Animal Minds: The Empirical Foundations of the Interests of Animals

by

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ABSTRACT

In this thesis, I submit an empirical method for assessing the interests of non-human animals. This method involves attributing interests to animals on the basis of the choices they make between competing commodities/environments and by gauging the amount of energy they are willing to expend in acquiring these alternatives. Outfitted with consumer demand theory I argue that this method not only determines what an animal wants, it also reveals the commodities that the animal judges to be indispensable to its welfare.

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For Marin

"If an animal's welfare resides in how she or he feels, and if those feelings are the function of the mind, then any serious discussion of animal welfare must somehow account for what is in the animal's mind."[1]

[1] (Carbone, 2004, p.5)

Introduction

This thesis is about non-human animals. Human beings have an intriguingly schizophrenic relationship with other animals that is marked by both revered veneration and callous indifference. On the one hand, we treat our pets - a class that has expanded beyond the more generic domesticated cat and dog to include birds, rats, tarantulas, snakes and fish – as though they were miniature children, coddling them and caring for their every need. Remarkably, we find the financial means to pamper our favourite creatures with day spas, psychological treatments, grooming centers, and sumptuous culinary delights. And while we pay for the expensive surgeries and medications necessary to keep our pets happy and healthy, we simultaneously sanction the slaughter of millions of other animals to satisfy our desire for the benefits of animal flesh, animal entertainment and animal experimentation.

This sort of inconsistency seems to plague our thinking about other animals. Consider the disparity that persists between what we say about how animals ought to be treated and the way we actually treat them. Many countries officially placate their citizen's concerns about animal welfare with legislation designed to prevent cruelty or other unnecessary suffering to animals. Section 446b of Canada's federal criminal code, for example, prohibits "anyone from willfully causing animals to suffer from neglect, pain, or injury." The mere existence of such legislation implies that citizens of Canada do not condone indiscriminate cruelty to animals and that we deem the intentional infliction of suffering on animals to be a punishable offence.[2] And while this national

[2] My assumption here that Canada's anti-cruelty legislation represents a national sentiment that animals are entitled to some sort of legal protection for their own sake may be objected to on the grounds that this

sentiment is codified in federal and provincial animal welfare legislation, we paradoxically undermine this same legislation by systematically exempting any neglect, pain, or injury that an animal suffers as the result of agricultural practices or experimentation.

The Moral Status of Animals

At least some of the inconsistencies in both our views and our treatments of other animals can be traced to ambiguities regarding the moral status that we attribute to these creatures. Determining whether an individual or group has moral status is an important undertaking because it is this status that decides the moral fate of those in question. In deciding whether or not animals have moral standing, we implicitly resolve the problem of whether we have any moral obligations to them (we do not, however, resolve the further difficulty of what these obligations are). If, for example, we deny animals moral significance, concluding that they are ultimately devoid of moral status altogether, then we implicitly commit ourselves to the view that we have no direct moral obligation to them. If, on the other hand, we decide that animals do indeed enjoy moral status and seek to extend to them membership in the moral community, then this moral status engenders in us obligations to treat them accordingly. Resolving the question of whether or not non-humans have moral status, then, becomes an important feat, for it is only through determining this that we can discover what, if any, obligations we owe to non-human creatures.

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legislation was originally conceived of to protect the interests of the animals' owners and not the animals themselves. Well this legislation may have its roots in the concerns of animal owners I do not think that this undermines my point that many Canadian citizens believe that the interests of non-human animals deserve some sort of legal/moral protection. This is further evinced by the recent attempts in Parliament to pass stronger, though admittedly controversial, animal cruelty legislation.

People's intuitions are sharply divided as to the moral status of animals, and this has prompted some impassioned debates on both sides of the issue, particularly in philosophical circles.[3] The difficulties arising here should be at least partially attributed to the unique place that animals have held in our moral thinking. Prior to Charles Darwin, it was generally assumed in the Judeo-Christian tradition that humans were created with a special dignity not enjoyed by any other living thing. Reinforced by a hierarchical chain of being in which God, angels, and humans tower above all other creatures, a divide was established, thus separating "rational" humanity from the remainder of the natural world.[4] But when the implications of Darwin's theory of evolution were more fully recognized (a process which is arguably still transpiring), it became apparent that this worldview was no longer sustainable. The similarities between humans and other animals have become so evident that it is now impossible to deny the manifest relatedness between the two. Many animals move, behave, and look like us. They, like us, use sophisticated forms of communication to interact with their conspecifics. Animals form and sustain social bonds like us, they use tools, they engage in social play, and in some cases, they seem to actively participate in a local culture, transferring social norms through a process of observation and imitation.[5] Many animals seem to undergo emotional experiences hauntingly like our own.[6] Moreover, it is this recognized kinship with animals that makes animals so endearing to us, and further muddles our thinking about their appropriate moral status. The increased awareness of

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[3] (Cohen & Regan, 2001)

[4] Although this hierarchical worldview is most frequently associated with the Judeo-Christian tradition I do not mean to suggest that it is in anyway limited to it. The myth that Western or Occident cultures have historically lived at odds with the natural world (including other species) while Aboriginal or Eastern cultures live harmoniously with nature has been largely dispelled by Preece (1999) in his recent book *Animals and Nature.*

[5] (De Waal, 2001; Dugatkin, 2001)

[6] (Bekoff, 2003)

our own animal past also calls into question the alleged sanctity of human dignity. If human beings are just another type of animal, can there be any legitimate basis for granting them a privileged moral status over non-human animals? Or, must we acquiesce to the shared moral status of humans and animals as one more similarity between the two?

There are essentially three alternative positions that exist concerning the moral status of animals: first, a position of absolute dismissal in which animals are denied moral consideration altogether; second, an indirect approach that extends to animals a secondary moral status, protecting animals not for their own sake, but for some prudential value that this status produces for humans; and third, a position of direct moral significance in which animals are deemed morally considerable for their own sake. In this introductory chapter, I argue that the last of these three positions is the only sustainable solution to the problem created by the moral status of animals. In defense of this supposition, I submit a version of the argument from marginal cases intended to show that consistency demands that we either accept at least some non-human animals' entry into the moral community, or that we deny moral status to certain atypical human beings.[7]

The central difference between absolute dismissal and indirect approaches to animals is that while the former rejects outright the possibility of extending moral consideration to animals, the latter accepts this possibility, but only insofar as the extension of this moral consideration has some fortuitous consequence for other human beings. Despite this difference, however, proponents of absolute dismissal and of

[7] For a comprehensive examination of the argument from marginal cases consult Drombrowski's (1997) *Babies and Beasts*.

indirect duties to animals are both committed to the view that only human beings are the subjects of intrinsic moral worth and that only human beings can be the beneficiaries of direct duties. As a result, adherents of both of these disparate positions maintain that human beings alone are entitled to moral consideration for their own sake and not for the sake of others. In the majority of cases, the grounds for this claim is that only human beings qualify as ends in themselves.

Those who advocate that non-human animals should not be considered directly in our moral deliberations face an unfortunate quandary called, 'the problem of marginal cases'. Marginal cases refer to those human beings who are developmentally, cognitively, or emotionally challenged, a class which includes infants, the seriously mentally handicapped, and the severely senile. In order to legitimately conclude that all and only human beings are deserving of direct moral status, there must be some property that only human beings have that justifies their exclusive and privileged moral status. Traditionally, philosophers have appealed to a plethora of alleged uniquely human properties (e.g. rationality, autonomy, self-awareness) to validate the superior moral standing of human beings. The problem with all of these attempts, however, is that there are invariably some human beings, who lack the property invoked to justify the exclusivity of human beings' moral status. The implication of this, of course, is that if these marginal cases are devoid of the property invoked to demarcate the moral community, then it would appear that they would not meet the requisite condition for moral status, and thus, would not be entitled to moral consideration.

An example of the argument from marginal cases will assist in portraying the exact nature of the difficulty facing those who oppose considering animals directly in our

moral decision-making. The argument from marginal cases is both general and versatile in that it can be employed as a persuasive objection to any property that is invoked as justification for the subordinate moral status of non-human animals. Consider, for instance, the proposal that it is the rationality of human beings that justifies giving us alone direct moral status. To see how this suggestion falls prey to the problem of marginal cases consider the following argument:

> (1) Rationality is a morally relevant characteristic that justifies the extension of direct moral status to only those beings in possession of this essential quality.
> (2) There are some human beings, namely, marginal cases, who are not rational.
> (3) Therefore, either: (a) any humans who are not rational cannot be accorded direct moral status, or (b) the claim that rationality is a morally relevant difference should be abandoned.

The first premise in this argument simply states the property (in this case rationality) proposed as justification for direct moral status. We need not specify precisely what we mean by rationality here; something like "the ability to engage in logical reasoning" will suffice for our present purposes. The second premise notes that there are some human beings who, however we decide to define rationality, do not and cannot satisfy this imperative condition. It follows from this that if rationality is the criterion for (direct) moral considerability, then any entity failing to satisfy this criterion cannot be a candidate for moral consideration. This leads to the conclusion that either the marginal cases lacking rationality are not entitled to direct moral consideration, or rationality is an untenable boundary for demarcating the moral community.

There are a number of different ways to formulate the argument from marginal cases, but all of the versions are related in that they all serve to undermine the conclusion that human beings alone are owed direct duties. The argument from marginal cases achieves this result by invoking some version of the preceding dilemma: either the proposed criterion for moral considerability (i.e. rationality) ought to be abandoned, or any human beings who fail to satisfy this criterion ought to be deprived the security and protection that direct moral status affords. The latter alternative - that atypical humans are of no direct moral significance - rightly strikes many people as an unpalatable if not altogether absurd conclusion. To avoid this unappealing conclusion, a defender of the view that animals do not deserve direct moral consideration can embrace the former option. This would involve substituting the proposed property for one that is less lofty (e.g. sentience) and that will allow for *all* human beings (including marginal cases) to qualify for direct moral status. The problem with this maneuver, however, is that any property shared by *all* human beings will also be found in at least some non-human species. This would, of course, require granting both humans and the select non-human animals that possess this essential property similar moral consideration. Needless to say, neither of these alternatives is likely to be found appealing by those who reject the extension of direct moral status to animals.

There is one important property that is occasionally cited as justification for the privileged moral status of human beings, namely, the property of being genetically human. This property is immune to the argument from marginal cases, for, if the property of being human is employed to outline the moral community, then the second premise of the preceding arguments clearly fails. The property of being genetically

human is a condition that all marginal cases fulfill, but it is a condition that obviously cannot be satisfied by a single non-human animal. The main advantage of invoking this property to identify the moral community is that one can consistently attribute direct moral status to all and only human beings whilst simultaneously preventing all non-human animals from enjoying a similar status. The problem with this, however, is that it is unclear that being human is a *morally relevant* property, and therefore, why it is an appropriate criterion for delineating the scope of moral consideration. Why should species membership determine one's moral fate rather than some more pertinent property like the ability to consciously experience suffering? To claim that only creatures falling within a very narrow genetic range are morally considerable is, along with being suspiciously convenient, exceedingly arbitrary. David DeGrazia notes the sheer peculiarity of this view, especially when one bears in mind the fact that new species gradually evolve from old ones. "Assuming that *Homo erectus* is the species from which we evolved, it seems highly arbitrary to suggest that if some members of the hominoid species somehow survived today, their interests would deserve less consideration that those of *Homo sapiens*".[8] Indeed, quasi-metaphysical properties such as a species membership do not appear to be any more morally relevant than membership in a particular race or sex.[9]

Marginal cases, then, present a formidable challenge for those who seek to bestow direct moral status to all human beings whilst simultaneously denying such status to animals. It is hard to see how one can *consistently* include all and only human beings in the sphere of direct moral consideration. The argument is not, however, incontrovertible

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[8] (DeGrazia, 1996, p.58)
[9] (Singer, 1989, p.65)

as there remain a number of responses that one might give to evade the aforementioned dilemma.

The first of these responses is to bite the bullet and to concede that neither animals nor marginal cases should be granted direct moral significance. In his *The Animals Issue*, Peter Carruthers, for example, rejects the assumption that marginal cases are owed direct duties. [10] The reason for this is that Carruthers deems rational agency to be a necessary condition for direct moral significance as he believes only rational agents are able to create, and subsequently, to enter into social contracts. The apparent implication of Carruthers' view is that as non-rational creatures, marginal cases are not protected by an inviolable moral standing that imposes obligations on others.[11] Carruthers recognizes this distressing consequence of his position and strives to amend it by extending a secondary moral status to marginal cases. Carruthers' reason for doing so, however, is not for the sake of the atypical humans who will benefit from this moral significance. Rather, Carruthers attributes moral significance to marginal cases for the positive effect that this moral status will have on social stability. Carruthers recognizes that human beings have a psychological predisposition to exhibit caring behaviours towards atypical humans. In virtue of this human tendency, Carruthers believes that a rule withholding moral status from marginal cases is likely to produce social instability in that many people would find themselves psychologically incapable of living in

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[10] A similar line is taken by R.G. Frey (1980) in chapter three of his book *Interests and Rights*.

[11] Depending on one's criteria for rational agency some marginal cases or non-human animals (e.g. the great apes or dolphins) could potentially qualify as rational agents. Carruthers, however, prevents this possibility by positing a lofty criteria of rational agency requiring the satisfaction of the following criteria: the ability to entertain beliefs and desires, the possession of a theory of mind (or alternatively, the possession of second-order beliefs and desires), the achievement of long-term planning including representations of different future existences, and the conceptualization of generally agreed upon social norms. In accordance with Carruthers' definition of rationality then, it is understandable why he believes that neither animals nor marginal humans could possibly qualify as rational agents.

compliance with it.[12] Thus, Carruthers suggests that we extend an indirect moral standing to marginal cases because doing so is conducive to a stable and secure society.

In evaluating Carruthers' suggestion, we might question the veracity of his implicit presumption that people's natural affections would create social instability if marginal cases remained unprotected by direct duties. Satisfactorily determining the sociological ramifications of denying marginal cases moral standing would require an enormous amount of empirical work that cannot be adequately accomplished here. What we can note, however, is that Carruthers' assumption is not obvious, especially as there have been societies in human history that have failed to extend secondary moral status to infants, the mentally incapacitated, and the severely senile, and these societies have not exhibited any obvious signs of instability.

Setting this aside, the plausibility of Carruthers' suggestions regarding marginal cases will ultimately depend on how plausible we find his claim that marginal cases do not matter for their own sake, but only for subsidiary reasons such as social stability. However, Carruthers' contention here remains unconvincing. We would not permit a person to torture an infant or a senile adult for the same reasons that we would not permit the torture of a rational agent. Even if it were absolutely certain that there would be no adverse repercussions for social stability, marginal cases should not be subject to wanton suffering simply in virtue of the fact that they are subjectively affected by such experiences. That is, the mere fact that a severely cognitively disabled infant can feel pain is a sufficient reason to refrain from harming it. If, then, marginal cases are to be given moral consideration, it can only be for their own sake and not for the fortuitous result that this status has for rational agents.

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[12] (Carruthers, 1992, p.117)

Occasionally, people attempt to escape the dilemma presented by marginal cases by appealing to potentiality. Specifically, it might be alleged that the comparison between marginal cases such as infants and animals is illegitimate. Although infants are not currently rational they certainly have the potential to become so, and thus, it might be argued, they should be given the direct moral status that rationality affords in virtue of their potential rationality. Furthermore, as animals presumably lack even the potential to be rational, they could not qualify for moral status on this basis. Thus, potentiality appears to present a viable means of justifying the inclusion of marginal humans, but not animals, within the sphere of moral consideration.

The potentiality response to the problem of marginal cases is limited in that it applies only to those infants likely to develop into rational agents. It does not apply to the remaining marginal cases that lack the potential to become rational agents. Moreover, why should we think that the potential to be included in the moral community entitles certain infants to direct moral status prior to their actually realizing this potential? I have the *potential* to become a police officer, but surely I am not to be granted the right to arrest people or to carry a gun simply in virtue of my mere potential. The reason that I am not to be allotted the benefits and entitlements of a police officer is because potentials do not generate *actual* benefits, they generate potential ones. Similarly, it does not follow from the fact that some infants retain the potential to become members of the moral community that they ought to be accorded the benefits and privileges that direct moral status affords. It seems then that one cannot hope to validate the extension of

direct moral significance to marginal cases on the basis of their mere potential to satisfy the conditions deemed necessary for this significance.[13]

Historically, animal liberationists and animal rights theorists have defined the scope of moral consideration so as to include both marginal cases and non-human animals. The standard means of achieving this result is to propose sentience as the criterion for direct moral status thereby making the ability to experience pleasure and pain both a necessary and a sufficient condition for entry into the moral community.[14] This claim, that not only humans, but all sentient animals are entitled to moral consideration, is not an uncontroversial one. Indeed, a number of philosophers have expressed their misgivings about its veracity.[15] Despite these reservations, in the following pages I will assume that all sentient beings are a source of intrinsic moral worth, and I maintain that sentient animals cannot be deprived of direct moral status without a corresponding denial of the moral standing of marginal cases.

The ramification of attributing direct moral status to all sentient beings is that the interests of sentient animals are intrinsically valued *for their own sake* and not for any instrumental value that the consideration of these interests might have for others. This requires that human beings, as moral agents, consider the interests of all moral patients (including those of other species) in their moral deliberations.[16] This raises a host of

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[13] For a similar though somewhat elaborated discussion of potentiality as it relates to the problem of marginal cases see pages 47-48 of Mark Rowlands' (2002) book *Animals Like Us*.

[14] Examples of this approach are found in the arguments of Singer (1989), DeGrazia (1996), Rachels (1990), and Cavalieri (2001).

[15] More recent dissenters from this view include Frey (1980), Cohen (1986), Harrison (1991) and Carruthers (1992).

[16] The distinction between moral agents and moral patients is a source of much confusion and it will be helpful to explicate how I intend to employ these terms in the remainder of this thesis. By moral agent, I mean those beings that through the possession of certain properties (e.g. rationality, autonomy, etc.) have the capacity to reflect morally on how to act, and therefore, those beings whose behaviour can be subject to moral evaluation. Moral agents, then, insofar as they act without coercion, are responsible for their actions.

intriguing questions about both the nature and the status of these interests. How do we know that animals have interests? Do all animals have interests, or are only a small subsection of animals candidates for interest possession? If animals do have interests, is it possible for us to determine what these interests are?[17]

In the remainder of this thesis, I attempt to make some headway with these questions concerning the interests of animals. My approach to these questions involves three distinguishable yet closely related stages spread over the following four chapters. Chapter one is essentially definitional, concentrating on a general question regarding the interests of other species. Specifically, I will explore precisely what, in this context, the notion of 'having interests' refers to. As an answer to this question, I propose a general account of interests stipulating that the idea of *morally relevant* interests ought to be understood as encapsulating the preferences of subjects entitled to moral consideration. With this in place, chapter two is a defense of the claim that many non-human animals actually have such preferences. Here I respond to recent allegations that the attribution of folk psychological states, including preferences and desires, is unjustifiable anthropomorphism. In chapters three and four I explore the epistemological issue of how we are to assess the preferences of other species. I argue that despite claims to the

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If a moral agent is a being whose *behaviour* can be subject to moral evaluation, then moral patients are those beings whose *treatment* may be the subject of moral evaluation. That is to say, moral patients refer to all beings who are owed direct duties even though they themselves may lack agency, and therefore, may not be held accountable for their own actions.

[17] One important question that I will not be exploring in this thesis is whether the interests of human beings and other animals deserve identical consideration, or alternatively, whether one judges the interests of some animals to be, in the words of the Orwellian character Trotsky, "more equal than others". The answer one gives to this question will in part depend on the normative theory one espouses, but also on whether or not one takes there to be morally significant differences between the interests of humans and the interests of other animals. It is important to recognize, however, that it does not follow from the mere existence of morally relevant differences between the interests of animals and those of typical human beings that the interests of *all* human beings ought to be given equal consideration. If significant differences persist between the interests of marginal cases and the interests of typical human beings there may well be grounds for denying identical consideration of the interests of these respective groups.

contrary, the preferences of other species are not unidentifiable and I present an empirically tractable method for the determination of non-human preferences.

Chapter 1: The Interests of Animals

> *"So let us consider my zombie twin. This creature is molecule for molecule identical to me, and identical in all the low-level properties postulated by a completed physics, but he lacks conscious experience entirely ...There is nothing it is like to be a zombie."*[18]

The notion of interests as it applies to moral patients is of fundamental importance to morality because it is these interests that collectively characterize an individual's well-being. As the rightness or wrongness of any action is at least partially, if not wholly, determined by how that action impacts the well-being of all affected parties, it is essential to get a grasp on what an individual's interests are if we are to effectively contribute to her welfare. The natural question confronting us here is, what is it that moral agents are obligated to take into account when considering the 'interests' of others? In this chapter I will strive to answer this question by embarking on a search for a general account of interests. My hope is to clarify this crucial concept, specifying what it means to ascribe morally considerable interests to moral patients in general, and non-human animals in particular.

Regan's Distinction

One promising place to start our inquiry into the concept of interests is to note the ambiguity in our seemingly innocuous notion of 'having interests'. Hitherto, I have employed this idea with some ubiquity, but we have not yet developed this concept in any detail. Turning to an analysis of this concept, the first thing to observe about the notion of interests in the context of moral consideration is that the term is markedly ambiguous; for it is clear that when we apply 'interests' to moral patients we can mean either one of

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[18] (Chalmers, 1995, p.94-95)

two entirely disparate things. For instance, when describing someone as having interests we might mean to denote that that person is either *interested in* something (as in X takes an interest in Y, X cares about Y or Y matters to X in some sense). Alternatively, we might intend with the term 'having interests' that something *is in* an individual's interests (as in Y contributes to, or in some sense furthers X's overall well-being). In virtue of these two separate connotations, it will be advantageous to exercise caution here, keeping these two senses distinct, and taking special care not to conflate them.

In our effort to keep these two meanings distinct, it will be beneficial to offer separate designations for these two varieties of interests. Following Tom Regan's lead we can identify these two competing sorts of interests as "preference interests" and "welfare interests."[19] By the former, Regan intends, "those things an individual is *interested in*, those things [s]he likes, desires, wants or, in a word, prefers having; or contrariwise, those things [s]he dislikes, wants to avoid or, in a word, prefers not having."[20] This variety of interests is to be distinguished from an individual's welfare interests, which Regan links to the additional concepts of benefits and harms. Here, Regan suggests that welfare interests denote the things we assume (rightly or wrongly) will either positively or negatively impact a person's overall well-being by either benefiting or harming them. For Regan then, to say that A has an interest in X is to say "that having or doing X would (or we think it would) benefit A, that having or doing X would make a contribution to A's well-being."[21] Likewise, if having or doing X is not *in*

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[19] Regan first developed the distinction between preference and welfare interests (though he did not adopt these designations until later) in an early critical review (1976) of Joel Feinberg. This distinction is developed more fully in his later book *The Case for Animal Rights* and it is the later formulation of this distinction that the preceding arguments are centered on.

[20] (Regan, 1983, p. 87)

[21] (Regan, 1983, p. 88)

A's interests, it is because we suppose that having or doing X harms A, thereby detracting from A's general well-being.

To see that these two senses of the term 'having interests' are logically distinct, Regan invites us to consider that it is perfectly intelligible to describe a person as having something in her interests whilst that person remains simultaneously uninterested in it. Thus, for instance, while quitting smoking may very well be in Marin's (welfare) interests, Marin herself may attain incredible enjoyment from smoking, and therefore may not have an active (preference) interest in quitting. Similarly, Regan remarks that there is nothing awry in describing a person as being presently interested in something that is not in her interests. While Marin undoubtedly possesses an (preferential) interest in continuing to smoke, smoking is clearly not in her (welfare) interests.[22]

While these two competing sorts of interests are logically distinct, it should be noted that they are not mutually exclusive. On the contrary, there tends to be an enormous amount of overlap between those things a person has an active (preference) interest in, and the things that are in that person's welfare interests. It is undoubtedly in Adrian's welfare interests that he live a life free of psychological and physical harm, but it is almost assured that these are precisely the sorts of things that Adrian retains deep-seated preferences about. Now, there clearly are some instances where dissonance will persist between an individual's preference interests and his or her welfare interests. The smoking example is a case in point. In this example we observed a conflict between the two alternative sorts of interests, creating a tension between the thing the subject takes an

[22] It is essential that one not confuse Regan's notion of welfare interests with the term 'welfare' as it is generally employed in the utilitarian literature. According to Regan's account, a person's welfare interests are determined objectively and independently of any (actual or informed) preferences that person holds. This diverges from broader notions of welfare that take subjective preferences to be an indispensable component of a person's welfare.

interest in (smoking) and that which is in her interests (not smoking). While conflicts do indeed arise between preference and welfare interests, these seem to be the exception rather than the rule. In most cases, the things that are *in* a person's interests will tend to be exactly the same things she takes an active interest in.

Employing the definitions Regan provides, we can trace the division between preference and welfare interests to their notably varied referents. On the one hand, welfare interests make reference to those things that benefit or harm that individual, and can either contribute to or detract from her general well-being. But, as evinced by the smoking example, a person's benefits or harms in this context are *externally* determined. That is to say, they are determined objectively and without reference to what the person in question currently assumes will be either beneficial or harmful.[23] Preference interests, on the other hand, are determined internally. As preferential interests are composed entirely of internal subjective states including desires and aversions, people's preference interests cannot be defined independently of what they themselves subjectively assume will make their life go better for them.

For now I want to temporarily set aside any complications arising from welfare interests and concentrate exclusively on the concept of preference interests. Regan's definition of preferential interests in terms of various preferential psychological states draws our attention to some of the more salient properties these interests retain. One of the more prominent features of preferential interests is the fact that they are comprised of

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[23] Externalism regarding welfare, or in this case interests, maintains that facts about what makes a person's life go better are facts that are external to that person. Thus, it is a consequence of externalism that a person's interests be defined by reference to conditions that are independent, and indeed may diverge from, that individual's own desires, values, or authority (DeGraiza, 1996, p.216). This is to be contrasted with internalism, which restricts facts about what makes a person's life go better to facts "internal" to the person, that is, to facts about the psychological properties of interest-bearers.

what we might label attitudinal states. A person's preferential interests (i.e. the things that he or she is actively interested in) are composed of either a positive (e.g. desire, want) or a negative (e.g. dislike, aversion) attitude which that person holds towards the object of any given interest he or she is said to possess. Hence, in our prior depiction of Marin as preferentially interested in smoking, we described her as retaining a positive or affirmative attitude towards the object of her interest, namely, smoking. The use of these psychological pro- or con- attitudes to describe an individual's interests is fitting, especially as these terms preserve some undertone of a subject being postured or oriented towards the object of her preference. Having an attitude towards something in either the postural or the psychological sense requires that we position ourselves towards it, making ourselves inclined one way or the other with respect to it. It is this idea of being inclined or disposed either for or against something that is the essential component of an attitudinal state. Thus, we may say that I have an attitude toward something if the thing in question matters to me, or if I care about it, or if it is an object of concern to me.[24]

The idea that preferential interests involve either positive or negative dispositions *towards* some object or thing provides insight into an additional property of this species of interests. Since attitudes are directed at other things (for example, my desire *for* a raise), the attitudinal states comprising a person's preferential interests exhibit what philosophers call intentionality.[25] Intentionality refers to that property of psychological states like attitudes that are *directed at*, *about*, or *of* objects and states of affairs in the

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[24] The preceding analysis of preferential interests owes much to Sumner (1995). For a critical response to Sumner's article consult Sobel (1997).

[25] I am using this term here in the technical sense introduced by Franz Brentano to describe how mental states point to, or are about things other than themselves. Intentionality is one of the most misunderstood pieces of jargon in the philosopher's lexicon. It is easily confused with the verb 'intend' as it is colloquially used (e.g. John intends to buy jam today). An intention in this everyday sense is, like a desire, belief, fear, etc, just one form of intentionality in the technical sense.

world. Attitudinal states and mental states in general are said to be intentional in that they *intend* or *are about* things other than themselves.[26] For any given preferential interest then, there is an attitudinal state associated with it, and that state will be an intentional state in that it will contain information about or be directed towards something else. To borrow again from our previous example, Marin's interest in continuing to smoke is constituted of her desire to smoke, and this desire is an intentional state that is about, or makes reference to, the content of her desire which is smoking.

Preferential Interests and Moral Relevancy

At the outset of this chapter, I asked what it means to say that an animal's interests are a source of intrinsic value or are morally considerable. In the previous section we invoked a distinction between two competing sorts of interests, which we labeled preference interests and welfare interests. In this section I will propose that the subjective attitudinal states comprising a subject's preferences are an indispensable component of her well-being. In an effort to establish this conclusion, I will provide both a negative and a positive argument. In the latter argument, the case is made that preference interests are both necessary and sufficient for moral consideration. In the former, I invent a zombie-inspired thought experiment to suggest that the possession of welfare interests alone is insufficient for moral consideration. This conclusion is then fortified with a brief overview of some of the major advantages of recognizing a person's preferences as an essential aspect of her well-being.

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[26] The natural question this invites is: to what are intentional states directed? Recognizing that mental states (e.g. Bill's desire for a bagel) are structurally similar to the declarative sentences we use to express propositions (e.g. Bill desires that he have a bagel) many philosophers have suggested that intentional states are directed at, or are about some proposition. This picture is not, however, uncontroversial. Others have objected that the notion of a proposition is too closely tied to the verbal *expression* of an attitude as opposed to the actual attitude itself. For now we can evade this contentious issue by simply using the more neutral term 'content' to refer to the object of an intentional state.

I will now turn to my argument for why welfare interests are not able to ground an acceptable theory of interests. Regan notes that unlike preferential interests which by definition apply only to entities in possession of internal psychological states, welfare interests can be meaningfully predicated of non-conscious organisms or things that retain no (preference) interests of their own.[27] This is because while preferential interests are restricted to beings in possession of the requisite psychological states, welfare interests are applicable to any entity capable of being externally benefited or harmed, irrespective of the fact that the entity in question may not actually possess any conscious awareness, or experience of these benefits and harms.

One means of determining the plausibility of any general account of interests is to evaluate how compelling an explanation it provides for why these interests are a subject of moral concern. Now, since welfare interests are determined externally, there will be times when we attribute interests of this sort to beings/things who are themselves completely devoid of the opportunity for any conscious registration or recognition of these interests. That is to say, welfare interests allow for the possibility of a creature retaining these sorts of interests without any actual experience, cognizance, or other awareness of its interests. In such cases, a creature will be quite capable of being either benefited or harmed, but these benefits and harms will not be associated with, as they are in the case of sentient creatures, any internal phenomenology regarding these benefits and harms.

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[27] (Regan, 1983, p.89) Wayne Sumner makes a similar observation when stating that "much of our welfare vocabulary does apply to all living things with no evident strain; thus we speak of what is good or bad, harmful or beneficial for bees and bacteria, trees and toadstools." However, Sumner goes on to say "on the other hand, some of our categories do not generalize so easily, among them the central notions of welfare, well-being, and interest. (There are animal welfare groups but no plant welfare groups)." (Sumner, 1995, p.786)

As an example of this we can imagine a hypothetical example inspired by David Chalmers' notorious phenomenal zombies. Chalmers defines his zombie doppelganger as a being functionally and physically isomorphic to the actual David Chalmers with the exception that zombie Chalmers is entirely devoid of a subjective phenomenology.[28] Despite this experiential deficiency, zombie Chalmers is allegedly indistinguishable from the real David Chalmers. For, like the real Chalmers, zombie Chalmers walks, talks, and acts like any other fully conscious human being, seemingly detecting stimuli in his environment and responding in ways that are appropriate.

Does zombie Chalmers possess welfare interests? If we accept Regan's characterization, then it would certainly appear so. If I were to purposely deprive zombie Chalmers of the water he requires to continue to live (recall that as zombie Chalmers is physically identical to the real David Chalmers, he will necessarily have the same basic vital needs as the real David Chalmers), he will clearly be harmed by this privation. The fact that zombie Chalmers can be subjected to such external harms is proof that he retains welfare interests. And though he retains this brand of interests, zombie Chalmers necessarily lacks interests of the preferential variety. For in the absence of any subjective experiences, including an opportunity to consciously perceive painful or pleasant sensations, zombie Chalmers does not retain any attitudes or feelings towards the benefits or harms he is subjected to – after all he doesn't *feel* anything. As a consequence of this, zombie Chalmers cannot possibly hold any preferences regarding the respective acquisition or avoidance of the benefits and harms he undergoes. Thus, even if one did

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[28] The concept of a philosophical zombie is one that Chalmers relies on in his arguments against materialism. His own definition of his zombie twin is as follows: "this creature is molecule for molecule identical to me, and identical in all the low-level properties postulated by a completed physics, but he lacks conscious experience entirely" (Chalmers, 1995, p. 94). For an elaboration of this concept consult *The Conscious Mind*.

harm zombie Chalmers by thwarting his vital needs, he himself could have no *phenomenal* experience of this frustration.

One consequence of holding welfare interests to be sufficient for moral consideration is that we are then required to extend moral consideration to creatures like zombie Chalmers. But, since zombie Chalmers lacks the capacity to care about any of the experiences he undergoes, it is hard to see that any moral injustice is done in our refusal to grant him direct moral status. While it is possible to harm him in our interactions, it remains doubtful that he is *wronged* by these harms.

Of course, the fanciful case of zombie Chalmers is purely hypothetical; the result of a philosopher exercising his imaginative license to provoke his reader's intuitions. And while zombie Chalmers is merely a logical and not an empirical possibility, the intuitions this possibility generates regarding his inferior moral status can be fruitfully applied to some less imaginary cases. The world we inhabit is teeming with what we might call welfare zombies, non-sentient organisms like bacteria and plants that, while they satisfy the criteria for welfare interests (i.e. are the subjects of either benefits or harms), nevertheless lack any subjective experiences of, feelings about, or preferences concerning their being benefited or harmed.[29]

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[29] I have here simply assumed that bacteria and plants are non-sentient organisms. It might be objected that this presupposition cannot be substantiated as the alternative possibility that these creatures might be sentient cannot be disproved. One is reminded here of Roald Dahl's story "The Sound Machine" in which Dr. Klausner builds an auditory device enabling him to hear the high-pitch screams of his neighbour's rose-bushes being pruned. After confronting his neighbour, Mrs. Sanders, Dr. Klausner responds to her disbelief with the epistemic query "*How do you know* that a rosebush doesn't feel as much pain when someone cuts its stem in two as you would feel if someone cut your wrist off with a garden shears? *How do you know that*? It's *alive*, isn't it?" To be sure, Dr. Klausner's line of inquiry is an intriguing one, but one I shall ignore for now. The lack of a nervous system in these organisms and our assumption that sentience requires, at a minimum, rudimentary neurological sophistication shifts the onus of justification to those who would attribute sentience or any other phenomenological experience to organisms such as plants and trees.

Some philosophers have appealed to welfare zombies to support their efforts to expand the moral community beyond sentient creatures. Kenneth Goodpaster, for instance, argues that being alive is sufficient for having (welfare) interests because according to him all living organisms share the same fundamental interests in both the avoidance of conditions that harm their well-being and the achievement of conditions that benefit their well-being. Goodpaster alleges that since these organisms are capable of being benefited or harmed, they must also possess (welfare) interests. In conjunction with the interest principle, which states that interests are sufficient for moral consideration, the possession of interests by all living things implies that all living things are candidates for direct moral significance.[30]

How might we circumvent the dubious conclusion that welfare zombies like bacteria and plants have *direct* moral significance? One way is to reject the suggestion that these entities do in fact satisfy the criteria for welfare interests by simply denying that benefits and harms can legitimately be predicated of plants and bacteria. Here, one might argue that we commit a categorical mistake in predicating benefits and harms (and likewise, interests) of non-sentient organisms, and that when we speak of the 'harm' done to a plant we can only mean it in some metaphorical sense. Peter Singer seems to be advancing this position when he alleges that sentience is "a prerequisite for having interests at all, a condition that must be satisfied before we can speak of interests in *any meaningful way*."[31]

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[30] What Goodpaster suspiciously ignores, however, is the fact that if we apply welfare interests to creatures with no capacity for awareness of these interests (what I called welfare zombies), then we are also committed to the implausible view that human artifacts and inanimate objects also have interests. If a tree can be harmed through a deprivation of water, then what prevents my car from being harmed by my failure to change the oil? Suffice to say that a *reductio* of this magnitude indicates something has gone awry in our reasoning.

[31] (Singer, 1989, p.50) *emphasis added*

Unfortunately, this response remains somewhat unsatisfying as it manages to produce more questions than it actually answers. It does seem as though a limp tulip in dangerously arid soil is externally benefited by its being watered. Similarly, a tree devoid of sunlight is surely harmed by its inability to photosynthesize and produce the sugars necessary for growth and nourishment. If these notions of benefits and harms are, at worst, categorical errors and, at best, metaphorical descriptions, why does our welfare vocabulary apply to these organisms, as Sumner notes, with "no evident strain?"

We can altogether evade this bedeviling question by simply recognizing that there is another more appropriate response to the suggestion that the interests of welfare zombies are a matter of moral consequence. This response involves, as it did in the case of zombie Chalmers, an outright denial that welfare interests are sufficient for moral consideration. This maneuver allows us to concede that our welfare vocabulary of benefits and harms does *literally* apply to welfare zombies, including non-sentient organisms and inanimate objects, whilst still consistently rejecting the claim that these interests deserve direct moral consideration. While such entities can be externally harmed or benefited by our treatments of them, they cannot be wronged, and thus, their benefits and harms are not a subject of ethical concern.

Up until this stage I have focused on establishing the claim that welfare interests alone are insufficient for moral consideration. In the remainder of this section I advance that it is the preferential interests of moral patients that are particularly relevant in our moral deliberations. To substantiate my proposal, I will argue that, unlike welfare interests, preference interests offer a plausible explanation as to why these interests are intrinsically valuable, and therefore, a matter of moral concern. Furthermore, I contend

that only a preference-based account of interests can successfully accommodate the ineliminable subjectivity of well-being.

The most basic reason for assuming that the preferences of moral patients are morally relevant is that this view furnishes a plausible account of what endows these preferences with moral value, and thus what it is that makes a person's preferential interests a matter of our ethical concern. Under the banner of preferential interests, a person's attitudinal states (especially her desires and aversions) are assigned a privileged moral status in virtue of the inherent value that these states have *for their possessor.* Creatures retaining preferences and desires about the experiences they undergo are not only phenomenologically affected by what happens to them, they also *care* about what happens to them, preferring feelings of enjoyment over those of suffering. Correspondingly, creatures in possession of preferences care whether they are benefited or harmed, preferring that their welfare interests be satisfied rather than frustrated. If this is the case, then, things lacking minds necessarily fall outside of the realm of direct moral consideration. It follows from this that no wrong is done in our dismissal of welfare interests that are not owned by a subject who is phenomenologically affected by the satisfaction or frustration of his or her own interests.[32]

There remains an additional reason to suppose that it is the preferences of moral patients that we are particularly concerned with protecting and promoting with normative theories. To see this, we need only observe the intimate relation that often obtains between the satisfaction of one's preferences and the positive affect these preference-

[32] Possible exceptions to this rule include people in comas or people asleep. People in such an unconscious state do not possess episodic (though they may nevertheless have dispositional) preferences regarding how they are treated. In spite of this, however, we would still want to resist the suggestion that people in temporary periods of unconsciousness are impervious to being wronged.

satisfactions generally have on one's personal well-being. If, by including a person's interests in our moral considerations, we are trying to contribute to, or at a minimum, preserve their current state of well-being, then that person's own particular preferences should be of paramount concern in our moral theorizing. This is because well-being is relative to a particular vantage point. That is to say, well-being is generally determined by what is judged good or bad from a subject's own point of view. In order to preserve the ineliminable subjectivity of well-being, it is necessary to connect a person's well-being to some psychological process in that person.[33] Quite simply, in deciding which of a number of alternatives is better for my life, one of the determinate factors has to be which alternative is preferred *by me*. This being the case, if we hope to successfully contribute to the well-being of members of the moral community, we must assent to the indispensability of their own individual preferences, which is to say that we must include their preferential interests in our moral deliberations.[34]

Minds as Demarcating the Moral Community

In this final section, I compare this general account of interests with Feinberg's famous suggestion that only things with minds can have interests. My discussion of

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[33] (Sumner, 1995, p.767)

[34] In saying that the preferential interests are an essential constituent of a person's well-being, we are saying that the satisfaction of a person's preferences and desires is a central contributor to her well-being. It should be noted, however, that while the fulfillment of a person's *actual* preferences (whether occurent or dispositional) is an important part of her well-being, it certainly does not exhaust their well-being. The reason for this is that as fallible creatures, humans (and other animals) are prone to errors in judgment, which makes us notoriously poor at determining our own interests. Children provide a perfect example of this. While most children retain an insatiable desire to consume as much candy as they can get their hands on, we would want to resist the conclusion that the satisfaction of this desire will increase their overall well-being. To account for these and other sorts of mistakes that we make when judging our own interests, it may be tempting to interpret a person's welfare as consisting of the satisfaction of the preferences that she would hold under some ideal conditions (i.e. if she were rational and fully informed of the nature of her preferences). This is a temptation that creates its own problems. For example there are many cases where it is doubtful that my life is made better off by the satisfaction of the hypothetical preferences I would or, ought to hold, especially if it is at the expense of the preferences I actually hold. This suggests that an adequate account of welfare requires striking a balance between one's actual and their ideal preferences. For further reading consult (Griffin, 1986, p.10-39).

Feinberg is sympathetic and I view our positions as being complementary. Though I find Feinberg's analysis to be deficient at times, I nonetheless find the implications of his view for establishing the boundaries of the moral community to be essentially correct. Here I suggest that the central advantage for Feinberg and my own position is that both preclude welfare zombies from enjoying direct moral consideration, a consequence which substantiates many people's intuitions about the inferior moral status of non-sentient organisms and inanimate objects.

Historically, philosophers have often recognized the intimate relation that exists between a person's well-being and various psychological processes, in particular, a person's (actual or informed) preferences and desires.[35] One of the more influential contributors to this interpretation of the concept of interests, particularly with regard to the animal rights literature, is Joel Feinberg. In his "The Rights of Animals and Unborn Generations", Feinberg proposes that the notion of interests be viewed as inextricably intertwined with the notion of moral rights, and that we demarcate the class of right-bearers by distinguishing those entities that possess interests from those who do not.[36] In Feinberg's words, "The sorts of beings who *can* have rights are precisely those who have (or can have) interests ... what is incapable of having interests is incapable of having

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[35] In his book entitled *In Nature's Interests?*, Gary Varner attributes this view to Henry Sidgwick, citing as evidence Sidgwick's declaration that "my 'good on the whole' may be taken to mean what I should actually desire and seek if all the future aversions and desires, which would be roused in me by the consequences of seeking it, could be fully realized by me at the time of making my choice." (Varner, 1998, p.57)

[36] The connection between interests and moral rights has been accepted by philosophers both congenial and inimical to the possibility of animals enjoying such rights. Frey documents that both Feinberg and McCloskey endorse what he calls the "interest requirement," the view that only creatures in possession of interests can be the logical subject of rights (Frey, 1980, p.5). But while both of these theorists accept the interest requirement, McCloskey, unlike Feinberg, denies that animals can satisfy the crucial requirement of interest possession. Whereas Feinberg is willing to accept that animals can in fact have interests, McCloskey denies that interests can be legitimately predicated of animals. For a rebuttal to this claim, however, see Regan's reply to McCloskey (1976).

rights."[37] Feinberg arrives at this conclusion, which he calls the interest principle, (1) because to hold rights one must be capable of being represented, and it is impossible to represent a being with no interests, and (2) because to hold rights one must be capable of being benefited or harmed, and it is impossible for a being lacking interests to be benefited or harmed. Thus, Feinberg contends that as moral rights require both the possibility of representation and the potential for benefit and harm, only beings which satisfy these essential conditions can be candidates for moral rights. Moreover, as both the capacity for representation and the capacity for being either benefited or harmed require the possession of interests, a being can rightly be described as enjoying moral rights, if and only if, she possesses interests.[38]

This idea of "having interests" then is obviously central to Feinberg's account of moral rights. In light of Regan's aforementioned dichotomy, it is arguable that Feinberg is guilty here of an equivocation as he fails to specify which sort of interests - preference or welfare – that he assumes to be sufficient for moral rights.[39] In the following quotation, however, Feinberg expounds upon what he takes to be the most salient features of interest possession. He says:

> "An interest, however, the concept is finally analyzed, presupposes at least rudimentary cognitive equipment. Interests are compounded out of desires and aims, both of which presuppose something like belief, or cognitive awareness."[40]

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[37] (Feinberg, 1974, p.51 & p.57) I will not here offer a definition of a moral right, but instead will simply defer to Feinberg's popularized use of the term as "a claim *to* something and *against* someone" (Feinberg, 1974, p.43).

[38] Regan offers a similar characterization of Feinberg's interest principle when he says, "his [Feinberg's] view is that a logically necessary and sufficient condition for a being's possibly possessing rights is that it meet this principle" (1976, p.485).

[39] This is an objection which Regan (1976) himself levies at Feinberg. Regan ultimately concludes, however, that Feinberg has in mind preferential interests with his more general use of the term having interests (Regan, 1976, p.487).

[40] (Feinberg, 1974, p.52)

From this quotation, we can see that Feinberg envisions interests as being contingent on a certain level of cognitive ascendancy or sophistication which he labels "cognitive awareness." More specifically, Feinberg assumes that interests are composed of a cluster of closely connected concepts such as beliefs, desires, and goals, all of which interact in some indeterminate manner to produce specific interests in creatures.[41]

It is Feinberg's reliance on various psychological states like beliefs and desires that reveals his commitment to defining interests with reference to what matters "internally" to a creature. Therefore, we may safely assume that it is preferential interests in particular that Feinberg takes to be sufficient for moral rights. As interests are, according to Feinberg, "compounded" out of beliefs and desires identifying an individual's interests invariably requires making direct reference to her internal psychological processes. Furthermore, mere things deprived of these processes cannot possibly be bearers of the sorts of interests morality is concerned with. This is a point Feinberg forcefully emphasizes:

> "We can never have any grounds for attributing a desire or a want to a creature known to be incapable of even rudimentary beliefs; and if desires or wants are the materials interests are made of, mindless creatures have no interests of their own."[42]

Here, Feinberg specifies the importance of having a "mind" for the possession of interests of one's own. It is the internal psychological processes of minds, specifically the preferential attitudes they generate, which Feinberg suggests are necessary for having

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[41] Regan has criticized Feinberg for his failure to specify what relations he assumes to hold between these various mental states. Regan writes: "certainly it would be the case that he [Feinberg] must believe that it is more than the mere capacity to form beliefs that must be present if a being is to have desires or aims and, with these, interests. It would seem that the beliefs must be *connected* with (to) the desires, etc., in some way ... but the problem remains how to explain what this connection is" (1976, p.488). For a possible rejoinder to Regan's charges here see Frey (1980) pages 58-60.

[42] (Feinberg, 1974, p.53)

interests in a way that is relevant to morality, and hence, for having interests in the way that we as moral agents ought to be concerned.

The central advantage of a position like Feinberg's and mine is that it places severe constraints on admission into the moral community. In particular, our concentration on the inherent value of internal preferential attitudes entails that a necessary condition for direct moral consideration (or in Feinberg's view, moral rights) is the possession of a "mind" that is capable of realizing preferences; preferences that are at least minimally concerned with the future experiences to which the subject will be exposed. By positing a stringent criterion for interest possession that requires not only a capacity for benefit and harm but also demands a capacity for preferential interests (i.e. conscious recognition of these benefits or harms), we ensure that no welfare zombies like plants, photoplankton, or paramecia satisfy the conditions for interest possession and *a fortiori* qualify for the status afforded by direct moral consideration. This analysis of interests as attitudinal states not only captures many people's intuitions about the indirect moral status of cars and plants, it also provides a justification for this inferior status. Mere things, incapable of the mental sophistication required to produce attitudes concerning what happens to them, also invariably lack the sorts of interests that are a matter of our ethical concern. Quite simply, as these things do not take an interest in how they are treated, they are undeserving of the direct moral standing enjoyed by interest-bearers who do.

Looking Ahead

It is time to take stock and see how far we have come in this chapter. At the outset, I conjectured that the interests of animals are inherently valuable and as a result,

that they are entitled to moral consideration *for their own sake*. One of the pressing questions that this initial assumption creates is, "What in this context does an animal's 'interests' refer to?" As an answer to this question I propose a general account of interests suggesting that the idea of *morally relevant* interests ought to be understood as designating various psychological processes in animals, with a particular concentration on their (actual or ideal) preferential attitudes. In support of this account of interests, we observed some of this position's principal virtues, including its fortuitous consequence of limiting membership in the moral community to those endowed with the cognitive sophistication required to engender preferential states.

Throughout this chapter I have presupposed that many non-human animals are endowed with the psychological processes required for admission into the moral community. In the following chapter, I will defend this assumption by arguing that unlike non-sentient organisms and inanimate objects, many non-human animals are endowed with the attitudinal states that I have contended are essential for moral patienthood. To establish this claim, I offer an analysis and repudiation of recent claims that non-human creatures are unconscious and that the attribution of preferences to animals is misguided anthropomorphism.

Chapter 2: The Cartesian Revival

> *"Our moral sensibilities have gone sadly awry when we expend effort on determining 'what animals prefer' before inquiring into whether 'preference' can be sensibly applied to animals."*[43]

I suggested in the introduction to this thesis that one consequence of accepting sentience as the criterion of moral consideration is that we are required to include many non-human animals in the moral community, thus obligating us to consider their interests in our moral deliberations. I also argued in the previous chapter that the term 'interests' in this context refers to an animal's preferential attitudes, notably its desires and aversions. This suggests that in order to successfully show appropriate respect for an animal's well-being, we are required to first determine, and then consider, an animal's actual, and perhaps idealized, preferences in our moral decision-making.

In subsequent chapters, we will go into the details of how one determines the interests of other species, but first we must ward off some recent objections to this picture. In the previous chapter, I argued that welfare zombies (i.e. creatures deprived of any sort of phenomenal experience or awareness of their benefits and harms) have no preferences regarding their interests, and thus, cannot be candidates for direct moral consideration. In issuing these arguments, I simply took for granted the metaphysical assumption that many animals (particularly mammals, and birds, though perhaps also fish, reptiles, and cephalopods) are sentient or conscious creatures. I suggested that these creatures are capable of not only experiencing sensations, but also of developing preferential dispositions about the sorts of sensations they encounter, preferring that they undergo enjoyable sensations versus those of suffering.

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[43] (Harrison, 1991, p.40)

The most notorious philosophical dissident from the commonsense presumption that animals are phenomenally conscious subjects is René Descartes. Descartes has been much vilified in the animal rights literature for both his repudiation of animal consciousness and for his proclivity for vivisection. Descartes' minimalist approach to the cognitive abilities of non-human species is a direct result of his dualist metaphysics and its corollary, that the essence of immaterial substance is rational/linguistic thought. The ability to think is something Descartes thought language-less creatures could not achieve, leading him to conclude that animals were machines and not conscious subjects.[44]

Descartes' views regarding the nature of consciousness are no longer given much credence. There have however, been recent attempts by philosophers to oppose the extension of direct duties to animals on the grounds that non-human creatures are deprived of consciousness. In what has been called a neo-Cartesian revival, various thinkers have recently embraced and propounded the Cartesian tenet that unlike human beings, non-human animals are simply unconscious automata.[45] If correct, this view

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[44] Descartes *The Passions of the Soul* (1649) and *Discourse on the Method* (1637). For a more recent discussion of Descartes' views on non-human animals consult Harrison (1992).

[45] Peter Harrison and Peter Carruthers are two of the central figures responsible for resurrecting and propagating the Cartesian belief that animals are devoid of a subjective phenomenology. Harrison's strategy is to attack the analogical reasoning often employed to establish the claim that non-human species are conscious. Harrison contends that no amount of similarities in behaviour, physical (i.e. neurological) structures, and relative positions on the evolutionary scale can conclusively demonstrate the existence of consciousness in other creatures. Lynch and House (1991) have argued that Harrison's arguments are unconvincing and that his scepticism is insufficient to shift the burden of proof onto proponents of animal consciousness.

Carruthers' arguments against animal consciousness have changed over the last few years. In Carruthers' earlier arguments against animal consciousness he alleged that animal behaviour is not mediated by conscious states and that animal behaviour resembles various non-conscious human acitivities such as the phenomena of driving on auto-pilot or that of blindsight (1992). Carruthers' more recent arguments against animal consciousness depend on acceptance of his higher-order thought of consciousness in which phenomenal consciousness requires the capacity to think about one's own thoughts (2000). This conceptualization of one's own thoughts requires, according to Carruthers, that the subject has a theory of mind. Carruthers believes that as there is little evidence that other animals possess a theory of mind

constitutes a serious threat to the conclusions reached in the previous chapter. For if animals are simply unconscious zombies, they would also necessarily lack the preferential interests deemed essential for membership in the moral community.

In this chapter, I critically evaluate the argument given by J.S. Kennedy that, unlike human beings, other animals are simple unconscious machines. Here I will argue that Kennedy's arguments are weak, and that, as a consequence, his case for the dissipation of anthropomorphic interpretations of animal behaviour is unsupported. Contrary to Kennedy, I provide reasons to suggest that consciousness is quite a ubiquitous phenomenon in the biological world, though I do suggest that there are good reasons to assume that there are many different "kinds of minds" in the animal kingdom.[46] In light of these arguments, I conclude that recent attempts to dispel animals from moral consideration on the grounds that they are unconscious are misguided.

Neo-Behaviourism

In his polemical castigation of anthropomorphism, the ethologist J.S. Kennedy unequivocally proclaims:

> "Altogether, then, it seems likely that consciousness, feelings, thoughts, purposes, etc. are unique to our species and unlikely that animals are conscious."[47]

And in a similar vein:

> "Although we cannot be certain that no animals are conscious, we can say that it is most unlikely that any of them are."[48]

(though he admits that chimpanzees may be an exception to the rule) and he consequently concludes that there are no grounds for attributing phenomenal consciousness to non-human animals.

[46] (Dennett, 1996)

[47] (Kennedy, 1992, p.24)

[48] (Kennedy, 1992, p.31)

In both of these passages Kennedy expresses his view that no *non-human* animal (he seems to ignore the fact that human beings are also animals) enjoys a conscious mind. Here Kennedy accedes that it is, at least in principle, possible that animals could be conscious, but he does emphatically renounce the likelihood of this possibility.

I imagine that Kennedy's suggestion that animals are unconscious automata will strike many readers as puzzling. Such a suggestion flies in the face of many of our everyday observations of animals as seemingly conscious, feeling creatures. Surely the yelp from my dog when I inadvertently tread on her foot is indicative of a consciously experienced pain. After all, why would she refrain from putting pressure on her damaged paw if she had absolutely no internal experience of pain? For Kennedy, however, such commonsense thinking about animals is inadequate for the task of establishing the reality of animal consciousness. As we shall soon see, Kennedy disdains this sort of thinking about animals, believing it to be symptomatic of our unconscious and unjustified proclivity to anthropomorphize animals.

In order to fully comprehend the origin of Kennedy's disparagement of animal consciousness, we must first examine the motives underlying his arguments. Kennedy fortifies his self-admitted "uncompromisingly negative view of animal consciousness" with what he classifies as the "neo-behaviourist" approach to animal behaviour.[49] Kennedy defines neo-behaviourism by contrasting it with the classic behaviourism of Skinner and Watson that dominated psychology laboratories in the earlier half of the 20th century. Behaviourism in its classic guise was a research program in psychology that purported to explain the observable behaviours of humans and animals exclusively in terms of external physical stimuli, responses, and the reinforcements that cause humans

[49] (Kennedy, 1992, p.32)

and animals to associate a given stimuli with a conditioned response. Thus, behaviourism in its classical form eschews explanations of behaviour that make reference to "internal" psychological processes, opting instead for the "external" or environmental causes of behaviour.

As Kennedy sees it, psychological behaviourism failed as a research program due to its contempt for the internal causes of behaviour.[50] Recognizing this shortcoming of the ancestral versions of the doctrine, neo-behaviourists attempt to overcome it by allowing for the inclusion of some "internal processes in the causation of behaviour."[51] Neo-behaviourists also inherited the mechanistic conception of non-human animals shared by their behaviourist predecessors. Kennedy regards the quintessentially behaviourist assumption that animals are unconscious machines as an entirely reasonable one, though he does express his dissatisfaction with the crudely over-simplified stimulus-response models of the earlier behaviourists.[52]

While behaviourism no longer dominates psychology laboratories the way it once did, it would be a mistake to infer from this decline in popularity that Kennedy's views are merely extremist, or that behaviourist worries no longer taint researcher's perceptions of animals. Allen and Bekoff recently remarked that the philosophers they speak with are often surprised to hear that behaviourism still represents a threat to cognitive interpretations of animal behaviour.[53] Behaviourists themselves have recently reproached cognitive ethologists that prematurely announced the demise of their paradigm and they

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[50] (Kennedy, 1992, p.2)
[51] (Kennedy, 1992, p.6, 104-105)
[52] (Kennedy, 1992, p.2-3)
[53] (Allen, & Bekoff, 1997, p.55) In "The Animal Mind", Gould and Gould further characterize the continuing threat of behaviourism on contemporary research into the mental capacities of non-human species.

remain steadfast in their opinion that the only scientifically respectable way to study the cognitive abilities of animals is through a behaviourist framework.[54]

According to Kennedy, one of the essential tenets of neo-behaviourism is its vehement "anti-anthropomorphism," which, for Kennedy, entails an unqualified rejection of all ascriptions of mental experience (including feelings, motivations, and thoughts) to animals. Surprisingly, if not somewhat paradoxically, Kennedy expresses his personal reservations about our successfully casting off our tendency to anthropomorphize animals. This is because Kennedy believes that our affinity for anthropomorphism has strong cultural and biological foundations. At times, Kennedy contends that anthropomorphism is "built into us" and that it is "pre-programmed into our hereditary make-up by natural selection," suggesting that we are genetically determined to become rampant anthropomorphizers. At other times, however, Kennedy recognizes that there are probably social pressures contributing to the persistence of anthropomorphic thought.[55]

Despite asserting the existence of genetic (and cultural) underpinnings of our penchant for anthropomorphism, Kennedy remains confident that by following his prescribed remedy we can emancipate ourselves from its clutches.

> "I think we can be confident that anthropomorphism will be brought under control, even if it cannot be cured completely. Although it is probably programmed into us genetically as well as being inoculated culturally that does not mean the *disease* is untreatable."[56]

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[54] (Blumberg, & Wasserman, 1995)

[55] In her review of Kennedy, Eileen Crist questions what basis Kennedy can possibly have for his dismissal of anthropomorphism. She writes: "if, for the sake of argument, we accept his [Kennedy's] claim that anthropomorphism is 'pre-programmed into us genetically', then from what vantage point is Kennedy able to beat out natural selection at the game of Truth (rejecting the 'incubus' of anthropomorphism)? If the basis of his rejection is detached logical reasoning, then it is indeed a very insecure basis, since accepting Darwinian evolution entails accepting that logical reasoning itself has come under the shaping force of the same natural selection that has "misled" us into anthropomorphism." (1994, p.8)

[56] (Kennedy, 1992, p.167) *emphasis added*

Here Kennedy reveals his belief that the inclination to anthropomorphize is a "disease" that distorts our thinking about animals and infects our explanations of their behaviour with the unwarranted assumption that they are conscious beings.

But why is Kennedy so opposed to anthropomorphic interpretations of animal behaviour? The main source of Kennedy's hostility seems to arise from his conviction that anthropomorphism presents a serious threat to scientific progress in general, and the science of animal behaviour in particular. Thus with hyperbolic flare, Kennedy chides purveyors of anthropomorphism for impeding research into the causal mechanisms responsible for animal behaviour.

> "Our penchant for anthropomorphic interpretations of animal behaviour is a drag on the scientific study of the causal mechanisms of it ... if the study of animal behaviour is to mature as a science, the process of liberation from the delusions of anthropomorphism must go on."[57]

It would exceed the boundaries of this thesis to respond to Kennedy's specific allegation regarding the deleterious effects of anthropomorphism on our scientific understanding of animal behaviour. Suffice to say, it is not obvious that *all* anthropomorphism would be detrimental to our scientific investigation of animals.[58] On the contrary, Kennedy's allegation is undermined by his own admission that our tendency to anthropomorphize animals was pre-programmed by natural selection because "it proved to be useful for predicting and controlling the behaviour of

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[57] (Kennedy, 1992, p.5)

[58] This of course invites the question: how are we to delineate between the sorts of anthropomorphism that will advance our scientific understanding of animals and the sorts of anthropomorphic errors that will likely hinder our understanding of other species? Although I cannot now satisfactorily answer that question, I imagine that the answer has to lie in the amount of predictive fertility that a particular instance of anthropomorphism provides. That is to say, the justification for anthropomorphizing animal behaviour can only come from the predictive and explanatory leverage that the anthropomorphic description creates.

animals."[59] Assuming, for the sake of argument, that this is indeed the function that our ability to anthropomorphize serves, one would imagine that this capacity to "predict" and "control" animal behaviour would prove integral in the *science* of animal behaviour.

The Charge of Anthropomorphism

It is clear then that Kennedy deems the attribution of conscious mental experiences to animals erroneous, but precisely what kind of error is committed when describing an animal in anthropomorphic terms? To answer this question, it may be helpful to consider the pivotal distinction offered by Fisher between categorical and situational varieties of anthropomorphism. These two varieties of interpretative anthropomorphism indicate the possible ways that the attribution of a particular feeling, motivation, or thought to an animal might be mistaken. A categorical mistake "involves ascribing traits to creatures to which the traits don't ever in fact apply" whereas a situational mistake "occurs when we misinterpret an animal's behaviour in ways that could possibly apply to that animal in other circumstances, but which do not in the situation in question."[60] An example will assist in clarifying the difference between these two sorts of anthropomorphic errors.

When people unacquainted with the details of primate behaviour first observe a chimp with bared teeth, they may incorrectly construe this expression as a 'smile.' For most primates – humans being the notable exception – baring one's teeth is a threatening gesture and, as such, the naïve interpretation of a bared teeth expression as a smile is clearly inappropriate. In light of Fisher's aforementioned distinction, we see that such a misinterpretation of these facial expressions would be inappropriate for one of two

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[59] (Kennedy, 1992, p.5)
[60] (Fisher, 1996)

reasons. It may be argued that while chimps can exhibit an inviting emotional expression serving the same purpose a smile does in the social interactions of human beings, the bared teeth display is simply not it. In this case we would describe the interpretative anthropomorphic mistake of attributing a smile to a chimp as an instance of situational anthropomorphism because while it may not be fallacious to attribute the equivalent of a human smile to a chimpanzee in some circumstances, the bared teeth display is just not one of them. The alternative type of interpretative anthropomorphic error is that of the categorical variety in which a factual error is committed in attributing a (human) trait to an animal that it simply cannot possess.

With these distinctions in place, we are now in a position to adequately define Kennedy's charge of anthropomorphism. In alleging that anthropomorphism is a "disease" hampering our scientific accounts of animal behaviour, Kennedy seems to be implying that we are committing factual errors in our anthropomorphic interpretations of animals. That is, in describing animals as conscious subjects with feelings and intentions, Kennedy takes us to be engaging in a categorical error and not merely a situational one, as these mental properties are ones that he believes animals do not, and indeed, cannot possess.

Of course, anthropomorphic interpretations of animals can only be guilty of category mistakes if it is indeed the case that the animals being described actually lack the properties in question. This is an important and often unappreciated point. The mere charge of anthropomorphism cannot in and of itself expose the attribution of mental properties to animals as misguided. For if animals really are conscious beings, then there is nothing awry in describing them as such. Thus, we are confronted with the question: is

the attribution of consciousness or other mental properties to animals appropriate anthropomorphism, or are we, as Kennedy assumes, committing some egregious categorical error in attributing these properties to animals?

Superficially, the question looks to be an empirical one. In deciding whether our anthropomorphic interpretations of animals are accurate representations or categorical errors, we need only confirm or disconfirm the presence of consciousness or other mental properties in animals. But how, one might ask, do we do that? How do we determine the existence of mental phenomena in a non-linguistic creature when all we perceive is its overt behaviour? When rearticulated thus, our seemingly empirical question reveals itself to be more of a conceptual one about the appropriate means of interpreting the observable behaviour of animals. Is it, for example, legitimate to posit a conscious mind as being associated with a given animal's behaviour, or is it *preferable* to limit our descriptions of animal behaviour to the explicitly non-cognitive models advocated by Kennedy?

Some champions of animal consciousness have been tempted to defend their predilection towards "mentalist" explanations of animal behaviour by amassing countless examples of behavioural versatility in animals.[61] This strategy is limited, however, in that it only reaffirms the convictions of the converted and does nothing to convince a sceptic like Kennedy. This is, as Dunbar rightly notes, because no instance of animal behaviour, irrespective of how flexible it appears, is sufficient on its own to provide the rigorous proof that will convince the sceptical rearguard of behaviourism. In the face of

[61] This approach is exemplified in Donald Griffen (2001). Griffen, who is often labeled the founder of cognitive ethology, attempts to legitimize the scientific study of animal minds in general and the discipline of cognitive ethology in particular by invoking innumerable instances of behavioral flexibility in animals. Griffen employs these examples as justification for his inference that animals are conscious. Without the theoretical apparatus explicating why consciousness is necessary for such behavioral versatility however, Griffen's arguments invariably remain underdetermined.

such examples, the obvious response for Kennedy is that "perfectly sound adaptive explanations can be given for behaviour without it being necessary to invoke conscious thought processes."[62]

So how are we to resolve this stalemate, and determine whether or not anthropomorphic interpretations of animals are groundless or justified? Answering this question sufficiently would take us beyond the confines of this thesis. But notice: those who take anti-anthropomorphism to be axiomatic have already presumed that anthropomorphic interpretations of animals are guilty of categorical mistakes. That is to say, in attempting to expunge anthropomorphism from scientific depictions of animal behaviour, Kennedy reveals his antecedent assumption that a factual error is committed when attributing conscious mental states to animals. Of course, without reasons to substantiate this assumption, those who hold anti-anthropomorphism as axiomatic are simply assuming what is at issue.

Kennedy recognizes the risk of begging the question against advocates of animal consciousness, and to stave off this fallacious reasoning, he provides arguments in defense of his view that animals are devoid of consciousness and other mental properties. The plausibility of Kennedy's disparagement of anthropomorphism depends on the plausibility of his arguments that non-human animals are essentially unconscious machines. In the remainder of this chapter I will attempt to undermine Kennedy's rejection of anthropomorphism by presenting a critical analysis of Kennedy's arguments that animals are unconscious.

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[62] (Dunbar quoted in Kennedy, 1992, p.12)

Living in the Dark: The Unconsciousness of Animals

We can draw out two independent arguments that Kennedy employs to establish his view that animals are unconscious. In this section, I will explicate and respond to each of these arguments.

1. The Lack of "Direct Evidence"

The first reason underlying Kennedy's repudiation of animal consciousness is found in his assertion that there has never been sufficient evidence for the assumption that animals are conscious subjects. He writes,

> "People have always been very ready to believe that animals are like us in having feelings and purposes and acting upon them. Yet there has never been any *direct evidence* for this ancient anthropomorphic belief."[63]

The phrase "direct evidence" generates a host of perplexing questions: is this variety of evidence to be contrasted with "indirect" evidence? If so, what is indirect evidence and do we have any of *it* to support our belief in animal consciousness? The questions unfortunately remain unanswerable as Kennedy does not explicitly define direct evidence nor does he elaborate upon how he envisions its relation to indirect sorts of evidence.[64] In spite of this, the implication of Kennedy's passage is that while people are inclined to assume animals are conscious subjects, this belief is dubious as there is no direct evidence in its support.

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[63] (Kennedy, 1992, p.1) *emphasis added*

[64] Crist (1994) does speculate on Kennedy's usage of 'direct evidence', concluding that Kennedy is endorsing some picture of mind as inner private property influenced by the Cartesian view that we have direct or introspective access to our own minds, but that the only evidence we have for other minds is mediated through their observable behaviours, and thus, indirect. This conjecture on Crist's part is not implausible as Kennedy cites Descartes numerous times in his book. Crist follows up her interpretative efforts on the phrase "direct evidence" by attempting to dissolve this division between direct and indirect access to minds by pointing out that this position obscures the fact that we do not actually infer the presence of a mind from bodily behaviours, rather, bodily behaviours and modalities of the mind are perceived simultaneously and indivisibly in both animals and humans. In my criticism of Kennedy I grant, for the sake of argument, that his distinction between direct and indirect access is a tenable one, but if Crist is right, there may be good reasons to deny him even this.

We are given some inkling as to what Kennedy intends by "direct evidence" in the preceding passage with his additional suggestion that "we are *directly aware* of these things [feelings, motivations, and thought] only in ourselves, through introspection."[65] Here Kennedy implies that the only mind we have *direct* access to or awareness of, and presumably, the only mind we have direct evidence for, is our own. But if introspection is the sole means of attaining direct awareness of a mind, then it is no wonder, as Kennedy contends, we have never had "direct evidence" for our belief that animals are conscious beings. As a matter of definition, it would be impossible to introspect beyond our own minds and acquire such evidence. Under this interpretation of direct evidence as introspection, Kennedy's assertion that we have no "direct evidence" of animal minds is an inevitable consequence of his definition of direct evidence and not indicative of any epistemic barrier precluding our acquiring justification for the belief in the existence of animal consciousness.

This objection only succeeds in undermining Kennedy's argument if he concedes to conflating direct access with direct evidence. Kennedy might, however, object to this reading of these terms. Instead, he might allege that he does not require direct evidence to be introspective evidence, thereby consistently maintaining a logical bifurcation between direct access and direct evidence. (I assume Kennedy would continue to accept the converse, namely, that introspective access does constitute direct evidence, though in order to avoid being vacuous, he would have to assent to there being other types of direct evidence.) In which case, Kennedy would be committed to holding that while it is at least possible, in principle, to have direct evidence for animal consciousness, we currently do not possess it, and therefore, our anthropomorphic belief is unwarranted.

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[65] (Kennedy, 1992, p.9)

So what then is this direct evidence that we allegedly lack with regard to other animals? Notice that any plausible answer Kennedy gives to this question will need to allow for us to have direct evidence to justify our belief in other *human* minds. For, if Kennedy's criterion of direct evidence fails to establish the existence of minds in other human beings, then we are faced with an alternative: reject our faith in the falsity of solipsism, or discount the tenability of this criterion. Faced with this dilemma, endorsing the latter would clearly be the appropriate course of action.

The problem for Kennedy here is that much of the evidence invoked to substantiate our belief in the existence of other human minds can similarly be used to support a belief in the existence of animal minds. When faced with the unattractive possibility of solipsism, many people will attempt to bolster their inference that other human beings are conscious by emphasizing the behavioural and physiological similarities that all human beings share. If behavioural and physiological parallels are sufficient to establish a conscious mind in human animals, then the existence of similar behaviours and physiologies in other species ought to be taken as evidence that they too are conscious creatures. Many of our ordinary observations of the behavioural responses of animals, for instance, gives credence to the commonsense belief that animals are not merely responding to pleasurable or noxious stimuli, but that they are consciously aware of these pleasures and pains. The fact that many animals, particularly mammals, respond to injurious stimuli with stereotypical pain behaviours (including: high-pitched vocalizations, nursing of injuries and learned avoidance) suggests that they experience painful sensations in much the same way we do. Similarly, the physiological commonalities between humans and other species lend support to the belief that other

species are conscious subjects. These physiological resemblances need not include sophisticated neurological examples (though most mammals share the same basic brain anatomy); rather, one can appeal to, as we would in the case of other human beings, what John Searle calls similar "causal structures." In defending his conviction that other animals are conscious he writes, "I know that my dog has a certain inner causal structure that is relevantly similar to my own. I know that my dog has eyes, ears, skin, etc., and that these form part of the causal bases of his mental life just as similar structures form part of the basic structure of my mental life."[66] In conjunction with modern evolutionary theory and its presumed continuity of all living species, the behavioural and physiological similarities between humans and other animals present a formidable argument that consciousness is not exclusive to human beings.

Of course, Kennedy may object that, as language-users, we can always verify our belief in other human minds through linguistic communication – something we cannot do with animals. But the linguistic behaviour we regularly observe in other human beings is just more exhibited behaviour! If Kennedy wishes to maintain that direct evidence is the appropriate criterion for a belief in other minds, then he must furnish us with an account of this criterion that is neither vacuous nor commits him to solipsism. I have presented reasons to suggest that he cannot consistently do so without falling prey to one of these two charges. This being the case, it would be imprudent to renounce our confidence in our belief in the consciousness of animals for the reason Kennedy offers here.

2. The Uniqueness of *Homo sapiens*

Kennedy's second reason for his belief that animals are unconscious stems from his conviction that human beings are entirely "unique" and that there is a difference in

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[66] (Searle, 1994, p.217)

"kind" not merely degree between humans and the rest of the animal kingdom. Kennedy is not ignorant of the contentious nature of this claim. He appreciates that as it stands, his claim is directly opposed by modern evolutionary theory and its presumed lack of radical discontinuities between species. Recognizing this, Kennedy's case for the distinctiveness of human beings first includes a negative component in which he expresses his dissatisfaction with arguments for animal consciousness that rely on evolutionary considerations. The second component of Kennedy's argument for the uniqueness of human beings is his positive argument that only the species *Homo sapiens* has been subjected to the requisite selective pressures necessary for conscious minds to evolve. In the following pages I shall consider each of these arguments in turn.

2a. The Negative Thesis

Kennedy's concentration on the evolutionary evidence for animal consciousness is not accidental. Kennedy recognizes that evolutionary theory is frequently invoked by proponents of animal consciousness who are responsible for perpetuating the anthropomorphism that Kennedy despises.[67] Specifically, Kennedy contends that arguments for animal consciousness assume that the differences between the minds of humans and other animals are differences in degree only and not differences in kind. The implication of this assumed continuity between species is, as Kennedy remarks, that consciousness is likely present with "varying degrees of elaboration and complexity" in non-human animals.[68] If consciousness developed to further the survival and reproduction of humans, then we would expect consciousness, even if only in some

[67] Kennedy describes evolution as "the most widely held scientific reason for assuming animals are conscious" (1992, p.15).
[68] (Kennedy, 1992, p.16)

incipient form, in other animals also. This is a view that Darwin himself famously proclaimed in his defense of the evolution of higher thought processes in human beings:

> "If no organic being excepting man had possessed any mental power, or if his powers had been of a wholly different nature from those of the lower animals, then we should never have been able to convince ourselves that our high faculties had been gradually developed. But it can be shewn that there is no fundamental difference of this kind. We must also admit that there is a much wider interval in mental power between one of the lowest fishes, as a lamprey or lancelet, and one of the higher apes, that between an ape and a man yet this interval is filled up by numberless gradations."[69]

Despite Darwin's willingness to extend "mental powers" to animals, Kennedy contends that in citing evolutionary continuity, supporters of anthropomorphism implicitly, and unjustifiably, assume that "quantitative differences are *not* translated by thresholds into qualitative effects."[70] By which he means, those who invoke evolutionary considerations to establish that animals are conscious fail to apprehend that negligible disparities in genetic or neurological constitution can result in enormous phenotypic, specifically, mental discrepancies between species.

Pointing to the manifest differences between human and non-human nervous systems, Kennedy alleges that these quantitative differences in nervous systems could potentially translate into unimaginably enormous qualitative differences in the psychological capacities realized by these systems. Likewise, Kennedy professes that though the genetic variations between humans and animals may appear miniscule (reported to be a scant three percent between humans and our closest ancestors the chimpanzee) such slender variation could translate into significant qualitative effects, effects that amount to the difference between full-blown conscious awareness and complete unconsciousness.

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[69] (Darwin, 1936, p.445)
[70] (Kennedy, 1992, p.16) *emphasis added*

This is a picture Kennedy tries to make more palatable by suggesting that consciousness probably developed *de novo* in our species through genetic mutations that allowed for increased brain development. This increased opportunity for brain development, in which the brain was allowed to grow for a longer period of time than the body according to Kennedy, subsequently resulted in an ineradicable alteration of humans' nervous systems, making them receptive to cultural transmission at an astounding rate. In light of these considerations Kennedy concludes:

> "It cannot, then, be assumed that the continuity of the evolutionary process means that we differ from other animals in degree only, or that other animals must be conscious to significant degree."[71]

According to Kennedy, advocates of anthropomorphism fail to appreciate that the evolutionary considerations they invoke are insufficient to establish their view that animals are conscious, as these sorts of arguments depend on the unsupported premise that minor qualitative differences cannot have extensive quantitative effects. Kennedy suggests that these differences (either genetic or neurophysiological), while appearing trivial or immaterial, may in fact be substantial contributors to the uniqueness of human beings, and it is this ineliminable possibility that precludes us from imputing consciousness to animals on the basis of evolutionary continuity alone. Moreover, as humans have a distinct genetic constitution and evolutionary history, it is possible that our uniqueness in these respects is what allows us alone to be conscious.

Of course, Kennedy is absolutely right in one respect: no amount of neurophysiological data or evolutionary theorizing *on its own* is sufficient to establish that animals are conscious subjects. But nothing about the uniqueness of humans in general, or the exclusivity of human consciousness in particular, follows from this

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[71] (Kennedy, 1992, p.18)

admission alone. All that follows from the fact that no singular sort of evidence incontrovertibly establishes animal consciousness is that we cannot rule out the *possibility* that only human beings are conscious, for the simple fact that any evidence thought to be indicative of animal consciousness is dubitable. However, this is not what is at issue. Kennedy's conclusion cited at the outset of this chapter is that it is "likely" that consciousness is unique to our species alone, and that it is "unlikely" that any other species is conscious. The words 'likely' and 'unlikely' signify evaluations on Kennedy's part concerning the *probability* of animal consciousness. His merely pointing out that animal unconsciousness is a logical possibility does nothing to establish the *likelihood* of that possibility.

2b. The Positive Thesis

In order for Kennedy to establish the much stronger conclusion that he holds regarding the improbability of animal consciousness and, likewise, the uniqueness of human beings, he must furnish us with an additional argument in its support. This argument can be found in his suggestion that the complex social interactions of human beings have endowed them alone with consciousness. In issuing this argument, Kennedy expresses his approval for the conjectural assumption that the evolution of human consciousness is closely associated with an increase in the complexity of the social hierarchies of early humanoids and the involvedness of the relationships that these hierarchies maintained.[72] Kennedy speculates that at some stage in our evolutionary

[72] (Kennedy, 1992, p.20) Here Kennedy does give us some clue as to how he envisions the association between consciousness and social hierarchies. He alleges that the main selective pressure behind the evolution of consciousness was the increased complexity of primates' social interactions. However, this is a position he seems to contradict when he later suggests [see following quotation] that consciousness is what made complex social interactions possible. I will not belabor this apparent contradiction, but as Kenendy himself does not unequivocally explain the nature of the connection between our consciousness

history, human societies experienced an exponential increase in intricacy, allowing for novel social interactions including previously unavailable opportunities for altruism, deception, and cooperation. Citing Humphreys, Kennedy notes that the sheer intricacy of human societies is unparalleled in the animal kingdom, and that the social relationships of human beings have a depth and a complexity that is not present in the social relations of any other species.[73] In light of this intimate relation between our increased cultural interactions and our consciousness, Kennedy concludes:

> "If, therefore, this explosive development [in social complexity], which is thought to have required only some tens of thousands of years but amounted to a qualitative change, was made possible by the development of consciousness *de novo* in our species, then it seems most reasonable to infer that other animals are not conscious."[74]

Kennedy's argument for the uniqueness of human beings is not meant to be a logically valid one; rather, it is an example of inductive reasoning. Formalized, the argument reads:

Premise 1 – There is a correlation between the development of consciousness in human beings and the advent of complex social/cultural relations.

Premise 2 – No non-human animal species exhibits social/cultural relations that are as complex as those of human beings.

Conclusion – Therefore, it is likely ("reasonable to infer") that no non-human animal species has developed consciousness.

Even if we assume, for the sake of argument, that the evolution of consciousness in ancestral human beings was directly related to their entering and

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and our increased social complexity, in what follows I will simply assume that he holds a close association between the two.

[73] (Humphrey quoted in Kennedy, 1992, p.23)

[74] (Kennedy, 1992, p.23)

sustaining elaborate social hierarchies, it would be fallacious to conclude from this correlation that human beings are entirely unique in having conscious minds. It may very well be the case that the evolution of consciousness in human beings is contingent on a very particular evolutionary and cultural history, but it is far from obvious that humanity's uniqueness in this specific regard makes it any less (or for that matter, any more) likely that other species do not also have some variety of consciousness shaped by their own evolutionary histories. On its own, the fact that *human* consciousness developed in tandem with enhanced social systems seems quite unrelated to the question of whether or not animals are conscious.

Kennedy could fortify his dismissal of animal consciousness, thereby increasing the plausibility of his inference that animals are altogether unconscious, by providing grounds to suggest that consciousness can develop and flourish *solely* in a population embedded in a suitably rich social system. That is, if we assume that consciousness and complex social structures are inextricably linked, such that in the absence of the latter the former was impossible, then Kennedy's rejection of animal consciousness becomes much more tenable. For, if this claim were true, then Kennedy's avowal that consciousness is endemic to human beings exclusively would become much more probable.

But what possible evidence could Kennedy cite in support of this assumption? The only evidence we have for it is Kennedy's own contention that the evolution of *human* consciousness coincides with an explosion in the complexity of human societies. But it would be irresponsible for him to generalize from one observed correlation between consciousness and social complexity (namely, our own) to the claim that the evolution of consciousness necessarily requires intricate social relations. The

implausibility of this assumption is further exposed when we consider the sheer arbitrariness of the suggestion that the existence of conscious experience is contingent on a socially complex system. While it may be true that the especially sophisticated facets of human consciousness (linguistic thoughts, second-order thoughts, etc.) required the complexly organized social structures of early hominoids for their development, it is less obvious that the phenomenon of consciousness in its entirety requires these structures. Consciousness, as Kennedy defines it, involves not merely a capacity for thought, but also the ability to realize feelings and motivations. Why, we might ask, should we assume that these more primitive, though in some sense more essential, features of conscious experience also require participation in intricate social contracts? On the contrary, one would imagine that consciously experienced feelings (especially those of pain and pleasure, or the paternal bond between parent and offspring) would have been advantageous adaptations that contributed to the survival and reproduction of various species prior to the advent of any convoluted social relationships.

So what then of Kennedy's declaration that human beings are unique? On the one hand Kennedy is incontestably right in maintaining that the consciousness of human beings is unique. Humans are distinct from all other animals in both their species-specific neural hardware and the linguistic software that this neural machinery supports. Hence, in this somewhat restricted sense, human minds are manifestly incomparable to any other mind known to exist in the world. But this kind of 'uniqueness' does not imply that human beings are the sole creatures endowed with conscious experience. Any uniqueness endemic to our consciousness alone is merely a consequence of our very particular evolutionary history and the constraints this history places on the sorts of

adaptations available to our species. To accept evolutionary theory is to accept that a significant subset of the sensory and the mental modalities of all creatures evolved to assist in the survival of those creatures by serving various species-specific functions in a particular ecological niche. Thus, contra Kennedy, advocates of animal consciousness need not assume that there are *no* qualitative differences between species; rather, they should expect different animals to have species-specific adaptations suited to their particular environments. But, what they need not concede is that these parochial differences imply that only human beings are conscious.

Species-Specific Consciousness

Kennedy, in his description of neo-behaviourism, posits anti-anthropomorphism and its implication that animals are unconscious machines as axiomatic. Yet, like many of his behaviourist predecessors, Kennedy fails to recognize that the fundamentals of behaviourist psychology depend on the latent assumption that animals are phenomenally aware of the experiences they undergo. The learned associations exemplified in the operant conditioning of animals depend on the animals themselves actually experiencing the rewards or punishments employed in the formation and reinforcement of these associations. Consider the conditioned food-avoidance behaviour observed in many mammals, including ourselves. Animals quickly learn aversive responses to previously desirable foods if the ingestion of these foods is followed by illness/nausea. In these cases, animals rapidly (usually in the first trial, though the ingested stimulus need not induce immediate nausea) learn to associate a noxious food with the nausea, subsequently avoiding ingesting the food in future encounters. This well-established finding, however, becomes much more difficult to convincingly explain if we assume that animals are

unconscious. If animals have no awareness, or experience of nausea, why would they adjust their behaviour and avoid the noxious food?

It is not merely food-avoidance associations that depend on an animal's consciously feeling a sensation; it is any form of conditioning that depends on rewards or punishments to foster learned associations. This is a point that is well-appreciated by any dog-owner who has struggled to successfully house train his or her pet. Deterring undesirable behaviours requires a consistent regiment of punishments (slaps on the rump) when the undesired behaviour is performed, as well as rewards (showering of attention or treats) when either the desired behaviour is performed, or when the undesired one is repressed. But, this conditioning process that lies at the heart of behaviourist psychology depends on the antecedent assumption that the animal in question will associate the experienced punishment with the undesired behaviour. And similarly, when rewarding an animal for its exhibition of a desired behaviour, the reward can only reinforce the behaviour if we presuppose that the *experienced* reward will be associated with the performance of this behaviour. For, if animals truly were deprived of any conscious experience of these rewards and punishments, their ability to learn associations between stimulus and response would becomes rather difficult to convincingly explain.

The failure of Kennedy's arguments not only serves as vindication for the presumption that other species are conscious creatures, it also undermines Kennedy's allegation that our penchant for anthropomorphizing animals is misguided. As we have seen, Kennedy does not condemn anthropomorphic interpretations of animals due to a lack of predictive fertility. On the contrary, Kennedy willingly concedes that anthropomorphism is a useful predictive strategy. Unfortunately, Kennedy provides us

with no compelling reason why we should reject the predictive leverage that anthropomorphism bestows upon us. This being the case, contrary to Kennedy's belief, there is simply no reason to assume that the science of animal behaviour and anthropomorphism need to be mutually exclusive.

Though Kennedy's denunciation of anthropomorphism remains unconvincing, there is an important moral to be learned regarding anthropomorphic interpretations of animals. I have suggested that, like sight, the phenomenon of consciousness is an example of convergent evolution. That is to say, consciousness is an adaptation that has probably evolved a number of times independently in different lineages over the course of evolutionary history. This being the case, we should not expect consciousness to be the same for each animal any more than we should expect the eyes of each animal to furnish them with identical perceptions of the world. Thus, while we may use anthropomorphism to impute folk psychological states to animals, we must exercise caution when doing so. The unique evolutionary histories of different animals outfit these animals with different kinds of minds and it is imperative to be alert to such differences if we hope to successfully shed light on the minds of non-human species. We should not, however, allow the glaring disparities that often persist between what appear to be different kinds of minds to mislead us by masking salient similarities connecting them. While the minds of any given species may indeed be unique, there are clearly some inter-specific generalizations (the laws of conditioning or latent learning being notable examples) that traverse species boundaries and that manage to capture the workings of a range of 'kinds of minds'.

If the arguments in this chapter are sound, then Kennedy's dismissal of animal consciousness remains unsupported. Though Kennedy does establish the logical possibility that all other animals are phenomenal zombies deprived of a conscious life, he does not provide sufficient cause to consider this possibility to be an *actuality* concerning animals. In his repudiation of animal consciousness, Kennedy rightly observes that no singular type of evidence of animal consciousness is sufficient on its own to establish that animals are in fact conscious subjects. This is an important point for proponents of animal consciousness. What Kennedy fails to consider, however, is that *cumulatively,* the behavioural, neurological, and evolutionary evidence in favour of animal consciousness present a compelling case that other species are conscious subjects. Furthermore, the *prima facie* evidence in favour of animal consciousness succeeds in shifting the burden of proof onto theorists like Kennedy who would have us believe that our anthropomorphic understanding of animals is categorically misguided.

In the following two chapters, we will leave behind the metaphysical question of whether consciousness exists in non-human species and concentrate instead on some of the epistemic issues surrounding the minds of other animals. In particular, I will focus on the challenge of assessing what animals want and how the determination of other species' preferences can assist us in showing respect for their well-being.

Chapter 3: What Animals Want

> *"This insect-eating bat [little brown bat] ... can sonically detect and avoid objects no wider than a hair. Equally sophisticated, fish-eating bats can grab fish swimming just beneath the surface if the water by meticulously detecting and identifying the ripples caused by their underwater movements."*[75]

In the foregoing chapters it has been argued that we, as moral agents, are obligated to show respect for the well-being of sentient creatures and that this can be achieved by giving these creatures' preferential interests careful consideration in our moral theorizing. This being the case, it would seem that the tenability of this suggestion depends on our ability to determine what the interests of these creatures in fact are. For, if we hope to successfully accommodate the preferences of animals in our moral decision-making, we must first know what preferences we are to give consideration to.

In this chapter, I will evaluate our imaginative capacities as a means of determining the preferential interests of non-human creatures. This discussion begins with an analysis of William Baxter's contention that the preferences of other species are indeterminable, as animals are unable to express their preferences to us. Baxter's belief stems from his auxiliary assumption that our ability to communicate with other animals is restricted. After describing the precise nature of these inter-species communicative limitations, I turn to an evaluation of our imagination as a possible means of transcending the communicative constraints Baxter envisions. Here I conclude that while our imaginative and empathetic capacities do yield valuable generalizations concerning the mental processes (and by hypothesis, the interests) of other animals, the speculative

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[75] (Shuker, 2001, p.22)

conclusions they reach as to the contents of animals' minds are, on their own, of only limited use.

Baxter's Epistemic Query: The Expression of Animal Preferences

Before turning to an evaluation of our imagination as a means of determining the preferences of other species, we must first specify the nature of the problem that the preferences of non-human species create. In his rejoinder to holistic environmental ethics, William Baxter issues a self-described "people-oriented" moral criterion that accords human beings alone inherent moral worth. In support of his view regarding the unique moral status of human beings, Baxter provides seven reasons which he takes to be suggestive of the fact that no non-human can enjoy the sanctity that intrinsic moral worth affords. One of these reasons is summarized in the following conditional:

> "If polar bears or pine trees or penguins, like men, are to be regarded as ends rather than means, if they are to count in our calculus of social organization, [then] someone must tell me *how these life-forms are to be permitted to express their preferences*."[76]

Here Baxter wields his rhetoric to emphasize the apparent absurdity of assigning moral value to the preferences of both non-human animals and other non-sentient organisms. Setting aside the red herring of pine trees expressing their preferences, Baxter suggests that treating non-human animals as moral patients requires giving their preferences moral consideration in our calculus of social organization. However, our treating non-human species as ends rather than mere means is something Baxter has misgivings about, as he thinks animals are unable to "express" or otherwise make their preferences known to us.

As a dismissal of the moral significance of non-human animals, Baxter's argument here depends on at least one disputable implicit premise. In the conditional

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[76] (Baxter, 1974, p.7) *emphasis added*

quoted above, Baxter assumes that a necessary condition for moral consideration is an ability to express one's preferences, such that any entity unable to express its preferences is invariably precluded from being morally considerable. On the face of it, this is a strange assertion. Why ought we to think that the *expression* of one's preferences is necessary or even relevant for moral consideration? Surely what matters for morality is that a creature simply *possesses* preferences regarding its own welfare and not that it is capable of relaying these preferences to others. If we are to accept Baxter's dismissal of the moral standing of animals, it is incumbent on him to explain what makes the expression, as opposed to the possession, of preferences important for moral consideration.

Even if Baxter could furnish us with an account of why the expression of preferences is necessary for moral consideration, there remains an additional problem concerning the ambiguous nature of the word "express" as it is employed in Baxter's argument. The implication of Baxter's passage is that there is a substantive difficulty with animals expressing their preferences to us. However, Baxter never actually specifies what he means by this term, thereby obscuring the exact nature of the problem he foresees.

One possible interpretation of the term 'express' here is that Baxter has in mind some sort of linguistic expression of preferences. This interpretation of Baxter is not implausible, for if by 'expression' Baxter has in mind verbal articulations of preferences, then it would be quite understandable why Baxter foresees some communicative impediment obfuscating our efforts at inter-species communication. The trouble with this reading of Baxter, however, is that it is manifestly false that moral consideration requires

the *verbal* expression of one's preferences. It is all too easy to identify examples of morally considerable beings that are nevertheless unable to verbally express the things preferred by them (e.g. infants and young children, the severely mentally disabled and speechless mutes). If Baxter does hold the linguistic expression of preferences to be necessary for moral consideration, then he would also be committed to the expulsion of all of these categories of human beings from the moral community. This would obviously be inconsistent with Baxter's central assumption that "*every* human being should be regarded as an end rather than as a means and each should be afforded dignity and regarded as having an absolute claim to an evenhanded application of such rules as the community may adopt for its governance."[77]

To prevent this inconsistency, Baxter must then hold that some other sort of expression of preferences is necessary for moral consideration. Of course, to be consistent with his presupposition that every human being is an end and not merely a means, he will also have to tailor his definition of 'expression' so that it will allow for all human beings to express their preferences whilst also ruling out modes of expression that will provide opportunities for animals to express theirs. It is difficult to see in what such a definition could consist.

We need not pursue this line any further. As a refutation of the moral significance of animals, Baxter's allegation regarding the expression of preferences for moral consideration is, at best, suspect. However, my purpose in invoking Baxter is not to illuminate what I take to be the flaws in his reasoning. Rather, I introduce Baxter because his passage captures an important sentiment that is often shared by those reluctant to acquiesce to the moral status of animals. Baxter's rejection of the moral

[77] (Baxter, 1974, p.4) *emphasis added*

standing of animals is accompanied by his auxiliary assumption that there exists some essential communicative barrier between ourselves and other animals, a barrier which prevents the reliable transmission of preferences from them to us. The suggestion is that as this obstruction exists, we must establish a method by which we can gain insight into the impenetrable preferences of other species if they are to be given any moral consideration whatsoever. Moreover, without such a framework in place to secure our attributions of preferences to animals, we are precluded from reliably discerning what their interests are.[78]

Talking With Animals: The Restrictions of Inter-Species Communication

The lamentable absence of a means of linguistic communication between human beings and other animals considerably constrains our ability to communicate with them. While we are in a position to verbally inquire as to what another human being assumes to be in her own interests, we are unfortunately precluded from, literally conversing with animals, as King Solomon did. In saying this, I do not mean to suggest that we are altogether precluded from achieving trustworthy inter-species communication. My dog correctly interprets my reaching for the leash as a signal of my intention to walk her. Similarly, I interpret her frenzied barking and racing around the room as conveying her delight at this prospect. And while my dog and I can rightly be described as

[78] It might be asked whether the moral consideration of animals' interests necessarily requires determining the preferences of other species in the way Baxter envisions. That is, if animals have direct moral status, which presumably would entail the liberation of all animals subject to human exploitation, then why need one be concerned with determining their interests at all? The answer, in my view, lies in the distinction that needs to be drawn between the morally ideal way of treating non-human creatures and the reality of how animals are actually treated in our society. Though I advocate the direct moral status of all sentient animals, I recognize that my reaching this conclusion is unlikely to tangibly improve the lives of the millions of animals forced to suffer daily at the hands of their human captors. By providing a method for determining the preferences of other species, however, I hope that the lives of captive animals can be improved even if it is only negligibly.

communicating in this exchange, such communication pales in comparison to the communication human beings achieve linguistically.

Words impose a degree of precision and exactitude on our thinking, allowing us to make fine-grained and subtle distinctions that simply could not be achieved in the absence of a language. A human language not only allows us to think in novel ways unappreciated by non-language users, it also affords us the opportunity to share these thoughts by transmitting them to other language-users in complex and multifarious ways. And, while I can signify to my dog my intention to go for a walk by simply picking up her leash and motioning towards the door, my limited communicative capacities would prevent me from elaborating upon or otherwise specifying my intentions any further. While we may normally saunter along the beach, I may intend to deviate from our normal route, preferring instead a run through the park or a jog to the store. And though these thoughts could readily be conveyed to any speaker of my own language, there is simply no means of transmitting such intentions to my dog, save perhaps by actively carrying them out and violating any current expectations she might currently hold about the path we normally take. It is in this sense that I take our ability to communicate with non-linguistic animals to be constrained.[79]

[79] I do not mean be misconstrued here as advancing the much more pessimistic conclusion that we are inevitably precluded from surmounting the linguistic limitations that plague our attempts at inter-species communication. Traditional assumptions about the unassailable restrictions preventing propositional communication between ourselves and other species have been seriously threatened by recent research by Savage-Rumbaugh and her chimpanzee Kanzi as well as Pepperberg and her African Grey Parrot Alex. Such research has been pivotal in revealing not only that these animals are aware of a lot more than they we have previously recognized, but also that when given the opportunity, they are capable of surprisingly complex communicative interactions with human beings. These sensational cases are, however, the exception and not the rule.

What is it like to be a bat? - The limits of the imagination

An unfortunate consequence of our limited inter-species communicative capacities (a consequence which Baxter has suggested threatens attempts to extend direct moral significance to animals), is that certain aspects of the mental lives of animals, including some of the interests that they retain, remain a mystery to us. As Baxter suggests, if the direct moral significance of animals is to serve as a viable account of our ethical responsibilities to animals, then we must seek out some means by which we can surpass our superficial inter-species communicative abilities and elucidate the interests of other animals.

One might ask, is Baxter simply being unnecessarily pessimistic here? Might the epistemic barrier he takes to be hindering us from determining the interests of animals be one that can be circumvented through appropriately guided imaginative capacities? While we may not be able to verbally inquire into another animal's interests, we can surely conceive of what it is like to be that animal, to at least some degree, and subsequently, formulate conjectures about what the interests of that animal might be. After all, our inability to directly communicate with speakers of a foreign tongue does not inhibit us from attributing to them various interests and taking those interests into account in our moral decision making. Normally, we do not require verbal confirmation of our suspicions regarding the interests possessed by other humans. We simply make assumptions about what their interests most likely are, given what we know about them, and act accordingly. While there are undoubtedly constraints on the accuracy and the precision of our speculations regarding the interests of both animals and other humans,

we can, nevertheless, manufacture conjectural generalizations concerning what factors are likely to contribute to the well-being of these respective entities.

This is a view that is indeed compelling. For it certainly appears as though our ability to imagine ourselves as another animal allows us to exceed the inherent restrictions of our communicative capacities, assisting us in determining what its interests actually are. Many people will, for instance, unhesitatingly assume that an animal desires the continuation of its existence free from physical or psychological harm. Similarly, people often presume that social animals will prefer a gregarious life involving interaction with conspecifics as opposed to a more lonesome one of solitary confinement. The source of these, in my opinion, quite reasonable assumptions about the interests of animals stems from both our imaginative capacities as well as our ability to reason by analogy.[80] Why do we assume that social animals will prefer companions over isolation, or an enjoyable life of leisure over one filled with anguish and suffering? For one, because these are precisely the sorts of things we hope for in our own lives. As social mammals, we know that we generally prefer companionship to isolation and we infer that other social creatures will have similar preferences. In our speculations about the interests and well-being of other animals, we quite naturally exploit this knowledge from our own experience. We do this by extrapolating beyond our own experience, imaging

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[80] An interesting tangential issue that this raises is whether we achieve such empathetic reasoning through a process of active simulation or theory manipulation. The simulation theorist maintains that the attribution of intentional states to others is achieved through a process of imaginatively projecting ourselves into another's perspective simulating her mental activity with our own. This theory of mind is to be contrasted with the theory-theory version in which we impute mental states to others to both explain and predict their behaviour through our familiarity with a theory (folk psychology) of the structure and functioning of the mind. I do not intend for my suggestions here about our abilities to discern the interests of other creatures by employing our iinagination to be married to either of these alternative theories of mind and while an in-depth analysis of this relation is warranted, such a project would exceed the boundaries of this thesis. For an overview of the debate between the theory-theory and the simulation-theory of mind consult Carruthers and Smith's anthology.

ourselves in their position, and by analogy, imputing to animals the interests we would have in similar situations.

When we use our empathetic capacities in an attempt to imagine the interests of another species, we struggle to adopt its *Umwelt* by projecting ourselves into that animal's shoes and conjecturing what the world must be like for them.[81] Perhaps the most renowned philosophical treatment of the difficulties surrounding our conceptions of what the life of another animal involves is given by Thomas Nagel in his seminal paper, "What is it like to be a bat?" Nagel's central aim in this work is to disclose the inadequacy of reductive physicalist attempts to solve the problems surrounding the relationship between mind and body. Nagel argues that as the essence of consciousness lies in its subjective features, and that as the physical sciences describe phenomena in essentially objective terms, it follows that any attempt to offer a scientific (i.e., objective) explanation of consciousness will invariably be incomplete as it will, of necessity, fail to capture the essential (i.e., subjective) aspect of conscious experience.[82]

According to Nagel, the phenomenological features of consciousness produce, in many animals, a single point of view that, in the now famous idiom, makes it something

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[81] Jakob von Uexkült is responsible for the idea that the biological world is teeming with subjects each endowed with a unified conscious experience. Each organism's *Umwelt*, or experience of the world, is constituted from a synthesis of its perceptual sensations and the effective responses it has to these sensations. In what was perhaps a response to the surging behaviourism of his North American counterparts von Uexküll wrote, "We no longer regard animals as mere machines, but as subjects whose essential activity consists of perceiving and acting. We thus unlock the gates that lead to other realms, for all that a subject perceives becomes his perceptual world and all that he does, his effector world. Perceptual and effector worlds together form a closed unit, the *Umwelt*" (1957, p.6).

[82] (Nagel, 1974, p.443-444) While I do not deny the existence of the subjective character of animal consciousness I do reject Nagel's conclusion that there can, in principle, be no objective scientific account of its essence, and that physicalism is therefore necessarily incomplete. Foss rightly points out that Nagel's argument against physicalism depends on his conflation of an epistemological subjective-objective distinction and a metaphysical one (1993). It is this equivocation which leads Nagel to mistakenly conclude that there can be no objective (epistemic) scientific account of the subjective (metaphysical) character of conscious experience.

it is like to *be* a particular animal *for* that animal.[83] Unlike some other skeptically inclined philosophers, Nagel retains no doubts that many animals enjoy rich subjective experiences. Nonetheless, Nagel does maintain that the subjective experiences of many other animals, including bats, are so fundamentally distinct from our own that conceiving of "what it is like to be a bat" is nearly unfathomable.

> "Now we know that most bats (the microchiroptera, to be precise) perceive the external world primarily by sonar, or echolocation, detecting the reflections, from objects within range, of their own rapid, subtly modulated, high-frequency shrieks. Their brains are designed to correlate the outgoing impulses with the subsequent echoes, and the information thus acquired enables bats to make precise discriminations of distance, size, shape, motion, and texture comparable to those we make by vision. But bat sonar, though clearly a form of perception, is not similar in its operation to any sense that we possess, and there is no reason to suppose that it is subjectively like anything we can experience *or imagine*."[84]

The use of the term 'imagine' is vital for the point Nagel strives to establish here. Nagel is not simply alleging that we are unable to adopt a bat's perspective and perceive the world through echolocation. This much is trivially true. Instead, Nagel is making the much stronger claim that a bat's view of the world is so inconceivable to us that we are precluded from imagining what such a view would even be like. This is not to suggest that we cannot, in an effort to understand a bat's existence, employ our own powers of imagination creatively. We can imagine our having webbing under our arms, flying around at dusk and dawn catching insects, perceiving the world by a system of high-frequency sound signals. But as Nagel points out, these imaginative efforts only get us so far. "In so far as I can imagine this (which is not very far) it tells me only what it is like

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[83] In Nagel's own words: "The fact that an organism has conscious experience *at all* means, basically, that there is something it is like to *be* that organism … an organism has conscious mental states if and only if there is something that it is like to *be* that organism – something it is like *for* the organism" (1974, p.436)

[84] (Nagel, 1974, p.438) *emphasis added*

for *me* to behave as a bat behaves."[85] What we cannot attain by way of imagination alone, Nagel tells us, is what it is like for a *bat* to be a bat. In his own words,

> "If I try to imagine this, I am restricted to the resources of my own mind, and these resources are inadequate to the task. I cannot perform it either by imagining additions to my present experience, or by imagining segments gradually subtracted from it, or by imagining some combination of additions, subtractions, and modifications."[86]

It is imperative that we do not misconstrue Nagel's claims here. Nagel is not suggesting that it is impossible to make rough speculations about the subjective experiences of other species.[87] But, he does suspect that our success in this regard will depend on the level of similarity between ourselves and the animal whose experience we are striving to both imagine and understand. Stressing this, Nagel states:

> "The more different from oneself the other experiencer is, the less success one can expect from this enterprise. In our case we occupy the relevant point of view, but we will have as much difficulty in understanding our own experience properly if we approach it from another point of view as we would if we tried to understand the experience of another species without taking up *its* point of view."[88]

For Nagel, the success of our imagining ourselves as another creature depends on the relative relatedness between ourselves and the creature in question. The less like oneself another animal is, the harder it is to conceive of what it is like to be that animal.[89] Moreover, insofar as we hope to employ our imaginative capacities to gain insight into the interests possessed by a given animal, we will only be able to disclose the interests of those animals that are suitably similar to ourselves. The interests of those creatures

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[85] (Nagel, 1974, p.439)
[86] (Nagel, 1974, p.439)
[87] (Nagel, 1974, p.442n)
[88] (Nagel, 1974, p.439)
[89] Making a similar point regarding the successes of anthropomorphizing animals de Waal (2001) invokes the analogous example of the mole. In his own words, "even more alien would be the experience of an animal such as the star-nosed mole. With its twenty-two pink, writhing tentacles around its nostrils, it is able to feel microscopic textures on small objects in the mud with the keenest sense of touch of any animal on earth. Humans can barely imagine this creature's Umwelt" (p.77).

vastly unlike ourselves, that is to say creatures whose subjective experience remains impenetrable by our imagination, will also remain inaccessible from our limited vantage point.

Nagel is right here in pointing out the intimate association between our successes in imagining ourselves in another animal's position and that animal's similarity to our own case. While we may use our imagination to generate speculations about the interests of other creatures, our confidence in this method begins to falter the further down the phylogenetic scale we descend - it is just easier to imagine oneself as a chimpanzee as opposed to an octopus.[90] Part of the difficulties in the successful employment of our imagination is attributable to our narrowly constrained perceptual abilities in comparison to many other creatures. Nagel's choice of the bat, whose sensory modality of echolocation is incomparable to any of our own sensory experiences, is not accidental. Being so distinct from our own, a bat's perceptual experiences confound our attempts to imagine what it is like to hear ultrasonic wavelengths (humans can only detect sounds ranging between 20 to 20, 000 Hz). When we consider the unfamiliar sensory capacities of other creatures (e.g., birds' ability to detect electromagnetism, a pit viper's capacity to see infrared light, or a bat's ability to hear sounds as high as 100, 000Hz) it not only underscores the inherent restrictions of our own sensory apparatuses, but also indicates that our imaginings about the mental experiences of other animals is likely to be rife with potential bias. As a consequence of this, the more exotic a creature is from our own case,

[90] This hierarchal conception of the animal kingdom is meant only in a metaphorical sense. Here I simply mean that our imaginative abilities are constrained by the similarity between our own case and that of the animal we are trying to imagine. How we are to judge levels of similarity between different species is something I have purposely left vague. While genetic resemblance appears to be the obvious arbiter of similarity such a criterion would, I think, be a mistake. It may be that we would find it easier to imagine the point of view of a domesticated dog than that of a wild gorilla despite the fact the latter is both genetically and ancestrally closer to human beings.

the more likely we are to infect our imaginations with our own anthropocentric partialities, and thus, the harder it becomes to accurately Imagine what that creature's own subjective experience involves.[91]

Of course, it might be replied that Nagel and I are just being unduly unimaginative. Perhaps if we only strived harder to cast off our deeply ingrained anthropocentric biases and allowed ourselves to imaginatively penetrate another animal's perspective on the world, we would be in a position to prevail over the difficulties surrounding the inconceivability of alien consciousness. What is the appropriate response to an antagonist who alleges that he can accurately imagine the subjective experience of a bat or a star-nosed mole? Advancing such a strange assertion would not, I fear, establish imagination as a legitimate means of discerning the interests of animals. On the contrary, it merely exposes the inherent flaws in employing solely our imaginative capacities to achieve this end. This becomes evident when we turn to consider the epistemic status of claims regarding the content of animal mentality derived exclusively from one's imagination.

The first thing to notice about such claims regarding the interests of animals is that, on their own, they are unverifiable. That is to say, independent of any additional information regarding animal behaviour, there is simply no means by which we can corroborate that any imagined fact concerning an animal's interests accurately corresponds to any actuality regarding its interests. This shortcoming of our imagination

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[91] In their textbook about the minds of animals James and Carol Gould emphasize this consequence of human beings' restricted sensory modalities, and like myself, they suggest that these limitations diminish the value of imagination and analogy as a means of garnering insight into the mental experiences of other animals. They write, "as a result of our sensory limitations, certain thoughts and ideas are difficult or impossible to formulate. The rich tapestry of smells that forms the landscape of the dog's world, for instance, is an enigma to us, as much as what a bee really *sees* though that strangely faceted eye" (1994, p.20).

is especially evinced in cases of dispute regarding an animal's interests. Imagine a case where Emma employs her imagination to determine that kitty has preference Y and Savannah uses her imagination to determine that kitty has preference X. Further, imagine that X and Y are incompatible or mutually exclusive preferences. Now, which of these assumed preferences best corresponds to the actual preference retained by kitty? Here the inherent subjectivity of our imagination renders the imaginative process useless in resolving these sorts of disputes. Different people can imagine other species having very different sorts of experiences, subsequently attributing to these animals incongruent preferences. What our imagination does not afford us, however, is an opportunity to confirm or disconfirm that the preferences we assume an animal has coincides with the preferences that it actually has. It is this failure to provide opportunities for objective verification that renders the imagination unable to successfully resolve conflicts between competing conceptions of the interests of animals.

It is important here to distinguish my claims regarding the limitations of our imaginative abilities from the stronger claim that the subjective character of animal experience is, in principle, forever beyond our ken. What precludes our imagination from being a legitimate means of discerning what the experience, and hence the interests of other animals are, is that these speculations lack opportunity for either verification or falsification. But, it does not follow from this that our imagination is useless in envisioning another creature's experience. Assuming, as I do, that we could at least in principle attain a comprehensive scientific account of animal experience, it seems quite possible that we could fortify our imaginings to afford us deeper insight into the subjective experiences, and subsequently, the interests of other creatures. The more we

know about another animal, the more accurate we can be in our speculations about what it is like to be that animal, and thus, what interests that animal is likely to possess.

Summing Up

In this section I have suggested that the epistemic difficulties surrounding the interests of animals cannot be resolved by simply using our imaginative and empathetic capacities to envision ourselves in the position of another animal. While imagination does furnish us with some crude speculations about what it is like to be another animal, and therefore, what is likely to benefit or harm that creature, it nonetheless remains on its own, a limited procedure. In many cases, the subjective experiences of animals vastly differ from our own anthropocentric interpretation of the world. In such cases, our conceptual abilities fail as a reliable method of determining what the interests of these animals are. Furthermore, due to its inability to provide opportunities for either verification of falsification, the imagination is ineffective at resolving disputes regarding both the subjective experiences as well as the preferential interests of animals. What we require, then to surmount the epistemic difficulties posed by the inconceivability of alien consciousness is an empirically tractable approach to animal minds, one that transcends the limitations of our imagination and permits reliable attributions of interests to animals irrespective of their similarity to ourselves.

Chapter 4: Empirically Determining Animal Preferences

> *"What we need to look for is some way in which emotions, if they were present in other species of animal, would be most likely to reveal themselves. We are after the outward and visible signs of inner emotional experience."*[92]

The previous chapter began with Baxter's question concerning how animals are to express their preferences. I suggested that while our imagination provides some insight into the minds of non-human species, it ultimately fails to provide a satisfactory solution to Baxter's concern. In addition to its anthropocentric prejudices, our imagination is hampered by its failure to provide a means of resolving conflicts regarding the attribution of divergent or incompatible preferences to an animal. This being the case, while our imagination may play an integral role in our determining of the interests of other species, it is not sufficient.

This chapter is an attempt to answer Baxter's query regarding the determination of non-human preferences. I propose an empirical method that allows us to assess the preferences of other species while avoiding the shortcomings that hinder our imagination. The virtue of this method is that it provides objective grounds for the attribution of preferences to other animals by observing the behavioural choices they make between competing commodities or environments. In addition, I argue that it is possible to quantify the chosen preferences of other species by measuring the amount of work they are willing to do to access their preferred commodities/environments.

Actions Speak Louder Than Words

In the previous chapter, it was argued that our capacity to communicate with animals is attenuated when compared to our ability to communicate with members of our

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[92] (Dawkins, 1993, p.142)

own species. As we have seen, these limited inter-species communicative abilities have led Baxter to embrace the pessimistic conclusion that animals are precluded from expressing their preferences to us, and thus that the preferential interests of animals remain indeterminable. While animals are patently unable to convey their preferences to us linguistically, in this section I will argue that they are nonetheless able to relay to us a great deal about their preferences through the choices they make and the sacrifices they are prepared to endure.

In evaluating the veracity of Baxter's allegations regarding the indeterminability of animal preferences, it will be advantageous to recognize that there is no necessary or logical connection between the expression of one's preferences and the linguistic articulation of these preferences. This is a point that is readily observed in our interactions with other human beings. While it is incontestable that a shared language allows people to effortlessly make their preferences known to us, it is certainly not the sole means of achieving this objective. On the contrary, people's overt behaviours often reveal more about their likes and dislikes than what they actually tell us. We frequently view a person's "mere words" with tentative suspicion, saying things like, "She talks the talk but can she walk the walk?" Quite often, we are more impressed by what people actually do than what they say. People that "put their money where their mouth is" reveal the things they judge to be important, not through words, but through their actions. Someone who dedicates two hours of each day to volunteer work discloses more about what matters to them than the person who repeatedly avows their devotion to such work yet consistently fails to take action. Words are an important and incredibly effective

means of relaying our preferences to others, but talk is sometimes cheap, and in such cases people's behaviours are often more revealing than what they say.[93]

What sorts of behaviours are especially revealing when it comes to people's preferences or other things that matter to them? Generally, we are afforded an opportunity to glean insight into people's preferences through the choices that they make. This is especially true when people are forced to make choices between difficult alternatives. The person who chooses to volunteer at the soup kitchen instead of squandering her spare time watching television, or the solider who decides to defect rather than fight in what she perceives to be an unjust war, both divulge something important about what matters *to them* (not to mention something about their personal integrity and moral principles). Similarly, people who willingly sacrifice their time and effort in pursuit of certain ends manage to indirectly reveal the significance and value that they place on these ends. The devout monk who, in an effort to maintain religious purity, refrains from the fleeting pleasures of his body, unequivocally conveys the things that he takes to be important through the sacrifices he gladly makes.

As is the case with human beings, non-human animals are also able to express their preferences and the things that matter to them through the choices they make and the sacrifices they are willing to endure. An animal that consistently gives up access to a desirable food and opts instead for an opportunity to acquire nesting materials manages to convey important information regarding the value that it places on this latter commodity. Equally, an animal willing to press a lever fifty times in order to get access to a potential mate or other conspecific successfully communicates the importance that it attributes to

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[93] (Dawkins, 1986 & 1993)

such social interactions.[94] In other animals, as is the case with human beings, an intimate relation holds between a creature's preferences and both the choices it makes and the costs it willingly pays to realize these preferences. We reason, quite plausibly, that the greater the cost a creature is willing to incur to achieve some end, the more value and importance it must place on that end. The animal that presses the lever fifty times in order to access conspecifics conveys the significance that social interactions have for it. But the animal that willingly crosses an electric grid to achieve this same end reveals even more.[95]

One compelling example of an animal relaying its preferences without the use of words is found in A.P. Silverman's attempted efforts at studying prolonged periods of cigarette smoke inhalation on mice and hamsters. Silverman's study involved isolating

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[94] It may be objected that not all of the choices an animal makes are suitable indicators of its own well-being. It is easy to conceive of examples of animals consistently choosing environments or commodities that detract from their own welfare. James Old discovered that implementing an electrode in the limbic system of rats caused a pleasant sensation tantamount to an orgasm. When the rats learned that they could control the electrical stimulation and thus the feeling of euphoria by pressing a lever, they pressed it interminably. Some rats became so obsessed with these self-induced orgasms that they reportedly starved themselves to death. These sorts of examples emphasize that an animal's own preferences are not necessarily conducive, and indeed, may significantly diverge from, its overall well-being. Fraser (1996) has suggested that tensions between an animal's preferences and its long-term welfare can be alleviated by tailoring preference tests to the natural history, sensory capacities, and cognitive abilities of the animal being studied.

[95] The question this naturally invites is: what restrictions should be placed on what we can do to animals in determining their interests? Are there thresholds that ought not to be crossed in determining animal welfare, or is it permissible to sacrifice a relatively small number of animals to cruel preference tests in the hopes that the determination of these animals' interests will benefit an even greater number of animals? How we answer this question will depend in part on the normative moral theory we endorse. Whereas rights based theories will generally condemn such trade-offs as unacceptable, most formulations of utilitarianism will accept such calculations as unfortunate, but nonetheless justified.
Carbone has recently documented that many proponents of animal experimentation have embraced a version of this utilitarian argument in defense of their practicing vivisection. Carbone notes that, "it is rare to find pro-research materials from the mid 1980's on that do not include mention of animals as the beneficiaries of medical progress. In a curious twist of species chauvinism, they reach out to those people who might not support animal research for human benefit but would support it for animals" (2004, p.78). These arguments are not intended for adults only, but also for children. In 1991 the North Carolina Association for Biomedical Research published a colouring book entitled the *Lucky Puppy*, which tells the story of a pet dog who is cured by pills that were tested on a group of laboratory mice. This book offers children the opportunity to colour dancing mice, who are happy because their group received the right dose of experimental medicine and did not get sick.

the rodents into small glass cylinders, supplying them with food and water and little else. Each of the containers housing the animals was fitted with a small glass tube that delivered a continuous stream of cigarette smoke into the rodent's containers. Silverman's study was disrupted, and ultimately had to be abandoned, when a number of the mice and hamsters being tested were found asphyxiated in their glass containers. Their suffocation was not caused by the exposure to the cigarette smoke, rather due to the rodents' repeated, and in many cases successful, attempts to prevent the smoke's entry by filling the glass tubes with their own feces. The smoky air delivered through the glass tube was also the sole supply of oxygen to the containers, and in their attempts to block the stream of smoke, the rodents had inadvertently cut off their own air supply. Although the rodents in Silverman's study could not verbally express their dissatisfaction with the smoky air poisoning their containers, they certainly made their aversion to the invasive smoke known through their self-destructive behaviour. While a language would have perhaps allowed them to elaborate and specify the exact nature of their preference regarding the smoke, words would have been merely superfluous in transmitting the message that they clearly communicated by blocking the tubes.

Voting With One's Feet: Preference Testing

Silverman had no intentions of determining the preferences of the rodents in his research on exposure to cigarette smoke. Nevertheless, the mice and hamsters managed to plainly express these preferences through their repeated attempts to prevent the smoke's entry into their glass compartments. It has recently been suggested that it may be possible to learn even more about the preferences of other animals by designing experiments whose sole purpose is to get animals to "tell" us their preferences through

exhibited behavioural choices.[96] In this section, I will introduce these recommendations and elaborate upon how preference testing allows animals to make their preferences known to us.

One promising source of insight into the preferential interests of other creatures is found in what are known as preference tests. Preference tests are designed to measure the features of an environment that an animal prefers or desires by forcing them to choose between competing types, or varying amounts, of environmental variables. The assumption guiding these sorts of tests is that one can determine which of two or more alternatives an animal prefers by allowing it to choose. In preference tests, an animal's 'choice' is measured by:

1. The *amount* of time an animal spends with, or in acquisition of, a given alternative.
2. The *number* of times an animal opts for a particular alternative over others.

The most straightforward preference tests (and subsequently the tests most congenial to determining the preferences of one's unsuspecting pets at home) are those that offer the choice between only two alternatives. The two alternatives can either be two variants of a single environmental variable (e.g. a rubber chew toy and a plastic chew toy), or two completely distinct environmental variables (e.g. a rubber chew toy and a bowl of Spam). Once the two alternatives have been decided, the animal whose preferences are under assessment must then be afforded the opportunity to choose between the alternatives. The most straightforward way of achieving this is to exploit the unique shape of a T-Maze. As the name suggests, T-Mazes are shaped like capital T's with a narrow path up the centre that branches off into two adjuncts. In T-Maze preference tests, the

[96] (Dawkins, 1993; Fraser, 1996 & 2004)

environmental alternatives under consideration are placed at opposite arms of the T, and the animal is then placed inside the maze. After the animal has an opportunity to become acquainted with each of the two alternatives, its behaviour is observed to see how much time it spends with each alternative as well as the number of times that alternative is consistently selected over other offered alternatives.[97]

An especially notable preference test was one conducted by Barry Hughes and Arthur Black of the Poultry Research Centre in Edinburgh.[98] Hughes and Black were attempting to evaluate some of the suggestions for animal welfare offered by the Brambell Committee a few years earlier. The Brambell Committee was created in the 1960s by the British Government in what was an innovative and pioneering attempt to ascertain and establish an enforceable standard of animal welfare. One of the many suggested revisions of this Committee was that if egg-laying hens are to be kept in cages, the floors of these cages should be made of a thick heavy-gauge wire and not out of a fine wire mesh such as chicken wire. The rationale for this recommendation was that the chickens would find the thicker wire more comfortable than the thinner wire as the thinner wire would press into their feet.

Black and Hughes attempted to corroborate the Brambell Committee's suggested wire thickness by exploiting a variant of the previously mentioned preference test model. Their method included providing chickens unrestricted access to both sorts of floors and passively observing which of the two the chickens opted to stand on. The researchers

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[97] The latter of these two conditions emphasizes the importance of repeating preference tests. A one time preference test is insufficient to reveal anything interesting about the preferences of the animal under investigation as there are too many extraneous variables that may have influenced the choice an animal makes. Repeated experiments that lead to consistently successful predictions about which alternative an animal will select are required before a conclusion can be reached as to its preferences.

[98] (Huges, B., & Black, A, 1973)

monitored each chicken's behaviour, noting every ten seconds which of the two alternative floor-types it was standing on. Somewhat surprisingly, Hughes and Black discovered that the chickens spent the majority of their time standing on the thinner wire, which, contrary to the conjectures of the Brambell Committee, implied that the chickens actually favoured the thinner wire mesh over its thicker counterpart. The motivation behind the chicken's seemingly irrational preference was only discovered when photographs of the chicken's feet were taken from the underside of the cages. When examined from this unique angle, it became apparent that though thinner, the finer mesh consisted of a greater number of individual strands of wire, and thus, on average, each foot was supported by an increased overall number of strands of wire in cages with a chicken wire. While thinner, the additional strands of wire allowed for a chicken's weight to be distributed over more points of contact instead of being concentrated on a decreased number of thicker wires.

The tacit assumption in Hughes and Black's research, and indeed in all preference tests, is that the time an animal spends with, or in acquisition of, a given environmental resource reflects a preference on the animal's part for that particular resource. One objection to preference tests of this sort is that they tend to overlook the complexity of an animal's preferences. It is rare that an animal will remain unwavering in its choices, continuously preferring one environment or commodity over another. As is the case with human beings, the choices that an animal makes are likely to be influenced by a plethora of factors, which may, in turn, result in its preferring (i.e. choosing) different resources at different times. My weakness for robust red wines frequently leads me to order a Bordeaux; nonetheless, I may well abstain from my usual preference on an

extraordinarily hot day and instead order a cool Chardonnay. Similarly, an animal may well prefer different resources (or different amounts of a particular resource) at different times, under different conditions, or for different activities. If the preference tests we conduct on animals are too simple, that is, if we merely ask whether an animal prefers this or that floor, or this or that cage size, we run the risk of trivializing their preferences and missing important variations in the things that they prefer.[99]

The continuous threat of oversimplifying an animal's preferences emphasizes the importance of conducting preference tests with more sophisticated methods and more comprehensive experimental designs than those offered in the primitive T-Maze model. David Fraser, a researcher studying animal welfare at the University of British Columbia, learned this first-hand in his attempt to discover whether pigs preferred straw bedding or concrete floors. Exploiting the standard preference test model, Fraser provided a group of pigs free access to pens furnished with either straw bedding or bare concrete. Contrary to Fraser's naïve hypothesis that pigs would consistently prefer the straw, he found that pigs did not always retain a strong preference for straw bedding and that the desirability of this commodity was contingent on a host of other previously unanticipated variables.[100] While the pigs did exhibit a preference for straw bedding when foraging, they were apathetic to it when feeding or drinking. Moreover, Fraser found that a pig's decision to rest on straw bedding as opposed to concrete was closely dependent on the temperature of the pens, preferring the cooler concrete in warmer temperatures and selecting the insulating straw in cooler temperatures.

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[99] (Fraser, 1996, p.29)
[100] (Fraser, 1996, p.29)

The numerous variables potentially influencing an animal's choice in preference tests underscores the importance of eschewing superficial experiments in favour of more comprehensive approaches to the preferences of animals. Recent methodological revisions to earlier preference tests, which include replacing simplistic T-Maze tests with prolonged video-recordings to determine the amount of time an animal spends with a preferred commodity over other alternatives, are an important step to achieving a more thorough understanding of animals' preferences.

An additional amendment to the experimental design of preference tests involves the implementation of operant mechanisms, which are components of an environment that an animal is taught to manipulate or operate in order to cause some specified (positive or negative) change in its environment. Examples of operant mechanisms include: a raccoon pressing a lever to receive access to conspecifics, a hen scratching at a pedal to access dust-bathing facilities, or a pigeon pecking a key to gain food rewards. In each of these cases, an animal must manipulate some instrument (e.g. lever, pedal, key) to alter its environment in a way that is relevant to the animal. Operant mechanisms depend on a process of operant conditioning in which an animal learns through a process of reinforcement to associate the manipulation of an operant mechanism with the achievement of some desirable end, or the avoidance of an undesirable one. In implementing operant mechanisms, researchers can employ an assortment of manipulanda, though each must be tailored to the particular physiology of the species under investigation. Whereas animals with dexterous hands (e.g. chimpanzees, monkeys, rats, squirrels) can be taught to operate levers and handles, animals such as birds, cows, and pigs must use their respective beaks or noses to push illuminated keys or buttons.

Even where hands, beaks and noses are unavailable as is the case with most fish, animals are able to learn that swimming through a specific hoop will bring about desirable changes in their environment.

The central advantage of employing operant mechanisms in preference tests is that it allows researchers to isolate and identify important variables that might contribute to an animal's manipulation of an operant mechanism. By using operant mechanisms, one can determine the notable factors that influence an animal's ability to manipulate a manipulanda. For example, in attempting to gauge the desirability of cool bathing water for a dog, one might provide the dog access to the water when it manipulates a particular operant mechanism. If the dog only operates the mechanism when the temperature reaches a certain threshold, or after certain activities, a researcher can determine the salient factors influencing the dog's decision to operate the mechanism, and thus, the factors that are relevant to the dog's preference for cool water. Hence, the employment of operant mechanisms assists us in achieving a more comprehensive understanding of an animal's preferences by providing greater control over the variables that impact an animal's decision to change its environment.

One enduring criticism of the preference tests described thus far in this chapter is that they provide only relative measures of preferences in animals. That is to say, preference tests reveal that an animal prefers one environment or commodity in comparison to another, but these tests fail to give an absolute measure of the animal's preference. Recall Black and Hughes' innovative work on the floor preferences of egg-laying hens. The hens' predilection for the thinner wire mesh over the thicker alternative warranted the conclusion that the hens preferred the thinner mesh. But it does not follow

from this observed preference that the hens have an absolute preference for thin wire mesh (perhaps they would prefer not to be kept in battery cages at all!). It is always possible that the hens found neither alternative particularly attractive, but showed a preference for the lesser of two evils. As a consequence of this possibility, we cannot legitimately conclude from the fact that an animal prefers one environment over another that is comfortable in the preferred environment, or that it suffers if deprived of its preferred alternative. Thus, while preference tests are extraordinarily useful for constructing relative measures of animal preferences in which various commodities can be ranked relative to one another, they disclose little about the absolute need for either of these alternative commodities.

Paying the Cost: Quantifying Preferences

In the remainder of this chapter, I submit that it is possible to measure not merely which alternatives an animal prefers, but also to establish which of an animal's preferred alternatives it has an absolute need for. Here I argue that by measuring the amount of work an animal is willing to expend to gain access to a preferred alternative, we can determine whether the animal judges the alternative to be a necessity or simply a luxury. Establishing the absolute requirement for a given resource is important because with this information it is possible to gauge if the deprival of this resource inflicts suffering on the animal in question.

At the outset of this chapter, I contended that the things people care about are evinced in both the choices they make and the sacrifices they are willing to endure. I also suggested that people often reveal *how much* value they attach to the things that they care about through the amount of time and effort they are willing to forfeit to acquire these

things. We are able to gauge how much significance a person attaches to a particular object or end through the amount of work they are willing to do to achieve these goals. This is because the sacrifices in time and effort people endure to achieve certain goals are often relative to the amount of value that they attach to these aims. The industrious student who spends hours toiling over a difficult problem conveys not only that she places importance on resolving the problem, she also indirectly reveals how much value she places on accomplishing this feat through the amount of time she is willing to spend doing so. Similarly, and despite pleas to the contrary, we rightly judge the lethargic student who spends five minutes on the same problem as attaching little or no value to reaching a satisfactory solution.

This means of measuring how much someone cares about something through the sacrifices they are willing to make can also be expanded beyond human beings to other animals. It is possible to determine how much value an animal places on a commodity or environmental resource by assessing what price it is willing to pay to acquire them. How does one experimentally measure the "price" an animal is willing to pay? Obviously, animals cannot disclose how much value they attach to a commodity through paying a monetary cost. Nevertheless, it may be feasible to discern how much another animal cares about a commodity or environment by determining the amount of time and effort an animal is willing to sacrifice in pursuit of these resources.

There are essentially three means of assessing the work an animal is willing to expend to acquire a preference:

1. Operant mechanisms – pushing a lever, running in an exercise wheel, swimming through hoops, etc.

2. Homeostatic challenges – exposure to high or low temperatures, shocks through electric grids
3. Natural challenges – walking through water, squeezing body through constricted entrances

In the preceding section, I introduced the notion of operant mechanisms, suggesting that preferences tests can be outfitted with these mechanisms to sustain increased experimental control over extraneous variables likely to influence an animal's choices between alternatives. As we saw, operant mechanisms work through a process of reinforcement in which an animal learns an association between its manipulating an operant mechanism and its gaining access to some preferred resource. Animals are also, through a similar process of reinforcement, capable of learning to associate a homeostatic or natural challenge with access to a preferred commodity or environment.

These learned associations can then be exploited to determine the amount of time and effort an animal is willing to sacrifice to gain access to the resources it prefers. For example, once an animal has learned to associate a particular type of work (operant mechanism, homeostatic challenge, or natural challenge) with access to a resource, an experimenter can assess how much an animal prefers that resource by increasing the amount of work necessary to access the same resource. Since the amount of energy an animal exerts to acquire a resource is reflective of the value that it attaches to the resource, it is possible to quantify how much a resource matters to an animal via the time and effort it spends attempting to access it. Thus, an animal that expends a large amount of its time and effort in search of a commodity or environmental resource, suggests through its willingness to work that it judges the object of its investigation to be of great

importance. Conversely, an animal that remains unwilling to expend time and energy acquiring a certain commodity communicates, through its inaction, a level of ambivalence towards the commodity on offer.

If the preceding arguments are sound, then it should at least, in principle, be possible to measure how much value an animal accords a particular resource through the time and effort it spends accessing that resource. What remains to be seen, however, is that this methodology presents a viable means of determining the strength of animals' preferences in practice. In an ingenious set of experiments, Matthews and Ladewig attempted to determine and compare the strength of pigs' desire for food and the strength of their desire for social interaction.[101] In order to measure the strength of these separate desires, Matthews and Ladewig conditioned the pigs to push a metal panel (operant mechanism) with their snouts to open a door thus allowing them access to another room in which they received a reward of either 27 grams of condensed pig food or 20 seconds of social interaction with a familiar pig. In both sets of experiments, the amount of work required of the pigs to access the other room was gradually increased from one panel push for one portion of food (or social contact), to 2, 5, 10, 15, 20, and eventually 30 panel pushes. By the end of the experiment, the pigs were therefore forced to spend thirty-times more time and energy to receive the same portion of food or period of social contact.

Matthew and Ladewig found that the amount of time and energy a pig was willing to dedicate to acquiring food was much greater than the amount of time and energy it devoted to opportunities for concise social interactions. When the cost of both commodities increased to thirty panel pushes, pigs willingly issued the requisite thirty

[101] (Matthew, & Ladewig, 1994)

panel pushes to receive the same quantity of food they had originally received for one push. Although the pigs readily pushed the panel once to interact with a familiar conspecific, their willingness to do so dramatically decreased when the number of panel pushes was raised. The implication of these findings is that while pigs viewed the food as an important enough commodity to be worth expending the extra effort for, they did not judge brief social opportunities to be worth the increased cost in time and effort.

A similar attempt to measure the strength of hens' desires for various resources was attempted by Norma Bubier.[102] Bubier's method involved having the hens surmount a natural challenge in order to gain access to certain commodities. Bubier reasoned that the cost the hens were willing to pay for a resource could be measured by forcing the hens to squeeze their bodies through an assortment of gaps (natural challenges) in the barriers separating various compartments in the hens' living quarters. The cost to the hens corresponded to the size of the gap that they were willing to squeeze through. Gaps that were wide enough to allow a hen to pass through effortlessly were assumed to require no work on the animal's part. Narrow gaps (9cm), on the other hand, which were passable only when the animal constricted her body so as to allow herself to uncomfortably struggle through, were thought to involve a considerable amount of work. To show that the narrow entrances actually represented a cost from the animal's perspective, Bubier isolated a hungry hen and a portion of food in two compartments separated by a narrow gap. Bubier found that in these circumstances a hungry hen will hesitate for some time, but will eventually squeeze through the restricted entrance when she becomes hungry enough. This suggests, though of course does not prove, that while

[102] (Dawkins, 1993, p.155)

the narrow gap is perceived as an unpleasant sacrifice by the hen, it is a sacrifice she is willing to make, at least under certain conditions.

It has been well established through the use of simple preference tests that hens consistently prefer floors lined with litter (for dust-bathing) over the wire floors of battery cages.[103] Bubier attempted to measure the importance of litter (and, *a fortiori*, the importance of dust-bathing) to hens by determining whether or not the hens would be willing to squeeze through a narrow gap to access this commodity. Bubier offered a number of hens restricted access (i.e. a narrow gap) to three different sorts of flooring: grass, litter, wire mesh, as well as access to a nest-box, a perch, and food. Bubier found that the hens were only willing to pay the cost of squeezing through a narrow gap to access food, litter flooring, or a nest-box (used for egg laying). In all other cases the hens appeared to judge that the work required to access these resources outweighed the benefits.

Bubier concluded, on the basis of the hens' willingness to compress their bodies through the uncomfortable gaps that the hens themselves regarded litter and nest-boxes to be not just preferred, but highly valued, commodities that are worth making a sacrifice. To further substantiate this conclusion, Bubier compared the hens' desire to access litter and nest-boxes to their desire for social interaction. Hens are rather social birds that, when given a choice between isolation and access to a familiar flock, will nearly always prefer to socialize rather than remain solitary. Bubier attempted to evaluate the hens' proclivity for social interaction in comparison to their desire for litter-strewn floors or nest-boxes by allowing them to interact with familiar conspecifics if they passed through a narrow gap. Though the hens were willing to pass through the gap for food, litter, and a

[103] (Dawkins, & Beardsley, 1986)

nest-box, they chose to remain secluded rather than pay the requisite cost of passing through a narrow entrance for a chance at social interaction. The implication of this finding is that, while hens spend a large amount of time in the company of other birds, they do not value opportunities for social interactions as much as the opportunity to dust-bathe, access a nest-box, or obtain food.

Consumer Demand Theory: Determining Demand Elasticity

Bubier's work on hens, and Matthew and Ladewig's research into pigs provide examples of how one can measure and prioritize the preferences of animals by determining how much work they are willing to do for the things they want. By measuring the amount of time and effort an animal was willing to expend accessing various commodities, the researchers were able to determine not only what resources an animal preferred, they were also able to estimate how much value the animal attached to each of these resources. These results make it possible to construct demand curves charting the significance an animal attaches to a given commodity or environmental resource.

Economists describing the consumption tendencies of human beings note that various goods have different demand curves. Goods for which increases in price have negligible effects on overall consumption, sometimes called necessities, are said to have "inelastic demand." Due to their continuous and unwavering desirability, demand for commodities with inelastic demand always remains constant despite any fluctuations in price. These necessities are to be contrasted with commodities exhibiting "elastic demand," that is, goods with a lower level of desirability and for which consumption generally declines as prices increase.

Dawkins has suggested that it is possible to exploit this basic tenet of economic theory in conducting preference tests. She argues that by establishing the elasticity of demand for various commodities it is possible to determine whether the commodities an animal prefers are important necessities or inessential luxuries. If an animal willingly increases its efforts to access a resource, then the resource exhibits inelastic demand, and consequently, it should be judged as being of high importance to the animal. Conversely, if an animal refuses to spend additional time and effort accessing a commodity, the commodity then has elastic demand, and hence, the commodity is only of trivial importance to the animal. According to Dawkins, then, by establishing the elasticity of demand for various commodities, it is possible to determine which commodities an animal has an absolute need for, and which commodities it takes to be unnecessary luxuries.

Commodities that exhibit inelastic demand curves are indisputably significant to an animal and, in much the same way humans are generally harmed when goods with inelastic demand are unavailable, it is probable that an animal is made correspondingly worse off by our denying it access to such commodities. Consider, for instance, Bubier's findings regarding the desirability of nest-boxes for hens. As we saw, hens were willing to endure considerable discomfort in squeezing through the narrow entrances to access nest-boxes and lay eggs. The hens readily squeezed through the narrow gaps (i.e. paid the increased cost) to access these boxes, indicating that nest-boxes have an inelastic demand. It does not follow from this alone that hens necessarily suffer from being deprived of nest-boxes, but the inelastic demand of nest-boxes strongly implies that the welfare of hens can be furthered by an opportunity to access nest-boxes. This point is

supported by Bubier's anecdotal observation that the hens in her study became extremely agitated when they were just about to lay an egg and a nest-box was unavailable. These hens would search frantically for a nest-box, unhesitatingly squeezing through a narrow gap to access one if the opportunity were provided. Such behaviours serve only to further confirm the suspicion that an animal is more often than not harmed by the deprivation of commodities or resources for which she shows an inelastic demand.

One potential criticism of employing the results of preference tests to inform current animal welfare practices is that dissonance often persists between the short-term choices an animal makes in these tests and the welfare of an animal in the longer term. Like human beings, other animals may well be compelled to select or expend time and effort in the acquisition of commodities and environments that are not conducive to their own well-being. For example, many animals will, if given the opportunity, voluntarily become addicted to drugs, sacrificing enormous amounts of time and energy to acquire more of these addictive substances. Alternatively, consider the case of a dog who, due to a particularly painful treatment, formulates a negative association with the veterinary clinic. Given a genuine choice, the dog may consistently opt not to return to the clinic, despite the fact that the long-term benefits of doing so outweigh any short-term discomforts. If we employ preference tests and consumer demand models exclusively to guide and inform our treatment of animals, then our attempts to contribute to an animal's welfare could potentially involve our striving to satisfy a preference that is incompatible with the animal's own long-term well-being.

This counter-intuitive possibility demonstrates the importance of maintaining a balance between the preferences an animal expresses through the methods described in

this chapter and the long-term consequences of selecting those particular preferences. In cases where an animal's long-term well-being is threatened by unbridled access to its preferred commodities or environments, paternalistic restrictions on access to preferred alternatives may be warranted to prevent such deleterious effects on an animal's overall well-being. In much the same way as we justify denying a child uninterrupted access to candy, the justification for this paternalism derives from the fact that neither the animal nor the child would select its damaging preference if either were fully informed of the ramifications of continuously realizing their respective preferences. Of course, we must exercise extreme caution in reaching conclusions about what is actually in the long-term interests of animals. We are not infallible, and as we have seen, even those with the best of intentions are subject to errors in the assumptions that they formulate about what will best contribute to an animal's well-being.

In this chapter, it has been argued that, contrary to Baxter's contention, the preferences of animals can be reliably estimated. I suggested that it is possible for animals to express their preferences to us via the choices they make between competing commodities or environments. Moreover, I argued that it is possible to construct demand curves charting the overall value that an animal attaches to a resource by measuring the amount of time and effort it is willing to expend in order to access the resource. In establishing the elasticity of an animal's demand for a particular resource, it is possible to determine not merely how much an animal prefers one commodity relative to another, but also whether an animal has an absolute need for particular commodity or environment. Although there is no logical connection between the deprival of a resource for which an animal exhibits an inelastic demand and its suffering, I submit that we likely detract from

an animal's well-being by denying it access to such resources. This being the case, in order to successfully show appropriate respect for the welfare of other species, it would appear necessary to provide them (at least some) access to resources for which they show an inelastic demand. As with children, however, in cases where unrestricted access to an animal's preferences conflicts with its long-term well-being, the paternalistic deprival of these preferred resources is justified.

Conclusion

At the outset of this thesis I alleged that our perceptions and treatments of non-human animals are beset with inconsistencies. In the preceding pages, I have attempted to illuminate and to rectify some of these discrepancies.

At least some of the inconsistencies hampering both our views and our treatments of other animals can be attributed to our own uncertainties regarding their moral standings. Employing the argument from marginal cases, I have asserted that one cannot consistently attribute direct moral status to all and only human beings without arbitrarily excluding animals from membership in the moral community. This being the case, I have recommended that we accord other species a moral status comparable to that of atypical human beings.

Permitting other animals entry into the sphere of direct moral significance requires that we show respect for their well-being by according their interests consideration in our moral deliberations. In my analysis of these interests, I claim that the indispensable subjectivity of well-being requires that moral agents extend consideration to the preferences of non-human creatures. The advantage of this interpretation of interests is that it places severe constraints on admission into the moral community by making the presence of a mind a necessary condition for moral consideration.

Along with establishing the moral status of animals, a central objective of mine in writing this thesis has been to shed light on the mentality of animals. To this end, I provided a critical evaluation of the persistent and recurring suggestion that animals are simply unconscious machines, as well an explanatory analysis of the charge of

anthropomorphism. In response to the former, I argued that, cumulatively, the physiological, behavioural and evolutionary evidence constitutes an impressive case for the consciousness of animals and succeeds in shifting the burden of proof onto those who maintain that animals are devoid of phenomenological experiences. In terms of the latter, I argued that no logical fallacy is perpetrated in our imputing folk psychological states to animals and I suggested that the predictive and explanatory leverage created by anthropomorphic depictions of animals serves as a tentative vindication of our proclivity for this practice.

In the second half of this thesis, I introduced Baxter's misgivings regarding our ability to accurately determine the preferences of animals. While there are impediments hampering our ability to facilitate the transmission of inter-species preferences, I maintained that these obstacles are not insurmountable.

We began our search for a method of assessing the preferences of animals by exploring our related capacities for empathy and imagination. Although these abilities are valuable in determining the interests of other species (especially in designing the sorts of questions we want to put to animals in preference tests), they are on their own, insufficient. To overcome the limitations of our imagination, I presented an empirical method for assessing the interests of animals. This method involves attributing interests to animals on the basis of the choices they make between competing commodities/environments and by gauging the amount of energy they are willing to expend in acquiring these alternatives. Outfitted with consumer demand theory I argued that this method not only determines what an animal wants, it also provides a means of measuring the degree to which it regards its preferences as necessary.

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