

Thought and Language (Part II)

Matthew Carmody

§0 In my previous article, I considered the issue of linguistic relativism. The issue is whether the language we speak shapes the thoughts we have or whether language is merely a device for the communication of thoughts. The former view enjoys widespread popularity. Many people ‘know’ that the Inuit have many words for snow. In fact, this is a myth whose history is well-documented. This is not to say that the former view is wholly mistaken but that the issue is more subtle and complex.

In this article, I want to consider a different angle on the language-thought relation. Many philosophers believe that animals, lacking language, lack thought as well. This strikes many people as outrageous. I shall consider an argument put forward by Donald Davidson in support of this conclusion. In so doing, I shall touch on Wittgenstein’s thoughts on the relation between thought and language and the position in the philosophy of mind known as *instrumentalism*.

§1 A 15 pound New Jersey cat by the name of Jack recently earned himself a brief moment of global attention by chasing a 15 stone black bear (twice) up a tree for straying into his territory, being the garden of his owner, Donna Dickey.¹ Speaking to the press, Ms. Dickey said of Jack that ‘he doesn’t want anyone in his yard’ and that he probably mistook the bear for her ‘barrel-chested chocolate Labrador retriever, Cocoa’. Ms. Dickey’s neighbour, Suzanne Giovanetti added her comments on the cat who also played in her yard almost every day. She and Jack had never ‘fully bonded’, as Jack’s personality could change from ‘friendly’ to ‘aloof’.

We speak of animals in terms that we would equally well apply to each other. We attribute our pets personalities. We attribute a wider class of animals the same kinds of mental states that we have. Ms. Dickey said that Jack’s behaviour was expressive of a particular *desire* not to have intruders in his territory, a desire we all have ourselves. She said that he make a *mistake*. A mistake arises when one has a *belief* that is not true. Beliefs and desires are commonly considered by philosophers to be the two most general types of mental state.² A belief is a representation of how the world is. It is an accurate representation, or true, if the world is that way and an inaccurate representation, or false otherwise.³ A desire represents how I would like the world to be. For example, if I want it to be sunny on Saturday, I want the world to turn out that way on Saturday. If I believe it will be sunny on Saturday, I think that the world will be that way.

We have more mental states of the same type. I might hate, hope, wonder and fear that it will be sunny on Saturday. These are more ‘specialised’ and sophisticated states than the general states of belief and desire. To hope that it will be sunny is to not simply to want it to be sunny but to also believe that there is a chance it will be sunny and to believe that one cannot do anything to ensure that it will be sunny. It is unclear whether we would say, even informally, that a cat could hope for something. It is more natural to say a cat could hate: people often say that cats hate water. Likewise, people say that they fear dogs and are seen wondering whether they can make the jump from the roof to the wall. But what of other animals? Can a fish wonder? Can a weasel be suspicious? Can a caterpillar expect?

§2 There are many who think that it is proper to attribute animals beliefs and desires and the capacity to think. There are other who think that it is not. It is

understandable, perhaps unavoidable, that we talk of non-human animals in human terms but we are not speaking truthfully. They no more have beliefs than the computer that thinks the printer is not installed. They no more have desires than the shopping trolley that always wants to veer to the left. These people number many philosophers amongst them from across history. Aristotle defined man as an animal but a rational one, the latter quality separating us from the rest of the beasts.⁴ By 'rational', he meant one with the capacity for reason, or thought. Descartes famously argued that animals lacked minds and were complex machines.⁵ Wittgenstein wrote:

A dog believes his master is at the door. But can he also believe his master will come the day after tomorrow?⁶

Wittgenstein's point is that there is nothing a dog can do to display this belief. There is no way to behave except linguistically. I can believe someone will come the day after tomorrow because my language allows me to express this incredibly detailed idea. A dog, lacking language, cannot. To reply that a dog could nevertheless have the belief without the means to express it is to commit what Wittgenstein would regard as a central mistake. The idea that a creature could have a complex mental life full of intelligent thoughts and yet not reveal this in its behaviour is incoherent. Animals do exhibit non-verbal forms of communication but this is not sufficiently language-like to support a claim that they have sophisticated thoughts. Animal "languages" are highly inflexible things with small vocabularies (such as a range of calls).

Wittgenstein was arguing against a view of the mind that stemmed from Descartes.⁷ Descartes did not think of the mind as a physical thing. Descartes argued that he could identify himself as essentially a mind – a 'thinking thing'. He then argued that he could conceive of himself as such a thing existing without a body. So, a body could not be essential to his being. A body is an example of a physical thing. Descartes argued that the essence of physical things was to be 'extended' or to take up space. Since a mind can exist without a body, it lacks the essential quality of a body, namely extension. So, in conclusion, a mind is something that occupies no space and is non-physical. This makes it a rather puzzling thing. Yet it is not obviously wrong. Although you may feel located behind your eyes, you are not aware of the length or depth or breadth of your mind.

Furthermore, physical things are public things. The desk before me is a public object because it is something anyone can in principle see or feel. Your mind strikes you as a private place. Sitting silently and motionless on the train, you can retreat to your inner world and flick through your memories of childhood, dream of climbing Mt. Everest and wonder whether geese can hop. No one can get inside your mind to see what you are thinking. The sharp separations between the inner world of thought and the outer world of the behaviour you choose to display and between the Cartesian mind and the physical world attract one another.

Wittgenstein thought that the image of the mind as somehow inner and inaccessible to others (except when you choose to reveal what you're thinking) was confused. There is a much closer connection between your mind and your behaviour. To talk of someone's mind is to talk about how they may behave. If there were not a tight connection between 'public' behaviour and 'private' thoughts, we would never be able to learn what it means to say that someone believes this or desires that. We learn the meanings of words such as 'cup' and 'television' by being shown public objects – cups and televisions. How could people learn the meaning of words if there were not something both teachers and students could see or hear? So, to learn the

meanings of expressions like 'believes that there is a badger in the garden' and 'desires that it be sunny this weekend', we need something public too, this being each other's behaviour. It is important to see that this public behaviour isn't essential merely as a means to learning. It is essential to learning the meaning of words that you are not unconscious but this isn't reflected in the meaning of our words. Wittgenstein's point was that the meaning of mental terms involves reference to patterns of behaviour.

We display what we think through our behaviour. We can lie and we can hide our feelings and we can lock ourselves away in our private worlds but these are special behaviours, not normal behaviours. Our normal behaviours express our thoughts. When someone from the bus to their front door frantically clutching an opened umbrella as the heavens rain down on them, we see that they believe that it is raining and that they desire to stay out of the rain. Don't think of them having these 'inner thoughts' and choosing to react in certain ways as a consequence. Think rather that to have this belief and this desire is to some extent to behave in these ways. I say 'to some extent' because to have a mental state is not simply to behave in a certain way. One way we know this is that you can keep your thoughts to yourself. A second way is that there is no obvious connection between a belief and a behaviour. We may all believe that it will rain tomorrow but react in very different ways. The link between having a mental state and behaving in certain ways is tight but not *so* tight as to mean that every mental state someone has can be read from their behaviour. It is not so loose as to mean that there is no connection between having a thought and being disposed to behave in certain ways. Quite how to explain the right tension in the connection is something Wittgenstein scholars still debate.

We shall not pursue Wittgenstein's lines of thought. Suffice it to say that if there is a strong connection between mental states and behaviour, then the complexity of one's mental life will be reflected in the complexity of one's behaviour. The dog simply cannot behave in a way that shows that it has a concept of the tomorrow. We can. We have language. Linguistic behaviour is the means by which we inform each other in great detail about what we are thinking and feeling. So, without language, the thoughts you can have are rather crude and impoverished.⁸

§3 I want to consider in more detail a bolder thesis put forward by the philosopher Donald Davidson. He claims that only creatures capable of speech have thoughts. He does not deny that non-human animals behave in sophisticated ways. He denies just that it is proper to use words like 'belief' and 'desire' when talking about such things.⁹

Davidson argues that the connection between thought and speech runs both ways. We can express the two claims as follows:

- (A) In order to be a language-using creature, you must have thoughts.
- (B) In order to be a creature with thoughts, you must be a language-using creature.

Claim (A) is not controversial. Suppose someone says, 'there is a badger in your garden.' Why did they say this? They *wanted* to tell you something and *believed* that by uttering these words that you would believe that something. What abilities did they need to make this utterance? They had to *believe* that the right words to use to express their belief that there is a badger in the garden are 'there is a badger in the garden'. In other words, they had to have *knowledge* of the meanings of their words.

So, they must have had these thoughts at least. But consider what is entailed by their having knowledge of meaning. To be able to use the word 'badger' requires them to have the concept 'badger' and this requires them to have lots of beliefs about what badgers are. They know that badgers are creatures with a certain appearance that live in gardens, don't fly, are four-legged, don't visit cinemas often, and so on. Although we may dispute what you do and don't have to know to grasp the concept of a badger, it seems clear that you must have plenty of other concepts and beliefs. Put another way, it is not possible to be a creature who has just a single concept.

§4 Claim (B) is the controversial claim. At the centre of Davidson's argument for this claim is his understanding of what it is to be a belief. If I say that I believe that there is a badger in the garden, I give you the *content* of my belief (**there is a badger in the garden**) in words of English. (I could equally well give you the content of my belief in words of another language, such as Polish: **jest borsuk w ogrodzie**). This may encourage us to think of beliefs as sentence-like things. In your head are stored lots of these sentence-like things. They may be compared to strings of data in a computer's memory.

Davidson argues that this is the wrong way to think about beliefs. Strictly speaking, there are no such *things* as beliefs. If this seems like an odd thing to say, consider the following. You have infinitely many beliefs. You believe that $1+1=2$. You believe that $1+2=3$. You believe that $1+3=4$...and so on, *ad infinitum*. An infinite number of beliefs requires an infinite memory. Yet if you agree with the opinion of most philosophers, psychologists, biologists and doctors that your mind is just your brain, you have to accept that your mind is finite because your brain is finite. It occupies a finite volume of space and is made out of finitely many neurons with finitely many connections. So, you have a contradiction.¹⁰

A second example is the following. Suppose you walk down Oxford Street on a busy day and see someone running out of a shop clutching a stack of CDs. They run into the road, narrowly miss being run over, trip, fall and are apprehended. What do you believe? You believe that someone stole some CDs. You believe that someone was not looking where they were going. You believe that the person apprehended them was a store guard. You believe that had they been hit by the car that narrowly avoided them, they would have been seriously hurt. And so on. Are these beliefs mental sentences that your mind wrote down one by one as the events unfolded? Or did it only start to compile its beliefs when the drama came to an end? Neither answer is sensible.

We should instead think of a belief as a way of expressing something about the mind of the individual. We each have minds that have knowledge of basic mathematics, as a consequence of which we will behave in the following ways. When confronted with the sum of 3 and 4, we shall say 7: we believe that $3+4=7$. When dividing 16 by 4, we shall say 4: we believe that $16/4=4$. And so on. To say that you have each of the beliefs about the Oxford Street incident is to select and present a bit of the information you have recorded about the incident.¹¹ It is also potentially to draw all the 'background information' you have – potentially all the information in your head. For example, to have the belief that they were nearly hit by a car requires you to have beliefs about what cars are, how they behave, and so on.¹²

We may say that when we attribute beliefs to someone, we are making a map of their mind. We may now understand what Davidson calls the *holism* of the mental. It is the idea that our mental states are essentially interconnected. It is not possible to have just one concept or just one belief. If I believe that cars are machines, I must

have other beliefs about what cars are and machines are. For example, I must believe that cars have wheels and cannot fly. I must have beliefs about wheels and what can fly. The beliefs and the concepts that feature in them multiply. Davidson is not implying that to have one concept is to have every concept possible. This is clearly nonsense. We start off with very few concept and spend much of our formative years learning new concepts. During this time, we can still think. Davidson is claiming just that to have one belief is to have many other beliefs and to have the capacity for forming many more.

§5 Davidson now makes the following claim. The concept of a belief emerges only within the practice of interpreting a language. In order to explain what this means we will need to look a bit at Davidson's views on language.

Suppose that you travel to a foreign country whose people speak a language you don't understand. These people don't speak English. How would you go finding out the meaning of their words? You would have to observe how they use their words. Suppose, for example, that every time a badger appears, they point at it and say, 'borsuk!' A good guess here would be that 'borsuk' means *badger*. But notice what you are doing automatically to reach this conclusion. You are attributing these people certain beliefs. You are supposing that they believe that there is a badger in front of them, that they believe by pointing it that you will be drawn to it and that they believe you will be able to see it. So, to interpret someone's words requires you to attribute them beliefs.

But how can you be sure that you are attributing them the right beliefs? How can you tell what they believe? You will have to ask them what they believe. As we saw above, only through language can you express the complexities of what you believe. So, to interpret someone's beliefs requires you to interpret their words. But we just said that to interpret someone's words requires you to attribute them beliefs. Are we going round in a circle? No, says Davidson. What we are seeing is that talk of beliefs and talk of language is inseparable. To understand these people requires you to guess at what they believe and what they mean simultaneously. There are many guesses you could make and many will be wrong. You will find this out when you try to use a sentence of their language thinking you understand it correctly and finding that you get the reaction you expected.

Although this is a situation of 'radical interpretation' where you had to start from scratch to find out what a group of people mean, you are fundamentally doing the same thing when you communicate with those around you. When someone says to you, 'there is a badger in the garden', you immediately know what they mean. But you must be attributing them the belief that there is a badger in the garden and that they think that by using these words, you will form that belief too. Of course, you don't go through this process consciously. These are all natural assumptions you make or beliefs that you 'tacitly' attribute.

It would be unnecessary to worry about what other people believe if I simply thought that everyone sees the world the same way as I do. If I believe that there is a badger before us and someone says 'borsuk!' then I can jump straight to the conclusion that they mean *badger* by 'borsuk'. But people do not all see the world the same way. We all have different points of view. This is so in a literal sense and a figurative sense. Literally, we all occupy different bits of space and so see the world differently. Figuratively, we all have different experiences, beliefs and perhaps concepts and we may end up having different beliefs about the world. In one sense, this is trivially true. You may have beliefs about Paris that I don't because I have

never been there. In another sense, this is of crucial importance. Because we don't all see the world in the same way, there is the chance that people can make mistakes. Suppose that, in the foreign country, I am with three people when a badger appears in the distance. Two shout 'borsuk!' and one shouts 'pies!'.¹³ A little later, a dog appears and all three shout 'pies!' If I supposed that we all had exactly the same point of view on the world, I'd be in trouble. For I'd have to say that we all believed we saw a badger and then a dog and yet one person used the word 'pies' for both the badger and the dog. Perhaps in this language you can say 'borsuk' *or* 'pies'. But then I find a badger, point to it and say 'pies!' and these people shake their heads. So, my supposition is false. How can I make sense of what that third speaker said? The simplest explanation is that he made a mistake. He thought he saw a dog. He represented the world differently from the rest of us.

Davidson therefore argues that we only have the concept of a belief as an essential means of helping us interpret what people say. So, only language users have beliefs because it is only *language* users that have something to say that we need to interpret. So, non-language users don't have beliefs. Claim (B) has been established. Together with claim (A), we have the conclusion that a thinker is a language user and vice versa.

§6 It might seem that Davidson has moved too fast. It is true to say that we only have the *concept* of a belief to help us interpret one another. But it is one thing to have a concept of something and another thing to have the something itself. A badger does not need to have the concept of a leg to have legs. So, can't we say that a badger lacks the concept of a belief – and hence can't interpret anything – but that it nevertheless has beliefs? Davidson says no.

Davidson denies that a creature can have a belief without the concept of a belief. If you are a creature capable of having beliefs, then you are a creature capable of appreciating the difference between truth and falsity or between a true belief and a false belief. Why? Because the essence of a belief is that it is a representation of the world and it is a necessary feature of a representation that it may succeed and fail to represent. No representation is automatically guaranteed to be accurate.

If you can appreciate the difference between truth and falsity, then you must be a language-using creature. This is because the contrast between truth and falsity will only be apparent to a creature that is engaged in the practice of interpreting the language of other creatures. Why? To be able to interpret the language of other creatures requires you to see them as creatures distinct from yourself with a point of view on the world. If you lack this ability to interpret, then you lack the ability to see other creatures as having a point of view on the world. Other creatures are just like every other bit of stuff in the world. But once you lose the idea that other creatures have viewpoints, you lose the idea that you have a viewpoint. For a creature this simple, there is no difference between how the world is and how the world seems. So, there is no way for this creature to be right or wrong about the world. There is no difference between truth and falsity once language goes because the very idea that there are different viewpoints on the world goes with it.

This is a complex line of reasoning and one that might strike you as simply absurd. Take our badger. Surely it can make mistakes! Our badger spies what it thinks is an earthworm. It runs to it and starts to nibble it. But it isn't an earthworm, just a similarly-coloured shoe-lace. The badger realises its mistake and moves away.

Davidson would ask us to look at this in a different way. There is no difference between the world as it seems and the world as it is for the badger. It

seemed at one point to contain one thing that the badger associates with food and a bit later it seemed to contain another thing that the badger does not associate with food. From the badger's point of view, there is no way to differentiate the following two situations:

- (a) the world contained a shoe-lace throughout but I represented it wrongly as an earthworm at first
- (b) the world contained an earthworm and then a shoelace and I represented both correctly at the right times.

It cannot, in other words, distinguish a change in the world from a change in its representations of the world. It is not aware of a gap between appearance and reality because that gap only exists for a creature who is aware that it is not alone. To put it a little floridly, only when you realise that there are two of you do you realise that there's a common objective world you have in common and different representations of that world through being two different creatures.

This does not mean that the badger can't learn from his encounter. He might weaken his association between objects of that shape and foodstuffs. In so doing, But it cannot in any way strike him that he got it wrong. He cannot tell, so to speak, whether he got it wrong or the world changed because there is no such difference for him.

§7 Let's attempt a summary of what's been said. The concept of a belief exists only for creatures who are language-users. As language-users, they need to work out the meaning of each other's words. This requires them to attribute each other beliefs to capture the fact that they have different viewpoints on the world. It is not possible for a creature to have beliefs without the concept of a belief. A creature with the concept of a belief has the concepts of truth and falsity. A creature with the concepts of truth and falsity must have the idea that its has a viewpoint on the world. An awareness that there is a gap between how the world seems and how it is only emerges when it realises that there are other creatures like it, who have different viewpoints. This realisation will only happen when those other creatures make themselves known to it. This will happen when they are seen by the creature as communicating. This requires the creature to be a language user, else the very idea of communicating will be beyond him. So, to have a belief is to be a language user and to be a language user is to be something with the concept of a belief, as language-users need that concept in order to attribute beliefs to others, this being essential for interpretation.

§8 Davidson's claim that beliefs are not real is the claim that a belief is not a discrete representation in the mind of a creature with a particular content. It is not something we could isolate using advanced neurological techniques (assuming that the mind is the brain, of course). It is not something that could be deleted from its memory or added to its memory without affecting anything else. We might say that we attribute beliefs to one another to map our or 'measure' each other's mind. This view goes under the name of *instrumentalism*. Beliefs are like a system of measurement we have for each other's minds.

Consider how we impose lines of latitude and longitude on the world. This gives us a system of measurement that enables us to give the location of things in the world in a standard way and thereby to facilitate movement between places, of

example. These lines don't *really* exist on the surface of the globe, of course, whereas the underlying surface does. In the same way, when we attribute beliefs, we are drawing lines on the mind of someone to make it easier to read. We attribute beliefs to make sense of the behaviour (linguistic and non-linguistic) we observe in each other. If I see you walking towards a spider, stop, scream and run away, one way to make sense of your actions is to say that you believed that there was a spider before you, you have a fear of spiders and that you wanted to run away. Of course, there might be other explanations. You may have just realised that you had left the gas on at home. The more I find out about you, the better position I am in to work out what is going on in your mind.

Davidson in effect argues that beliefs are instrumental devices that only language-using creatures have and have access to. He is a narrow instrumentalist. Another kind of instrumentalist – a wide instrumentalist, as I shall call him – takes a very different view. They will say that all sorts of things have mental states. Wide instrumentalists such as Dennett or McCarthy, will attribute mental states to anything whose behaviour is complex enough to require the attribution of mental states in order to make sense of it. We make sense of a cat by attributing beliefs and desires to it. The cat sees its owner walking towards the fridge, drops the ball of wool it is playing with and runs into the kitchen. Why? One explanation is this It believed food would appear soon and desired food more than to play with the wool. Another is this. As a result of light entering its eyes and sounds entering its ears, a series of complex electrochemical processes in the brain were triggered off (insert details here) that lead to the cat moving into the kitchen and stopping by its food bowl. Both explanations are true but the former is simpler and more powerful. We can predict in great detail how complex objects will move and function through space and time just on the basis of knowing a few things about what they believe and desire rather than a mass of technical data on how their brains are wired.

How simple a creature has mental states, in the instrumentalist sense? It is an open question. McCarthy argues that you can attribute beliefs to thermostats. When a thermostat believes that it is too hot, it turns the heating off. Of course, the thermostat can't tell you about its beliefs and isn't conscious of them, but neither are many other animals. What matters is whether we understand a system better by attributing it beliefs and desires and possibly other mental states too.

Instrumentalists face three questions. First, if there are no beliefs, why do we speak as if there are? Second, if there are no mental states, then what on earth am I doing when I tell someone what I believe about Descartes in a philosophy exam? Third, what is the underlying reality? When you say that we can attribute beliefs and desires to cats, is that because they are really there? If not, tell me what is there so that we can talk properly about the mind of the cat rather than in essentially fictional terms.

Instrumentalists may reply as follows.

First, we are not denying that beliefs are real but denying that beliefs are certain types of things. So, we're not saying beliefs are like ghosts – things that people are simply wrong in thinking are real. We're saying that beliefs are not individual packages like sentences in the head. Think of beliefs like habits. A car that has a habit of not starting on cold mornings doesn't *have* some object that causes this to happen. To say that it has a habit is to describe something about how it behaves. So too with beliefs.

Second, when I 'introspect' or look inside my mind, then it is true to say that I find out about my beliefs but it does not follow that I am reading out individual

sentence-like packages. I am asking myself questions in the same way that someone else can. I am interpreting myself. I know myself better than anyone else because I ask myself more questions and I tend to be more honest with myself.

Third, the underlying reality is yet to be discovered. We store information in many different ways. For example, we store sounds and images. We store motor patterns – routines that we execute to perform motions, such as tying our shoe-laces. We store information in the form of remembered sentences, such as when we learn facts. We are wired up to be motivated and to react in many different ways that not only philosophers, but psychologists will need to tell us about. The reality is like a piece of land and our mental states are the map of it. We can map the land many different ways but it is not purely arbitrary how we map it. It is there, so to speak, to be mapped.

§9 One way, then, to argue against Davidson is to say that his concepts of belief, desire and thought are not quite right. He is right to stress how they are not things we literally have but wrong to think that they exist only for creatures that are language users. They exist where there is complexity.

For many specialising in animal behaviour, the debate between narrow and wide instrumentalism is irrelevant. Rather than debate whether animals really have beliefs or desires or not, we should accept that they things that behave in ways complex enough for us to talk of them being minded. We should choose a more neutral vocabulary for describing what happens under their skin. We may say that they form representations, such as maps of their home environment, and that they are motivated in various ways, such as to eat, play, reproduce and so on. We should investigate animals as animals, rather than not-quite-humans.

Does this then become nothing more than a debate about how to use words? It should not. Words like ‘belief’ and ‘desire’ came into existence only with the emergence of human beings. We have a tendency – perhaps naturally evolved – to see minds everywhere. For much of human history, we explained why things happened by modelling things on human agents. For example, a storm in the sky was caused by its anger. It was an important advance to see natural process as *mindless*. So, we should constantly be on the look-out for trying to view animals through a human lens and, where this fails, to think of animals as nothing more than complex, instinct-driven machines. By rejecting the two options as exhaustive, it makes the considerable variety of sophisticated behaviours we observe in animals more worthy of appreciation.¹⁴

Matthew Carmody
Richmond upon Thames College
matthew.carmody@rutc.ac.uk

¹ <http://news.bbc.co.uk/1/hi/world/americas/5067912.stm>
<http://www.guardian.co.uk/g2/story/0,,1796076,00.html>
<http://www.nj.com/search/index.ssf?/base/news-3/1149831832170600.xml?starledger?nnj&coll=1>

² In Dennett’s terms, the ‘least marked’. See Dennett ‘Do Animals Have Beliefs?’ in *Brainchildren: Essays on Designing Minds* (1998: MIT Press and Penguin).

³ There is the third option that it might be neither true nor false. For example, my belief that the badger is large could be neither true nor false because it is vague whether it is a large badger or not. See my article on vagueness in issue seven of the Richmond Journal of Philosophy.

⁴ Aristotle, *Metaphysics Z*, ch. 10.

⁵ It's a mistake to think, as many do, that Descartes was dismissing animals as simple, senseless creatures that are no different in kind from inanimate machines like watches. Descartes argued that we were to a large extent machine-like as well and that this is something worthy of wonder. The abilities of men and cats to react to the world around them needn't require for their explanation the postulation of a mind but can be explained entirely in mechanical terms. Far from downplaying the importance of these abilities, it explains them in an enlightening way.

For a discussion of Descartes' views on animals and references to Descartes' own views, see John Cottingham's article 'Descartes' Treatment of Animals' in *Descartes: Oxford Readings in Philosophy* (Cottingham (ed.)1998: OUP).

⁶ Philosophical Investigations, §174.

⁷ This should not be understood as meaning that Wittgenstein was reacting to Descartes.

⁸ For more on this at an introductory level, see the chapter on other minds in Keith Maslin's *An Introduction to the Philosophy of Mind* (2001: Polity Press).

⁹ There is no easy introduction to Davidson's philosophy. Ramberg provides an introduction of Davidson up to circa 1987 but Davidson did important work right up to his death in 2003. See Ramberg, B. *Donald Davidson's Philosophy of Language: An Introduction* (1989: Blackwell: Oxford). A more advanced survey is given by the articles in Ludwig, K. (ed.) *Donald Davidson* (Cambridge; CUP). The Stanford Encyclopaedia of Philosophy has a good article on Davidson: <http://plato.stanford.edu/entries/davidson/>

¹⁰ One way of avoiding the problem without following Davidson's approach is to say that we have a finite number of *explicit* beliefs and the means of using these to produce a potential infinity of beliefs that we believe *implicitly*. See Fodor *Psychosemantics* (MIT Press), chs. 1,2.

¹¹ If I have information in my head that is not held in the form of beliefs, then what format is the information in? This is the (very good) question of the "underlying reality" that I shall consider briefly in the penultimate section of the paper.

¹² The example is inspired by a case Dennett analyses in 'Beyond Belief', in his *Intentional Stance* (1987: MIT Press).

¹³ The words 'borsuk' and 'pies' are the Polish words for *badger* and *dog*. 'Pies' is pronounced PEE-ess rather than to rhyme with *eyes*.

¹⁴ For an interesting and accessible introduction to animal minds, see Marc Hauser's *Wild Minds* (2001: Penguin).