WHAT DOES FIDO BELIEVE?

Lisa Bortolotti

Lisa Bortolotti introduces the arguments about whether dogs can have beliefs.

Introduction

We often ascribe beliefs and desires to non-human animals on the basis of the observation of their behaviour. Fido likes juicy bones and believes that the squirrel is up in the oak tree. But is it really plausible to claim that Fido can have preferences for bones and beliefs about squirrels and oak trees? Philosophers generally argue that, although we might be tempted to ascribe such preferences and beliefs to non-human animals, we have no good justification for doing that. We are anthropomorphising them: projecting on them the preferences and beliefs we would have if we behaved as they do.

Sometimes philosophers go further and argue that non-human animals cannot have any belief at all. The view can be supported by arguments with different premises, but with something like the following structure. There is a capacity that an individual needs to have in order to have beliefs and non-human animals lack that capacity. Here is an example:

1. In order to have beliefs, one must be able to speak a language.
2. Fido is not able to speak a language.
3. Therefore, Fido does not have beliefs.

Notice the difference between the two premises. The first premise is based on some theory of what it takes to have beliefs, and needs to be supported by philosophical argumentation (and possibly accounts of belief formation in cognitive psychology). We expect to be able to determine

doi:10.1017/S1477175608000018 © 2008 The Royal Institute of Philosophy
Think 19, Vol. 7 (Summer 2008)

https://doi.org/10.1017/S1477175608000018 Published online by Cambridge University Press

whether premise two is true by observation or by relying on the scientific investigation of the behaviour of non-human animals.

In this paper, I shall consider two arguments against the view that non-human animals have beliefs and find them both less than convincing. Versions of these arguments can be found in Donald Davidson's 'Thought and Talk' (1975) and 'What Thought Requires' (2001).

The Indeterminacy Argument goes like this:

1. In order for us to ascribe beliefs with determinate content to Fido, Fido needs to have concepts similar to ours.
2. Fido does not have concepts similar to ours.
3. Therefore, we cannot ascribe beliefs to Fido.

The Surprise Argument is a bit more complex:

1. In order to have first-order beliefs, one needs to be able to be surprised when things don't turn out to be as one expected.
2. One can be surprised when things don't turn out to be as one expected only if one has second-order beliefs.

From (1) and (2):

3. In order to have first-order beliefs, one needs to have second-order beliefs.
4. Fido doesn't have second-order beliefs.
5. Therefore, Fido doesn't have first-order beliefs.

I shall examine these arguments in turn.

The Indeterminacy Argument

Suppose your dog (Fido) is chasing a squirrel in the garden. At one point, the squirrel hides up in an oak tree and Fido waits at the base of the tree, barking furiously

https://doi.org/10.1017/S1477175608000018 Published online by Cambridge University Press

and looking up. You observe the situation and think: Fido believes that the squirrel is up in the oak tree. But does he, really? Does Fido possess the concepts of 'squirrel' or 'oak tree'? Does he know that it is a squirrel, and not a cat, which is hiding? Does he know that his prey is hiding up in an oak tree, rather than a different type of tree?

The problem is that, when we ascribe a belief to Fido, we use our concepts to characterise the content of Fido's belief, and these concepts are usually very sophisticated and rely on subtle distinctions that Fido is not likely to be sensitive to. Would it be any better if we ascribed to Fido the belief that a small furry animal has hidden in the vicinity? The problem would remain, as it is doubtful that Fido has the concept of 'animal' or 'furry'.

All we seem to be able to do is to ascribe to Fido a belief with indeterminate content. But ascribing a belief with indeterminate content is not particular useful for the purposes of explaining or predicting the behaviour of Fido in intentional terms. Let me clarify this point. It is useful for you to ascribe to me the belief that strawberries are tastier than apples, because you can explain and predict my behaviour on the basis of that belief. If every time you offer me some fruit, I choose strawberries rather than apples, you have a hypothesis about why I do so. When you next invite me for dinner at your place, you'll make me strawberries with cream for dessert instead of apple crumble. But can you explain and predict Fido's behaviour on the basis of the belief that something is somewhere? No, you cannot. The content of the belief is not determinate enough to support explanation and prediction of behaviour. Davidson's conclusion is that, if we cannot ascribe to Fido beliefs with determinate content, because we have no good reason to think that he shares our concepts, then we should not ascribe to him any beliefs at all.

Not everybody is persuaded by this argument. Some philosophers, such as MacIntyre (1999) have responded with an argument by analogy. Toddlers and very young children might use words without mastering the concepts that are

https://doi.org/10.1017/S1477175608000018 Published online by Cambridge University Press

associated with those words in the language of adults. This does generate a problem of indeterminacy, to some extent, because some of the inferences that a competent user of the language would make from the sentence 'This is a bone' are not inferences that are available to toddlers and young children uttering the same sentence. Similarly, my talk of electrons is very limited, as I would not be able to recognise electrons or list their defining characteristics in the way in which a physicist does. Limited use of concepts and limited access to relevant information about the things we talk or think about do not paralyse the ascription of beliefs, although arguably they can make it more difficult. Why should the radical conclusion that no beliefs can be ascribed be drawn in the case of Fido but not in these other cases?

There is something slightly disturbing about moving from the consideration that there is something we do not know (which concepts if any Fido has) to the conclusion that something does not exist (that Fido has no beliefs whatsoever). Considerations about what it is to have a concept and conceptual relativity have to be taken into account and support the view that we should ascribe beliefs with caution to individuals who do not share our cognitive make-up or stage of development. But there seems to be a long step from that to the claim that such individuals have no beliefs.

Surprise

How can we tell whether an individual has beliefs? Fellow humans, when at the right stage of development and in possession of their capacities, are able to communicate to us how they feel and what they believe, but non-human animals present a far trickier case. People working in cognitive ethology and comparative psychology have suggested that actions which are goal-directed and sensitive to goal-revaluation must be guided by mental representations (Dickinson-Balleine (2000)), but sometimes it is not easy to distinguish goal-directed actions from actions that are not goal directed or to establish conditions where goal-revaluation can be assessed. Think about the following

https://doi.org/10.1017/S1477175608000018 Published online by Cambridge University Press

case. If you believe that pressing the lever will get you food and you want food, then you have a reason to press the lever. But if you press the lever when you have no reason to believe that you will get food, or when you don't desire any food, then your action does not seem to pass the goal-directedness test.

Davidson (2001) does recognise that non-human animals learn to interact with other animals and with elements of their environment in complex ways and uses the example of alarm calls in primates to illustrate the point. When a monkey sees a potential predator (an eagle), it emits a sound and other monkeys, even if they are not in a position to see the predator, hide or run away. The alarm call varies according to the type of predator approaching. So, why cannot we just say that the monkeys hiding after the call believe that a predator is approaching? Davidson (2001) introduces a new criterion for having beliefs: you cannot have a belief unless you realize that your belief can be false, that the belief is a representation of reality. Here is his example: you think there is a coin in your pocket, but when you look for it you cannot find it and are surprised. According to Davidson, your surprise involves the ability to compare what you did believe before looking for the coin (that it was in your pocket) and what you believed afterwards (that it was not in your pocket). Being aware of this contrast requires you to form a belief about your previous belief turning out to be false.

In order to appreciate what Davidson is saying we need to distinguish between first-order and second-order beliefs. If I tell you "It's cold outside", I am expressing a first-order belief, a belief about a state of affairs. If I tell you, "I thought it was Johnny's birthday yesterday", I am expressing a belief about a thought I had yesterday, a second-order belief. Now, does surprise involve having second-order beliefs? Think about the coin-example. If I wanted to provide a psychological analysis of my state of surprise, I would probably have to appeal to the tension between my belief state that the coin is in my pocket and my realisation

https://doi.org/10.1017/S1477175608000018 Published online by Cambridge University Press

that the coin is not in my pocket. Therefore, I would have to have beliefs about beliefs, or second-order beliefs. But surely I don't need to be able to offer a psychological analysis of why I am surprised in order to be surprised!

If Davidson wants to define 'surprise' as a second-order capacity, of course he is free to do so, and he will conclude that animals and human infants cannot be surprised in that particular sense, because it is very unlikely that they can form beliefs about beliefs. But whatever we take surprise to be, we do not seem compelled to agree that individuals which cannot have second-order beliefs, or cannot reflect upon their own mental states, cannot have first-order beliefs either.

There are situations in which our beliefs undergo revision on the basis of mere perceptual experience, without need for critical examination of our previous beliefs and assessment of evidence. This does not mean that self-correction is always so simple. Some believers in some circumstances can examine their own beliefs and assess the available evidence in their favour, and these capacities are required for the assessment of rationality as responsiveness to norms. But it does not follow that the capacity to revise any belief depends on the capacity to form a second-order belief.

Two examples can illustrate this point.

Tolman (1932) conducted experiments on rats. They were required to learn complex mazes to obtain a food as a reward. In the experiment the rat has to learn its way choosing a long series of right and left turns and at the end it gets to the goal box with the food. But in some circumstances the experimenter withholds the reward. The rat finds no food in the goal box, 'appears confused' and keeps on looking for the food in the proximity of the goal box. Tolman's conclusion, controversial in the field at the time, was that rats expect certain outcomes when they engage in learned behavioural patterns.

Are human infants surprised to see that a coloured pool ball moves towards the side pocket of the pool table without being contacted by any other object? From 6 months

https://doi.org/10.1017/S1477175608000018 Published online by Cambridge University Press

of age onwards, infants react differently to observed events, depending on whether they seem to defy basic laws of folk physics. In particular, they stare longer when the outcome is unexpected. This type of behaviour is unlikely to be caused by their ability to form a second-order belief, a belief about their belief that inanimate objects do not move spontaneously.

Can rats and human infants be surprised, appear confused or have expectations? How we want to describe their behaviour is a matter of terminological dispute, but it is a fact that their behaviour is subject to reality checks and changes according to how things turn out to be. This change in the behaviour of rats or infants might not be sufficient to indicate that they hold beliefs about particular states of affairs (e.g. the presence of food in a goal box or the circumstances in which objects move). But it is at least a possibility worth exploring that the conceptual capacities required for surprise, self-correction or goal-revaluation are not very sophisticated after all.

Davidson's argument about surprise depends on conflating a true but modest claim, that having beliefs requires the possibility of reality checks, with the much stronger claim that it requires second-order beliefs about beliefs.

Making progress, the hard way

The way in which the debate on the ascription of beliefs and other mental states to non-human animals has been conducted so far is misleading because the participants seem to make an unjustified assumption. The assumption is that we should approach the question of belief ascription to animals in the same way in which we approach the question of belief ascription to linguistically competent humans.

I am going to invite you to challenge these assumptions: it is true that we do not know what concepts Fido has, or whether he has any concepts at all, but we have a reliable and scientifically respectable way to test our intuitions in this matter and come to a more determinate answer to the question of what Fido believes.

https://doi.org/10.1017/S1477175608000018 Published online by Cambridge University Press

In a recent article, Mameli and Bortolotti (2006) argue that, because of the way in which our capacity for belief ascription has been designed by evolutionary processes to deal with fellow humans, and because of the way in which belief ascription works, our unaided intuitions are not a reliable guide to understanding non-human animals. We can often end up ascribing to them beliefs that they are very unlikely to have, because too conceptually sophisticated, or fail to ascribe to them beliefs that they can have, because we underestimate their conceptual discriminatory capacities. But the message is not that we should give up, rather, that we should consider the possibility that, when we attempt to understand the behaviour of individuals very different from us, intuition is not to be trusted and science can help fill the gaps.

Even if humans are not well-equipped to ascribe mental states to beings that are cognitively very different from them, they can improve on their skills by trusting scientific animal psychology, which relies not only on behavioural studies, but also on neuroanatomy, brain imaging, physiology etc. In the project of determining which kinds of mental states non-human animals have, we should be guided by rigorous scientific studies of animal minds: many new and interesting facts about animal minds are discovered every day thanks to the application of sophisticated experimental, observational, and statistical techniques by keen researchers.

Conclusion

The most popular philosophical arguments against the view that non-human animals have beliefs are not convincing. The indeterminacy argument does not support the conclusion that non-human animals have no concepts, or no beliefs, but only that (1) we should exercise extreme caution when we characterize the content of the beliefs we think they have by using concepts that they are not likely to share; and that (2) our prediction and explanation of the behaviour of non-human animals on the basis of the

https://doi.org/10.1017/S1477175608000018 Published online by Cambridge University Press

ascription of beliefs is likely to suffer from content-indeterminacy. The surprise argument fails to show that having beliefs about beliefs is always necessary for sensitivity to reality checks.

So the jury is out. The issue whether non-human animal behaviour warrants the ascription of beliefs is not going to be settled on the basis of untutored intuitions, but can be guided by the scientific study of animal minds.

Lisa Bortolotti is Lecturer in Philosophy at the University of Birmingham.

Further Reading

Colin Allen and Marc Bekoff, *Species of Mind: The Philosophy and Biology of Cognitive Ethology*, (MIT Press, 1997): chapter five.

Donald Davidson, 'Thought and Talk', reprinted in D. Davidson, *Inquiries into Truth and Interpretation*, (Oxford Clarendon Press, 1984), 155-170.

Donald Davidson, 'What Thought Requires', reprinted in D. Davidson, *Problems of Rationality*, (Oxford Clarendon Press, 2004), 135-150.

Daniel Dennett, 'Do Animals have Beliefs?' In Herbert L. Roitblat and Jean-Arcady Meyer (eds.) *Comparative Approaches to Cognitive Science*, (Cambridge (MA): MIT Press, 1995), 111-118.

Anthony Dickinson and Bernard Balleine (2000) 'Causal cognition and goal-directed action'. In C. Heyes & L. Huber (Eds.), *Evolution of cognition*, (Cambridge, MA: The MIT Press, 2000), 185-204.

Alasdair C. MacIntyre, *Dependent Rational Animals: Why Human Beings Need the Virtues*, (Open Court, 1999).

Matteo Mameli and Lisa Bortolotti 'Animal rights, animal minds, and human mind-reading', *Journal of Medical Ethics* (2006) 32, 84-89.

Stephen Stich, 'Do Animals Have Beliefs?' *Australasian Journal of Philosophy* (1979) 57 (1).

Edward Tolman, *Purposive behavior in animals and men* (New York: Century, 1932).

https://doi.org/10.1017/S1477175608000018 Published online by Cambridge University Press