Animal Belief

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Can non-language-using animals have thoughts? Can a cat, for instance, *literally* believe that there is a mouse in the house? The question has been a persistent one in the Western philosophical tradition. But this question needs to be distinguished from another question, which is: Is there predictive utility in ascribing thoughts to creatures which lack a language? An affirmative answer to the latter question is sometimes taken to provide evidential support for an affirmative answer to the former, but I shall argue below that this is not correct.

What I want to do in this paper is firstly to rehearse some of the more common philosophical responses to the former question. Then I shall outline Donald Davidson's argument that a creature can have thoughts only if it can be the interpreter of the speech of another,[1] i.e. that *non-language-speaking animals do not have thoughts: in particular, they lack beliefs*. Davidson's argument has not won wide acceptance,[2] but it is the most subtle examination of the relationship between belief and language known to me. In the final section of the paper, I look at criticisms of Davidson's argument and offer new arguments in its support. I do not claim that my arguments would be acceptable to Davidson; and I am conscious of the fact that my defence of the claim that non-language-using creatures lack beliefs may, to some extent, complement or rearrange Davidson's own argument, rather than present an entirely original line of thought. But, because of the compact way in which Davidson presents his ideas on this topic, what I have to say may be of interest.

The claim that only a language-using creature can have beliefs has moral implications as to how we should conceive our relations with the rest of the animal kingdom. For instance, Singer, for one, has claimed that cats, dogs, pigs and apes may be persons[3]. But, if a necessary condition of a creature's being a person is that the

[1] D. Davidson, 'Thought and Talk', *Mind and Language*, S. Guttenplan (ed.) (Oxford: Clarendon Press, 1975), 7–23.

[2] See, for instance, J. Bishop, 'More Thought on Thought and Talk', *Mind* LXXIV, (1980) 1–16.

[3] P. Singer, *Practical Ethics* (Cambridge University Press, 1979). It should be noted, however, that Singer does not build into the concept of personhood a requirement that persons be moral agents.

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creature be aware of its continuing identity though time, analogous to, but distinct from, other selves, then it is unclear how a non-language-using creature could satisfy this condition. This is so, at least in part, because a creature which is aware of its continuing through time must be able to identify the order in which events in its life occur.[4] Needless to say, the fact that a creature, for instance a cat, is not a person, does not entail that it is not a proper object of moral concern. Non-language-using animals are sentient, that is to say that they are aware of sensations, and, in particular, the sensation of pain. Because they have a capacity to suffer, they should be regarded as *moral patients* although they are not *moral agents*.[5] This is how we regard the pre-linguistic members of our own species.

There are three more preliminary points to make. The first is that little will be said here about the nature or properties of natural languages. I suspect that Stephen Clark will strike a sympathetic response from the upholders of animal rights and others when he writes:

> In part this doubt is a mere device of philosophy: it is not that we have *discovered* them to lack a language but rather that we define, and redefine, what language is by discovering what beasts do not have. If they should turn out to have the very sort of thing we have hitherto supposed language to be, we will simply conclude that language is something else again.[6]

But Clark gets things backwards here. The issues are difficult, but linguists, mathematicians, philosophers, and others have first sought to understand the nature of human language, and then wondered whether animal communication systems have the same properties possessed by all human languages. If it could be shown that any signalling system employed in a non-human biological community satisfied the twin conditions of *compositionality* and *recursiveness* (properties possessed by all human languages), then

[4] S. Hampshire, *Thought and Action* (Chatto & Windus, 1959), 99. I am very much in sympathy with this *Kantian* way of looking at human identity through time, but I do not have the space here to expand upon Kant's arguments in the first *Critique*.

[5] A. Quinton, *The Nature of Things* (Routledge & Kegan Paul, 1973), 105. Animals, defectives and infants are not those to whom moral injunctions can properly be addressed, nor can they be held responsible for moral lapses: thus, they are not moral agents.

[6] Stephen R. L. Clark, *The Moral Status of Animals* (Clarendon Press Oxford, 1977), 96.

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we would be on the way to treating that signalling system as a language.[7]

The second preliminary remark is that the denial of animal belief does not entail the truth of behaviourism of either an analytical or a methodological kind. There is no difficulty with the idea that the brains of non-linguistic animal kinds contain (non-semantic) information-bearing states, which function in ways which are analogous, within a restricted domain, to the ways in which beliefs function in the human community.

The third preliminary point is that, in this paper, the focus is on belief rather than on thought in general, since belief lies, as it were, at the centre of the cognitive domain. The attribution of any intentional state to a creature, such as desire, regret, hope, fear, and so on, presupposes the attribution of beliefs to that creature.

I now turn to the main thrust of my paper, beginning with a rehearsal of some of the more common philosophical responses to the question as to whether non-language-using animals have beliefs.

Famously, Descartes maintained that non-human animals cannot be credited with beliefs. In a letter to Henry More, Descartes wrote:

> But the principal argument to my mind, which may convince us that the brutes are devoid of reason is that ... although all of them make us clearly understand their natural movement of anger, of fear, of hunger, and others of like kind, either by the voice or by other bodily motions, it has never yet been observed that any animal has arrived at such a degree of perfection as to make use of a true language; that is to say, as to be able to indicate to us by the voice or by other signs, anything which could be referred to thought alone, rather than to a movement of mere nature; for the word is the sole sign and the only certain mark of the presence of thought hidden and wrapped up in the body; now all men, the most stupid and the most foolish, those even who are deprived of the organs of speech, make use of signs, whereas the brutes never

[7] Compositionality requires that complex expressions are composed out of, or built up from, minimal parts; and recursiveness means that outputs from a rule of language can also serve as inputs to it. Both concepts are *syntactical* in kind, having to do with uninterpreted symbols, and these features are possessed by standard *artificial* languages such as SENTENCE LOGIC and FORTRAN. The standard model-theoretic or semantical accounts of formal languages are mappings from one formal domain to another, which do not by themselves solve the problem of meaning for natural languages.

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> do anything of the kind; which may be taken for the true distinction between man and brute.[8]

The argument then is this: Creatures which lack language succeed in expressing their 'natural' feelings of fear, hunger, pain, and the like. If they had thoughts as well they would at least try to express them by the use of signs (for instance by making paw marks of a systematic kind in the ground). To put the point in Gricean terms, animal calls are instances of *natural* and not of *non-natural* meaning.[9] It is clear that this argument is wholly independent of Descartes' doctrine of substantial dualism, although he himself supposed that the mindlessness of 'the brutes' is a logical consequence of it. For Descartes believed that non-human animals lack souls; and that unless an entity has a soul or immaterial mind then it cannot think: all those cases where we are inclined to ascribe psychological properties such as belief to a non-linguistic creature, can be re-described solely in terms of internal physiological processes activated by mechanical causation.

However, the rejection of substantial dualism leaves us with a claim that a materialist (of a non-reductive kind) could still consider. But the claim itself appears *prima facie* implausible since everyone, including Descartes himself, describes the behaviour of at least some dumb animals in terms of language, which is logically *intensional*. Now I believe that, whereas we can describe the natural world in *extensional* terms, we cannot so describe the human world.[10] So consider the following case. I return to my house at night. On opening the door, my dog Fido (who else?!) rushes towards me growling. I turn on the light and Fido's growls are replaced by whimpers and tail-waggings. The most natural way, surely, of describing this state of affairs is to say that Fido initially behaved in an aggressive manner towards me because he did not at that time believe that I was identical with his master and friend. I say that this is the most natural way of describing what is going on here, but it is open to a defender of Descartes to respond by pointing out that, although our descriptions of Fido's behaviour are logically intensional, we are not bound to employ them. However this response leans on the ontology of substantial dualism without illuminating in any way the connections between mind and language.

But it does seem that the best argument in support of the claim that non-linguistic animals should literally be credited with beliefs,

[8] Letter (to Morus), Feb. 1649: AT V, 278; *Descartes Selections*, R. M. Eaton (ed.) (New York: Charles Scribner's Sons, 1927), 360.

[9] Paul H. Grice, 'Meaning', *Philosophical Review* **66** (1957), 388.

[10] See, for instance, R. Chisholm, 'Sentences about believing', *Proceedings of the Aristotelian Society*, 56, (1955–56), 125–148.

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is that we rationalize their behaviour by the ascription to them of beliefs and desires bounded by various rationality constraints. *And this is the way in which we explain human conduct*. Explanations couched in intensional terms fare better as predictors of animal behaviour than alternative extensionalist accounts such as the Operant Conditioning model.[11] This is a powerful claim which Skinner in particular would deny. And I doubt if the claim is weakened in the slightest by Skinner's contention that explanations of human agency are likewise unacceptable if they appeal to the psychological states of belief and desire.[12] Do we, for instance, falsely *believe* that our behaviour is best explained by appeal to beliefs and desires? Or (if beliefs and desires are reducible to something else) do we actually believe anything at all?

However, the foregoing line of thought does not come close to clinching the case for animal belief. Dennett has argued that intensional explanation is a better predictor of the moves of a chess-playing computer than real time explanations framed in terms of either the *design* or the *physical* stance of the computer.[13] We may, then, ascribe beliefs and desires to non-language-using creatures with equanimity because, by symmetry with the chess-playing computer, our ascription is wholly instrumental. A possible response here is to ask why we should treat the ascription of beliefs and desires to members of our own species realistically, and to all others, instrumentally? This returns us to an examination of the connection between language and belief.

Consider the following principle: A creature *can have the belief that P attributed to it, only if it possesses those concepts mastery of which is required in order to have the belief that P.* A creature, for instance, can believe that Venus is a planet only if it possesses the concept PLANET. This principle could be tightened in various ways, but it does not obviously beg the central question, since a

[11] B. F. Skinner, *Beyond Freedom and Dignity* (London: Jonathan Cape, 1972).

[12] Skinner claims that the 'folk psychological model', which explains behaviour in terms of beliefs and desires, should be eliminated by reference to observable behaviour together with measureable contingencies of reinforcement. In the case of most (but not all) human behaviour, the reference to quantification over environmental contingencies is just handwaving. However, Harman makes the important point that belief is reducible to observable behaviour provided that desire is unreduced; and that desire is reducible to behaviour provided that belief is unreduced. See: G. Harman, *Thought* (Princetown, New Jersey: Princetown University Press, 1973)

[13] D. C. Dennett, 'Intentional Systems', *The Journal of Philosophy*, LXVIII, 4 (1971), 87–106.

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creature's having a concept is not defined in terms of grasping the actual and possible extension of a certain predicate in a language.[14] And the principle is plausible in its application to members of our own species. I cannot for instance believe that a certain object is a bone unless I possess the concept BONE under which the object in question is subsumed. However, given I possess the concept, I might very well misapply it.

Suppose that someone leaves a bone-shaped bit of plastic on my lawn. On noticing it, I come to believe that there is a bone on the lawn. Fido rushes up to the bit of plastic, tries to take a bite, drops it and retires. I inspect it, notice that is made of plastic, and my belief that there is a bone on the lawn is immediately cancelled. Did Fido and I ever share the belief that there was a bone on the lawn? One line of thought says not, because my false belief about the object on the lawn only makes sense against a background of true beliefs.[15] This network of associated beliefs locates, as it were, the point in cognitive space at which the concept BONE lies. Those associated beliefs suppose mastery of other concepts such as PLASTIC, CALCIUM, and SKELETAL STRUCTURE OF AN VERTEBRATE ANIMAL. But, surely, Fido cannot entertain beliefs about calcium, the skeletal structure of vertebrate animals, and so on. The suggestion is, then, that we need language to fix a network between concepts. When Fido bit the phoney bone, did he come to believe that it was not made of calcium, or that it did not form part of the structure of an vertebrate animal? And if Fido

[14] Suppose it is true that there is no language-*independent* characterization of concepts, and that a creature possesses, for instance, the concept BONE, if and only if the predicate 'is a bone' (or some translational equivalent) belongs to the creature's language. This would trivialise the principle and we could stop at this point.

In an important paper, N. Chater and C. Heyes, 'Animal Concepts: Content and Discontent', *Mind and Language* (Basil Blackwell Ltd, 1994), have argued that there is no adequate, empirical methodology which would enable us to make clear sense of the claim that animals have concepts. Although I believe that this paper ought to be required reading by those who suppose it is obvious that animals have beliefs, I do not wish to rest my case upon the failure of current psychological methodologies to establish that non-language-using creatures have concepts and hence beliefs. There are those who would say, like George Graham, that non-language-using creatures interpret the world with their own (non-accessible) stock of concepts, but I ignore this claim because I do not want to lean directly on a verifiability principle of meaning.

[15] D. Davidson, 'The Very Idea of a Conceptual Scheme', *Presidential Address to the Eastern Meeting of the American Philosophical Association* (December 1973).

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could not come to believe these things, how could he literally believe that there was a bone in the offing, since he lacked the network which sustains the concept BONE?

This line of thought has been criticized on two fronts. The first is that humans are able to employ concepts intelligently without being able to relate them to related concepts in a network. The second is to claim that dumb animals possess simple but not complex concepts. These claims are probably not logically independent of each other. I do not find these claims persuasive, but I am unable to refute them decisively, which is why I later go on to defend a version of Davidson's argument.

George Graham offers a defence of animal belief by challenging the network argument.[16] Graham characterizes the network argument as follows: A creature can have a belief only if the belief is positioned in a network of beliefs. Animals lack belief networks. So animals lack beliefs. (Graham takes himself to be presenting Davidson's own argument here; but he is certainly not doing that, since Davidson's own argument makes crucial reference to belief, concept-possession *and* language). Graham actually rejects the second premise of this network argument. He argues that a dog may believe that a cat has run up a tree although he has no beliefs about soil, water, or whether the tree in question has leaves or needles, etc. The dog, Graham asserts, conceives of the tree with its own stock of concepts which may be dissimilar from our own. No evidence of a philosophical or psychological kind is offered for this latter assertion, so I shall ignore it here and focus on Graham's further contention that an animal without a belief network may nevertheless have beliefs.

Graham adduces two arguments for his view. The first is that the ascription of beliefs to animals best explains their behaviour, which hardly anyone would deny. The second argument is that two people may share the same belief, yet their belief networks not be identical. His example is of a lay person and a musicologist, both of whom believe that Horowitz was a better classical pianist than Rubinstein. The musicologist will have a stock of concepts which the layman does not have. They share the same belief, but the relational concept X IS A BETTER CLASSICAL PIANIST THAN Y is embedded in different networks. This example is plainly not a *reductio* of the claim that belief networks are necessary to have beliefs: it merely illustrates the unremarkable point that expert knowledge enlarges a person's stock of concepts, by extending the network. In order for

[16] G. Graham, *Philosophy of Mind: An Introduction*, (Blackwell, 1993), 60–73.

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both the musicologist and the layman to recognize that they share *this* belief, they must have a multitude of beliefs (portions of the network) in common. I do not think that the principle I stated above requires that all speakers of a language must know all, or have knowledge of exactly the same, properties of bones.

The claim that non-linguistic animals may have simple but not complex beliefs, because they possess simple but not complex concepts, is vitiated by the fact that we lack a complexity or simplicity criterion for concepts. But even without such a metric, I find Bernard Williams' view intuitively plausible.[17] Williams imagines the following case. There is a dog whose master is identical with the President of the United States. The President enters the White House, and the dog wakes up and pricks his ears. Whereas we should be happy to say that the dog took the man entering the White House to be his master, we would not say that the dog took the man to be the President of the United States. Why not? Williams says

> The concept 'master' is as much a concept that embodies elaborate knowledge about human conventions, society and so forth as does the concept 'President of the United States'. There seems to be as much conventionality or artificiality in ascribing to a dog the concept 'master' as there is in ascribing to a dog the concept 'President of the United States'. So why are we happier to say that a dog takes a certain figure for his master than we are to say that the dog takes a certain figure for the President of the United States? I think the answer to this has something to do with the fact, not that the dog really has got an effective concept 'master', which would be an absurd notion, ..., the concept 'master' gets into our description of the dog's recognition or quasi-thought or belief because this is the concept we want to use in the course of explaining a great deal of the dog's behaviour.[18]

The defender of the *simple* concept view of animal belief might agree with Williams about this, and other, cases. Fido did not really believe, for instance that there was a bone on the lawn. But what then did he believe? Perhaps that there was a white-ish, elongated shape in his visual field. I will not pursue further here the project of turning language-less animals into phenomenalists, except to remind the reader of W. V. O. Quine's salutary reflection on the doctrine of Phenomenalism:

[17] B. Williams, 'Deciding to believe', *Problems of the Self* (Cambridge University Press, 1973), 136–152.

[18] Op. cit., 139.

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> For the trouble is that immediate experience simply will not, of itself, cohere as an autonomous domain. References to physical objects are largely what hold it together. These references are not just inessential vestiges, ..., Rather they give us our main continuing access to past sense data themselves; for past sense data are mostly gone for good except as commemorated in physical posits, ..., and a memory trace of a sense datum is too meager an affair to do much good. Actual memories are traces not of past sensations, but of past conceptualizations or verbalization.[19]

I now turn to Davidson's argument against the possibility of animal belief. First, I shall outline the argument. Then I shall discuss two objections to it, without implying that these are the only two; and finally I shall attempt to defend a version of it. Davidson's argument that only a language-using creature (call it 'C') has beliefs rests upon two premises. The first is that, if C has the concept of belief, then C is a language-user. The second is that, if C has beliefs, then C possesses the concept of belief. The conclusion that if C is not a language-user, then C does not have beliefs, is a valid consequence of the two premises.

Davidson defends the first premise by reference to his account of *radical interpretation*.[20] I shall give a brief account of the idea, as follows. In order to translate the language of a newly-discovered people, we consider a set of pairs whose members are: an uninterpreted utterance of the language, and circumstances in which the utterance is usually made. This provides us with an evidential basis for a theory of meaning for the language under investigation. Davidson argues that the act of pairing utterances with publicly observable goings-on, requires that we ascribe beliefs to members of the speech-community in question. But now we are faced with the following problem. In order to get at the meaning of the utterances of members of the community, we must attribute to them beliefs about the observable circumstances; yet in order to attribute to them beliefs, we must know what they mean by their utterances. Davidson argues that the only way out of this circle is to hold belief constant and solve for meaning. In other words, we shall have many beliefs about the domain in which the newly-discovered people make their utterances, (for instance, that it is raining), so we shall assume that speakers of the new language also hold these beliefs. This assumption is the first crucial move in the construction of a translation manual.

[19] W. V. O. Quine, *Word and Object* (Cambridge, Massachusetts: The M.I.T. Press, 1960) , 1–3.

[20] D. Davidson, 'Radical Interpretation', *Dialectica* **27** (1973), 313–28.

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This is a crude summary of Davidson's views, but it does bring out the crucial point, that a translator of a language L must have beliefs about the beliefs of the speakers of L; and that, to have beliefs about beliefs, is to possess the concept of belief. The trouble is that, as Bishop has argued,[21] this does not seem to be what is required to support the first premise. Rather, Davidson's account of radical interpretation seems to support the premise that, if C is a language-user (as an interpreter is), then C possesses the concept of belief. But this converse entailment taken in conjunction with the second premise will not allow us to draw the required conclusion.

Davidson's support for his second premise is brisk:

> Can a creature have a belief if it does not have the concept of belief? It seems to me that it cannot, and for this reason. Someone cannot have a belief unless he understands the possibility of being mistaken, and this requires grasping the contrast between truth and error, true belief and false belief. But this contrast, I have argued can emerge only in the context of interpretation, which alone forces us to the idea of an objective public truth.[22]

Again, the converse of the second premise is true but the premise itself is not obvious. Grant that C does not grasp the contrast between truth and error. Why need C recognize that it has beliefs which may turn out to be false (i.e. to possess the concept of belief) in order to have beliefs? In other words, why must C, in order to be credited with beliefs, have the capacity to monitor reflexively its system of beliefs, when changes in the external world may be supposed to causally cancel, modify or create new 'beliefs' without reflection? I think that the inner states of language-less animals are modified in exactly this way, as indeed are, for instance, the internal electronic states of a cruise missile, and I think that, in consequence, in neither case are we dealing with cases of belief, but with, as Williams put it, cases of quasi-thought or quasi-belief. But I do not think that this conclusion follows from Davidson's argument as it stands.

I want now to support Davidson's conclusion that non-linguistic creatures lack beliefs by giving arguments in support of the two premises on which the conclusion rests. The first premise we need to argue for is that, if a creature C possesses the concept of belief, then C is a language-user. Suppose then that C does possess the

[21] J. Bishop, 'More Thought on Thought and Talk', *Mind*, LXXIV (1980), 1–16.

[22] D. Davidson, 'Thought and Talk', *Mind and Language*, S. Guttenplan (ed.) (Oxford: Clarendon Press, 1975), 22.

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concept of belief. Then C knows that belief is a state which aims at truth; and if C knows this, then C must have grasped the difference between true belief and false belief, and hence the difference between truth and falsity. What follows from this, is that C must be able to entertain the difference between the thought that its own belief about a particular matter remains constant while the world changes, and the thought that its own belief about a particular matter changes while the world remains unchanged: for if C cannot distinguish change in mind from change in the world, then C cannot distinguish the difference between true belief and false belief, and, hence, C lacks the concept of belief. A language L enables C to distinguish changes in belief from changes in the world. The that-clauses in L, which fix the contents of C's beliefs, have (relatively) stable meanings, which enable C to determine the congruence or lack of congruence between C's own beliefs and the beliefs of others, on the one hand, and the world itself, on the other.

In summary, a creature which possesses the concept of belief can distinguish between true and false belief. This requirement in turn rests upon a capacity to distinguish changes in the world from changes in mind. Language-learning, which is community-based, provides for the fixation of belief, in so far as language enables a creature's beliefs to be made manifest and hence held up to scrutiny by itself and by others of its kind. (Here, what is crucial is learning and training, features which are conspicuously lacking in the signalling systems of language-less creatures).

I turn now to the second premise. Let us suppose that C has beliefs. Then C must possess those concepts necessary to sustain C's beliefs, as mentioned above (i.e. C can have the belief that P attributed to it, only if it possesses those concepts mastery of which is required in order to have the belief that P). C's beliefs enable him or her to steer a reasonably safe route around the world; but C does not simply accumulate singular beliefs about the world on the basis of past experience, and use an inductive 'straight rule' to form expectations about the future. The concepts implicated in C's beliefs are all *counterfactual*. I wish to deny that there are simple ostensive concepts. The argument is as follows. Suppose that there were a possible world in which everything which was red was round, and *vice versa*. Then, although the actual extensions of RED and ROUND would be the same, they would still be different concepts. This is what Peirce meant when he said that our concepts (intellectual conceptions) relate to what might be, rather than to what merely is.[23]

[23] C. S. Peirce, *Collected Papers*, C. Hartshorne and P. Weiss (eds) Vol. 5, (Cambridge, Massachusetts: Harvard University Press, 1958). See, especially, sections 5.469, 5.470, and 5.492.

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So if C is to have the belief that there is a bone in front of it, it must possess the concept BONE. If C possesses this concept, it knows not only the actual extension of BONE, but also which possible objects fall within its extension or are excluded from it. If C failed to be able to distinguish the actual from the possible extension of the concept BONE, it could not have beliefs about bones.

What is it to reason counterfactually? Many human beliefs are explicitly counterfactual in nature; and our arts and sciences would be unimaginable without counterfactual thought. But it will not do to say that, whereas language-users are capable of counterfactual belief, language-less creatures are only capable of beliefs about the 'here and now', since we have just noticed that the attribution of any concept to a creature implicates that creature in a capacity for counterfactual thought. An answer due to Ramsey is this: to determine whether a belief of the form *if A were to be the case then B would be the case* is true, add A to your existing belief set K. If K thereby becomes inconsistent, minimally revise K in order to accommodate A consistently. Finally, verify that B is a consequence of K.[24] Ramsey's answer seems to me right, and it requires that a creature which possesses beliefs possesses the concept TRUTH, in terms of which consistency and inconsistency are defined. And if a creature possesses the concept TRUTH, then it possesses the concept BELIEF. I side with Donald Davidson in concluding that language-less creatures lack beliefs.

I believe that non-language-using animals lack minds because they lack beliefs.

But I indicated above that this does not mean that they are not proper objects of moral concern. Only a psychopath could doubt that non-language-animals can suffer, and that is enough to make them weigh in the scale of moral calculation. Nothing that I have said insinuates a Cartesian attitude towards the rest of the animal kingdom.

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[24] F. Ramsey, *The Foundations of Mathematics* (London: Routledge & Kegan Paul, 1931), 247. The Ramsey account of counterfactual conditionals has progressed from syntactical to (formal) semantical accounts in the hands of philosophers such as Stalnaker and Lewis all of whom are guided by the basic Ramsey idea.

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