blind victim of a compulsion—unlike the mussels which, in Crabbe's words, 'slope their slow passage to

[5] Donald Davidson, 'Rational Animals', *Actions and Events: Perspectives on the Philosophy of Donald Davidson*, Ernest LePore and Brian P. McLaughlin (eds) (Oxford: Blackwell, 1985).

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the fallen flood'. For one thing, the desire of the horse can conflict with other desires and lose in the contest—as when the horse sees its stable-mate trotting in the opposite direction and gives up its schemes to make for home. Moreover, the horse's desire is goal-directed. It will choose different routes and strategies depending on its assessment of where it is, of how determined is its rider to resist it and of what obstacles bar its way.

Desire depends upon belief and belief is expressed in desire. From the combination of the two springs emotion, which is a motive to action, founded in belief, thought or judgment. Emotions are also felt, but they are not felt as pains are felt, in some particular part of the body, nor does the felt quality of the emotion play any important rôle in the explanation of behaviour. Fear motivates you to flee; and the explanation of your flight lies in the desire to escape some danger, rather than the sinking feeling that goes with it. While insects are averse to predators, their aversion is of the stimulus-response variety and involves no assessment of the danger. An antelope that sniffs a leopard is suddenly 'alert to the danger'; its store of information is revised and likewise its desires. The antelope tenses its limbs for flight and has one all-consuming desire—to escape this danger. This is a paradigm case of animal emotion and it shows the way in which emotions like fear are composed from beliefs, desires and the general readiness of the organism to protect itself.

Consciousness and Suffering

Suffering requires consciousness. A creature may exhibit nociception—the selective and defensive response to potential damage—without being conscious. Some argue that insects have only nociception, but do not experience pain, since they are not truly conscious[6]. Against that it has been argued that the behavioural analogies frequently relied upon in attributing pain to vertebrates ought to prompt us to attribute pain to insects too[7]. The dispute here is deep and difficult, and in any case not immediately relevant to our concern. For it is clear that all vertebrates, and at least some invertebrates, exhibit pain behaviour which is something more than

[6] Sir Vincent B. Wigglesworth, 'Do Insects Feel Pain?', *Antenna,* **4** (1980), 8–9; C. H. Eisemann, W. K. Jorgensen *et al.*, 'Do Insects Feel Pain? A Biological View', *Experientia*, **40** (1964), 164–7; G. Fiorito, 'Is There Pain in Invertebrates?' *Behavioural Processes*, **12** (1986), 383–6.

[7] See C. M. Sherwin, 'Can Invertebrates Suffer? Or How Robust is Argument-by-Analogy?', *Animal Welfare*, Supplement to vol. **10** (2001), 103–18.

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nociception. They favour the injured part, are often unable to move when injured even though the mechanism for doing so is undamaged, and may exhibit all the signs of distress that are familiar in humans, apart from those that depend on abilities, such as language use, that are unique to our species[8].

Consciousness must be distinguished from self-consciousness, which is the condition of the normal human being. I identify myself in the first person, and attribute my mental states to myself as subject. There is a large and perhaps unfathomable puzzle surrounding this idea of the subject, and its relation to the organism that embodies it—a puzzle that might be summarized in the question 'where in the world am I?'[9]. Nevertheless, this should not be taken as grounds for believing that we are entirely distinct from the animals, or endowed with a peculiar 'inner' life that is inaccessible to external observation. All attempts to say *what* I am, by taking the condition of the self-conscious subject as their starting point and focusing on what is exclusively delivered to *it*, founder on the rock of Wittgenstein's private language argument. What I am in the world is what I am as an object—an object of your awareness as much as of mine. I am *this human being*, and my history is the history of a life—albeit life of a special kind[10]. My mental states are part of my life, just as the mental states of my dog are part of his. He, like me, is sometimes in pain, even though the thought: *I am in pain* is beyond his mental capacities.

Some zoologists have taken a more severe approach, arguing that animals can feel pain but, lacking 'reflexive consciousness', cannot suffer[11]. The peculiar case of 'blindsight', and the experience of lobotomized patients (who claim to feel the same pain that had previously tormented them, but not to mind it) have both been cited as

[8] Patrick Bateson, 'Assessment of Pain in Animals', *Animal Behaviour* **42** (1991), 872–89.

[9] See Thomas Nagel, *The View from Nowhere* (Oxford: Oxford University Press, 1986).

[10] For a detailed defence of this view see Quassim Cassam, *Self and World* (Oxford: Oxford University Press, 1997) and David Wiggins, *Sameness and Substance Renewed* (Cambridge: Cambridge University Press, 2001).

[11] See especially B. Bermond, 'The Myth of Animal Suffering', *Animal Consciousness and Animal Ethics: Perspectives from the Netherlands*, M. Dol, S. Kasamoentalib, S. Lijmbach, E. Rivas and R. vanden Bos (eds) (Assen, The Netherlands: Van Gorcum, 1997), 125–43; and B. Bermond, 'A Neurophysiological and Evolutionary Approach to Animal Consciousness and Animal Suffering', *Animal Welfare*, Supplement to Volume **10** (2001), 47–62.

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proof that there is a level of mentality below the reach of 'reflexive consciousness', which is immune from the feelings of distress and aversion[12]. And the conclusion drawn is that animals—or at least animals without a homologue of the dorsolateral pre-frontal cortex, i.e. non-primates[13]—exist on this lower level, that they are, so to speak, permanently lobotomized.

Blindsight and lobotomy are much discussed in both the scientific and the philosophical literature[14]. But there is little or no agreement as to how they should be described. Like the cases of multiple personality and split consciousness they put our mental concepts under a strain that causes us both to apply them and to withhold them. Moreover, discussions of 'reflexive consciousness' tend to proceed as though describing an 'inner observer' of our mental states—another and higher consciousness which suffers not by *having* pain, but by perceiving it. But then, who has the pain—the observer or the observed? And is the observer too divided, into the having and the perceiving of its own mental states? Surely we are being misled here by a picture—the old Cartesian picture that ought not to have survived Kant's *Critique of Pure Reason*, let alone the work of Ryle, Wittgenstein and their followers.

In what follows I shall assume that nothing is at stake in the discussion of reflexive consciousness besides the distinction already mentioned, between consciousness and self-consciousness, a distinction that is entirely *sui generis*. Suffering requires consciousness; self-consciousness makes it worse. But in what way worse is a question that can be answered only by pointing to the kind of thing that self-consciousness is. Of course, questions about our treatment of animals would be a lot easier if we thought that they didn't suffer; but this paper is premised on the conviction that they do suffer, and that their suffering sometimes puts a moral burden on us.

[12] E.g. by Peter Carruthers, *The Animals Issue: Moral Theory in Practice* (Cambridge: Cambridge University Press, 1992).

[13] T. M. Preuss and J. H. Kaas, 'Human Brain Evolution', *Fundamentals of Neuroscience*, M. J. Zigmond, F. E. Bloom, S. C. Landis J. L. Roberts and L. R. Squire Bloom (eds) (New York: Academic Press, 1999).

[14] For a scientific treatment see L. Weiskrantz, 'Neurophysiology and the Nature of Consciousness', *Mindwaves: Thoughts on Intelligence, Identity and Consciousness*, Colin Blakemore and Susan Greenfield (eds) (Oxford: Blackwell, 1987); for a philosophical treatment see Daniel C. Dennett, *Consciousness Explained* (Boston, Mass: Little Brown and Co., 1991); and for an attempt to bridge the two see D. Denton, *The Pinnacle of Life: Consciousness and Self-Awareness in Humans and Animals* (Sydney: Allen and Unwin, 1993).

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Suffering and Science

Animal welfare scientists describe fear, stress and pain as factors that 'compromise welfare'. Pain and fear are sometimes described as 'aversive', meaning that an animal is instinctively or by nature averse to them, and reacts so as to minimize them whenever it can[15]. However, pain is a sensation, and fear an emotion. These states do not arise in the same way, nor do they give rise to comparable behaviour. Moreover, while animals are averse to pain, it is not quite true to say that they are averse to fear: fear is *itself* a form of aversion, and its object is not usually a mental state, but an item in the external world. (The antelope does not want to get rid of this *fear*, but to get rid of that *lion;* his position would not be improved but worsened by a fear-killing drug, since the fear is what saves him from the danger.)

Sensations are non-cognitive states, characterized by their intensity, duration and locality. Fears are cognitive states, which are not felt in any particular part of the body and which involve a mental assessment that may have no precise duration. We describe fears as greater or less, because aversions are negative preferences, and therefore ordered as preferences are ordered. But this does not mean that our greatest fears are felt more intensely than our lesser fears. Moreover many of our fears are integral parts of our joys—as in dangerous sports like bunjee jumping and cross-country riding.

When including fear in the balance-sheet of suffering, therefore, we need to be very clear what kind of fear we have in mind. The emotions that a creature can feel are limited by the thoughts that it can think. Hence we should not think of animal fear as we think of human fear. We, who have a conception of death and a knowledge of its finality, have fears that are abstract and metaphysical. Moreover, we do not merely avoid injury; we have a knowledge of what injury means, and an ability to imagine the pain in advance of its happening. This means that a self-conscious being confronted by real danger is in a state of distress that no non-self-conscious animal can suffer.

Furthermore, much that is called fear in an animal is simply a routine act of avoidance, as when rats run for the gutter when you enter the stables or birds start up from grassland when a dog passes through. These avoidance reactions are necessary, since the dangers are real. But animals quickly return to their ordinary condition, once the danger is past.

[15] Marian S. Dawkins, 'Evolution and Animal Welfare', *Quarterly Review of Biology*, **73** (1998), 305–28.

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Pain must be capable of being so bad that you don't want to move the affected part—otherwise it would not fulfil its immobilizing function. This is, of course, not its only function[16]. But it is the function that leads us to single pain out as one of the mental states that we most wish to avoid. Pain and fear can therefore act in contrary directions in a state of danger: pain inhibiting movement, fear promoting it. Perhaps as a result of this conflict most animals seem to have evolved pain-control systems, which suppress pain in emergencies, so enabling them to escape to safety before the business of nursing can begin[17]. One such mechanism is the release of endorphins and enkephalins into the central nervous system and the generation of local analgesics at sites of injury[18]. This analgesic reaction has been observed in animals, and could suggest that the pain experienced by animals overtaken in full flight may be negligible or even non-existent if death follows swiftly[19]. Analgesia may also be induced by exercise: and has been observed in human athletes as well as in horses injured on the race course or when hunting[20]. From the point of view of pain, rather than fear, therefore, an animal hunted with hounds may be better off than an animal that is shot and which subsequently takes time to die.

There is also a distinction to be made between 'avoidable' and 'unavoidable' threats. When a horse shies suddenly at a bird, or a fox slinks away along the hedgerow at the sight of a dog, it would be odd to say that the animal is suffering from 'poor welfare', although it would be perfectly reasonable to say that it is afraid of something. This 'fear of the avoidable' is part of the normal emotional diet of wild animals, and is quite distinct from the fear that arises when an animal is presented with a threat that it must either face or flee, and which it cannot easily avoid by either method. Perhaps the most evident instance is the fear experienced by an animal caught in a trap.

Both pain and fear are a matter of degree, but not the same kind of degree. Pains are more or less severe, fears more or less serious. When ranking fears we are really ranking preferences. Your greatest fear is the fear of the thing that you evaluate as the worst, from your

[16] Bateson, op. cit., note 8.

[17] See G. Stefano, B. Salzet and G. Frichione, 'Enkletin and Opioid Peptides in Invertebrates and Vertebrates: Immune Activation and Pain', *Immunology Today*, **19** (1998), 265.

[18] See Patrick Wall and R. Melzack (eds) *A Textbook of Pain*, 2nd Edn. (Edinburgh: Churchill Livingstone, 1989).

[19] See S. Snyder, *Brainstorming: The Science and Politics of Opiate Research* (Cambridge, Mass: Harvard University Press, 1989).

[20] E. Colt, S. Wardlaw and A. Frantz, 'The Effect of Running on Plasma Beta-Endorphin', *Life Sciences*, **28** (1981), 1637; Snyder, op. cit., note 19.

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point of view. Hence your fear of death is likely to be greater than your fear of shame. Virtue-centred morality tends to the view that we should be more afraid of shame than of death, in other words, that we should regard shame as *worse than* death. To put the matter simply, the ranking of a fear is a fact about its intentionality; the ranking of a pain a fact about its intensity. While we can, in certain circumstances, make sense of the idea that fears are more or less intense—for example, because thoughts, plans and activities can be more or less disrupted by them—this is not what we normally mean when we compare fears as 'greater' or 'less'. This fact is of great relevance to the argument from welfare.

Both pain and fear exhibit thresholds. Pain begins as discomfort, and increases, seemingly without limit, along a single dimension of intensity. But this dimension is interrupted by thresholds, as discomfort passes to pain, and pain from the bearable to the unbearable. Likewise with fear, which may begin with arousal, followed by alarm, turning to flight, and, if unresolved, to panic—though obviously this is not the only such sequence of thresholds. However, once again, fear-thresholds cannot be seen as pain-thresholds are seen, namely, as barriers or 'gates' along a one-dimensional axis of intensity. They involve abrupt changes in the whole organism and its activity, in response to an evolving assessment of the danger.

Stress

The emphasis on stress in the theory of animal welfare reflects the pioneering work of Walter Cannon on the 'fight or flight response' and of Hans Selye on the General Adaptation Syndrome (GAS)[21]. According to Selye every living organism maintains itself in a state of equilibrium or homeostasis. This state is constantly threatened; but every time a threat is registered by the organism, it strives to adapt to the threat and so to regain equilibrium. Stress is a state of threatened homeostasis. Much of the Central Nervous System's mechanism for dealing with stress has been identified[22]. This mech-

[21] Walter B. Cannon, *Bodily Changes in Pain, Hunger, Fear and Rage: an Account of Recent Researches in to the Function of Emotional Excitement* (New York: Appleton, 1929); Hans Selye, *The Physiology and Pathology of Exposure to Stress* (Montreal: Acta, 1950).

[22] See G. P. Chrousos and P. W. Gold, introduction to *Stress: Basic Mechanisms and Clinical Implications*, G. P. Chrousos, R. M. Carty, K. Pacák, G. Cizza, E. Sternberg, P. W. Gold and R. K. Kvetnansky (eds), *Annals NY Acad. Sci.* **771** (1995).

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anism centres on the hypothalamo-pituitary-adrenal (HPA) axis, which has the role of translating incoming messages into appropriate responses (cf. Descartes' theory of the pituitary gland as mediator between mind and body). The presence of a 'stressor' causes the animal's pituitary gland to release certain hormones (notably adrenocortical tropic hormone—ACTH) which induce a state of arousal. These hormones cause cortisol to be emitted by the adrenal glands, so preparing the animal for increased activity. Polypeptide hormones, endorphins and enkephalins are also released into the brain—thus masking any pain that might impede the animal's ability to take evasive action. All this is described in the literature in purely physiological terms, without raising the question of intentionality, and without making a distinction between those animals with genuine awareness of their situation and those that merely respond to a stimulus while adopting no cognitive stance towards it.

According to the theory of homeostasis, stress is a three-stage process: arousal; adaptation, where adaptation aims at a return to homeostasis; and exhaustion, when the animal runs out of GAS. There is nothing intrinsically detrimental to an animal's welfare in stress, conceived in that broad way, to mean any departure from homeostasis. On the contrary, there would be something wrong with an animal that never experienced it. (Hans Selye: 'Stress is life and life is stress'.) Moreover, the GAS is turned on as much by the anticipation of pleasure as the fear of pain[23]. Clearly welfare is adversely affected when the animal reaches the stage of exhaustion. But most writers wish to adopt a broader conception, arguing that stress can be too great before that final and usually fatal stage.

The favoured suggestion is that stress is too great when the stress system is not able to 'cope' with it. However, considerable care is needed. It is a tautology to say that the stress system is not coping during a period of disequilibrium, when coping means a return to equilibrium. If 'not coping' is to mean anything of significance, it must refer either to the relative difficulty or damage involved in a return to equilibrium, or to the unlikelihood or impossibility of such a return—for example, because of immuno-suppression or severe persisting injury. When return is impossible the animal degenerates or dies. Arousal, and therefore stress, is a matter of

[23] See H. Szechtman, P. J. Lambron, A. R. Caggiula and E. S. Redgate, 'Plasma Corticosterone Levels during Sexual Behaviour in Male Rats', *Hormones and Behaviour*, **5** (1974), 191–200; D. R. Coborn, D. L. Thompson, T. L. Roth, J. S. Capehart and K. L. White, 'Responses of Cortisol and Prolactin to Sexual Excitement and Stress in Stallions and Geldings', *Journal of Animal Science* **69** (1991) 2556–62.

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degree. Adaptation, however, is not a matter of degree. Either an animal adapts to a stressor or it does not. Adaptation means a return to equilibrium, and when return is easy the animal is coping. When return is impossible the animal is not coping. Between these two states there is a grey area of 'difficulty in coping', which is again a matter of degree. We can use the term 'distress' to denote the condition of an animal that has difficulty in coping or which is failing to cope, thus distinguishing stress from distress. Failure to cope means maladaptation, early signs of which are (among other things) poor growth, impaired reproductive capacity and immuno-suppression (though immuno-suppression has many causes besides this one).

There is also the possibility that an animal may return to equilibrium, but at a lower condition of vitality. A dominant stag that has been shot, and which recovers from the wound, though with residual lameness, may lose its dominant position, and remain attached as a parasite to the harem that he previously controlled. Here there is a return to homeostasis, though with impaired vitality and reduced reproductive potential.

Fear begins as a form of arousal, and then—by prompting flight—leads to adaptation. Pain may prompt arousal—the withdrawing of the affected part—but it may also be an attempt at adaptation. If the pain, by immobilizing the wounded part, succeeds in healing it, there is a successful return to equilibrium. In such a case the animal, though in pain, is coping. This means that we cannot use the GAS theory to provide a comprehensive definition of suffering—not without breaking the connection between suffering and pain. The best we can say is that suffering or poor welfare means either distress (in the technical sense just defined) or pain.

Fear of avoidable threats is a part of the stress system and essential to the maintenance of homeostasis. Fear in the face of the unavoidable is really a form of distress as I have defined it. For it involves arousal without resolution. This point is relevant to the case of fox hunting which, in the normal case, proceeds by a series of 'ambushes'. The quarry, once alerted to the danger, will take steps to avoid it. Having distanced itself from the hounds, the fox will begin to return to homeostasis. Only when the danger is unavoidable does the hunt enter its last stage, in which the hounds are directly trying to overtake the quarry. This is the stage of distress, and may last for a few minutes, concluding with a death that is all but instantaneous.

Note that the theory of stress by-passes all reference to intentionality. It applies equally to the withdrawal of a limb from some

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painful stimulus (e.g. a fire), and to the flight from a predator. The fact that arousal stems in the one case from a sensation of pain and in the other from an emotion of fear is irrelevant, in so far as the mechanism is concerned. Furthermore the nature of the fear, and its seriousness from the point of view of preference rankings, is of no account in the explanation. It is as possible for the GAS to exhaust itself in response to a continuous and unrelieved attempt to avoid an unwelcome noise, as in the attempt to escape a predator. And the fact that an animal exhausts itself in this way suggests nothing specific about the object of its fear: in particular, we cannot conclude that it has been driven to exhaustion by the fear of death, or of wounding, or of any other future state. It simply sees the predator and runs.

The Genetic Perspective

The term 'maladaptation' is used in connection with two distinct theories—one microzoological, the other macrozoological, and both involving functional explanations (i.e. theories which explain a thing by its function). According to Selye's microzoological theory an animal adapts to a stressor by some activity—such as flight—the function of which is to remove it. Maladaptation occurs when the organism loses the capacity to return to equilibrium under its own devices.

According to Darwin's macrozoological theory, animals adapt to their environment by evolving the capacities (including mental capacities) that are needed for successful reproduction. Animals suffer from maladaptation when placed in an environment in which they can find no ecological niche, and hence are unable to reproduce successfully.

Clearly maladaptation of the species will often lead to maladaptation in the individual. But this is not always so. Consider the horse, an animal not adapted by evolution to live on rich grass in a predator-free environment and without the need to travel in search of food or water, but maintained happily in this condition by human beings, who ensure that it suffers no stress that is not cancelled by a speedy return to homeostasis and who ward off the threat of laminitis by preventing it from over-eating and under-exercising.

However, wild animals, which are not controlled by human beings but at best only managed by them, cannot be so easily insulated from the effects of maladaptation. Their welfare could therefore be seriously compromised if they are presented with stresses

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that they are not genetically equipped to deal with. This thought is at the root of the argument from welfare.

In a series of pioneering studies, Bateson and Bradshaw have argued that the red deer of Exmoor are not adapted to deal with the long chases to which hunting with hounds subjects them. They maintain that red deer evolved in woodland, and were preyed upon by wolves, which capture their quarry by short spurts or ambushes, and not by protracted hunts[24]. Bateson and Bradshaw backed up that speculative argument by examining the blood and tissues of hunted deer for certain indicators of stress, including high cortisol levels. They suggested that the levels found were far higher than could be expected in exercised deer, and that this was an indication of excessive stress. Bateson has even argued that some of the indicators analysed in his report on stag-hunting to the National Trust give grounds for thinking that escaped deer would not return to homeostasis but suffer instead from the syndrome known (from the circumstances in which it is normally encountered) as 'post capture myopathy' (PCM), in which animals in a state of extreme stress suffer a sudden internal collapse, leading to death. Current theories of PCM suggest that it is unlikely to occur in an animal that is not restrained[25]. Bateson could be right nevertheless. To prove the point it would be necessary to carry out studies on deer that escape the hounds, rather than on those that are brought to bay and shot.

Many of Bateson's more challenging claims about stag-hunting have been disputed on scientific grounds[26], and it is fair to say that no decisive proof has yet been given that a hunted deer is being pushed beyond its natural capacities. In the case of mink-hunting and fox-hunting, which proceed, as a rule, by short spurts, tracking, and ambush, parallel claims are seldom made, and Bateson himself has expressly cautioned against making them. Nevertheless, my interest is less in the factual truth of Bateson's contentions, than in the moral conclusions that should be drawn from them. How might we use the scientific data to give force to the argument from welfare?

[24] Patrick Bateson, *The Behavioural and Physiological Effects of Culling Red Deer* (London: The National Trust. 1997); Patrick Bateson and Elizabeth L. Bradshaw, 'Physiological Effects of Hunting Red Deer (*Cervus Elaphus*)', *Proc. R. Soc. Lon.* **B 264** (1997), 1707–14.

[25] See T. R. Spraker, 'Stress and Capture Myopathy in Artiodactylids', *Zoo and Wild Animal Medicine*, M. E. Fowler (ed.) (London: W.B. Saunders and Co., 1993), 481–88.

[26] See the detailed study by R. C. Harris, T. R. Helliwell, W. Singleton, N. Stickland and J. R. J. Naylor, *The Physiological Response of Red Deer* (Cervus Elaphus) *to Prolonged Exercise taken during Hunting* (Newmarket: R. & W. Publications, 1999).

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The 'welfare equation'

When vets cause suffering they must ask themselves on each occasion whether it is 'worth it'. This may mean simply estimating whether it is worth it from the owner's or the farmer's point of view. But it might also mean (and usually will mean in the case of pets) whether it is worth it from the *animal's* point of view. Presumably this means whether the welfare gains outweigh the welfare losses. Without some measure of welfare gain this kind of reasoning would never get off the ground. This is especially relevant in the cases of hunting and wildlife management, where the goal might be to maintain populations in a flourishing state, and where culling has often to be justified in terms of welfare. The difficulty comes when we try to assign values to both positive and negative welfare, so as to discount one against the other.

This difficulty is compounded by another. The Burns Inquiry into Hunting with Dogs states that 'animal welfare is concerned with the welfare of the individual animal, not the management of the wider population'[27]. But wildlife management requires us to recognize that the welfare of one animal may compromise the welfare of others. Hence we might be tempted to conclude that the welfare requirements of the majority of a population may on occasion override the interests of some individual member. You may decide to shoot a wounded deer in order to end its suffering; or you may equally decide to shoot a healthy deer in order to reduce the population, and so enhance the supply of food and territory for those that remain.

In the case of human welfare individual rights operate as vetoes over any course of action that sacrifices the individual to the majority interest[28]. The case of domestic and companion animals is not wholly different, for the reason that these animals are tied to us by their biological dependence, and also by complex and historically embedded duties of care. I cannot regard my dog's welfare as one unit in a mathematical sum that embraces all other nearby dogs, since this would be to over-ride the special duty that I have towards him. This is not to concede that our pets have rights, but only that we have a special and individualising duty of care towards them. In the case of wild animals, where the duty is a general one, there is, it seems to me, no such impediment to inter-animal summation of cost and benefit, or to inter-animal comparisons of utility.

[27] Terry Burns (Lord Burns) *et. al.*, *Report of a Committee of Inquiry into Hunting with Dogs* (London: HMSO, 2000), Ch. 6, §12.

[28] The point is forcefully argued by Loren Lomasky, *Persons, Rights and Moral Community* (Oxford: Oxford University Press, 1987).

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Thus Bateson and Bradshaw propose a 'welfare equation', with which to compare the welfare of populations of deer subjected to a regime of hunting with those subjected to a regime of stalking[29]. Extent of suffering is measured, in the manner suggested by Broom and Johnson[30], as a multiple of intensity and time; the purpose of the welfare equation is to enable a comparison between hunting and stalking (i.e. the arduous practice of tracking a deer until within range for a clean rifle shot). It tells us that a change from the first to the second would lead to no overall improvement in the welfare of the deer when the average welfare cost to hunted deer is equal to the probability of deer being wounded by stalking multiplied by the average welfare cost of being wounded. (The assumption being that a clean shot leading to near instant death involves no welfare cost.)

But how do we assign figures to those 'welfare costs'? Bateson's critics have acknowledged that the last twenty minutes of a deer hunt may involve real distress, as glycogen depletion makes itself felt and the deer comes to bay (with the proviso that turning at bay occurs not as a shift of tactics, but as a last resort)[31]. But how does this compare with the pain of a gunshot wound, followed by death a few minutes later? To compare pains with pains is a feasible project, since the only relevant fact about pains is their intensity. But to compare fears with fears is more difficult; to compare fears with pains all but impossible. For reasons already stated, the seriousness of a fear is not a matter of 'intensity' but a matter of preference ranking, founded in intentionality. The only clear measure of suffering that we can devise is that suggested above—namely, the extent of distress, as the organism fails to cope with its situation. But again, it is unclear how you might compare this with the suffering that comes from pain. All you can say, surely, is that the experience of being brought to bay by hounds, and that of being imperfectly shot by humans are both highly unpleasant. It is fairly evident that the prolonged suffering of a deer with a jaw shattered by a gunshot wound which then escapes to die of starvation is far worse than either. But again, assigning figures would be an arbitrary and in a way morally unserious exercise.

Likewise with fox-hunting. The Burns Inquiry accepts that alternative culling methods (including shooting) are also problematic from the welfare point of view, and concludes that only lamping by

[29] Bateson and Bradshaw, op. cit., note 25.

[30] D. M. Broom and K. G. Johnson, *Stress and Animal Welfare* (London: Chapman and Hall, 1993).

[31] See Harris *et al.*, op. cit., note 26.

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a skilled marksman definitely offers a better welfare deal than hunting, while admitting that the use of lamping is severely limited by topography and time of year[32]. But any attempt to assign figures to the alternatives begins to look arbitrary, just as soon as we put each method of cull in its full actuarial and social context. In particular, the Inquiry does not ask the crucial questions: first, how do we summate this 'compromise' of the fox's welfare at the moment of death with the rest of its welfare during the life beforehand? After all, suffering at the point of death is the inevitable lot of wild animals. Secondly, how do we complete the welfare calculation for the fox population as a whole? These are not easy questions. It is surely plausible to argue that we must compare the kind of life that the individual fox has in places where foxes are hunted, trapped, lamped or whatever (e.g. what costs or benefits does each practice bring in terms of habitat, food, protection of cubs and so on). If we do not make these comparisons, then we shall draw conclusions about what we should do to promote welfare on the basis of only one relevant strand of evidence.

Matters become yet more complicated when we include other, untargetted animals, in our welfare equation. The use of anti-coagulant poisons on rats imposes a serious welfare cost on barn owls, hawks and (probably) foxes—not to speak of the general environmental damage. Snares, however skilfully placed, will take non-targeted animals. The maintenance of coverts for hunting or shooting has great welfare benefits for voles, field-mice and badgers. And so on.

On the other hand, we cannot assume that the moral question reduces to a question of cost-benefit mathematics. Moral judgments are made against a background of norms and prohibitions. Cost-benefit calculation can never override the judgment that some particular action is intrinsically wrong—say because it involves the deliberate infliction of unacceptable pain. If there is an argument against hunting contained in Bateson's analysis, therefore, it is not to be found in the 'welfare equation', but in the attempt to show that the suffering of the hunted deer has passed the threshold of acceptability. Hence Bateson concluded his report with the judgment that

[32] Lamping means shining a narrow-beamed light into the darkness and shooting between the glowing eyes of any fox that stares at it. Currently a hooligan sport, lamping is widely disapproved by farmers, who do not like armed strangers roaming the countryside at night. Lamping is also indiscriminate in its victims, killing male and female, young and old, healthy and ailing, pregnant and nursing equally, and the judgment of the Burns Inquiry is therefore highly controversial among environmentalists.

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the suffering of the quarry at the end of a deer hunt had reached an 'unacceptable' level—which naturally prompts the question: 'unacceptable to whom?'

Unacceptable Suffering

If animals have rights, then many things that we spontaneously do to them are unacceptable—not on account of the suffering involved, but on account of the rights that we infringe by inflicting it. However, it is only persons, properly speaking, who have rights, and their having rights is of a piece with their being able to recognize the rights of others. Rights are a sign of 'moral membership', and if we accord them to children and idiots it is because we see children and idiots as belonging by nature to the same community as ourselves—the community of self-governing moral beings. To describe animals as though this were true also of them is to violate the principle of ontological parsimony, since it is to ascribe to animals mental capacities (the ability to give and take practical reasons, the adoption and defiance of moral norms) which are not needed in the explanation of their behaviour[33]

Hence we should try to define unacceptable suffering not in terms of the rights of the victim but in terms of the duties and virtues of the perpetrator. The law prefers 'unnecessary' to 'unacceptable', and has defined cruelty as the infliction of 'unnecessary' suffering. But unnecessary for what? Does this criterion apply only if the human purpose is itself a necessary one? In which case ought we to distinguish hunting as pest control from hunting as recreation? But then, who is to decide whether a recreation is or is not necessary to those who engage in it? Is bull-fighting necessary to the Spaniards? Is cat-keeping necessary to the English?

This last example suggests another and more plausible line of argument. The pets of British cat-owners cause 175 million painful deaths each year. However, the cat-owners do not believe that this suffering is 'unacceptable', since they do not believe that any human being can be blamed for it. No moral duty is violated by the miserable end of a blackbird in the jaws and claws of Moggins when the process leading to the kill originates entirely in Moggins. Matters would be very different if I were to capture a blackbird and then place it alive in front of Moggins's claws. Keeping a cat is one thing; setting a cat on a bird is another.

[33] I have argued this point at length in *Animal Rights and Wrongs*, 3rd Edn. (London: Metro, 2000).

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That argument is of course self-serving. As we know from the legal arguments over *mens rea*, you cannot simply 'withdraw your intention' from the known and inevitable consequences of your voluntary actions—including the action of harbouring and nourishing a killer[34]. Nevertheless, many cat-owners protest their innocence while vehemently condemning the owners of fox-hounds. They think of the huntsman as the *instigator* of suffering. Although (in the case of fox- and mink-hunting) the hounds do the killing, it is the huntsman who decides that the killing will be done. The suffering of the quarry, therefore, is not something that happens but something that is inflicted.

Not all inflicted suffering is unacceptable: otherwise vets and stockmen could not practice their trades. Infliction is necessary for unacceptability, but not sufficient. What more is needed? Three possibilities suggest themselves: the cause, the effect, and a combination of the two:

(1) The cause. Suffering inflicted deliberately and for its own sake may be regarded as unacceptable because of the sadistic motive of the one who inflicts it. To condemn his action is to condemn the vice that is revealed in it. Suffering inflicted negligently or carelessly on an animal towards which you have a duty of care is also unacceptable, since this is a violation of duty and also, like negligence generally, the outward manifestation of a vice. Concepts of virtue and duty both enable us to make sense, therefore, of 'unacceptable suffering'. But they do so in ways that by-pass the theory of welfare.

(2) The effect. Bateson's argument concentrates on the effect of hunting. Suffering, on his view, becomes unacceptable when an animal is driven beyond its natural capacity to return to homeostasis.

(3) Both. As we saw from the discussion of the 'welfare equation', there is no real basis for comparing the degree of suffering inflicted by rival methods of culling wild animals. If we think that it is unacceptable to drive an animal beyond the limits of its stress system, this is not because we are clear that this involves more suffering than inflicting a gun-shot wound from which it dies in agony. It is because this conduct reflects in some way on our attitude to the animal. The unacceptability lies not merely in the intensity of the suffering, but in the willingness to inflict it in just this way.

[34] See, for example, the case of *Hyam v. DPP* [1974] 2 W.L.R. 607.

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I believe that this third approach is the right one, and enables us to understand what the argument from welfare is really about. It is in fact less a scientific argument than a religious one, and should be phrased as such if we are to understand its logic. The science is important, because it reminds us of what we share with the other animals, and helps us to understand the way in which suffering is rarely a localized mental state but a condition of the whole organism, confronted by an emergency from which it may or may not recover. But the idea of the 'acceptable' takes us into another territory. It raises, in the broadest way, the questions of our accountability as rational beings, and of our attitude to the rest of creation.

We believe that we owe something to the animals who compete with us for a share of the planet, and who are like us in so many of the respects that contribute to our joys and sufferings. We admire them for their beauty, love them for their innocence and respect them for the life that is theirs. Those feelings can be summed up in the Roman idea of piety (*pietas*), by which I mean the recognition that the world is not ours to deal with as we like, and that there is a prior order of things to which we owe obedience.

Our primary duties to wild animals are quite independent of any duty of care that we may assume when we set out to manage them. For they are duties of piety. This is how we should approach the idea of unacceptable suffering. Piety requires us to respect the life of a wild animal, to relate to it as it naturally is, and not to drive it beyond the limits that its nature can accommodate. If the suffering of the hunted deer is unacceptable it is not because it is in great pain or sorely afraid: for all we know those states of mind have been entirely erased by the present emergency and besides, as I have argued, animal fear is largely opaque to us. If the suffering is unacceptable it is for the reasons that Bateson outlines: namely that the deer has been driven beyond its ability to recover by its own devices. It has been chased out of its own nature, so to speak, used not as a deer but as a *machine à chasser*. And using it this way we degrade ourselves, since we look on what deserves our respect as though it were a mere instrument of our pleasures. If there is a moral argument against hunting on grounds of suffering, this must surely be it. Anybody who accepted that hunting treats an animal as a *machine à chasser* and who nevertheless continues to hunt is surely doing something wrong. Such, it seems to me, is the real logic of the argument from welfare.

When the argument is phrased in that way, however, it invites an obvious rejoinder, which is that, if any form of cull is to be condemned on these grounds, it is not hunting, but snaring, poisoning

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and the more unsporting forms of shooting (such as lamping, in which every resource of the quarry is deliberately neutralized). Hunting simulates a form of predation with which—arguably at least—the quarry is able by nature to deal. Bateson has claimed that the red deer of Exmoor are not in fact equipped to deal with hunting as currently practised. But the scientific literature returns an open verdict on Bateson's claim. Set beside snaring, trapping and shooting, hunting has the distinct advantage, from the quarry's perspective, that defensive measures can be taken in response to it. The trapped, snared or wounded animal is a victim to human ingenuity, cut off from its only resources and rendered helpless in the face of danger. From Homer to Sassoon the art and literature of hunting exhibits an almost religious respect for the quarry, and a devotion to its habits, its home and its habitat that has no parallel in the literature, such as it is, of the pest-control official. The hunter's pious attitude to the quarry is an acknowledgment of the quarry's permanent place in the scheme of things. It is an attitude that is seldom experienced by those who set snares, go lamping or lay down poison, and whose one desire is to kill.

Of course, the hunted quarry is—at the last—driven beyond its capacity to regain homeostasis. That is what death means. But, in this trivial sense, the same is true of all animals that we kill. Moreover, as my argument implies, the depletion of the stress system is not an index either of extreme fear or of extreme suffering. It is simply what it seems to be: the exhaustion of a natural resource, followed, in the case of hunting, by a death that is instantaneous. In the circumstances of wildlife management, it might be suggested, this is the best welfare deal that an animal can hope for.

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