
Davidson on Believers

Can Non-Linguistic Creatures Have Propositional Attitudes?

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Donald Davidson has argued that only language-users can have propositional attitudes. His strongest argument in support of this claim is one that links having propositional attitudes to language via a concept of belief. Here I consider various possible interpretations of this argument, looking first at the canonical conception of a concept of belief from the Theory of Mind literature, then at a weaker notion of the concept of belief corresponding to a conception of objective reality, and finally at an intermediate notion involving the ability to attribute mental states. I argue that under each of these various interpretations, analysis and appeal to empirical evidence from developmental and comparative psychology shows the Davidsonian argument to be unsound. Only on a reading of the argument that slides between different interpretations of “concept of belief” are all the premises true, but in that case the argument is invalid. I conclude that Davidson doesn’t provide sufficient reason to deny that non-linguistic creatures can have propositional attitudes.

Keywords

Belief | Capacity | Concept | False belief test | Language | Non-linguistic | Propositional attitudes | Rationality | Thought | Truth

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1 Introduction

More often than not, great divides have been postulated between humans and other animals: it has variously been maintained that only humans have souls; that only humans laugh; that only humans play; that only humans are rational. The status of these claims is not merely of theoretical interest: human exceptionalism has long been used to justify or discount arbitrary and often inhumane treatment of animals, including the abuses perpetrated in factory farms and the devastation of habitats for human gain. While the issue of the soul is beyond empirical confirmation or disconfirmation, many

other claims about the uniqueness of humans have been shown to be untrue or only half-true. Recently, in response to philosophical and empirical work, there has been significant political pushback. For example, the Great Ape Project (<http://www.projeto-gap.org.br/en/>) aims to establish great apes as persons with recognized legal rights. Whether we should stand behind such a project or other less ambitious efforts to treat animals as entities with moral worth depends at least in part on what kind of capacities they have, both cognitive and affective.

Here I combat a philosophically prominent claim of human uniqueness: Donald Davidson's famous argument that only humans can think. In the light of the complex cognitive activities of which animals are clearly capable, one might think this patently untrue. However, Davidson means by this not that animals have no cognitive capacities at all, but that nonhuman animals cannot have beliefs, desires, and other propositional attitudes. What the thesis does is set animal cognition apart from human cognition as a different natural kind, due to radically different representation schemes (see also arguments in [Malcolm 1972](#)). This is not a straw man, but an interesting and challenging thesis. In critically evaluating the arguments Davidson provides in light of empirical evidence from developmental psychology and ethology, insight can be gained into the nature of the relationship between thought and language. Despite its *prima facie* plausibility, I conclude that in light of contemporary studies from human and animal cognition, arguments for restricting propositional attitudes to humans fail.¹ The implications of this result could be far-reaching. Language as a cognitive ability has held a special status in analytic philosophy, where it is often assumed to be foundational to thought and cognition. Rethinking the role of language as a cognitive newcomer and possibly in large part a cognitive overlay resting atop a toolbox of already-powerful cognitive abilities may lead us to rethink a number of fundamental issues in philosophy, as well as to reconsider our cognitive and ethical relationship to the rest of the natural world. This critique of Davidson is illustrative of Dennett's caution:

[p]hilosophy of psychology driven by the concerns of philosophy of language does not fall happily into place. ([Dennett 1987b](#), p. 204)

The various arguments Davidson supplies for thinking that humans are unique in having propositional attitudes all rest upon the idea that

having language is an enabling condition for having propositional attitudes. Since only humans have language, it follows that only humans have propositional attitudes.² Thus, his main argument against animal thought is:

P1 If something has propositional attitudes, then it has language.

P2 Animals don't have language.

C Animals don't have propositional attitudes.

The logic here is unassailable: if P1 and P2 can be established then the conclusion that animals lack propositional attitudes follows. For [Davidson](#), having language is having the ability to speak ([1984](#), p. 167, [2001a](#), p. 99), to express one's thoughts, and to understand the speech and propositional attitudes of others. It is generally accepted that nonhuman animals don't have this ability, despite some evidence that certain birds and higher mammals have some nontrivial linguistic abilities ([Kaminski et al. 2004](#); [Pepperberg 2000](#); [Savage-Rumbaugh 1986](#)). Therefore, we will grant P2.³ The success of this argument denying propositional attitudes to nonhumans therefore rests on the ability to establish P1, namely the claim that having propositional attitudes requires language. In this paper I consider the various avenues by which Davidson tries to establish P1, for his arguments make contact with a broad range of research concerning mind and language, and serve as a good guide to attempts to link propositional attitudes to language. I begin by situating Davidson's arguments in his larger theoretical context, and raise a few methodological worries about his approach. I then briefly consider some of his minor arguments, before turning to his strongest argument linking propositional attitudes to language. I argue that on the most plausible consistent readings of

² Davidson equates thought with propositional attitudes. He famously expresses his denial of propositional attitudes to nonhuman animals as the claim that animals can't think. See [Davidson \(2001a\)](#). Here I focus upon arguments found in his 1975 paper "Thought and Talk", and his later paper "Rational Animals".

³ Another reason for focusing on P1 rather than is that finding counterexamples to P2 will at most make room to usher specific species into the thought-capable fold, but will not challenge Davidson's argument directly.

¹ However, some very interesting and very recent (currently unpublished) work by Susan Carey calls into question the interpretation of some of the extant pro-propositional attitude empirical work.

his arguments, one or another premise can be empirically falsified. I conclude by considering how to proceed to better understand the nature and limitations of animal thought.

2 Initial considerations

2.1 Propositional attitudes

A creature is said to have a propositional attitude when she stands in some appropriate relation (i.e., hoping, wanting, fearing, believing, etc.) to a proposition.⁴ What propositional attitudes are, and who may enjoy them, may well be influenced by what one takes propositions to be. For instance, a skeptic about propositions may deny that anyone has propositional attitudes in the above sense. For our purposes it is not necessary to resolve questions about the nature of propositions, provided that we accept that humans can (and do) have propositional attitudes—meaning that there is something *proposition-like* to which a thinker can be appropriately related, whether this be a sentence (Fodor 1978), a set of possible worlds (Lewis 1979; Stalnaker 1984), or a state of affairs (Marcus 1990). What remains to be determined is whether appropriate relations to proposition-like entities can be supported in non-linguistic creatures.

2.2 Methodological attitudes

Davidson’s arguments are offered in the context of his larger theoretical commitments to the nature of mind and meaning, commit-

⁴ Some have argued that there is no account of what a proposition is that is both coherent and satisfies the various criteria that propositions are traditionally supposed to satisfy (that tradition stemming initially from Frege). See e.g., Dennett (1987a), and Churchland (1981). It is unfortunate, but true, that if our notion of a proposition is fundamentally incoherent, and no compromises can be reached on the criteria propositions must satisfy, then there is no such thing as a proposition. *A fortiori*, we can’t stand in any meaningful relation to propositions, so we lack propositional attitudes. Such is the position of some eliminativists. Others have compromised on the demands put on propositions. Quine, for instance, while being no friend of abstract entities such as propositions as usually conceived, found sentences to be less ontologically troublesome stand-ins for them, and held that to have a propositional attitude is to stand in some relevant relation to an eternal sentence—thereby still satisfying our philosophical intuitions about the role of propositional attitudes in explanations of human thought and behavior.

ments that stem from his interpretationist philosophy.⁵ In general, interpretationist strategies answer the following three questions simultaneously: “In virtue of what does a creature have propositional attitudes?”, “which propositional attitudes do they have?” and “when is one justified in attributing these attitudes to a creature?” According to interpretationism, a creature has propositional attitudes in virtue of being interpretable; the most coherent, charitable interpretation that accurately (or accurately enough) predicts behavior is the justified interpretation; and the contents of that interpretation serve to determine the contents of the creature’s propositional attitudes. As Byrne puts it, in an interpretationist strategy, “there is no gap between our *best judgments* of a subject’s beliefs and desires and the *truth* about the subject’s beliefs and desires,” (1998). Thus, if a creature’s behavior can be accurately predicted or explained by an attribution of beliefs and desires in conjunction with the assumption of rationality, we are justified in attributing propositional attitudes to the creature.

Davidson’s strongest arguments for why thought requires language are motivated by his interpretationism. On a strict interpretationist view, meaning does not exist without interpretation; so if a system is uninterpreted, it lacks contentful states. Davidson believes that language is a prerequisite for entering the world of interpretation. If no language, then no interpretation, so no content. But let us consider, from an interpretationist stance, why one might think that language is a prerequisite for interpretation.

One might think that Davidson is moved by the idea that only linguistic behavior can be interpreted. However, this cannot be Davidson’s position. If it were, Davidson’s approach to propositional attitude attribution would be at odds with his own interpretive strategy for attributing content to mental states. The basic idea of Davidson’s interpretationism is that in ascribing content to another person’s mental states, we

⁵ In the literature, “interpretationism” is often used interchangeably with “interpretivism”. Since “interpretivism” is more commonly used to denote a strategy of legal interpretation, I will use “interpretationism” here.

assume that that person is rational, and we ascribe content to her utterances, behaviors, and mental states in such a way as to maximize the coherence of that person's beliefs and desires in light of her behavior. Undeniably, there is a class of behaviors that humans have and animals lack, namely linguistic behaviors. However, both humans and animals share a wide range of non-linguistic behaviors that admit of interpretation. On the face of it, those behaviors provide ample evidence upon which to base attributions of mental content, and Davidson himself would not refuse to attribute propositional attitudes to a silent person. However, Davidson pointedly refuses to apply a straightforward interpretationist strategy to non-linguistic animals. To avoid arbitrariness, an independent argument is needed to privilege language over other behaviors.

Perhaps Davidson believes that rationality is impossible without language. If we cannot attribute rationality to a creature, the interpretationist strategy does not apply. More than a few people have argued that animals are not rational, yet there is reason to believe, under some plausible construals of rationality, that they are. To hold that rationality presupposes language commits one to a narrow view of rationality, already colored by a linguistic bias. Such a view implicitly begs the question in which we are interested. Admittedly, what rationality is is a vexed question in philosophy, and determining whether a creature is rational falls prey to the same holistic problems as determining whether it has propositional attitudes. A theory of rationality predicated upon a conception of practical reason instead of upon linguistic manipulation appears to be more neutral. There is abundant evidence for practically rational behavior in the animal world. After all, animals of all stripes are here now because they have been evolutionary successful, and to have succeeded requires in some nontrivial sense that goals are achieved by instrumental behavior.⁶ All animals exhibit some degree of ration-

ality, construed in this way. Building on this view of rationality promises to enable us to posit criteria or hallmarks for minimally rational behavior that are independent of language, yet also to concede that some rational behaviors are linguistically dependent, and thus unique to humans. Indeed, one might think that a good way to assess rationality would be to see to what extent an animal's behavior is predictable or explicable with reference to survival requirements and common sense belief-desire psychology. A wide range of animal behaviors certainly seem apt for explanation with reference to the rational interplay of ecologically-relevant propositional attitudes. If one thinks that aptness for explanation in terms of rationality is sufficient evidence for rationality, and accepts, as Davidson does, that rationality rests on the interplay of propositional attitudes, then we have ample evidence that animals have propositional attitudes, rather than that they do not.

Davidson, however, obviously thinks that the reasons to deny animals propositional attitudes supersede reasons to attribute rationality to them; he applies *modus tollens* to my *modus ponens*. Since he denies that animals have propositional attitudes, and he thinks rationality requires propositional attitudes, he denies that animals are rational. We are led to very different conclusions about the nature of animals' mental lives depending upon whether we take ourselves to be more justified in attributing rational behavior to them or in refusing to attribute to them propositional attitudes. Because the questions of propositional attitudes and of rationality are both equally troubling and closely linked, arguments against animal thought based on assumptions about rationality are not compelling.

Thus, we have as yet failed to find ample reason to refuse to apply the basic interpretationist strategy to non-linguistic animal behavior. Perhaps Davidson thinks that, in the absence of language, we have insufficient evidence for attributing propositional attitudes to animals. Perhaps it is because Davidson thinks that "having the gift of tongues" is both necessary and sufficient for having propositional attitudes (1984, p. 156, 2001a, p. 104), he views language

⁶ Decision theory, for instance, gives us one model of rationality. Interestingly, in many ecological studies of foraging behavior that use decision theory to assess animal choice, animal behavior is found not to just be adaptive, but optimal. For example, animal foraging decisions approach optimality. See e.g., Stephens & Krebs (1986).

possession as *the* evidential criterion for propositional attitude attribution. He consequently denies that we can be justified in attributing propositional attitudes to creatures on the basis of non-linguistic behavior. Language gives the radical interpreter the green light: evidence of linguistic behavior licenses application of the radical interpretive strategy.

Even if we grant that language is the best evidence for propositional attitudes, we should be immediately suspicious of the presumption that the only evidence relevant for deciding whether something has propositional attitudes is the presence of a necessary and sufficient condition for having them. In normal empirical inquiry, criteria that are necessary and sufficient are rarely the only ones that qualify as evidence for assessing empirical claims. For instance, a rash may be relevant evidence for determining whether a person has Lyme disease, despite the fact that not all people with rashes have Lyme disease, and not all people with Lyme have rashes. Might there not be evidence highly indicative of whether a creature has propositional attitudes, despite the fact that the evidence is not decisive? Reasonable, predictable behavior is surely a clear source of evidence for the existence of propositional attitudes, despite the fact that it only provides defeasible reasons for thinking they exist.

Furthermore, unlike instrumentalists like Dennett, Davidson seems to favor the idea that beliefs are real; his anomalous monism posits a physical-causal substrate for mental states, albeit one that exempts psychology from being reduced to physical laws.⁷ One might think, nonetheless, that it would be reasonable for a realist to accept the possibility that beliefs involve some internal representational structures, and that there could therefore be other types of reliable evidence besides linguistic evidence for the presence of propositional attitudes. Thus, Davidson's exclusive focus on language is in tension with his realist leanings. Furthermore, if

one is a realist about thought, it is not the evidential question, but rather the question of the grounds of possibility for having propositional attitudes that should be of primary interest. The Davidsonian mix of interpretationism and realism creates an uneasy tension, for while he tends toward realism about belief, he often seems to think the metaphysical and epistemological construals of the question amount to the same thing: a creature has propositional attitudes if we ought to interpret him as having them. I suspect that this collapsing of the issues accounts for Davidson's view that the question of whether a creature has propositional attitudes is closely tied to the evidential question of what evidence is relevant for deciding whether something has propositional attitudes.

There is, as far as I can tell, a lack of a substantive argument for requiring that a creature has language to be a candidate for interpretation, as well as for holding that only the presence of language provides sufficient evidence for attributing propositional attitudes. Thus, neither the interpretationist strategy itself, nor Davidson's concerns about evidential warrant justify the position that only language-speaking creatures can be candidates for propositional attitudes. Now let us turn to the specific arguments Davidson offers for denying animals propositional attitudes: the reasons he offers for holding that language is necessary for thought.

3 Minor arguments

Why might someone think that language is necessary for having propositional attitudes? A common reason for supposing that language is necessary for thought is that one is in the grip of a picture about the nature of thought—namely that thought is a type of language, or is linguistic or language-like. If propositions are linguistic entities, then creatures that lack the capacity for linguistic representation might well be unable to represent propositions and thus be unable to hold an attitude toward a proposition. However, since there are competing accounts of what propositions actually are, several of which see them as non-linguistic in nature, the intuitive language-like characteristics of pro-

⁷ The debate about propositional attitudes, language, and capacity for thought has implications beyond philosophy of mind to ethics. As Davidson himself noted, personal and sub personal levels of description refer to different logical subjects, and thus Davidson's argument has implications for the possibility of attributing *personhood* to animals. See again, <http://www.projeto-gap.org.br/en/>.

positions does not settle the question (Lewis 1979; Stalnaker 1984).

In several places Davidson gestures at related arguments for denying non-linguistic creatures propositional attitudes (1984, p. 156, 2001a, p. 98). These stem from an implicit commitment to propositional attitudes having certain characteristics that only languages possess. For instance, Davidson claims that propositional attitudes have definite content, and that only things expressed in language have definite content. Drawing on the discussion of Malcolm (1972) before him, he gives an example of a dog chasing a cat up a tree. Like Malcolm, he notes that we cannot attribute to the dog the thought that the cat ran up the maple, as opposed to that the cat ran up the tree. If there is no particular thought we can attribute to the dog, then the dog hasn't had a thought with definite content, and so hasn't had a propositional attitude. Davidson elsewhere claims that propositional attitudes are opaque⁸, and that language accounts for their opacity (Davidson 2001a, p. 97). Although these claims can be combatted directly, I will not pursue those arguments here. Both the definite content claim and the opacity claim lose their teeth when it is recognized that they take the following form:

P1 Propositional attitudes have a property, p
 P2 Language has property p
 —————
 C Therefore, language is necessary for propositional attitudes

This argument is fallacious—it would only be valid if nothing *but* language had property p. But no such argument is on offer. It is worth noting, moreover, that whether propositional attitudes have the property p in question is itself contentious—do all our beliefs have definite content? Finally, even if having property p were somehow constitutive of thought, and to have p thought had to be linguistic, this would still not entail that a creature with beliefs and desires must have language in Davidson's sense. Fodor

(see Fodor 1975), for instance, thinks that a creature must have a language of thought to have propositional attitudes, but he holds that it need not be able to speak or understand a public language to have a language of thought. Even if claims about definite content and opacity were true, that is, if Fodor is right, Davidson has erred in thinking that thought requires an external as opposed to an internal language. If animals have a language of thought, they are non-language-using believers.

4 Davidson's Master Argument

The above minor arguments don't play a central role in Davidson's support of P1. The strongest support for the crucial premise is found in what I will call his Master Argument.⁹ The Master Argument puts psychological restrictions on what it is to be an interpreter, and it supports the claim that one cannot have propositional attitudes without language. If the Master Argument succeeds, then Davidson's arguments for denying that animals have propositional attitudes is compelling. But, as I shall argue, the Master Argument ultimately fails, and thus also fails to support the denial of propositional attitudes to animals.

According to Davidson's interpretationism, having beliefs entails being an interpreter. The basic idea of the Master Argument is that possessing certain concepts is a prerequisite for being an interpreter, and that an organism must have language in order to have these concepts.¹⁰

⁹ Davidson nowhere presents his Master Argument in this precise form. I reconstruct the logical form of his argument from "Thought and Talk" and "Rational Animals".

¹⁰ This ought to be distinguished from the idea that having propositional thought requires having some concepts, and that the contents that can be entertained by a creature in propositional thought are constrained by the set of concepts that the creature possesses. This view, held by a variety of thinkers from Frege to Fodor, stems from the belief that the propositions to which a thinker stands in relation in having a propositional attitude are complex entities composed of concepts. But then the question of whether animals have propositional thought can be recast as the question of whether animals have concepts. If, additionally, one combined this view of the cognitive structure of propositions with a view according to which concept possession requires language, one would have an argument for why language is necessary for propositional thought. However, whether concept possession requires language is a question that depends, among other things, on what concepts are. Whether the vehicles of thought are language-like, as I argued earlier, is orthogonal to the issue of whether an organism possesses the capacity to speak or understand speech. Therefore Davidson's argument cannot rest on the nature of concepts.

⁸ Substitution of co-referring terms in "opaque" contexts may not preserve truth. Such is the case with propositional attitudes. Thus, while it is true that Lois Lane believes "Superman is a hero", it may be false that she believes "Clark Kent is a hero", despite the fact that Clark Kent is identical to Superman.

Davidson's position differs from the more widely-held view that having *some* concepts is required for having propositional thought, by supposing that there are *specific* concepts that a creature must possess in order to have propositional thought. The Master Argument links thought to language by way of higher-order thoughts. Specifically, Davidson suggests that a concept of *belief* is a prerequisite for propositional attitudes, and that a concept of belief is unavailable without language. Here is Davidson's Master Argument:

M1 If S has propositional attitudes, then S has beliefs.

M2 If S has beliefs, then S has a concept of belief.

M3 If S has a concept of belief, then S has language.

MC If S has propositional attitudes, then S has language.

The argument is clearly valid. But is it sound?

M1 is plausible; it just highlights Davidson's view that beliefs are a fundamental propositional attitude, and that to have any propositional attitudes at all, a creature must have some beliefs. **M2** and **M3**, the remaining premises, are interesting, but their meaning is unclear, for they contain a clause that needs to be unpacked: what exactly is a "concept of belief"? Let us distinguish three different conceptions of a "concept of belief", varying in stringency. One conception of the concept of belief is robust, in which the concept of belief is the fully articulated belief-concept that is taken to be definitive of a mature theory of mind. On this robust view, having a concept of belief is an epistemologically-rich notion that entails having an ability to pass the "false belief test". That is, it is criterial for having the concept of belief that one has the ability to attribute to others a mental representation of the world that may differ from the way the world is, as well as a recognition of the perceptual circumstances that would engender false representations. In contrast, a deflationary conception of what it is to have the concept of belief merely requires an understanding that the world is distinct from how it appears

or how one takes it to be, or that belief can come apart from reality. On a deflationary view, then, having the concept of belief is rather like having the concept of an objective reality. Finally, we might consider an intermediate notion of the concept of belief that involves the ability to attribute representational mental states to oneself and others, without satisfying all the constraints that a robust conception must meet. Which, if any, of these conceptions of "concept of belief" is important for Davidson's argument linking belief to language?

4.1 The robust conception of belief

The robust conception of belief became important in developmental psychology in the context of concerns about Theory of Mind: having a notion of false belief was taken to be diagnostic of a mature TOM, and, according to many researchers in the field, only develops in humans at around four years of age (Saxe et al. 2004; Wellman et al. 2001; Wimmer & Perner 1983). However, requiring a concept of belief in the robust sense seems too demanding a condition for having propositional attitudes. While we might plausibly doubt whether prelinguistic infants really have propositional attitudes, it is hard to deny that young children who have already acquired a sophisticated facility with language have propositional attitudes. Children of two and three, for instance, clearly refer to objects in the world using language, and they readily express their desires ("I want the green monkey!"), beliefs ("I think the ball is under the bed"), as well as fears and other propositional attitudes. They understand others, refer to their own and others' mental states, and communicate effectively. We typically and with great conviction attribute propositional attitudes to children of these ages. Nonetheless, according to most developmental psychologists (See e.g., Perner et al. 1987; Call et al. 1999; http://youtu.be/8hLubgpY2_w), until the age of four (two years after they develop considerable language abilities) children lack a concept of belief in the robust sense.¹¹ And if so, we

¹¹ Kristen Andrews takes autistic subjects to be counterexamples to Davidson's view, which would also argue against **M2**. (Andrews 2002).

make ordinary propositional attributions to children well before they possess the robust concept of belief. Thus, **M2** is false.¹²

Not all psychologists agree that a robust concept of belief doesn't develop until about four years of age. Some have argued that the methods used in many of the classic false belief studies rely too much on language or on inhibitory control, and that tests other than the classic false belief test are sufficient for demonstrating understanding of false beliefs. For instance, a recent study suggests that children have a concept of belief at far earlier ages than previously thought—earlier, in fact, than the development of language (Onishi & Baillargeon 2005; Baillargeon et al. 2010; Caron 2009). However, if this is so, then **M3** is false, for the robust conception of belief does not depend on having language. This version of the Master Argument depends upon a tight connection between competence in the false-belief task and belief. On one conception of what evidence is sufficient to reflect performance on the false-belief task, **M2** is false, and on another conception, **M3** is false. Either way, the Master Argument is empirically refuted, and the robust conception of “the concept of belief” fails to link language possession and propositional attitudes.¹³

Davidson may well be unperturbed, for there is no textual evidence that he means to implicate the robust conception of belief when he claims the concept of belief is necessary for having beliefs. After all, from the standpoint of his radical interpreter, one can only be a believer in virtue of interpreting others, but it is unclear why the possibility of such interpretation should rest upon a grasp of others' mental states being beliefs in this robust sense, rather than in some weaker sense. In “The Second Person” (1992), for instance, Davidson argues that for our mental

states to have determinate content we must interact with another being in order to “triangulate” and thus make determinate the referents of our thoughts. Nothing in this picture requires that an interpreter have a robust concept of belief as opposed to a more deflationary one.

4.2 The deflationary conception of belief

In line with the idea that Davidson has a more deflationary view in mind, in both “Thought and Talk” and “Rational Animals” he mentions a different criterion for having a belief, which he also thinks links the possession of language to the ability to have propositional attitudes. This is the criterion of possessing a concept of “objective truth.” Davidson's argument for language via the criterion of objective truth is as follows:

O1 In order to have propositional attitudes, one must have beliefs.

O2 In order to have beliefs, one must have a concept of objective truth.

O3 In order to have a concept of objective truth, one must have language.

OC Propositional attitudes require language.

The logic here is again unproblematic, but unpacking the premises is not. At times Davidson seems to equate the concept of objective truth with that of belief. I take this as evidence that he intends “the concept of belief” in the Master Argument in its most deflationary interpretation: as an understanding that how the world is can come apart from how one takes the world to be. Given this interpretation one could believe that the concept of objective truth co-occurs with that of belief, or that the cognitive conditions that make possible the concept of belief are the same as those that make possible the concept of objective truth. In any case, Davidson sees a tight connection between the notions of belief and objectivity.

How are we to understand the “concept of objective truth” in **O2** and **O3**? If Davidson means it to be a metasemantic concept, such as having a Tarskian definition of truth, or an understanding that truth applies to propositions, and so on, then it would be almost assured that

¹² In addition, at ages far younger than those at which children pass the false-belief task, they act as interpreters, in Davidson's sense. Any parent knows that their children interpret speech well before they are speakers, and long before the age at which they pass the false-belief task. So if interpretation is central to having propositional attitudes, it doesn't require a robust theory of mind.

¹³ Of course, Onishi and Baillargeon's interpretation is subject to refutation. Should their findings (they developed a nonverbal task that suggest that infants much younger than previously supposed represent others' mental states, such as goals, perceptions and beliefs.) reflect something like proto-beliefs rather than full-blown propositional attitude-sustaining beliefs, **M3** would not be falsified.

one could not grasp the concept of truth without language. It would explain the *prima facie* plausibility of the Objective Truth version of the Master Argument. However, if we adopt that reading of objective truth, O2 would be false, for people certainly have propositional attitudes even if they never become philosophers, and even if they never have an inkling about metasemantic notions.

Another clue about what Davidson means by objective truth comes from his emphasis on triangulation. Davidson thinks we need to interact with another person in order to come to see the world as external to us—in order to develop a notion of objectivity. By linguistically triangulating on an object with another, we are forced to recognize that object as part of an objective reality. Davidson illustrates this view in “The second person”:

Belief, intention, and the other propositional attitudes are all social in that they are states a creature cannot be in without having the concept of intersubjective truth, and this is a concept one cannot have without sharing, and knowing that one shares, a world, and a way of thinking about the world, with someone else. (2001b, p. 121)

However, there are two fundamental problems with using triangulation as an argument for the necessity of language for thought. First, there is nothing apparent about triangulation that requires spoken language as opposed to some other sort of joint interaction or non-linguistic communication. It is, indeed, difficult to see why language as opposed to action would be operative in developing a notion of a world external to ourselves. So triangulation fails to show that language is necessary for thought. Second, it is difficult to see how triangulation could itself suffice for a notion of objectivity. In order for me to triangulate with another, I must *first* see the other as part of the external world, as opposed to an element in my mentality. As long as the other is merely a part of the way I take things to be, it cannot fulfil the role of the second person (see for example, Roskies 2011).

So triangulation also fails as a mechanism for constructing the concept of objectivity. Nonetheless, Davidson’s emphasis on triangulation strongly suggests that by “objective truth” he is referring to the appearance/reality distinction.

This interpretation is further strengthened by taking seriously the fact that Davidson thinks the concepts of belief and truth are closely linked (1984). As mentioned earlier, having the concept of objective truth is nothing other than understanding that how the world is can come apart from how one takes the world to be. What evidence do we have that language is required for this?

4.3 Surprise

As further evidence that Davidson intends a deflationary view of the concepts of belief and objective truth, we can turn to another formulation of the Master Argument. In his most forthright explication of what he means by “concept of belief”, he suggests that there is a behavioral mark that is coextensive with having such a concept: surprise.

In order to have any propositional attitude at all, it is necessary to have the concept of a belief, to have a belief about some belief. But what is required in order to have the concept of a belief? Here I turn for help to the phenomenon of surprise, since I think that surprise requires the concept of belief. (Davidson 2001a, p. 104)

The willingness to consider some sort of non-linguistic behavior as relevant to the question of whether a creature has propositional attitudes is a methodological breakthrough, for it provides an avenue independent of language for assessing whether an animal has the requisite cognitive machinery to be a believer. Davidson maintains that the ability to be surprised is diagnostic of having the concept of belief. It indicates recognition that one’s own mental representation fails to conform to that which it represents, and as such it constitutes necessary and sufficient evidence of the concept of belief.

Following this intuition, we can amend Davidson's Master Argument to incorporate this insight:

S1 If S has propositional attitudes, then S has beliefs.

S2 If S has beliefs, S has a concept of belief.

S3 S has a concept of belief iff S has the capacity for surprise.

S4 If S has the capacity for surprise, S has language.

SC Propositional attitudes require language.

The idea that surprise goes hand-in-hand with the concept of belief is not implausible: if surprise issues from the recognition that one's belief about how the world is fails to correspond with the way the world is, then surprise is good evidence for the concept of belief. Moreover, because this idea does not have implications for the ability to attribute propositional attitudes to others in an operative sense, it suggests that the interpretation of "concept of belief" that Davidson favors is a deflationary interpretation: one that involves appreciation of the appearance/reality distinction, or, as discussed above, the concept of objective truth. Thus, S2 takes the deflationary interpretation of the concept of belief, and for the argument to be valid, S3 must also take that interpretation.

Unfortunately for this version of the argument, S4 is false. There is clear and abundant empirical evidence that the ability to be surprised at the mismatch between the world and one's own representation of the world is independent of language (Dupoux 2001; Feigenson et al. 2002; Hauser & Carey 1998; Santos et al. 2002; Wynn 1992). Take, for example, an invaluable tool in the developmental psychologist's toolkit: the violation of expectancy looking method (V) for testing infants. Many studies performed on pre-linguistic human infants employ this paradigm in order to explore what an infant knows. The idea is simple: infants look longer at stimuli that fail to correspond with their expectations. This method has been used to determine, among other things, that infants have an innate (or very early developing) concept of number. In now classic experiments,

Wynn and colleagues demonstrated that infants can do simple arithmetic (Wynn 1992). She showed infants as young as five months a toy, and placed it behind a screen. Then she showed them another toy and also placed it behind the screen. The screen was then lowered, revealing either two toys (the expected outcome), or only one toy. Infants looked longer at the unexpected outcome. The same paradigm was used with different numerical combinations, demonstrating that for numerosity up to three, infants can do simple addition and subtraction, and are surprised when what is revealed behind the screen does not comply with their expectations. Significantly, this robust effect, which is due to surprise, precedes the development of language by more than a year.

Davidson might reply that it is not actually possessing language, but rather possessing the *capacity for language* that is important for surprise, and thus for the concept of belief. Maybe, even though they cannot yet speak, infants possess a language faculty, which, immature as it may be, is sufficient to support surprise. However, this attempt to patch the argument also fails. The VELM is used frequently in studies with nonhuman primates, and while they never develop language nor seem to have a capacity for natural language, they too exhibit surprise when their expectations are violated (Hauser 2000; Hauser et al. 1996). So, it seems, language is not a requirement for surprise, nor is surprise evidence for the presence of or capacity for language.

The empirical studies of developmental psychologists and primatologists undermine the Surprise version of the Master Argument: surprise does not depend upon having language. Moreover, if premises S2 and S3 are true—if the capacity for surprise is evidence of the concept of belief, and if propositional attitudes depend upon possession of the concept of belief—then propositional attitudes do not depend upon language.

Let us briefly revisit the Objective Truth version of the Master Argument. I have argued that only a deflationary notion of objective truth is a candidate interpretation for the argument. I have also suggested that this is the only

notion of “the concept of objective truth” that meshes with the arguments Davidson raises regarding belief and surprise. Thus, having a concept of objective truth is having a concept that the way the world is can come apart from how one takes it to be. If this is correct, then the Objective Truth version of the Master Argument is false.

In Wynn’s looking-time studies discussed above, the child has clearly developed expectations of what lies behind the screen, and must somehow represent this to herself. When the screen is lowered and the child sees what is behind the screen, there must be some sense in which correspondence with the expectation or lack of correspondence is noted, and in which the data coming in from the senses is privileged over the internal representation. This is, in essence, what it is to recognize that beliefs about the world can come apart from the way the world is. Clearly this sort of grasp of reality does not depend upon language: pre-linguistic infants and non-linguistic animals possess it. One can easily imagine how violation of expectation can be instantiated in a system with imagistic thought. The languageless child need only conjure up an image of the objects behind the screen and compare this with the visual scene before him. As long as the child privileges the sensory information over the mental representation, we might say that he has a concept of reality and of the belief/reality distinction. In summary, then, language is not required for a concept of objective truth.

4.4 The intermediate conception of belief

We have ruled out both the robust and weakest notions of “concept of belief” as candidate notions for a successful interpretation of Davidson’s argument linking belief to language. Perhaps an intermediate notion can do the job. This notion involves the ability to attribute representational states to oneself and others; it is less sophisticated than that required to pass the false-belief task, but more complex than the recognition of an appearance/reality distinction.

One potential reason why representational-state attribution may be important for having

beliefs involves self-reflection: perhaps being a believer requires being able to think of oneself as a believer, and thus requires the concept of belief. This amounts to the claim that beliefs cannot be held non-reflectively. Since we clearly do have beliefs that we do not have beliefs about, what is at issue is not the actuality of having beliefs about beliefs, but the possibility or capacity to do so. However, while there are arguments that the ability to think about oneself as a believer is required for a rich construal of theoretical rationality (see [Bermúdez 2003](#), Ch. 7), there is no clear argument why such reflective ability should be constitutive of having beliefs. Indeed, it seems like the ability to believe things about one’s beliefs would require that one could believe things, so that belief is conceptually prior to self-reflection. In any case, self-reflection is not Davidson’s stated reason for thinking that the concept of belief is important for having beliefs.

The other reason to hold that having belief requires having a concept of belief under the intermediate conception links the ability to attribute mental states to others with having the concept of belief. Thus there are two different strengths of intermediate interpretations to consider. According to the less demanding interpretation, a concept of belief is required in order to attribute contentful states to other creatures; whereas the more demanding interpretation holds that a concept of belief is required to attribute propositional attitudes to others: one must be an interpreter, not just an interpretee.

We can discount the less demanding of these interpretations for the purpose of this argument linking thought to language,¹⁴ because if [M2](#) (“If S has beliefs, then S has a concept of belief”) is interpreted in this way, then [M3](#), the claim that language is required for a concept of belief, read in this way, is false. There is growing evidence that non-language-using animals are able to attribute representational states to other animals. One compelling illustration of this comes from ([Hare et al. 2000](#)), who show

¹⁴ We ought to reject this interpretation for the purposes of Davidson’s argument, despite the fact that we may ultimately agree with it as a necessary condition for having propositional thought.

that subordinate rhesus monkeys only approach food in the presence of a dominant male when they know that the male is unable to see the food (interestingly, dominant males appear not to care whether or not a subordinate male sees food, pointing to yet a further level of sophistication in the cognitive processes of non-linguistic animals). Thus, if it is the case that to believe requires having the ability to attribute contentful mental states to others, then it is not the case that believing requires language. Indeed, recent work on non-human primate theory of mind suggests that monkeys and chimpanzees have a theory of mind that represents goal states and distinguishes between knowledge and ignorance of other agents (the presence and absence of contentful mental representations), even if it fails to account for misrepresentation (Call & Tomasello 2008; Kaminski et al. 2008; Martcorena et al. 2011). Although they may have a less articulated theory of mind than we do, we may nonetheless adequately characterize their representational system with mental-state terms (Butterfill & Apperly 2013; Martcorena et al. 2011).

What remains is the notion that the ability to attribute beliefs qua propositional attitudes to others is necessary for having beliefs. That is, not only must they attribute mental states to others, but those mental states must possess the characteristics of beliefs. Remember that we have already discounted the robust notion of belief as too demanding, so what is necessary is not that animals have a notion of false belief per se, but rather that they have a notion of a belief as a representational mental state that can play a role in behavioral explanation or prediction. So far there is no compelling evidence that nonhuman animals have this, consistent with the possibility that such a representational ability as this may indeed require language, or at least some sophisticated ability to symbolize abstractions and predicate them of objects. Whether this is so is ultimately an empirical question. However, at least some philosophers think monkeys may be able to do this. As Lurz characterizes the above studies, animals do have the ability to represent propositional mental states in others—not as attitudes

aimed at representing objective truth, but instead as attitudes with propositional contents that provide information regarding motivation to act (2011a). Lurz characterizes this as a kind of belief–desire attribution. Baillargeon’s data proves relevant here too, for her results are best explained by taking the infants in her study as postulating representational mental states of the actor in order to predict her behavior; violation of their expectation causes them to look longer. Thus, without imputing these infants some understanding of others’ representational mental states, we would be unable to account for this data. However, in this case M3 would then be false, for the linguistic abilities of fifteen-month-old infants typically are minimal—certainly not of the sophistication we would expect would be necessary to linguistically encode a belief-concept. While the evidence that bears on this case is perhaps the least well-established, and this study involves infants at an age when they are poised to develop language, the burden of proof is shifted to the person who wants to argue that language is necessary for a concept of belief. That burden is not discharged: Davidson lacks a positive argument for why this relatively demanding notion of attributing content to others is the one required for an organism to be a believer.

5 Beyond interpretationism

Davidson argues that language is required for thought. His Master Argument posits that having a concept of belief is a necessary intermediary for having propositional attitudes, and that language is necessary for having a concept of belief. Of the various conceptions of “concept of belief” that might play a role in Davidson’s argument, the robust conception is too strong, and empirically falsified. While the robust conception may require language, we attribute propositional attitudes before children are clearly in possession of such concepts. Davidson’s examples and arguments support only deflationary interpretations of the concept of belief and the associated concept of objective truth: those that involve distinguishing between appearance and reality, or those that involve attributing

mental content. However, as numerous studies in developmental and comparative psychology have shown, the deflationary conception is one that many creatures without language enjoy. Even an intermediate conception does not seem to play the role Davidson's argument requires, for the ability to attribute mental content does not require language, and neither does the ability to attribute to others representational mental states, though here the evidence is less clear. Davidson's arguments seem compelling because their plausibility relies upon a slide between less and more demanding conceptions of the concept of belief. For instance, a weak conception of "concept of belief" in M2 and a robust one in M3 yields an argument with apparently true premises, but because the argument equivocates on "concept of belief", the argument is invalid. This analysis, as well as an appreciation of the methodological considerations for using non-linguistic behavior as evidence of propositional attitudes, supports the view that some mental states of non-linguistic animals can aptly be classified as propositional attitudes.

In empirical circles it seems to be taken for granted that at least some non-linguistic animals have mental states best described as propositional attitudes. But this acceptance is merely the first step in a larger project. For example, even if there is good reason to think that non-linguistic creatures have propositional attitudes, how they could have these remains to be elucidated. That is, what is the nature of the representational resources available to them? And given these representational resources, what sorts of contents are they capable of representing? What kinds of reasoning and inference could such representations support? What are the cognitive limitations necessitated by their representational architectures? One can begin addressing these fascinating questions empirically either at the functional psychological level or at the level of representation, and from either level one can work toward answering questions about the other.

Instead of thinking that language itself is what makes complex, structured, or propositional thought possible, we should consider: 1) how non-linguistic capacities could underlie

complex representational abilities 2) the unique elements of linguistic competence and what they may or may not make possible vis-à-vis thought. In an example of the first, Proust (1999); see also [this collection](#)) provides an illuminating philosophical discussion of structured non-linguistic representational abilities (or "structured competences") and how they could make possible objective representations. Structured representations as such could form the building blocks of propositional attitudes. Bermúdez argues for abilities and for certain logical limitations on both the inferential and representational abilities of non-linguistic representers (Bermúdez 2003). Whether such limitations necessarily obtain is a matter of dispute (Lurz 2007).

When considering how linguistic abilities could augment thought, it is useful to identify elements of language that could contribute to representational complexity even if present without all the components of language. For example, Clark suggests that the human language-like ability to use symbols to represent abstract objects allows us to objectify our own thoughts and operate upon them (2000). Depending on what things can be symbolized, this could make possible metacognition or higher-order thought that might not otherwise be possible. Thus, the ability to represent symbolically can influence the kinds and complexity of reasoning available to a creature, even if that creature is not linguistic in Davidson's sense. Symbolic capacities are necessary but not sufficient for linguistic competence, and could be present even when language is not. And if mere use of symbols is taken to be sufficient for language, then some nonhuman primates are capable of language and thus again can have propositional attitudes. Indeed, it is clear that some nonhuman primates can be trained to use abstract symbols, even if they do not do so naturally. Boysen and colleagues, for example, relate how naïve chimps fail to learn to make second-order generalizations about object classification, but those trained to associate objects with symbols (for relations of "same" and "different") are able to succeed on a second-order classification task (Thompson et al. 1997). These interesting res-

ults give causal punch to the notion that symbolic objectification is a prerequisite for higher-level or abstract thought, and help to explain the competences that appear to come along with linguistic abilities.

Focusing less on the vehicles and more on the ways in which they can be exploited, Fitch and colleagues argue that recursion, which is a core element of natural language processing, can only operate on symbolic structures subject to rules, and that neither rules nor the objects on which they operate can exist without language-like representations (Hauser et al. 2002). If so, one might expect that forms of reasoning that rely on recursion may only be possible for creatures that also possess linguistic capacities. Thus, use of symbols and recursive rules are two candidates that could help explain the different representational capacities of linguistic and non-linguistic creatures.

6 Conclusion

Here I have argued that Davidson's arguments that nonlinguistic creatures lack thought are either unsound or invalid. While this negative project does not allow us to conclude that they have propositional attitudes or thoughts, it makes room for positive arguments that will take advantage of recent and future empirical work on animal cognition and on the nature of nonlinguistic representations and their role in cognitive processing, as well as for novel negative arguments that might set limits on the capacities of nonlinguistic creatures. Much current research in animal cognition focuses on whether animals have theory of mind paralleling that of humans (Martcorena et al. 2011), or metacognition (Bermúdez 2003; Carruthers 2008; Lurz 2007, 2011a, 2011b; Proust 2010). One might therefore think that the debate has not progressed much since Davidson asked the question about whether animals can have a concept of belief. But Davidson's interest in these questions was narrow, driven by his interpretationism and the view that these states are necessary for being an interpreter and thus for possessing mental content. In contrast, contemporary research does not aim to disprove the existence of

propositional attitudes, but rather to elucidate the scope of these attitudes and understanding the ways in which they may be limited by limitations in representational resources. In the most exciting work, the philosophical and psychological projects come together. This interdisciplinary approach takes seriously evolutionary relationships and has a more nuanced view of the human being's place among other animals. The arguments that result will be of great interest to philosophers of language and mind, as well as to those interested in ethical issues that transcend academia. And while they may vindicate a certain kind of human exceptionalism, they may also articulate our place on a spectrum that will ultimately lead to a more integrated and humane picture of our place in the world.

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