

COLLOQUIUM TALK
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THE ANIMAL RIGHTS CONTROVERSY REVISITED

INTRODUCTION

Many scientists have some awareness of the heat of the controversy between animal rights activists and animal researchers over whether it is morally permissible, and should be legally permissible, to employ animals in research which involves direct intervention into their lives. However, because of the heat of the controversy and the direct and immediate challenge to the very activity of the animal research scientist, there is little opportunity in the confines of the controversy to consider what arguments can be given for each side. Frequently, activists and researchers alike approach the issue with ethical and valuational stances that have not been independently and critically evaluated, with the result that little fundamental progress is made.

I propose in today's symposium, to review some recent literature on the controversy. This literature represents, to my mind, a substantial increase in the quality of the debate, since it is the product of a thinker who has approached the issue with what I would characterize as an open mind. My comments are in the form of a review of a recent book, published in 1990 by Oxford University Press, by Philosopher James Rachels, titled, *CREATED FROM ANIMALS: THE MORAL IMPLICATIONS OF DARWINISM*.

Rachels' project was to review Darwin's writings as though they constituted a complete and unified theory proposal. Rather than treat comments about morality, religion, philosophy as extraneous to the central thrust and importance of his work, Rachels approaches Darwin with the working hypothesis that he was a systematic thinker. Furthermore, Rachels treats Darwin in the historical and intellectual context of his peers and period. His project is essentially one of reclamation. Darwin has been essentially ignored by academic thinkers in the fields of philosophy, and it is Rachels' biographical

task to rectify what he sees as a fundamental wrong done by Anglo-American philosophy to a great thinker. However, more to the point of our discussions today, Rachels seeks to explore the moral implications of a commitment to Darwinism, if not in its every detail, in spirit.

I shall proceed by reviewing Rachels' central chapters having to do with the challenge of Darwinism to the traditional anthropocentric ethics of Western thought, the impact of Darwinian thought on the view that humans are the only, or at least the chief, morally special species, the only species entitled to forbearance and respect, the only species to which such epithets as "the right to life" are properly applied. I shall encapsulate Rachels' conclusions as to what is morally permissible in the area of human uses of animals, and I shall end with an observation of how his conclusions interact with this institution's practices with respect to laboratory animal research.

First, however, let me lay out a fundamental principle of moral thought which is presupposed in virtually every argument, pro and con, with which we shall deal. That principle is the principle of equality:

It is morally required that we treat equally those individuals who do not differ in morally relevant respects; it is morally permitted that we treat unequally those individuals who do differ in morally relevant respects.

All of the arguments we consider seem to accept this principle, explicitly or implicitly. Its importance in human thought and history cannot be underestimated. It is the basis for the notion of equal human rights. It is the basis for opposition to slavery, to subjugation of women, to any prejudice against an ethnic minority, to the conflict known as World War II. And, it is central to both the pro research faction and the animal rights faction of the controversy with which we deal today. For, the pro research faction points to what it regards as morally relevant differences between humans and the species that are investigated by physiologists, psychologists, and others; the animal rights advocates point to what they regard as morally relevant similarities between and those species. Neither disputes this moral principle of equality; rather, disputes are over specific characteristics: whether they are morally relevant, and whether they are present in species other than humans.

THE TRADITIONAL BASES FOR SUPPOSING HUMANS TO BE MORALLY SPECIAL

Traditionally, several bases have been advanced for supposing humans to be so morally superior to other animals that preference for human interests is morally acceptable, or even required. Let us first enumerate them, then elaborate on them, then critically evaluate the claims made about and on the basis of them.

Humans alone are made in the image of God.

Humans alone possess reason.

Humans alone have language.

Humans alone have moral qualities such as compassion

1. The image of God thesis. Rachels writes:

"Man, it is said, was made in the image of God, with the world intended to be his habitation, and everything else in it given for his enjoyment and use. This makes man, apart from God himself, the leading character in the whole cosmic drama. But that is only the beginning of the story. Other details reinforce the initial thought. Throughout human history, God has continued to watch over and interact with man, communicating with him through the saints and prophets. One of the things he has communicated is a set of instructions telling us how we are to live; and almost all those instructions concern how we must treat other humans. Our fellow humans are not to be killed, lied to, or otherwise mistreated. Their lives are sacred. Their needs are always to be taken into account, their rights always respected. The concern we are to show one another is, however, only a dim reflection of the love that God himself has for mankind: so great is God's love that he even became a man, and died sacrificially to redeem sinful mankind. And finally, we are told that after we die, we may be united with God to live forever. What is said about the other animals is strikingly different. They were given by God for man's use, to be worked, killed, and eaten at man's pleasure. Like the rest of creation, they exist for man's benefit."

Rachels observes that the doctrine of the specialness of man in this story is matched with an ethical precept, the precept of human dignity, that human life is sacred so that "the central concern of

our morality must be the protection and care of human beings, whereas we may use the other creatures as we see fit."

Whether or not the religious story is believed, its central doctrine, that the human species is special to the extent that protection and care of its members warrants treatment of humans markedly different from that given to non-human animals, is widely shared. Even religionists thought that we should be able to identify the divine element in our make-up. This leads to our second characteristic.

2. The rationality thesis. Rachels writes:

"In what way, exactly, do we resemble the Almighty? The favoured answer, throughout Western history, has been that man alone is rational. Aristotle, expressing the Greek view of the matter, had said that man is the rational animal, and differs in this respect from all other creatures. This thought was put to use by the doctors of the Church: the divine element in man, they said, is his rationality. This we might call the 'rationality thesis': man is special because he alone is rational. Non-human animals are not rational, and so are not to be compared, in this regard, with humans. In this way the doctrine of man's specialness was secularized, and cast into a form palatable even to those who are sceptical of the story behind the religious version of the idea...(so that)even if the image of God thesis is rejected, the matching moral idea need not be abandoned."

A long array of thinkers employed some version of the rationality thesis. It is to be found centrally in the writings of Augustine, Aquinas, Kant, and is often advanced in passages urging a contrast with non-human animals. Kant's arguments against suicide provide a good illustration. "People may offer various reasons to justify self-murder, he says, but these attempted justifications overlook the crucial point that 'Humanity is worthy of esteem'. To kill oneself is to regard one's life as something of such little value that it can be obliterated merely in order to escape troubles. In the case of mere animals this might be true--we kill animals to put them out of misery, and that is permissible. However, we should not think that the same may be done for a man, because the value of a man's life is so much greater: 'If [a man] disposes over himself,' Kant says, 'he treats his value as that of a beast.' Again, 'The rule of morality does not admit of [suicide] under any condition because it degrades human nature below the level of animal nature and so destroys it.'"

Aquinas considered the question of man's moral obligations to animals. "Other creatures," he wrote, "are for the sake of the intellectual creatures. [Therefore,] it is not wrong for man to make use of the, either by killing or in any other way whatever." He even denies that we should be kind to them out of simple charity: "The love of charity extends to none but God and our neighbour. But the word neighbour cannot be extended to irrational creatures, since they have no fellowship with man in the rational life. Therefore charity does not extend to irrational creatures."

Kant fundamentally agreed. Only rational beings were to be regarded as ends in themselves. "Other entities have value only as means, to serve that end....animals have the status of mere things, and we have no duties to them whatsoever.... We may indeed have duties that involve animals, but the reason behind these duties will always refer to a human interest, rather than to the animals' own interests." For example, we should not torture animals pointlessly, for the reason that "He who is cruel to animals becomes hard also in his dealings with men."

Darwinism undermines the notion of human dignity by drawing into question both the Image of God thesis and the Rationality thesis, according to Rachels. Let us take up this effect thesis by thesis.

How Darwinism undermines the image of God thesis. The mechanisms of evolution which Darwin noted --natural selection among chance variations--undermines the design hypothesis, namely, that it is necessary to posit a designer, a creator, in order to account for such wonders as the eye and other apparently purposive elements of nature. Darwin wrote:

"...[R]eason tells me, that if numerous gradations from a perfect and complex eye to one very imperfect and simple, each grade being useful to its predecessor, can be shown to exist...then the difficulty of believing that a perfect and complex eye could be formed by natural selection, though insuperable by our imagination, can hardly be considered real....In living bodies, variation will cause the slight alterations, generation will multiply them almost infinitely, and natural selection will pick out with unerring skill each improvement. Let this process go on for millions on millions of years; and during each year on millions of individuals of many kinds; and may we not believe that a living optical instrument might thus be formed as superior to one of glass, as the works of the Creator are to those of man?"

Rachels observes that it might still be possible to maintain some kind of theism, perhaps a view such as that of deism, which holds that God created the fundamental stuff of the universe, and then natural forces and processes took over. "The question that will remain, however, is whether that refined theism is sufficiently robust to support the image of God thesis. The image of God thesis...requires a theism that sees God as actively designing man and the world as a home for man. If, by abolishing the view of nature as designed in substantial detail, Darwinism forces a retreat to something like deism, then we are deprived of the idea that man has a special place in the divine order."

How Darwinism undermines the rationality thesis. The basic thrust of Rachels' argument on this point is that Darwin held that humans' rational capacities, as well as other "human" qualities (such as experience of anxiety, grief, dejection, despair, joy, love, tender feelings, devotion, ill-temper, sulkiness, determination, hatred, anger, disdain, contempt, disgust, guilt, pride, helplessness, patience, surprise, astonishment, fear, horror, shame, shyness, and modesty) could be explained by the same principles that explain everything else, and do not require such special treatment as some limited doctrine of special creation whereby God is thought to have intervened in history, at some point, to endow humans with rational souls (a view that Wallace, the co-discoverer of evolution, held, much to Darwin's irritation).

Darwin wrote:

"Of all the faculties of the human mind, it will, I presume, be admitted that Reason stands at the summit. Few persons any longer dispute that animals possess some power of reasoning. Animals may constantly be seen to pause, deliberate, and resolve. It is a significant fact, that the more the habits of any particular animal are studied by the naturalist, the more he attributes to reason and the less to unlearnt instincts."

Rachels quote Darwin's examples from his own and other' observations. "Rengger...states that when he first gave eggs to his monkeys, they smashed them and thus lost much of their contents; afterwards they gently hit one end against some hard body, and picked off the bits of shell with their fingers. After cutting themselves only once with any sharp tool, they would not touch it again, or would handle it with the greatest care. Lumps of sugar were often given to them wrapped up in paper; and Rengger

sometimes put a live wasp in the paper, so that in hastily unfolding it they got stung; after this had once happened, they always first held the packet to their ears to detect any movement within." Darwin even regarded the behavior of earthworms as "guided by a certain amount of reason." "In observing their habits, Darwin had noticed that they would seize leaves and drag them to their holes, 'not only to serve as food, but for plugging up the mouths of their burrows'. It struck him as remarkable that the worms would usually do this in an efficient way, gripping the leaves by their pointed tips, although in a small minority of cases the worms would try the less effective methods of gripping the leaves by their stalks or in the middle. Is this, Darwin wondered, the result of intelligence? He devotes 35 pages of his final book, The Formation of Vegetable Mould, through the Action of Worms, to the question.

"Darwin's method was to consider whether hypotheses other than intelligence might explain the worms' behaviour. If other hypotheses could be eliminated, leaving only intelligence as an explanation, then he would have to accept that explanation no matter how strange it seemed. One hypothesis might be that the worms proceed merely by trial and error, learning nothing from their experience. Another might be that they act purely by instinct. To test these hypotheses, Darwin set problems for the worms: he took away the familiar leaves and forced them to try and cope with oddly-shaped leaves that were not native to their region, and with bits of paper cut into different shapes. If the worms were going on nothing but fixed instinct, they should not be able to cope with these new materials at all. But they did manage, quite handily. Moreover, they did so in a sensible way that could not be accounted for as dumb trial-and-error. The worms seemed to be reacting intelligently to their perceptions of the shapes of the new objects. Darwin became convinced that the hypotheses of 'unlearned instinct' and trial-and-error are indefensible, and that 'One alternative alone is left, namely, that worms, although standing low in the scale of organization, possess some degree of intelligence.'

"If worms have the power of acquiring some notion, however rude, of the shape of an object and of their burrows, as seems to be the case, they deserve to be called intelligent; for they then act in nearly the same manner as would a man under similar circumstances."

Thus, concludes Rachels, Darwin employed the following standard for rationality: Suppose an individual wants X, and is able to adopt an effective strategy for getting X. But then circumstances change, and that strategy no longer works. If the individual is then able to devise a new strategy, taking the new circumstances into account, and is able to cope with a sufficient number of such changed circumstances, his behaviour can reasonably be called rational. Applying this standard, Darwin found many examples of rationality in non-human animals. It follows, then, that some limited doctrine of special creation is unnecessary to account for the emergence of rationality in humans; like color vision, rationality can be seen to emerge in humans from abilities to be found in other animals, and while it may have reached a degree of excellence in humans not found elsewhere in the animal world, humans do not differ in kind in virtue of their reason, but only in degree. The doctrine of rationality as pointing to something morally special about humans is undermined by Darwinism.

3. The language hypothesis.

Some commentators have suggested that the Age of Darwin was also the Age of Naive Anthropomorphism, and have taken pains to emphasize the differences between human rationality and the mere 'pseudo-rationality' of animals. A chief difference that has been noted is that human linguistic ability grounds a kind of rationality not to be found in animals lacking a language. Humans can formulate thoughts, draw complex inferences, communicate over long distances of space and time, codify taboos into rules and laws, and generally understand themselves and what is going on around them in a sophisticated way. Animals, lacking language, necessarily lack the capacity for such sophisticated rationality and so cannot be said to differ merely in degree: the difference is one of kind.

Although Rachels does not explore this thesis extensively before proceeding to apply Darwinism to it, it is worthwhile to reflect on its importance to morality for a moment. It is language that makes reference both to past and future situations and to possible situations a possibility. Reference to past situations is a necessary condition for blame and punishment that is not effectively concurrent with the offensive behavior; reference to future situations is what makes such moral-rule-generating activities as promising possible.

Language makes counterfactual thinking possible, which is a necessary condition of the notion that we are frequently able to do other than we do--another cornerstone of praise and responsibility.

Language is necessary for a variety of forms of deception, and also for a variety of forms of communication. Hence, without language there would be only the most rudimentary forms of reporting: the opportunities for lying, and also for witnessing truthfully, would be greatly diminished.

Language is necessary to contracts, necessary for commitments to others that one will perform in the future in certain ways.

Hence, language may be seen to be essential to much of the moral life of responsibility, blame, praise, punishment, reward, commitment, deceit, truth-telling, decision-making among complex possibilities, promising and making other contracts. Lacking a language would seem to mean lacking a substantial portion of the moral life. Language thus appears as a characteristic of humans that may ground special standing for them in questions of what legitimately can and cannot be done to them.

Darwin denied that our language is radically different from what we find in non-humans, and he denied that having a language is necessary for being rational. First, he argued that our use of language differs in degree, but not in kind, from the systems of signals used by other animals, so that our language is probably just the natural extension of some such primitive system. He wrote:

"I cannot doubt that language owes its origin to the imitation and modification of various natural sounds, the voices of other animals, and man's own instinctive cries, aided by signs and gestures...we may conclude from a widely-spread analogy, that this power would have been especially exerted during the courtship of the sexes,--would have expressed various emotions, such as love, jealousy, triumph,--and would have served as a challenge to rivals. It is, therefore, probable that the imitation of musical cries by articulate sounds may have given rise to words expressive of various complex emotions...[M]ay not some unusually wise ape-like animal have imitated the growl of a beast of prey, and thus told his fellow-monkeys the nature of the expected danger? This would have been the first step in the formation of a language."

Rachels notes that Darwin simply assumes that, if the origins of human language can be explained in this way, there is no problem in understanding how further evolutionary development can

augment the primitive signal-system until we eventually come to modern English or Chinese.

Considering, however, the rich system of concepts that non-humans cannot even grasp, as well as the power to accumulate and pass on the wisdom of our forbears, Darwin's assertion that the difference is only one of degree, not of kind, seems feeble.

Rachels notes that it is the syntactical structures of human language that make for the possibility of forming an indefinite number of new sentences, expressing new thoughts, that have never appeared before. Despite having never encountered these sentences before, humans are able to understand them instantly. Animal communication involves nothing comparable to the syntactical structures of human language. Philosopher Rene Descartes thought this was what distinguishes humans from the beasts:

"For it is a very remarkable fact that there are none so depraved and stupid, without even excepting idiots, that they cannot arrange different words together, forming of them a statement by which they make known their thoughts; while, on the other hand, there is no other animal, however perfect and fortunately circumstanced it may be, which can do the same....It is not credible that a monkey or a parrot, selected as the most perfect of its species, should not in these matters equal the stupidest child to be found, unless in the case of the brute the soul were of an entirely different nature from ours.

Rachels reviews the twenty+ years of work attempting to teach chimpanzees and gorillas American Sign Language, or colored tiles to represent words, or a computer console, and concludes that the criticisms made of these attempts are basically sound. He writes, "It seems then, that barring more impressive evidence than is presently available, we are stuck with the conclusion that the linguistic capacities of non-humans are far inferior to those of men and women. Non-humans can communicate with one another, but without anything like a syntactically complex language. The result is disappointing for Darwin's project of finding continuities, rather than sharp breaks, across species, for this does seem to be just the sort of sharp break that might be appealed to in order to set man apart from other animals."

The question remains, is this a difference that makes for the sort of morally relevant difference required by the principle of equality? Rachels puts this issue forward by asking whether the different

linguistic capabilities of humans mean that humans, but not other animals, are rational? On his view, Darwin was correct in focusing attention on non-linguistic rationality as the morally significant sort. Quoting Darwin's example of both orangs in Eastern islands and chimps in Africa building platforms on which they sleep as the result of both animals having similar wants and possessing similar powers of reasoning, Rachels says: "Or as we might say:" our best theory of animal behaviour involves attributing to them desires and beliefs. Desires and beliefs, taken together, form reasons for action. Thus, when we explain the animal's behaviour in this way--the animal wants certain things, and realizes that by taking certain steps it can get what it wants--we are seeing its conduct as rational."

Rachels notes two challenges to this line of reasoning. The first comes from the late B.F. Skinner's work. Skinner argued that postulation of beliefs and desires is unnecessary, since mechanistic explanations involving the shaping of behaviour by conditioning render mentalistic explanations unnecessary. Without attempting to resolve the question of whether Skinner was correct, Rachels observes that whatever is true about non-human animals may well turn out to be true about human animals, and vice versa; it may well be the case that both mechanistic explanations (as of why, say, one prefers strawberry ice cream to vanilla) and mentalistic explanations ("He likes strawberry more than vanilla") are necessary to account for flexible or adaptive behaviour in humans and non-humans alike (note that "he" could just as well be a pet dog as its owner); or it may be that even the most complex human behaviours are really produced by conditioning, so complex that it is impossible to map so that we have the illusion that human behaviour is different. The deep Darwinian thesis, only insists that human psychology and animal psychology are continuous; what is said about one must be said about the other, excepting only differences of degree. By holding that both human and animal behaviour are merely the products of conditioning, Skinnerian psychology leaves this deeper Darwinian thesis untouched.

The other line of objection holds that all animal behaviour is tropistic, automatic responses differing from other reflexes only in that they affect the movement of the complete organism. We now think of tropisms as like stored subroutines triggered by specific stimuli. Take the example of bee rationality involved in the fact that a bee, after finding food, will return to its hive and perform a 'dance'

which informs the other bees of the food's quantity, direction, and distance. But when her antennae are stimulated properly, the worker will execute her dance in just the same way, even though there are no other bees present. Thus, the behaviour is exposed as tropistic. Even if we imagine adding subroutines to take care of these problems, we can never add enough subroutines to enable the insect to cope intelligently with every possible situation. As Daniel Dennett puts it, "There will always be room for yet one more set of conditions in which the rigidly mechanical working out of response will be unmasked, however long we spend improving the system. Long after the animal's behaviour has become so perspicacious that we would not think of calling it tropistic, the fundamental nature of the systems controlling it will not have changed; it will just be more complex."

Rachels' defense of Darwin at this point parallels the defense against Skinnerian psychology: whatever turns out with respect to the role of tropisms in explaining animal behaviour that "appears" rational will be applicable to human behaviour. "If we are willing to regard even the most complex behaviour of monkeys and apes as in principle tropistic, there is no reason not to think of humans in the same way. Human behaviour, too, is under the control of a finite system--the human brain--and this means that the human behavioural repertory, no matter how vast, also has its limits." Even the indefinite number of sentences formulable in a natural language such as English doesn't establish that humans are infinitely flexible: the vast bulk of those sentences are so syntactically complicated that no human being can comprehend them. If we back off the standard that an individual's behaviour has to be infinitely flexible for it to be reasonable to regard its performances as rational, then rationality is shown when an individual is able to devise new strategies, even if limited in number. This is a pattern exemplified in the behaviour of many non-humans as well as humans.

4. Humans are the only moral animals. Rachels writes,

Darwin's argument against this thesis follows the same general path as his argument about rationality: first, he gives a large number of examples of animal behaviour, designed to overwhelm the reader with evidence that animals do in fact have instincts that operate for the good of the community. Then he argues that this is not surprising, but is precisely what one would expect on the hypothesis of natural selection. Along the way he protests the inconsistency of our unwillingness to attribute morality

to the animals, when we would so characterize men for essentially the same behaviour. And finally, he offers an account of how the distinctive features of human morality could have evolved from non-human beginnings."

Rachels notes that Darwin had relatively little evidence available to him. Lacking reliable and detailed ethological studies, he had to depend on his own limited observations, on folk-wisdom, and on the hear-say reports of amateur observers; one might well accuse him of departing from careful and cautious interpretation of data. Yet, subsequent ethological and psychological studies have confirmed Darwin's impression that "social animals perform many little services for each other; horses nibble, and cows lick each other, on any spot which itches: monkeys search for each other's external parasites; mothers tenderly care for their babies; orphans are adopted by other members of the group; there are instances of animals caring patiently for old or feeble companions.

For example, work reported from Northwestern University Medical School in 1964 established that rhesus monkeys were deterred from operating a device for securing food when doing so was perceived to cause pain to another monkey. The experimenters concluded that 'a majority of rhesus monkeys will consistently suffer hunger rather than secure food at the expense of electroshock to a conspecific'. In particular, in one series of tests, 6 of 8 animals showed this type of sacrificial behaviour; in a second series, 6 of 10; and in a third, 13 of 15. One of the monkeys refrained from obtaining food for 12 days, and another for 5 days, after witnessing shocks to the conspecific, which means they had no food at all during that time.

The strong sense of altruistic involves the willingness to forego some good for oneself in order to help others; understood in this way, altruism is often taken to be the paradigmatic moral trait. These experiments seem to show the rhesus monkeys are altruistic; while they may not be able to think of themselves as altruistic and cannot formulate the idea that altruism is a good thing. But even for humans, being altruistic does not necessarily involve forming the idea that it is good to be altruistic, or that one is morally required to act altruistically. Being altruistic only requires desiring that others not suffer, and acting on that desire, even at cost to oneself. Other aspects of these experiments controlled for alternative explanations and confirmed the conclusion.

So, Rachels argues, Darwin's position that human moral qualities are found in non-human animals has been confirmed by more modern studies and careful observations.

Darwin believed that the existence of the social instincts could be explained as the result of natural selection. This is difficult to understand, for altruistic behaviour, rescue behaviour, etc. expose the animals exhibiting such behaviours to greater risks, so such behaviours tend to work against reproductive success. How does altruism become a widespread characteristic within a group in the first place? Why shouldn't the tendency to altruism be eliminated the moment it first appears. Darwin was well aware of the problem, but had little idea of its solution, and expressed only confidence that parental and filial altruism could be explained through natural selection. We now have, with the mechanism of genes, the possibility to understand how this works. Genes that dispose individuals to behave protectively towards their children will tend to spread throughout the population, while genes that permit indifference will tend to disappear, simply because the children of "loving mothers" tend to survive better than those of "Indifferent mothers."

This sort of kin altruism is not the only sort. There is also reciprocal altruism, where animals sacrifice their own interests to help others who are not closely related to them. An individual performs a service for another because doing so increases the likelihood that a similar service will be performed for him: a monkey picks the external parasites off the back of another monkey, and then the favour is returned. While it is easy to see that reciprocal aid, when practiced by most members of a group, will work to the advantage of all, it is not so easy to see how such behaviour could become established in the first place on the principles of natural selection.

Rachels' solution is speculative, but the key idea is that the rational powers of individuals play an important part in the establishment of reciprocal altruism within a population. Individuals with kin altruism attain enough reason and foresight to understand that aiding non-relatives might be a good strategy for gaining some benefit for themselves, provided that the non-relatives can be induced to reciprocate. It is thus perhaps significant that all the examples of reciprocal altruism are found within the "higher" animals, the primates, in which the power of reasoning is well developed. The hypothesis

is that animals are capable of altruism towards non-relatives only to the extent that they are intelligent enough to form beliefs about whether their aid is likely to be reciprocated.

Rachels thinks that there are twin dangers lurking to trap the unwary in thinking about these issues and in drawing conclusions from individual instances of animal behaviour: the twin dangers are of anthropomorphizing and underestimating the similarities between ourselves and other animals. He believes that field observation must be confirmed with experimental validation.

SUMMARY

I have covered in some detail only a portion of Rachels' interesting and well-written book. As a Darwinian, Rachels believes that the notion of the specialness of humans, the notion of uniquely human dignity, is rendered increasingly improbable in the context of a careful consideration of arguments for it and the effect on those arguments of a Darwinian perspective. In the remainder of his book, Rachels sketches a position which he terms moral individualism, which holds that "how an individual may be treated is to be determined, not by considering his group memberships, but by considering his own particular characteristics. Differences between the individuals must be relevant to how they are treated. We don't admit non-human animals to the university because they lack the ability to speak, write papers, or do mathematics. However, when we consider whether to subject a non-human animal to needless pain, as contrasted with subjecting a human to needless pain, the objection should be to both to the extent that each has the same capacity for suffering.

Rachels points to the Draize test as a particular example. Rabbits are used in the Draize test because their eyes are similar enough to humans to allow extrapolation of data from one to the other. It is impermissible to use humans, because the procedure is quite painful, and people's eyes would be damaged beyond repair. This is bad for them because pain is bad, and because people need their eyes for all sorts of reasons. The considerations that are relevant to our judgment about the impermissibility of using humans is that (a) humans are capable of suffering pain, and (b) humans need their eyesight in all sorts of ways for the conduct of their lives. Rabbits, however, are similar in these respects: they can suffer pain, and they need their eyes to conduct their lives. If so, then we have the same reasons for opposing their use that we have for opposing the use of humans. The fact that humans can do

mathematics, or enjoy opera, but rabbits cannot, these differences do not seem relevant to the question about the Draize test.

In my five years on the Laboratory Animal Care Committee, I have seen a gradual evolution towards a form of moral individualism. That is, the committee employed a standard which required setting the effects of an experimental protocol on one or more animals against the benefits that would directly or indirectly accrue to humans possessing the relevant affliction or feature. Taking that approach back to Rachels' example of the Draize test, it would seem that his account is incomplete. For, the differences in the lives, and the differences in the suffering, of humans whose interests we seek to protect with the Draize test and rabbits whose interests we sacrifice in subjecting them to the Draize test are part of the relevant features to compare. Rachels is correct insofar as an alternative to the Draize test exists, or could be developed. But, given that we do develop new products which have the potential to harm, and given that there is not an alternative, equivalent test, the Draize test seems warranted. At the same time, its warrant is only of the number of animals minimally required to generate reliable data. And, my observations have been that the committee applies a fairly careful standard with respect to numbers of animals required for statistical significance. Finally, insofar as animal suffering can be minimized consistent with the aims of the experimental design, protocols are held to a high standard of non-suffering; where some suffering or discomfort is involved, the standards of need are proportionately increased.

Whether the system of regulation is perfect, there is a concerted effort to make it work and an application of what increasingly looks like moral individualism. My reading of this book and reflection on its message, however, is only recent. I recommend it to you as a stimulus to your ongoing growth and development and to your reflective appraisal of your professional activities.

COMMENTARY ON ALBINI AND KETCHAM

BY

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Sentience, simply put, is the capacity to feel pleasure and pain, either as sensations or as attributes of other sensations or experiences. Boris Albin and Gary Ketcham agree in two previous editions of The Reporter (May 7, 1987, and February 18, 1988) both on this definition and on the prima facie negative value, or evil character, of pain and the prima facie positive value, or good character, of pleasure. What neither has explicitly addressed is the question of whether pain and pleasure yield neatly to quantification--a presupposition of both their positions.

Consider two adjacent wards in a rather odd hypothetical hospital. In one are 100 persons each with a twinge in the big toe of the right foot; in the other is a single patient agonizingly burned over 70% of the body. You are a physician who has an equal amount of time to devote to one or the other ward but not both, and an amount of pain killers adequate only to alleviate the discomforts of either the burn victim or those with big toe twinges but not both. To which ward should you turn? Considering only the pain in each ward, which ward has the greater quantity of pain?

Most persons share the intuition that the greater amount of pain is surely in the ward with the lone burn victim, and would, in the position of the doctor, devote their available time and resources to alleviating that individual's suffering. But this presupposes that the pains in the two wards are quantifiable and commensurable.

As you are about to minister to the single burn victim, you learn that the other ward contains not 100, but 1,000 or 10,000, or even some larger number of patients, each with a twinge in a big toe. Is there some number of individuals such that, ability to treat being equal, one should favor their collective toes' welfare over the burn victim's welfare?

I believe most persons share equally in the intuition that no number of minor painful states of whatever duration can sum to a morally more compelling quantity of pain than that of a single person with the intractable, unremitting pain of our burn victim.

How thoroughly this intuition illuminates the debate between Albin and Ketcham is not clear, for the

analogy between the twinges in human toes and whatever pains and discomforts laboratory animals experience is, at best, imperfect.

However, it is clear that Albini thinks that animal discomfort and pain may be graded as to degree of severity, and that such graduations are morally relevant in that the more severe degrees require greater prospective good to offset them. Thus, he is committed to the view that such graduated animal sentience is straightforwardly commensurable with human states in that it makes sense to speak of advances in our abilities to reduce human discomfort, pain and suffering as offsetting the deliberate use of animals in research which causes discomfort and pain. And it is clear that Ketcham holds that animal and human discomfort, pain and suffering are of a kind, so that we are no more justified in conscripting animals against their wills into our medical research than we would be in doing so to humans against their wills. But if, as in our hypothetical example, either instances of pain per se or different types of pain do not summate quantitatively, a major basis for maintaining straightforward commensurability would seem to be lost.

However, it does not follow from the tentative conclusion that in some significant way pains are not fully commensurable, either that visiting pains on animals is morally neutral (a possible pro-research inference), or that it is always wrong (a possible con-research inference). Indeed, a closer look at our hypothetical example seems to indicate that, were the situation altered so that the pain of the burn victim could be alleviated by visiting twinges on a very large number of big toes, any amount of toe twinges would be better than the suffering of one burn victim. If animal pain and human pain are similarly incommensurable, it may be that any amount of animal pain is preferable to many instances of really severe human suffering. On the other hand, it may be that such preferences are speciesist.

How one could discover which is the case, either in general or in specific instances, is unclear. But without clarity on the matter of moral commensurability of pain, it will remain unclear, for example, whether or not whatever discomfort there is to laboratory animals employed in sex research is permissible if it leads someday to reduction of the psychological pain of men who experience severe sexual dysfunction. Hard, careful, cross-disciplinary thinking will be necessary to resolve these difficult issues on the character and commensurability of pain. Many, however, have thought that the more significant concept in this debate is not the physical pain of sentient beings, but their suffering.

While it is common to speak and read of the suffering of animals, under Albin's definition of it as "the anticipation and reflection of pain and death...characterized by anxiety, alarm and terror", it is not at all evident that either animals as a kingdom or laboratory animals as a set of species, all have the capacity for suffering, as Kitchin's "animals (are) in the same sphere of protection as concern as humans since they, too, experience pain and suffering" presupposes.

It is certainly the case that some animals, even laboratory animals, anticipate pain and discomfort in a manner that is characterized by anxiety. But animals also display anxiety at stimuli which are not painful but unfamiliar. Hence, anxiety itself may be of relatively minor significance as an indicator of suffering. It is certainly true that some animals--ones rather higher on the phylogenetic scale than rodents--display terror and alarm. But it is not at all clear that such displays are typical of, or even common among, laboratory animals, either as the result of confinement or of experimentation. So, Albin can agree that animal suffering ought to be avoided without thereby being committed to the elimination of the bulk of animal research.

It is rare that we have any evidence that species from which laboratory animals are drawn anticipate death in any way whatsoever. Although clearly some animals (e.g., dogs and geese) give evidence of a level of understanding of death, perhaps more in the sense of experiencing loss of a master or mate, there is not reason to think that such animals experience the prospect of their own death, or that experimental animals have the complex of associations of death with any of the notions, such as the sense of a life's promises and plans cut tragically short, or anticipation of accountability for and final judgment of the actions of one's whole life, or the experience of nothingness, that humans are prey to. Even if it were the case that the deer in the jaws of the wolf has some anticipation and terror at its pending fate, it does not follow that killing laboratory animals through any of the standard means certified as humane by the professional veterinary organizations involves any such anticipation and terror.

Yet another dimension of human suffering that does not seem present in animal experience is the sense of tragic loss experienced by and about one who sustains a crippling injury or catches a fatal disease. The film, "Dax's case," well known to students of medical ethics courses, details the despair of an active young man blinded and crippled in a fire. His physical pain may arguably be supposed similar to that of a similarly injured animal, but his suffering, deepened by the sense of his life's plans and projects being shattered, his natural expression of vitality

celebrated in sports forever ended, and his exceptionally superior capacities as a pilot destroyed, negatively infuse his sense of the value of life to the point that he has grave doubts as to whether, when rehabilitated, it will be worth living. And, confronted with such despair, his anticipation of the painful rigors of the months of surgery and physical therapy that lie ahead becomes an anticipation of being tortured by his well-meaning care providers.

I am not convinced that the equation of human suffering in its most extreme forms with that of animals in laboratories is defensible. Whether any laboratory animals can suffer as profoundly as humans do is doubtful; whether most laboratory animals suffer (in Albin's sense of the term) at all is doubtful; and whether the magnitude of much human suffering can't even overcome the visitation of some pain and discomfort on even relatively large numbers of animals is doubtful. These doubts, of course, reflect a commensurability problem about suffering at least as severe as that about pain--complicated in the case of humans (at least) by the phenomenon of stoic endurance. But I think neither Ketcham nor Albin has shown us how to resolve these doubts. And I do not think these doubts are a form of speciesism, at least in an invidious form, since they are rooted in observation of the phenomena and not any particular self-serving preference for human kind.

At the same time, both Albin and Ketcham agree that the sentience of animals, together with whatever degree of suffering they are capable of, is an important moral consideration. Albin thinks it requires imposing strict harm/benefit standards, balancing or offsetting animal discomfort and pain with gains in our capacity to minister to the ills and misfortunes of both animals and humans. Ketcham thinks it requires minimally passing the test of strict scrutiny turning on three standards: a compelling social imperative of a grave nature, demonstrable exhaustion of all alternative solutions, and demonstrable on-going success of the research. I sense substantial apparent agreement between Albin and Ketcham on these points despite their linguistic differences of expression.

What I find to be of concern in the requirement of demonstrable benefit over harm favored by Albin and of strict scrutiny recommended by Ketcham, is that both seem to preclude much basic research which aims at fundamental understanding and not specific therapeutic or problem-oriented goals. Too often the history of science has been characterized by basic science advances which have only later been surprisingly productive of solutions to problems. My fear is that, with too strict a standard of prospective and concurrent scrutiny, much basic scientific research may be snuffed out, to the detriment of the longer term prospects of applied research. It is basic research which provides us with the paradigm shifts--the revolutions in thinking about problems--that prove to be the well-

springs of new lines of applied research, so that applied research may well become sterile if basic research is curtailed through impatient demands for demonstrated relevance to grave social imperatives or for demonstrated positive harm/benefit ratios.

My argument here turns only on principles which Albin and Ketcham accept. It does not turn on a supposed right of the human species "to boldly go" where thought has not led before, to satisfy curiosity for curiosity's sake, predicated on the value of knowledge per se and the consequent validation of the juggernaut careenings of scientific research wherever it may lead. I am too much of a pluralist, too troubled by the conflict of the goods of knowledge and compassion, to wear that badge comfortably. I think, to be fair, that Albin would agree that basic research is essential, and would relax his prospective positive benefit/harm requirement accordingly. Ketcham would not see basic research involving harm to animals as permissible even if the consequence is a lessening or elimination of productivity in applied bio-research (a big `if' on his view). So the apparent agreement between Albin and Ketcham which I greeted two paragraphs ago is not extensive.

Albin is a pluralist in holding both that animals (and humans) have a right not to suffer and that animals (and humans) have a right to improve(ment of) the quality of their lives, for he sees these rights as not linearly ordered or prioritized. Ketcham seems on the whole monistic, holding to an exclusive reverence for sentient, animate life and an abhorrence of any exploitation which causes predictable pain, suffering or death. Ketcham's monism shows itself as well in his insistence that compassion should be the master of reason; Albin's pluralism leads him to doubt that either compassion or reason without the other is complete, and that each serves as a bridle on the unchecked excesses of the other.

Perhaps the greatest unresolved difference between Albin and Ketcham is the moral status of death caused by human killing. While both would agree that causing an animal a painful death or a death attended by suffering is exceptionally difficult, if not impossible, to justify, Albin sees the painless killing of animals from which some benefit may be derived to be ethically acceptable, even if there exist alternative routes to the same benefit which do not involve killing. My speculation is that this shows a difference between Albin's understanding of death and of the inherent value of life from Ketcham's understanding.

Ketcham's view of death itself is not so clearly dissected out of his remarks, for he has consistently interwoven these themes with his doctrine of compassion, characterized, to be sure, as respect for life and abhorrence

of suffering, but operationalized as not visiting suffering upon sentient, animate beings (hence the commitment to preventive medicine and non-experimentation) rather than as alleviating suffering of such beings. In the language of traditional Hippocratic medical ethics, Ketcham takes the doctrine, Primum Non Nocere ("Above all, do no harm") to its logical extreme, whereas Albinus tempers it with the more modern injunction to benefit, and sees neither the principle of nonmaleficence nor of beneficence as superior in all cases (hence his commitment to justifying the necessary visitation of death and pain in pursuit of such benefits as extending life, moderating disability, and alleviating suffering).

Albinus's position thus emerges on Ketcham's view as paradoxical in accepting the necessity of doing evil to promote greater good, while Ketcham's position emerges on Albinus's view as paradoxical in tolerating preventable "natural" evil in order to avoid doing evil. We see that ultimately these differences are the classic differences between persons committed to consequentialist and non-consequentialist modes of ethical reflection and decision-making, and that the debate between opponents and proponents of animal research is a recent chapter in a centuries-old conflict between two fundamentally different schools of ethical reasoning. We are, I fear, far from consensus in that disagreement.