Animal Suffering: An Evolutionary Approach

GILL AITKEN

16 Cromwell Road
Lancaster, LA1 5BD
Email: gill@animalmanners.co.uk

ABSTRACT

Though much is written about animal suffering, little is said about the nature of suffering itself. Without any clarity about its conceptual nature, discussions concerning detection, prevention and reduction of suffering are seriously hampered. This paper considers – and rejects – some of the more usual understandings of suffering (such as that suffering is synonymous with either pain or negative emotions). Instead, an alternative understanding of suffering is proposed, namely that suffering is the experiencing of one's life as going badly. This notion is tied to the loss of individuals' central life projects. It is suggested that non-human animals' central projects are their evolved survival skills. This alternative view of suffering has major implications for animal welfare.

KEYWORDS

Animals, suffering, pain, feelings, welfare

Environmental Values **17** (2008): 165–180. doi: 10.3197/096327108X303837

INTRODUCTION

Suffering is at the centre of our concern for the welfare of animals. Jeremy Bentham (1789), in his celebrated denunciation of the human maltreatment of animals, memorably declares the central question to be: 'Can they *suffer*?'. Philosophers, scientists, animal rights activists and others have variously sought to expose, ameliorate and alleviate animal suffering. Yet despite its centrality, surprisingly little has been said about the nature of suffering itself. This seems a puzzling oversight, for until we understand the nature of suffering we are hampered in our efforts to address it. This paper seeks to remedy the situation by teasing out a definition of suffering, the implications of which will require us to rethink some of our ideas about animal welfare. The exploration begins with an account of human suffering and uses this to move onto an account of animal suffering. While there are some differences between the two, the similarities are sufficient to allow for a single broad definition of suffering that covers both humans and (some[1]) non-human animals.

SUFFERING AND PAIN

Most people would be likely to agree that suffering can be induced by a range of sensations and emotions (hereafter referred to as feelings) including grief, disorientation, fear or anxiety, depression and so on. Non-human animals are at risk just as humans are, though admittedly the triggers would seem to be much less varied. However, there are many documented cases of animals displaying, for example, great and prolonged distress and grief at the loss of a mate, companion or young (Masson and McCarthy, 1994, Chapter 6) which most would equate with suffering. These important causes of suffering notwithstanding, it is the connection between suffering and the physical sensation of pain that is of interest here. It seems quite crucial to explore suffering in relation to pain for two reasons. Firstly, it is important because so many authors use the terms interchangeably. To give just one example, Rollin's book *The Unheeded Cry* (1998) – which is really a book about animal suffering – is subtitled: *Animal Consciousness, Animal Pain and Science*. And secondly, concern about the presence or absence of pain tends to dominate in discussions of at least one high profile animal welfare area, namely animal experimentation. For example, in a discussion of the welfare of laboratory animals, the authors say 'there are certainly many examples of suffering in transgenic mice' and go on to talk mainly of painful conditions such as skeletal abnormalities, bone fractures and the 'enormous pain that must be associated with brain tumours large enough to make the head bulge' (Rutovitz and Mayer, 2002: 38). It has already been noted that suffering can arise out of a range of negative emotions and sensations, which makes it clear that all suffering does not necessitate pain, but the question of whether all

(substantial [2]) pain necessitates suffering requires closer scrutiny. After all, we do tend to think of pain as that which most of all *typifies* suffering.

It turns out that even substantial pain does not necessarily lead to suffering. There is plenty of evidence to show, for instance, that when an individual is engrossed in something, he or she may be oblivious of quite substantial pain. Well documented cases of the phenomenon exist involving serious injury in battle (see Rowan, 1988: 136), not to mention also serious sporting injuries. It seems clear that the individuals involved are not suffering, at least not at the time. However, these examples, though suggestive are not conclusive. They are open to the retort that the individuals concerned are not in pain either. We are simply describing cases where people might be expected to feel pain, or suffer, but they do not.

But there are more telling examples. Whether they are running marathons or giving birth, women feel the pain, but it is doubtful whether they can be, or at any rate have to be, described as suffering, or miserable. On the contrary, some will profess to feeling elated. Broom and Johnson (1993: 23) offer a non-human example – the case of rats who will enter an environment with sub-zero temperatures (-15 degrees C) to access tasty food, even though there is nutritionally adequate food freely available in an environment at a comfortable temperature. If we take it as read that no creature chooses to suffer, we must assume that the discomfort the rats experience in the sub-zero temperature does not amount to suffering.

When we consider these examples, two pertinent points can be extracted from them. These are that pain does not equate to suffering when:

(a) The pain is part of a broader 'project' that those involved regard as worthwhile, meaning that it is possible to see 'beyond' the pain; and

(b) The pain is willingly entered into or chosen.

What emerges is that sometimes there are other things more important to an individual than avoiding pain. We may think of pain as the ultimate aversive experience – but this is not necessarily so. The experience of pain may be affected by both the context in which it occurs and the individual's perception of the situation (these two factors being interrelated). Suffering, then, has much more to do with what we 'make of' the pain, how we interpret and perceive it. Pain is not a simple physical phenomenon but a psychological phenomenon as well. The way an individual perceives something is the crucial factor that determines whether or not they will suffer in a given situation, and this is something that applies to non-humans as well as ourselves.

IS SUFFERING ANYTHING MORE THAN A HIGHLY UNPLEASANT FEELING?

As suffering cannot be characterised as 'pain' then we need to look further for a definition. Most of us probably think we know what suffering is, because we have experienced it ourselves, or seen it in others. But there is a difference, perhaps, between knowing what suffering is, and being able to describe it. As a first attempt we might describe suffering as something like: the experiencing of highly unpleasant feelings – or, more precisely, an unpleasant sensation (such as pain or disorientation), or emotion (such as grief or anxiety). Dawkins (1990: 1–2) probably speaks for many when she describes suffering as 'a wide range of unpleasant emotional states [that] are acute or continue for a long time'. This is very similar to Broom and Johnson's (1993: 82) description of suffering as 'an unpleasant subjective feeling which is prolonged or severe'. This description is echoed, too, by De Grazia (1996: 116) who claims 'suffering is a highly unpleasant emotional state associated with more than minimal pain or distress'[3].

There is absolutely no doubt that suffering feels bad – that much is certain. Yet descriptions such as those above are not entirely satisfying; indeed, they seem to raise further questions. For example, we now want to ask about the nature of the relationship between suffering on the one hand, and feelings on the other. Is suffering to be thought of as *identical* with unpleasant feelings, and if so, in what sense? Or, is it an 'umbrella' term with the various unpleasant feelings falling under its canopy, so to speak, in the way that 'tables and chairs' fall under the umbrella term 'furniture'? Or does it do duty for each particular unpleasant feeling, as occasion demands? If it is not synonymous with the range of unpleasant feelings, is it perhaps a separate – and highly unpleasant – feeling (either emotion or sensation)?

While respecting the claim that suffering feels bad, this paper rejects the idea that suffering should be *defined* with reference to feelings. As was noted earlier, suffering cannot be equivalent to any of the unpleasant feelings with which it is associated (pain, fear, anxiety, and so on) for it is only connected with intense or enduring instances of them. While a scratch may cause pain, it would not be considered to be an instance of suffering. Nor would fleeting frustration or mild fear. Suffering is associated only with certain aspects of these feelings.

Perhaps, then, suffering could be said to be identical with unpleasant feelings that are intense or enduring. On this view, to say that an animal is suffering would be to say that it is experiencing (intense or enduring forms of) some unpleasant feeling or other. Yet this too seems misguided, for although suffering is often found associated, both causally and in other ways, with a variety of unpleasant feelings, it is nevertheless distinct from feelings in at least three ways.

First, there is a difference in terms of logical profile. Feelings typically have the character of being recognisable and repeatable occurrences with known boundaries, patterns, expressions and expected trajectories. Fear, for example,

has recognisable bodily expressions such as trembling, blanching, and a tendency towards withdrawal. Cassell (1991: 27) remarks that 'We know others to be in pain because of the expressions, gestures, and behaviours that virtually everyone knows to be characteristic of someone in pain'. Suffering has no such 'profile' or even set of profiles. While it is true that clearcut instances of suffering are easily recognisable to onlookers, suffering nevertheless lacks a distinct 'profile'. That is, there would seem not to be a predictable outward pattern to suffering.

Second, specific outward expressions of feelings are mirrored by inward patterns of response that are equally specific. Different feelings trigger different physiological responses, which means that each has its own physiological 'signature', as it were. This in turn means that each feeling may well have the potential for being altered through medical intervention. The drug treatment for fear, say, differs from the drug treatment for the very similar, but neurologically separate, state of anxiety, while homeopathic remedies cater for 'grief', 'anger', 'frustration' and so on. On the other hand, no drug or alternative remedy has yet been, or is likely to be, marketed 'for the relief of suffering'. While an individual's suffering may be alleviated by treating an underlying feeling (such as pain or anxiety) suffering itself cannot be targeted and treated. Thus, the specificity of each of the feelings sets them apart from the notion of suffering, which cannot be pinned down, described or altered in the same way. Suffering seems to be different in kind.

There is a further difference between feelings and suffering which is that while the former can be identified and influenced in a way that suffering cannot, the grounds for moral concern are much more straightforward in the case of suffering. When recognising another's sadness, say, we cannot be sure whether their sadness is undesirable or not. Many people indulge in and seem to enjoy sadness, for example, when it takes the form of nostalgia. The same is true of other emotions and feelings such as fear (fairground rides and horror movies) or pain (masochism). However, when we recognise another's suffering, there is no such dilemma. Whereas emotions and sensations have some positive aspects to them, suffering generally has no redeeming features: it is unambiguously an undesirable thing for the individual concerned, and this appears to be universally understood. It is true that at times a person may look back and consider their suffering to have, for example, made them into a stronger person. However, the crucial point here is that whereas feelings normally viewed as negative can sometimes be experienced positively, this is not true of suffering. While being experienced, suffering is not regarded by the sufferer as a good thing. Furthermore, any intrinsic value that suffering may have (e.g. as a character-building experience) is likely to be restricted to humans and will not apply to non-human animals.

Suffering, then, though closely associated with so-called negative feelings is not to be identified with them. Suffering does not share all of the same qualities: it is different in kind. And since suffering has different qualities to those

shared by feelings we cannot think of it as a generic or 'umbrella' term under which feelings are subsumed. But if we are unable to define suffering simply with reference to feelings, then we clearly need another way forward; we must look elsewhere.

GETTING CLOSER TO SUFFERING

If suffering cannot be correlated directly with feelings, what, then, is the relationship between the two? Recalling our exploration of pain and suffering, it is not the pain itself that determines whether suffering ensues, but rather, the individual's perception and handling of the pain. It is proposed, here, that the same is true of other 'felt' experiences. One individual may grieve for a loss with stoicism and a sense that the lost life was well lived, while another may lose all sense of proportion and sink into hopelessness. Thus, whether or not a feeling triggers suffering is dependent upon the individual's *perception* or *judgement* of the situation in question. An initial characterisation of the relation between feelings and suffering, therefore, might go as follows:

> *A feeling (emotion or sensation) involves suffering when it is experienced (perceived/judged) as bad.*[4]

This removes the direct linkage between feelings and suffering: it is not the feelings themselves that, as it were, make the difference but, rather, the way the individual perceives the situation in which they arise. The individual's perception of the situation will determine whether or not certain feelings arise in the first place, as well as the intensity of any feelings that do arise. In other words, the individual's take on the situation determines whether or not he or she will suffer. Indeed, just to illustrate the power of the bad experience, there are documented cases where the experience of something as bad has been solely responsible for negative feelings. In a case reported on Radio 4 in September 2001, a man arrived at casualty in great pain as a four inch nail had gone through his boot. He was in such pain that the doctors had to anaesthetise him to remove his boot. They found the nail had not penetrated his foot at all but had gone between his toes. His 'pain' was the result of his belief that he had been injured.

Still, in most other accounts we are left wondering what it is about a situation that might cause an individual to perceive it in a particularly negative way. Even pain, say, that is thrust upon us does not *necessarily* reduce us to a state of misery. Suffering is characterised by a certain *pervasiveness,* a certain overwhelming intensity that still eludes capture. A simple characterisation of suffering that does seem to take this into account, and that registers more adequately the relation between suffering and the whole variety of negative feelings might go as follows:

> *To suffer is to experience (perceive/judge) one's life as going badly.*

This makes explicit the recognition that suffering seems to 'take over' one's whole life. It also makes explicit that suffering is not merely a matter of feelings but a matter of judgement or perception also: the way the individual perceives something is the crucial factor that determines whether or not he or she will suffer in a given situation. And this perception will typically be induced by the variety of negative feelings to which other writers have given prominence. Clearly, though, something more needs to be said about what it is to 'experience one's life as going badly'. First, though, a short diversion is necessary in order to address a possible objection. It may be argued, by some, that it does not make sense to talk about non-human animals as able to experience their lives as going badly.

CAN NON-HUMAN ANIMALS EXPERIENCE THEIR LIVES AS GOING BADLY?

Some will no doubt object that the notion of 'experiencing as' implies the presence of mental capacities that non-human animals simply do not possess. How, the objection might go, could it makes sense to think of a rat's assessing how its life was going? Clearly, it is important to explain more fully exactly what is meant by the phrase 'experience as'.

On the one hand, there remains a clear commitment to what might usefully be called a 'cognitive' account of suffering. That is, it is argued that any creature who suffers – who experiences their life as going badly – is capable of knowing certain things and believing certain things. In turn, this means that they necessarily possess certain concepts and can, for example, harbour doubts and suspicions as well as hopes, fears and expectations. On the other hand, the differences between species mean that what a member of any other species can be said to know or believe is necessarily opaque to us. But the crucial point is that this need not in any way inhibit us from ascribing to them a variety of beliefs, hopes, fear, etc. by way of helping us understand their behaviour. We simply need to be careful about how we go about this.

In other words, it is proposed that if scepticism about the cognitive abilities of other species is based on the fact that we can never reliably formulate what it is that they might know or believe, then it is misplaced, and places an unnecessary obstacle in the way of our attempt to understand and explain the behaviour of non-human animals. If we were unable to say things like 'this dog expects his meal shortly' or 'this deer is afraid of that lion', explanations of animal behaviour would be impoverished – and very likely impossible. In any given situation all we need to suppose is that non-human animals have the ability to grasp some concept or other, that has a corresponding role in their framework to the equivalent concept in ours. That is, we assume that a dog has some concept for 'meal' that equates to our own concept of 'meal', even if the

two are not identical. The concepts are sufficiently similar for us to be able to explain a dog's excited behaviour leading up to a mealtime as its expectation of an impending meal. Likewise, it is contended that for many non-human animals (mammals at the very least) it makes sense to think of them experiencing their own life as going 'well' or 'badly' – even if these concepts are not identical to our own. We can say more than 'there is something that it is like for a dog or a kangaroo or a mouse to experience its life as going badly (or well)'; we can add that the concept of 'going badly' corresponds sufficiently to our own concept of 'going badly' to make sense to us and to explain the animal's behaviour.

Non-human animals do not, of course, share all (or even most) of our concepts. It naturally makes no sense to talk of an animal appreciating music or worrying about stocks and shares. There are clear limits, and these are set mostly in the light of empirical criteria. We always need to ask: is there a behaviour on the animal's part that could plausibly be explained by ascribing to it an understanding of a given concept? There are many and varied behaviours we would expect to witness in animals that would be indicative of an awareness on their part that things are not going well. The idea that an animal is experiencing its life as going badly does have explanatory force. There is no requirement, then, for the rat to sit down and assess how its life is going; it is enough that 'going badly' means something to the rat that can be meaningfully equated to our own version of 'going badly'.

Clearly, if this subject were to be covered adequately, a much lengthier diversion would be required. As this is not possible within the confines of this paper, it is hoped that this brief explanation will be sufficient to allay any concerns that unrealistic abilities have been thoughtlessly attributed to non-human animals.

THE DYNAMICS OF SUFFERING

Having argued that both humans and non-human animals are capable of knowing when their lives are going badly, the next question to address is what counts as a life going badly. Let us look more closely at what is involved. It seems a reasonable hypothesis to argue that humans have projects and purposes that are central and fundamental to their lives, and serve to define who or what they are. The claim here is that suffering kicks in when the individual, for whatever reason, feels no longer able to sustain these projects and purposes, can see no prospect and is unable to 'project' themselves towards an acceptable future. Accompanying this sense of disintegration there is, according to some authors, typically a loss of agency. In his discussion of human suffering, Cassell (1991: 25) describes the way that some people, on having a serious illness diagnosed 'will frequently say that they cannot go to the hospital or be operated upon because they must do some commonplace task tomorrow or next week. They have not yet been able to give up their usual 'myself' of tomorrow'. And it is,

according to Cassell, that 'myself' that is 'injured in illness and lost in suffering'. Indeed, he explains that 'The suffering of the chronically ill starts with their inability to accomplish their previously important purposes'. In other words, it is the thwarting of purpose that is central to suffering. The task of the person, says Cassell, 'is the centralization of purpose'. Suffering, on the other hand, contains within it 'the defeat of such purpose'.

Cassell's description of suffering is convincing. Individuals who are suffering do indeed seem to have lost their focus or purpose in life. Their attention is drawn inwards and away from everyday activities; those things that would normally motivate them no longer motivate them.

In just the same way as humans' lives are filled and given meaning by purpose so too, it is argued, with animals. Their purposes are, of course, different to ours, but are surely no less important to them than ours are to us. Without purpose, it is suggested, animals would not be motivated to carry on. When thinking about the kinds of situations in which we imagine an animal to be suffering, we might typically describe the animal as 'hopeless', 'depressed', 'having given up', 'lost within itself', 'lacking interest in its surroundings', 'low in energy', 'displaying abnormal behaviour', and so on. All of these descriptions are consonant with the idea of loss of central purpose. Another way of describing loss of central purpose may be 'inability to cope'. Coping entails engagement with life – responding, interacting, and acting in ways that best fulfil desires and needs. When those things that normally focus, direct and motivate an individual are in some way blocked, the individual may no longer be able to cope. A further point to make about the 'dynamics' of suffering, is that suffering is not simply a *response* to negative perceptions – it also engenders them. Suffering, then, is a state of mind, that once triggered, controls, affects and colours the way things are perceived.

If, as is being suggested, animal suffering, like human suffering, is closely linked with loss of central purpose, more needs to be said about what this means. Humans have a great diversity of purposes; what is meaningful to one is of little consequence to another. If there is so much variety of purpose within the human species, is it feasible to suggest that we can know the central purposes of non-human animals? The suggestion here is that in the absence of having the luxury of *asking*, it is easier to know the central purposes of individual animals than it is to know the central purposes of individual humans. Since animals are minimally affected by culture, they are more closely aligned than are humans to their evolutionary heritage. Wild animals, at least, have been shaped and moulded by their environment over time, and the way they have been shaped to survive is tied to the activities they will naturally want to perform – that is, their central purposes. For example, the jaguar has been shaped to run fast in order to catch prey. Its body is designed to do this and, in order to survive, its mind (needs, wants, desires) must be precisely in tune with this. This means that by identifying the species to which an animal belongs, its needs, wants and desires (that is, its central purposes) will be – roughly – knowable.

If suffering arises when an individual's central purposes are thwarted, and if animals' central purposes are those activities that evolution has shaped them for, then another way of putting this is to say that animals suffer if they are prevented from performing their natural behavioural repertoires. This is by no means a new idea; indeed, it is an idea that has been much debated. Whilst initially plausible, difficulties soon arise when attempts are made to demonstrate which behaviours are essential and which can be dispensed with without any hardship to the animal. Soon, the theory is tossed aside as unworkable. This, however, is rash. It seems important to hang onto the idea that it is crucial for animals to perform natural behavioural repertoires in order to avoid suffering. The fact that it is difficult to be precise about which behaviours, as it were, *count*, is not a good reason to abandon the theory. It is, however, a good reason to explore the question further.

WHICH BEHAVIOURS MATTER?

Some authors, such as Thorpe (1965), have argued that captive animals must perform the full range of behaviours performed by their wild counterparts if they are to avoid suffering. As Dawkins (1990: 3) explains, the reasoning is that 'an animal's inability to perform any behaviour in its 'natural' repertoire may entail a high perceived cost'. For example, if an animal in the wild digs a burrow in which to hide from actual or perceived predators, it will feel the need to do the same thing in captivity, even if it is never in actual danger. The animal will still perceive the possibility of this danger and therefore need to take the appropriate action.

While this particular example may be very plausible, there are reasons to question whether the argument applies to all 'natural' behaviour. For example, Dawkins (1990: 3) argues that the most important reason why 'an animal may not suffer in captivity, even though its behaviour may be very different from that of a wild animal concerns the variety of control mechanisms underlying animal behaviour'. She first cites the example of the lack of anti-predator behaviour seen in zoo or domestic animals 'if the critical stimuli are not present'. And this leads her to postulate that 'out of sight may mean out of mind for captive animals' and thus that 'the absence of a behaviour does not necessarily imply that they are suffering'. Secondly, Dawkins suggests that when the captive environment provides good substitutes for an animal's needs, the animal may lose the motivation to perform the wild-type behaviour. She cites the example of pregnant sows that were provided with large water-beds. They displayed very little nest-building behaviour and did not 'work' to obtain straw to make a nest – which they had done when no water-bed was provided. She says, 'In this case, the end result of the natural behaviour of nest-building (a comfortable nest) seemed to be more important than the behaviour itself. Hence, sows may

not suffer from being unable to build a nest as long as they have a comfortable place to farrow'. Because Dawkins (1990: 4) also acknowledges that sometimes the actual performance of a behaviour may also be important (e.g. food-searching as well as eating) she concludes that 'The likelihood of suffering from not performing a behaviour may differ among behaviours'.

All sorts of attempts have been made to tease apart the important or necessary behaviours from the unimportant or unnecessary behaviours. Dawkins' own approach is to try to measure an animal's motivation to perform behaviours by way of choice tests. The more motivated the animal is to perform the behaviour – measured by its operant response – the more important that behaviour is thought to be to that animal. Elsewhere, it has been argued that this method is seriously flawed, and for a number of reasons (see Aitken, 2004: S237). For example, an animal may choose out of habit, proximity, ease or inexperience. Others have used stereotypies as a measure of whether behaviours are important to animals. That is, if the thwarting of a particular behaviour results in the performance of stereotypies, that behaviour is deemed necessary for good welfare. However, even within this rather crude measure of importance, disagreements arise: is it the appearance of a stereotypy, the proportion of time a stereotypy is displayed or the frequency of occurrence that matters? No doubt Both of these ideas have some merit, but since animal behaviour is multi-faceted, complex and, as Dawkins notes, has such a variety of control mechanisms underlying it, can we really hope to find a theoretical approach to the question of which behaviours matter?

It is beyond the scope of this paper to develop a theory about which behaviours animals need to perform in captivity in order to avoid suffering. However, two points will be made. The first is that it seems sensible to err on the side of caution: if in doubt, we should assume that a behaviour is essential to a captive animal and provide an opportunity for it to be expressed in some way. The second point is that in asking which behaviours animals need to express in captivity, perhaps we are asking the wrong question. Behaviours do not occur independently of a surrounding environment with its variety of stimuli. That is to say, behaviours are *contextual*. Indeed, they have evolved as part of what we might term a 'survival package'.

Dawkins' previously-mentioned notion that 'out of sight may be out of mind' relies upon the idea that if a behaviour is not expressed in captivity due to lack of the relevant stimulus, it may not be a behavioural requirement at all. Others share this view. For example, Perry's (1978: 387) letter to the Veterinary Record expresses this sentiment very clearly. In an ongoing debate about the behavioural needs of battery chickens, Perry writes: 'It might conceivably be that birds in battery cages do not need to scratch the floor or dust-bathe or extend their wings, because the cage environment does not stimulate or elicit such a response'. If, however, we recognise that behaviours and the relevant stimuli for those behaviours are part of the same survival package, having evolved together,

it becomes clear that a behaviour and its stimulus cannot really be separated. The behaviour has evolved in response to the stimulus. When we find that a behaviour does not occur in captivity because the relevant stimulus is missing, this should not be interpreted as meaning that the behaviour is therefore (or conceivably) not important. Rather, we should think of this as an example of the animal *being deprived of the relevant stimulus* (which may or may not be crucial to it). It might, therefore, be more useful to ask which *stimuli* an animal requires, rather than which behaviours it needs to perform. Another way of putting this is to say that an animal requires a certain type of environment in which to live well. It is not at all clear why the performing of the behaviour is seen to be more relevant than the provision of the stimulus. By changing the emphasis, it would no longer make sense to say that the absence of, say, wing-stretching in battery chickens (due to restricted space) can conceivably be an indication of lack of need; this could only be said if the stimulus (sufficient space) was provided but not utilised by the hens in this way.

Restricting an animal through captivity by definition reduces its usual wild-type stimuli. If behaviours often are, as they seem to be, responses to stimuli, then determining the behaviours an animal needs to perform by virtue of those we see in the new restricted environment is a faulty strategy. We run the risk of assuming lack of necessity, when the real problem is inappropriate environment. Behavioural needs cannot be gleaned through seeing which behaviours are performed in a restricted environment; indeed, the whole problem with restricted environments is that they restrict opportunities for behaviours. While the strategy of providing natural stimuli could, in theory, run the risk of providing stimuli that are not absolutely necessary for good welfare, it clearly avoids the serious problems associated with assuming behavioural need only on the basis of behavioural performance.

With this in mind, let us return to the idea that what an animal requires in captivity is not merely 'the chance to perform its range of natural behaviours', but rather, the opportunity to express the whole survival package that has made it into the animal it is.[5] This may not appear to be appreciably different; however, it requires a shift in emphasis, away from the naming of specific behaviours to considering the animal together with its environment. Instead of working out whether this or that behaviour is necessary, what is suggested is a shift to thinking of animals as requiring a *programme of activity* that relates to the way they have evolved. This programme of activity would concentrate as much upon behavioural stimuli as upon the behaviours themselves.

Recalling that suffering is understood as the thwarting of central projects and purposes,[6] it is clear that in order to prevent suffering we need to ensure that animals retain their primary projects and purposes. The best way of achieving this is to provide opportunities for animals to follow those projects and purposes they developed in order to survive. When we look at what animals do in the wild, they are surviving. But they are not passively surviving: they are actively

surviving. That is, their actions are tailored to secure their survival. Their actions are therefore purposeful. If captivity typically does one thing it is to remove the need for purposeful behaviour, because it removes the need for many survival-like actions such as finding food or a mate, escaping from predators, seeking out a safe place to sleep, and so on.

Given this thinking, environmental enrichment as we know it (which is often a response to an abnormal behaviour, and attempts to replace this with acceptable behaviour) could be usefully replaced by captive environments designed to encourage an animal's way of life. And this could be done through a programme of activity based on the species' evolutionary history. Such a programme of activity, it is argued, will maintain an animal's sense of purpose. If we wonder how to approach this, we might provide each animal with the kind of environment we would provide were it destined for reintroduction to the wild. Such environments are designed to retain the animals' ability to survive in the wild, and will therefore come close to providing them with the opportunity to express the most purposeful behaviours of all – survival skills. We could also approach the question by thinking about ways of providing appropriate kinds of stimuli for the animals; that is, stimuli of the kind that has shaped their evolution.

It has been argued, then, that unless captive animals are able to retain purposeful behaviours (in other words, survival strategies) they will be at risk of suffering. There is not, then, necessarily agreement with those who claim that animals need to perform their entire range of evolved behaviours, for some of these behaviours may not fall into the category of 'primary purpose'. Nevertheless, serious issue is taken with those who argue that the absence of a behaviour as a result of the absence of the relevant stimulus suggests the non-essential nature of that behaviour. If the stimulus for a behaviour is missing, nothing can be said about the importance of the behaviour to the animal concerned. The fact that the animal does not display the behaviour is at least as likely to be because the stimulus is missing as because the behaviour is not of importance to it.

CONCLUSION: THE IMPLICATIONS FOR ANIMAL WELFARE

It has been argued, then, that an animal suffers when it perceives its life as going badly. Many different factors can be responsible for this, including, but by no means restricted to, the experiencing of pain. Suffering can be said to be taking place when the individual is no longer able to pursue its central projects and purposes – those survival-based activities that evolution has shaped it to perform. If the analysis is correct, then there are some important implications for animal welfare.

1. In order to know whether animals are suffering or not, we need knowledge of their evolutionary history so that we can determine what their central projects and purposes are. We are undoubtedly less well informed about some animals

than others. This exposes the animals we know less about to a greater risk of suffering. We need to be mindful of this and ensure we become as knowledgeable as possible about each and every species.

2. The use of transgenic animals in animal experimentation is increasing rapidly (e.g. see Rutovitz and Mayer, 2002: 5). Worryingly, though, transgenic animals are laid open to suffering in that they are, in crucial ways, unknowable. Due to the genetic changes we impose upon them, they may no longer have clearly defined central projects and purposes and, even when they do, it is not necessarily easy for us to know what these are. If we change an animal genetically can we tell if we have altered, removed or left unchanged their central purposes? Genetically altered animals, then, pose an enormous challenge for us in the area of animal welfare.

3. Given that by definition captivity restricts an animal's possible activities and occupations, it has the potential to create suffering in and of itself. Somewhat controversially perhaps, it may even be viewed as a prime cause of suffering. While we may feel that we have covered all obvious needs such as food, companionship, space, and so on, suffering may yet arise. For example, a migratory bird may suffer if unable to follow its strong desire to migrate, even when there is sufficient food available. Similarly, an animal that spends much of its time in the wild searching for food may suffer in captivity if food is simply delivered to it. The possibility of these more subtle causes of suffering requires us to be a great deal more aware than currently.

4. Animals may be both more and less open to suffering than humans. They may be more likely to suffer because they lack the same ability as we do to see beyond immediate situations and understand that their current situation is likely to change. Conversely, animals may be less likely to suffer because there are fewer triggers for suffering than there are for ourselves. From the prospect of nuclear war to the knowledge that one has been jilted by one's lover, the factors that can trigger the human descent into misery are extensive, but many of these lie outside the animal's capacity to comprehend. For animals, on the other hand, lacking the same ability to see beyond their immediate situation, pain, unwonted confinement and disorientation can trigger this descent very rapidly, where they would not do so in humans. It is incumbent upon us to be sensitive to these differences so that we do not fall into the trap of failing to see things from the animal's point of view. Situations that may not lead to suffering for us may well do so for some animals, and *vice versa*. It is not enough, then, that we rely on our own sensitivities as a yardstick for predicting whether an animal will suffer or not: we need a more highly-tuned and species-specific yardstick than this. In other words, what is required is very different from the current situation in which animals' sensitivities are deemed to be less sophisticated than our own, leading to the assumption that animals have a lower susceptibility to suffering.

5. My account brings into question the roles of anaesthesia (and to a lesser extent, analgesia) in relation to suffering. There seems to be a mistaken assumption that, provided an experimental animal receives anaesthesia, it is thereby protected from suffering. This has likely arisen from the erroneous conflation of suffering and pain. Experimental animals cannot be said to be free of suffering simply because an anaesthetic is used during a painful procedure: anaesthesia is not a get-out clause. Many of those who have experienced a general anaesthetic will testify to the fact that the after-effects are most unpleasant. There is a strong chance than an animal subjected to repeated anaesthetics would perceive its life to be going badly – and thus would be suffering. A similar case could be made for animals kept on high doses of pain killers.

6. Finally, this account brings into question how we go about the 'measurement' of suffering. Although it has been argued that suffering is a state of mind involving judgement or perception rather than mere sensation or feeling, it is no part of the argument to suggest that it is merely a private and unfathomable notion that eludes research. Nevertheless, once we move away from the model that assimilates suffering to feelings, it becomes less meaningful to measure it using traditional scientific methods (with its reliance upon physically measurable data) where notions of intensity and duration apply. And, of course, if we cannot reliably measure suffering, then we expose animals to the prospect of suffering in silence.

ACKNOWLEDGEMENTS

I could think of no better way of honouring Alan than to write up a piece of research we worked on together. As an undergraduate student, philosophy was merely my last minute choice until, at one of Alan's seminars, his skilful teaching produced a sudden and thrilling 'aha' moment for me – and I was hooked. Alan's breadth of knowledge, imagination, crystal clear thinking and sheer brilliance continued to guide and inspire me through my degree, PhD and post-graduate research. I hope Alan will forgive me if I have misrepresented any of his ideas in the writing of this paper. All errors, clumsy expressions or poor English are mine, while the more elegant passages belong to Alan.

NOTES

[1] The definition of suffering covers mammals, at least, but quite possibly other sentient animals too.

[2] The argument is not about pain *per se* as it is quite obvious that mild or transient pain does not lead to suffering. Rather, the question addresses whether pain of the kind we would *imagine* to cause suffering does, in fact, necessarily do so.

[3] A distinction must be made between suffering and the idea of 'suffering from'. We may talk about someone as, say, suffering from stress, but this is merely a way of describing a stressed person. They may or may not be suffering. Suffering, in this paper, refers to the phenomenon in its own right.

[4] 'Bad' refers to a state of mind rather than something like intensity or duration, for, as explained earlier, it is the perception of the situation that triggers suffering rather than the feelings alone.

[5] One could call this a form of essentialism, but it is meant, here, simply as an evolutionary explanation: animals have been moulded over time to fit with their environment to the extent that their survival needs are predictably tied to it.

[6] It should be noted that suffering only occurs when individuals themselves judge that their central projects and purposes have been thwarted (and thus that their life is going badly). That is, the individual needs to actually experience the thwarting to feel its impact. If it were possible to thwart an animal's central purposes without the animal being aware of any impact upon it (for example, through adequate provision of environmental enrichment in captivity) then this would not lead to suffering. Conversely, if the individual judged their purposes to be thwarted (even if this was not, in fact, the case) suffering could occur.

REFERENCES

Aitken, G. 2004. 'Assessing animal suffering: choice tests – can we rely on them?'. *Animal Welfare*, **13** Supplement, S237.

Bentham, J. 1789. *The Principles of Morals and Legislation,* chapter XVII, Section I.

Broom, D.M. and K.G. Johnson. 1993. *Stress and Animal Welfare*. London: Chapman and Hall.

Cassell, Eric J. 1991. 'Recognizing suffering'. *Hastings Center Report*, May-June.

Dawkins, M.S. 1990. 'From an animal's point of view: motivation, fitness and animal welfare'. *Behavioural and Brain Sciences* **13**: 1–61.

DeGrazia, D. 1996. *Taking Animals Seriously: Mental Life and Moral Status*. Cambridge: Cambridge University Press.

Masson, J. and S. McCarthy. 1994. *When Elephants Weep: The Emotional Lives of Animals*. London: Random House.

Perry, G.C. 1978. Letter to *The Veterinary Record*, April 29, p. 386.

Rollin, B. 1998. *The Unheeded Cry: Animal Consciousness, Animal Pain and Science*. Ames: Iowa State University Press.

Rowan, Andrew N. 1988. 'Animal anxiety and animal suffering'. *Applied Animal Behaviour Science* **20**: 135–142, doi: 10.1016/0168-1591(88)90133-5.

Rutovitz, Jay and Sue Mayer. 2002. *Genetically Modified and Cloned Animals. All in a Good Cause?* A Report by GeneWatch UK, Buxton.

Thorpe, W.H. 1965. 'The assessment of pain and distress in animals', in F.W.R. Brambell (Chairman), *Report of the Technical Committee to enquire into the welfare of animals kept under intensive systems* (HMSO).