TRIANGULATION TRIANGULATED

Kirk LUDWIG (Indiana University, Bloomington, USA)

1. Introduction

Appeal to triangulation occurs in two different contexts in Davidson's work.[1] In the first, triangulation—in the trigonometric sense—is used as an analogy to help explain the central idea of a transcendental argument designed to show that we can have the concept of objective truth only in the context of communication with another speaker. In the second, the triangulation of two speakers responding to each other and to a common cause of similar responses is invoked as a solution to the problem of underdetermination of thought and meaning by the patterns of causal relations we stand in to the environment. I examine both of these uses of the idea of triangulation. In section 2, I take up the use of triangulation as an analogy in connection with Davidson transcendental argument to establish that communication is essential for the concept of objectivity. I argue that it is unsuccessful because the case has not been made that scope for deploying the idea of contrasting perspectives, which is needed for the concept of objectivity, is available only in the context of communication. In section 3, I take up the idea that triangulation on a common cause of common responses of two creatures interacting with each other provides the additional constraint needed to assign objective content to our thoughts and words. I show that appeal to this sort of triangulation provides minimal help in responding to the problem it is intended to solve. Section 4 provides a brief summary and conclusion.

2. Triangulation as an Analogy

Triangulation is a technique for determining indirectly a feature of something, its distance from a baseline, by measuring something systematically related to it. In the general case, one determines the angle of an object from

---

[1] I cite the original publication date of Davidson's papers; page numbers, however, unless otherwise indicated, will be to reprints in (Davidson, 2001).

one's position at the two end points of a baseline of known length. The angles and baseline determine uniquely the height of the triangle formed and can be calculated using trigonometric functions.

Davidson first invokes triangulation in this sense as an analogy in "Rational Animals" (1982). In "Rational Animals", he argued that it is necessary and sufficient for having propositional attitudes that one have the capacity to speak a language and to interpreter other speakers. The argument has three premises (1982: 102).

(1) [A]ll propositional attitudes require a background of beliefs.
(2) [I]n order to have a belief, it is necessary to have the concept of belief.
(3) [I]n order to have the concept of belief one must have language.

The analogy with triangulation arises in connection with the third premise, which I concentrate on here. The argument depends on the idea that there must be an appropriate sort of ground for attributing a concept to a creature. This comes out in passages [a] and [b].

[a] Much of the point of the concept of belief is that it is the concept of a state of an organism which can be true or false, correct or incorrect. To have the concept of belief is therefore to have the concept of objective truth. If I believe there is a coin in my pocket, I may be right or wrong; I'm right only if there is a coin in my pocket. If I am surprised to find there is no coin in my pocket, I come to believe that my former belief did not correspond with the state of my finances. I have the idea of an objective reality which is independent of my belief (1982: 104).

Davidson follows this with the observation that complex interaction with the world, the possibility—described in a behaviorist vocabulary—of discriminating properties and generalizing, in the sense of reacting to new stimuli in the same ways as to prior stimuli, is not sufficient to attribute to something the concept of belief. This is followed by the claim that linguistic communication would suffice.

[b] What would show command of this contrast? Clearly linguistic communication suffices. Communication depends on each communicator having, and correctly thinking that the other has, the concept of a shared world, an

intersubjective word. But the concept of an intersubjective world is the concept of an objective world, a world about which each communicator can have beliefs (1982: 105).

When we put [a] and [b] together, it is clear that the idea is that to have the concept of belief there must be a point to having it for its possessor, that is to say, there must be a scope for its application within its experience.

It is clear why, on Davidson's view, there should be scope for its application in the context of linguistic communication. In interpreting others we are guided by the principle of charity, which involves two components that are in tension with each other. One Davidson has called the principle correspondence, and the other the principle of coherence.[2] The principle of correspondence tells us to find the speaker mostly right about her environment. The principle of coherence tells us to find her largely rational. The former principle is needed to solve the interdependence of belief and meaning, which emerges in considering how to get from the identification of a correlation between a hold true attitude toward a sentence and certain circumstances in the environment to the meaning of the sentence and content of the belief. If we know that it is a lawlike regularity that

[L] *ceteris paribus*, Karla holds true s iff p

we are not yet in a position to say either what Karla believes or what she means. Her hold true attitude is the result of what she believes and what (she knows) her sentence to mean: if she believes that p and (knows) her sentence s means that p, then she holds true s. Thus, to solve for either belief or meaning, knowing only what she holds true, we must bring to bear some additional constraint. The principle of correspondence holds that what the speaker believes about her environment is true, with the goal of allowing us then to infer that the conditions under which she holds true s as identified in [L] give both the content of her belief and the meaning of the sentence she holds true on its basis.[3] The principle of coherence is a holistic constraint. It holds that the speaker, being an agent, is largely rational,

---

[2] See "Three Varieties of Knowledge" (1991b: 211).

[3] See Lepore and Ludwig (2005: ch. 12-15) for an extended criticism of this solution to the problem.

and, hence, that her attitudes must be attributed in largely rational patterns. Since perspectives on the world differ, in interpretation there will inevitably be circumstances in which we may find a tension between making the subject of interpretation more rational by dint of finding her mistaken in her beliefs here and there, or less rational by finding less error. It follows that the concept of the contrast between how things are believed to be and how things are is an essential component of the conceptual scheme of the interpreter.

In "Rational Animals", Davidson notes that the sufficiency of having a language for having the concept of belief is not adequate for his argument. He needs to show that it is necessary. He offers the analogy with triangulation as a substitute, designed to help persuade in the absence of a proof, as expressed in [c].

> [c] If I were bolted to the earth, I would have no way of determining the distance from me of many objects. I would only know they were on some line drawn from me towards them. I might interact successfully with objects, but I could have no way of giving content to the question where they were. Not being bolted down, I am free to triangulate. Our sense of objectivity is the consequence of another sort of triangulation, one that requires two creatures. Each interacts with an object, but what gives each the concept of the way things are objectively is the base line formed between the creatures by language. The fact that they share a concept of truth alone makes sense of the claim that they have beliefs, that they are able to assign objects a place in the public world (1982: 105).

The analogy supports the interpretation given of Davidson's argument above. If I could not move, I would (Davidson says) not be able to determine the distance of objects from me. I cannot measure it directly, but neither can I measure a baseline to determine it indirectly by triangulation. And this is not just an epistemic limitation: "I could have no way of giving content to the question where they were" in respect of distance from me. He thus links the idea of being able to think a thing a certain distance with a method of determining it, a procedure for the (correct) application of the concept, and so to conditions in which aspects of experience would stand as ground for the application of the concept.

Triangulation determines the distance of an object by way of fixing a baseline and the two angles that the lines from its ends to the object form with it. The concept of an object's distance has a place in a network of concepts in which it is related systematically to the angles from which it is seen and the distance between the viewing locations. When we are in a position to make use of the entire scheme that specifies these interrelations, we can give content to the idea of distance. Davidson's idea is that the concept of objectivity likewise has its place in a network of concepts that includes the concepts of the propositional attitudes, and centrally of belief, truth, falsity, evidence, and error, and that the entire scheme is bound up with the capacity for speech because it puts us in contact with the potentially differing thoughts of others.

The idea is that I alone, like the man bound to a single position who cannot give content to the idea of distance, could not give content to the idea that the world does not correspond to my image of it. Without that, I could not give content to the idea of the contrast between truth and falsity, and so could not give content to the idea of belief, as it depends on that. What is needed is something akin to the capacity for movement, which gives me the two different perspectives on an object crucial to using triangulation to determine its distance, and so a use for the scheme in which the concept has a role. In the case of the concept of objectivity, it is the possibility of identifying a perspective which potentially contrasts with my own that gives content to the idea of error. The two perspectives minimally needed are my own and that of another whose thoughts are focused on the same world. The possibility of a contrast between the two gives scope for the concept of error, and so of objectivity, both being bound up with the idea of misrepresentation. Thus, if Davidson is right, to have the idea of a world that is independent of the way one represents it, i.e., objective, is at the same time to have the idea of a world which is intersubjective, for to be able to think it objective requires thinking of it in the context of a contrast with another's perspective on it.

To have this idea, in turn, requires (on the assumption that to have a concept there must be scope for the correct application of it in one's experience) that one to be able to identify another together with his perspective. At this point the idea of language enters. For to complete the analogy, we must suppose that the identification of another perspective that contrasts

with one's own requires one to be in communication with another. If we grant this, then the emergence of the two perspectives is made possible by a shared language. This is the sense in which a shared language (and shared concept of truth therefore) is the baseline for the concept of objectivity. For just as a shared language makes possible the two perspectives that give content to the idea of objectivity, the baseline in triangulation makes possible the two perspectives on an object that gives content to the idea of its distance from us.

Davidson does not offer this analogy as a proof that only in the context of communication can the concept of objectivity, and so of belief, arise. But he assumes this in later work, as shown in [d] from "Epistemology Externalized" (1991a).[4]

> [d] I do not mean […] that one creature observing another provides either creature with the concept of objectivity; the presence of two or more creatures interacting with each other and with a common environment is at best a necessary condition for such a concept. Only communication can provide the concept, for to have the concept of objectivity, the concepts of objects and events that occupy a shared world, of objects and events whose properties and existence is independent of our thought, requires that we are aware of the fact that we share thoughts and world with others (Davidson 1991a: 202).

The argument, which we can all the argument from error, is summarized here.[5]

> (1) To have the concept of a belief, one must have the concept of error, i.e., of objective truth, of a way things are independent of how one believes them to be.
> (2) That a creature possesses the concept of error or objectivity stands in need of grounding, that is, specifically, we must be able to make sense of there being scope for the (correct) application of the concept in the creature's experience and behavior.

---

[4] See also, "Indeterminism and Realism": «If we were not in communication with others, there would be nothing on which to base the *idea* of being wrong, or, therefore, of being right, either in what we say or in what we think» (Davidson 1997: 83).

[5] See Lepore and Ludwig (2005: 397-9) for related discussion.

(3) There is scope for the application of the concept of error or objectivity in a creature's behavior if but only if it shares a language with another with whom it is (or has been) in communication.

(4) A creature possesses the concept of error or objectivity only if shares a language with another with whom it is (or has been) in communication (from 2 and 3).

(5) A creature possesses the concept of belief only if it shares a language with another with whom it is (or has been) in communication (from 1 and 4).

With the assumption that to have belief one must have the concept of belief this delivers the conclusion that language is essential for thought. The two crucial premises are (2) and (3).

Premise (2) is an instance of a more general requirement on the possession of a concept: that there be scope within a thinker's experience for it to manifest its grasp of the application conditions of the concept by deploying it on the basis of the appropriate ground for it. The idea goes back at least to Kant's thought that the possibility of self-conscious experience requires the application in experience of certain general concepts, this being at the same time a condition on the determinate possession of the concepts themselves.[6]

Two issues come up in connection with this. The first is whether what we should require is the potential for application of the concept in relation to appropriate experience as opposed to actual application in relation to appropriate experience. The second is whether we should require subjective or object deployment of the concept.

Since to possess a concept is to have a disposition to deploy it in appropriate circumstances, it is unclear why the actual application to a course of experience is needed for a creature to possess a concept, as opposed to its being able to apply it in appropriate conditions, even in the case of basic concepts. Though we acquire our basic concepts in conditions in which there is scope for their application, what matters for the possession of the concepts is the state we end up in, not how we end up in them. For when we check to see what concepts someone has, it is not his history that mat-

---

[6] See in this connection Strawson (1959, 1966).

ters but what he can do with it. This is recommended by Davidson's own view that the most fundamental stance is on the nature of meaning and thought is that of the radical interpreter, whose evidence ultimately consists of a creature's behavior in interaction with its environment (including others of its kind). The theory formed on this basis is a theory seeks to fit a scheme of interpretation onto the creature's dispositions to interact with its environment, because it aims to explain both observed behavior and what it will do and say in a variety of counterfactual circumstances. If the radical interpreter could have exhaustive knowledge of the creature's dispositions, he would already be in a position to interpret it, given knowledge of the environment relative to which he was to be interpreted.

If concept possession, even for basic concepts, does not require actual application, but only the ability to apply them when presented with appropriate circumstances, then actual communication with another would not be required in order to have the concept of belief, even granting the rest of the argument.

The second issue is whether the requirement that to possess a concept, a creature have scope in its experience and behavior for its application, is to be read as requiring correct application or only that from the subjective standpoint of the creature itself it appears so. This raises a familiar difficulty for transcendental arguments from conditions on concept possession to objective application of the concepts (Stroud 1968). For illustration of the general difficulty, consider an argument for the necessity of reidentification of objects for the possession of the concept of an object. Plausibly, if there were no scope in experience for the reidentification specific objects, at least in the sense that one's experience was not rich enough to support such reidentification, one could not have the concept of an object at all. But why isn't it enough that one's subjective experience be rich enough to provide evidence of sameness? Why should not a brain in a vat, for example, whose brain states are type identical to one of ours and whose experience is subjectively qualitatively the same, not be in as good a position to have the concept of an object as we are? To bridge the gap, as Stroud noted, we must in effect rely on a verification principle.

If concept possession, even for basic concepts, does not require correct application, but only application (actual or potential) on the basis of subjective conditions appropriate for their deployment, then even granting the

rest of the argument, it would not follow that one had to be in communication with others to have the concept of belief.

In raising these two issues about premise (2), I mean not to settle them in favor of the skeptic, but only to identify what would be required to complete the argument, and to place it in its historical context.

However, even if we are only able to endorse a weaker principle, if the rest of the argument is correct, we would still be able to conclude language is necessary for thought. There are two readings of each of two aspects of the principle. There is the dispositional versus actual reading of concept application. Then there is the subjective versus objective reading of concept application. This gives us four interpretations altogether: dispositional objective (DO); dispositional subjective (DS); actual subjective (AS); actual objective (AO). Davidson assumes the last. If we reject AO, we are left with three readings. (DS) is the weakest reading, but it still gives us the conclusion that to possess the concept of objectivity one must possess a language, i.e., be in a position to, in appropriate circumstances, communicate with another who shares a language with one. For it requires one be in a position, granting the rest of the argument, to be able, in response to appropriate subjective experience, to respond properly as if one were in communication with another. The same conclusion then follows from each of the others. Granting that the concept of belief is required for belief, we are still able to reach the main conclusion of "Rational Animals", that language, if not actual communication, is necessary for thought.

This highlights the importance of premise (3). The left to right direction of the biconditional can be granted. The question is whether language is necessary for the concept of error. If we take the analogy with triangulation to indicate what the basic requirement is, it is that we be able to make sense of different perspectives on the same world, and so a contrast between getting it right and getting it wrong. The question then is whether we can make sense of distinct perspectives without admitting communication with another whose point of view we identify with the second perspective. There are two possibilities which would have to be ruled out for premise (3) to be established. The first is that the different perspectives are provided by a single agent thinking about the same situation at different times. The second is that the different perspectives are provided by distinct indi-

viduals capable both of thought and of thought about the thoughts of others, but who do not possess language.

The first suggestion is that the first person perspective itself provides adequate scope for the concept of error by appeal to a difference in perspective on the same world from different times. Suppose that at time t I think that there is a man standing on a hillside. This prompts me to approach. At t + two minutes, when I am closer, I look again and there appears to be only a small, withered tree where I believed a man was standing, and I come so to believe. These beliefs at t and at t + two minutes are not inconsistent with each other, but they form an inconsistent set with my belief that two objects cannot occupy the same place at the same time, that small withered trees do not come into existence rooted into the ground in ten minutes, and that a man cannot be transformed into a small withered tree. To maintain consistency, I must give up one of my beliefs. Nothing here requires that I have the concept of belief, but if I do, then there is clearly scope for the application of the concept of false belief. Just as in interpretation one achieves a better understanding of another by sometimes attributing false belief to him, so in one's own case, as time goes on, one achieves a better understanding of oneself and the world by attributing to oneself false beliefs in the past.

The second suggestion is that another's perspective on the world may be identified independently of sharing a language with it. This depends upon the possibility of identifying another as a thinker and as thinking about particular things without sharing a language with it. This is as plausible as that a non-linguistic being can be attributed propositional attitudes to explain its behavior. There is no doubt that we routinely explain the behavior of nonlinguistic animals using the framework of propositional attitude psychology, as in the example Norman Malcom gives of a dog barking up the wrong tree because it things mistakenly the squirrel it is after is in it,[7] and that we have no better or more accurate way of explaining and anticipating their behavior. There is therefore a *prima facie* case to be made for the possibility of identifying another as a thinking being without sharing a language with it. And if this is possible, then we can make sense

---

[7] Davidson discusses this case of Malcolm's in "Rational Animals" (1982: 96-7); Malcolm's discussion appears in "Thoughtless Brutes" (1973).

of another perspective on the same circumstances which we may want to see as involving a mistake to make better sense of the other as a rational being, as we do in attributing to a dog the mistaken belief that the squirrel is in the tree up which it is barking. Davidson raises doubts about the adequacy of our practice, which focus on the question whether the behavior of nonlinguistic animals supports the dense interconnections between the concepts expressible in natural languages (Davidson 1982: 97-101). This is rather a doubt about whether the concepts we perforce use in attributing attitudes to nonlinguistic animals are too fine-grained, rather than a doubt about the applicability of the framework of propositional attitude psychology as such. We may here invoke Davidson's own analogy with measurement theory to make sense of our practices with nonlinguistic animals (1989: 59-60). There are many adequate ways of mapping our concepts onto theirs because the structures in which ours stand are richer than those in which theirs stand. So just as there are different adequate mappings, relative to some arbitrary starting choices, in assigning numbers to temperature (the assignment of 0 and an interval), so there are many adequate mappings of our concepts on to those of, e.g., dogs, relative to some arbitrary starting choices. And it will do no good here to point out that this conflicts with the claim that there can be thought without language, for the point of the argument in question is to establish it, and if it has to assume it at some point, then it begs the question.

To sum up the discussion so far, premise (2) appears to be too strong in two ways. First, insofar as we think of concept possession as a dispositional trait, actual deployment is not necessary for possession, but only the capacity to correctly deploy it as circumstances warrant. Second, it is unclear that concept possession requires more than that there be point to the deployment of a concept from the subjective point of view of the agent. Despite this, the argument for the necessity of language for thought will still go through even on the assumption that concept possession requires only a disposition to deploy a concept in response to subjective experience in a way that expresses grasp of its application conditions, if the remaining premises are correct. This shows that premise (3) is the crucial premise. However, there are strong grounds for rejecting premise (3). The thought underlying (3) is that (i) the concept of objectivity requires making sense of differing perspectives on the world and (ii) to make sense of different

perspectives one must identify a distinct individual with thoughts and (iii) the only way to do that is by way of sharing a language and being in communication with her. The difficulty is that, first, an thinker's own standpoint on the same circumstance at different times can provide the difference in perspective needed to make sense of a world independent of thought, and, second, even if a second person were required, the assumption that a distinct thinker could be made sense of only if she shared a language with one is tantamount to the intended conclusion of the argument, and so cannot be invoked in the face of the *prima facie* intelligibility of identifying nonlinguistic thinking beings by way of patterns in their behavior.

2. Triangulation as a Solution to Underdetermination

Triangulation emerges as a solution to the problem of determining the objective content of thoughts in "Epistemology Externalized" (1991a) and "Three Varieties of Knowledge" (1991b). The problem is described in passage [e] from "Epistemology Externalized":[8]

> [e] the cause of certain mental states is relevant to the content of those states. […] one kind of case is especially important: an example is the way the fact that a certain mental state has been typically caused by seeing cows allows us to think 'There's a cow' even when no cow is present. But here a problem arises. What determines the content of such basic thoughts […] is what has typically caused similar thoughts. But what *has* typically caused them? There are many choices, for example events that occurred before all cows, or events spatially closer to the thinker than any cow (Davidson 1991a: 201).

The trouble is that, even identifying a common response on different occasions of a creature to its environment, there will always be a variety of different common causes we could choose as the one that it is responding to. There is the cow, there are common causes of all cows, there are events between the cow and the observer, there are events at the observer's sensory surfaces. Perhaps there will not be salient commonalities for us between

---

[8] See also "The Second Person" (Davidson 1992: 118).

many of these events. But so far as the objective facts go, there is going to be some common pattern that can picked out (allowing for some false positives as we must in the case of the cow also). For there is a shared causal power, exercised against the rest of the background conditions that results in the common response. The question is at what common link in the causal chains leading up to a response one should locate the object of the thought, if any, that it expresses.

There is even a problem about what to count as the same response to stimuli, as Davidson notes. For what a creature does on different occasions in response to its environment will be similar and different in endless ways. Which of the similarities in response across various occasions in which a creature causally interacts with its environment should we treat as the relevant one?

Davidson accepts that if no answer can be given to these questions, no sense can be made of the response being an expression of a thought at all. Davidson's general methodological stance on thought and meaning requires that the facts about them be recoverable from the third person standpoint. This is the basis for his externalism, for his claim that one cannot be mostly wrong about the world, and for his claim that one must know what one means and thinks and be able to tell in the case of others. From this standpoint, the question is what objective resources are available to solve the problem of the determination of thought content.

There are two problems to be solved simultaneously. One is the problem of determining when a subject responds in a way similar to the way he has responded to the environment previously. The other is the problem of determining what he is responding to.

The solution Davidson offers appeals to the perspective of the radical interpreter, of one subject communicating with another. The idea is that objective content can be assigned if, but only if, we can see the creature in question as in communication with another about its environment.[9] What

---

[9] As he says in "The Second Person", «If we consider a single creature by itself, its responses, no matter how complex, cannot show that it is reacting to, or thinking about, events a certain distance away rather than, say, on its skin. The solipsist's world can be of any size; which is to say, from the solipsist's point of view it has no size, it is not a world» (Davidson 1992: 119).

this provides is a common object of thought, by way of a common cause of a similar response in each to the object. Where the causal chains leading to their responses overlap is where we locate the object of thought. This is illustrated in diagram 1.
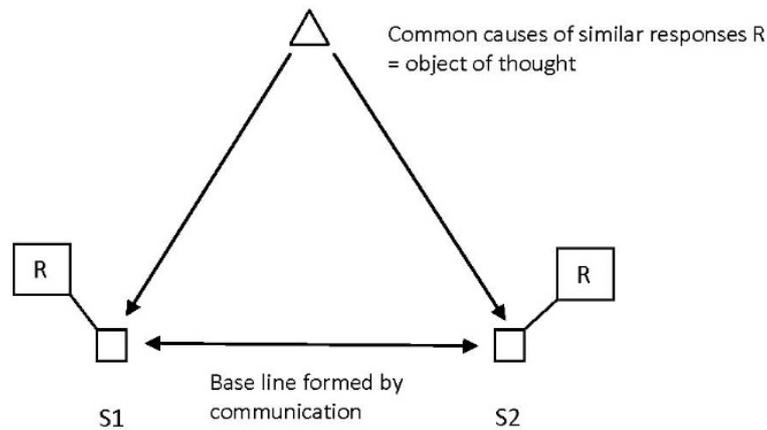

Common causes of similar responses R = object of thought

Base line formed by communication

S1   S2

R   R

Diagram 1

The inclusion of an additional subject provides an additional constraint. Now we look not just at the responses of a single subject on difference occasions to the environment, but minimally of two subjects interacting with each other and the environment, as is required for us to conceive of them in communication with one another. Then we require common responses in both of them and common causes of those responses, on occasions on which there is interaction between them that can be interpreted as communication. The objects of their thoughts, if any, are those that are the common causes of their common responses to the environment in communicative situations. Davidson puts it this way in "Three Varieties of Knowledge" (1991b):[10]

> [g] It takes two points of view to give a location to the cause of a thought, and thus to define its content. We may think of it as a form of triangulation: each of two people is reacting differentially to sensory stimuli streaming in from a certain direction. Projecting the incoming lines outward, the com-

---

[10] See also "Epistemology Externalized" (Davidson 1991a: 203), and "The Second Person", (Davidson 1992: 119): «[w]here the lines from child to table and us to table converge, 'the' stimulus is located. Given our view of child and world, we can pick out 'the' cause of the child's responses. It is the common cause of our response and the child's response».

mon cause is at their intersection. If the two people now note each other's reactions (in the case of language, verbal reactions), each can correlate these observed reactions with his or her stimuli from the world. A common cause has been determined. The triangle which gives content to thought and speech is complete. But it takes two to triangulate (Davidson 1991b: 213).

In evaluating this proposal, we need to keep in mind that the task Davidson has set himself is to describe what objective evidence suffices to interpret another speaker. The problem of thought content arises in this context. It does no good to ask for the common cause of common responses taking a creature by itself because there is nothing that will serve to distinguish a common response to a common cause. We cannot appeal to the creature's point of view because that has to be constructed from the objective facts. But the idea is that something will present itself if we think about the subject as a speaker, for then there is not just the subject responding to his environment, but the subject responding to his environment and responding to another subject responding to her environment and to him in turn. For this to serve, the descriptions of the situations must be given in a vocabulary that does not presuppose that the subject speaks a language or has any thoughts. For the claim is that the non-intentional and non-semantic facts conceptually ground the application of the intentional and semantic concepts.[11] We are to see that just the causal facts underlying episodes of communication in which there is a triangulation between object, two individuals, and each other is adequate for sufficiently determinant schemes of

---

[11] This is not the same as saying that the concept of thought or meaning is reducible to something else, a claim that Davidson has repeatedly denied. What is at issue here is supervenience, not reduction. Supervenience is implied by Davidson's basic stance on what the relevant evidence from which the facts about meaning and thought, which he regards as inextricably linked, can be recovered. As he has put it at one place: «The semantic features of language are public features. What no-one can, in the nature of the case, figure out from the totality of the relevant evidence cannot be part of meaning» (Davidson 1979: 235). This is a thought that Davidson takes from Quine. Where they differ is on whether the concepts of meaning and the propositional attitudes are fully legitimate. Quine offers replacements for these concepts constructed on the basis of the concept of stimulus meaning in *Word and Object* (1960). Davidson's offers an explication in terms of the holistic fitting of a theory deploying the concepts to the totality of relevant evidence.

interpretation. This together with the inadequacy of the objective causal information when we take a creature by itself as interacting with its environment, then, is to show that the causal facts that ground the possibility of communication at the same time ground the possibility of thought.[12]

If, as Davidson assumes, communication requires knowledge of one's own thoughts, and knowledge of the thoughts of others,[13] then, since knowledge of the thoughts of others requires knowledge of the external world, it would follows that thought requires knowledge of one's own mind, of the external world, and of the minds of others (Davidson 1991b: 213). These three varieties of knowledge would then fall out, on Davidson's view, as the birthright of language, as language is the birthright of thought. A further claim follows, though Davidson does not mention it, namely, that, since knowledge of other minds presupposes generalizations from others' behavior in projecting to their meanings and thoughts, we are guaranteed, if Davidson is right, that induction yields knowledge, if we are able to think at all.

This is a transcendental argument, in the sense that it aims to establish knowledge of one's own mind, of the external world, of the unobserved (via induction), and of other minds as a condition on the possibility of any thought at all. In ambition, it parallels Kant's argument in *The Critique of Pure Reason* that knowledge of things in space and time, of the self and objective causal regularities is a condition on the possibility of self-conscious experience. It differs in aiming to secure knowledge of things in space and time as features of a completely objective, mind-independent reality, and not merely as of appearances from the transcendental standpoint.

Before proceeding, let me summarize Davidson's argument.

---

[12] In "Indeterminism and Antirealism" (1997) Davidson connects this with Wittgenstein's reflections concerning rule following: «Without a second person there is, as Wittgenstein powerfully suggests, no basis for a judgment that a reaction is wrong, or, therefore, right» (Davidson 1997: 83).

[13] This is not immediate because of the gap between true belief and knowledge, and so this further inference requires further argument.

(1) The fundamental ground for the application of semantic concepts and the concepts of the propositional attitudes consists of the non-semantic and non-intentional facts about the creature's interaction with its environment (call these "the basic facts").

(2) To make sense of a creature having a thought about its environment, the basic facts must enable us to determine the object of its thought (from 1).

(3) To determine the object of a creature's thought on the basis of the basic facts we must be able to identify a common cause of a common response to stimuli that is a better candidate for what it is thinking about than any others.

(4) Across any series of occasions on which a creature considered alone is interacting with its environment, given the basic facts, there will be many common causes of for each common response of the creature to its environment, and many common responses, which provided equally good candidates for what the creature is thinking about.

(5) Therefore (from 2-4), the causal interaction of a single creature alone with its environment is not adequate to make sense of a creature having a thought about its environment.

(6) There are objective circumstances in which, when two creatures interact with each other and with the environment, one can identify, on the basis of the basic facts, the common cause across a series of occasions of a common shared response each has to the environment (as in diagram 1).

(7) Such circumstances, then (from 1-3, 5-6), are essential for the making sense of a creature having a thought about its environment.

(8) Furthermore, the possibility of ascribing thoughts in such circumstances to either of the creatures depends on their interactions with each other and the environment being sufficiently complex.

(9) Their interactions with each other and the environment are sufficiently complex in such circumstances to ascribe thoughts to them only if the basic facts license interpreting their interactions with each other as communication.

(10) Therefore (from 7-9), a creature can have thoughts about its environment only if it is (or has been) in communication with another creature.

(11) A creature can have thoughts at all only if it is capable of thinking about its environment (from 1).

Therefore, a creature can have thoughts at all only if it is (or has been) in communication. The underived premises are (1), (3), (4), (6), (8) and (9). I will concentrate on (6), and end with a few remarks on (1). As a preliminary remark, as the conclusion is supposed to express a necessary condition on the possibility of thought, each of the premises must be presented as having its ground in the nature of its subject matter, that is, as having an a priori ground in the nature of the concepts deployed, and in evaluating (6) and (1) we will take them as so intended.[14]

Premise (6) expresses the central idea: that in considering two creatures responding to each other and in a common way to a common object in the environment we find an objective feature of their interactions with the world that suffices to determine a candidate for a sufficiently unique object of their thought. This is supposed to be what provides the ground for thinking of them as responding to something further out than their own sensory surfaces. When we keep our focus on what we have called the basic facts, however, it is not clear that adding additional responders to the environment does provide an adequate objective ground for determining what they are thinking about. The trouble arises both with respect to what to classify as a common cause and what to count as a common response.

First, suppose that we have settled on what is to count as a common response. Among the common causes of anyone's response to a cow is one

---

[14] Davidson has expressed support for Quine's rejection of the analytic/synthetic distinction, which Quine allied with the rejection of the a priori/a posteriori distinction. Yet it is clear that Davidson conceives of himself as providing illumination of concepts and of their connections with the evidence on the basis of which they applied. This is explicit in the following passage from "Rational Animals": «There are conceptual ties between the attitudes and behavior which are sufficient, given enough information about actual and potential behavior, to allow correct inference to the attitudes» (Davidson 1982: 100). My view is that much of the interest of Davidson's project rests on seeing him as aiming to illuminate the structure of our psychological and semantic concepts. If he were only making the claim that as a matter of fact only creatures that communicate have thoughts, then (i) it would be of considerably less interest and (ii) the project would fall squarely in the empirical discipline of animal psychology, and the methods he uses would be poorly matched to the enterprise.

that Davidson mentions as a problem in the case of a single individual, namely, all the common causes of cows in the first place. If that is legitimate to cite in the case of an individual, it is equally reasonable to cite it in the case of two individuals. But the problem is more radical than this suggests. To see this, take an example in which it is relatively easy to see that there are many common causes of a response to something in the environment, two people watching news on television, who each make the same exclamation in response to a stimulus. There is a causal chain that leads from each of the viewer's eyes to the screen. If it is a cathode ray tube, then there is an electron beam that is the cause of the light emissions at the surface of the screen, which is in turn driven by a signal, which is traceable through radio waves or a cable to a television studio, and, thence, to various events around the world present and past. In this case, it is obvious that there are multiple common causes of the common response. It is easy for us to trace a particular causal chain backwards in this case because we are responsible for setting it up. However, this merely illustrates something that is always present. Wherever there is a common cause of a common response in two individuals, there will be multiple common causes because there are a variety of causal chains that can be traced back from that common cause.

The particular series of causes we pick out are not, of course, sufficient for the generation of the responses. Many other conditions have to be in place for those responses to occur. In general, we have to take into account everything in the past light cone of the event.[15] The past light cone of an event is the region of space-time such that from any point in it a ray of light can reach the event. Since no information can be transmitted faster than the speed of light, this determines the region from which causal influence may be transmitted to the point or region at which the event takes place. The light cone can be illustrated for a world with two spatial dimen-

---

[15] This discussion is couched in the framework of special relativity. The point, though, holds in a classical framework and in general relativity. So far as I can see, bringing quantum mechanics into the picture would not change anything relevant to the main point. It would require shifting to a framework for talking about probabilistic dependence. But the point that there are many paths of dependence we can trace back through time leading up to any current event depending on what we treat as background conditions is unaffected.

sions in diagram 2, where the vertical axis is the temporal dimension. For the three dimensional case, the past light cone forms an expanding sphere as one goes back in time; at any past time, events outside the sphere at that time are causally irrelevant to the event in question.
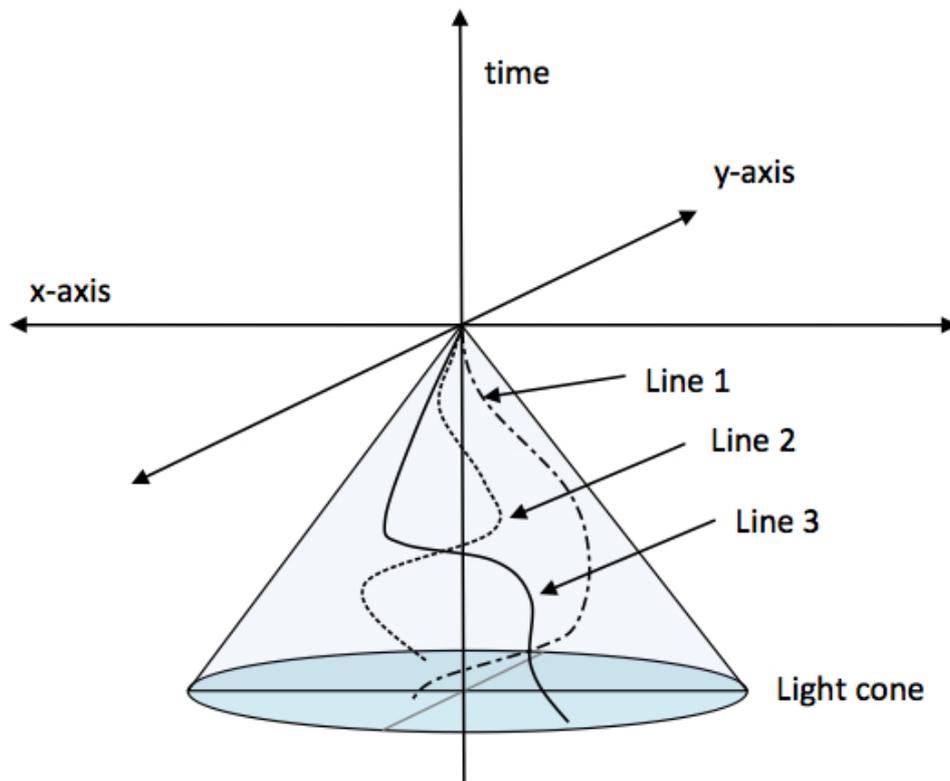

Diagram 2

When we trace back a causal chain of events or conditions from an event, we hold fixed everything else in the light cone, as background conditions relevant to those causes having the effects that we are interested in. This may be represented by a line traced back through the light cone in past time. For any event, there will be multiple lines of causal influence we can trace back through the light cone, when we hold the rest fixed. Therefore, there will never be just one common cause of a common response in two individuals.

It is natural to suggest that if we look for what is consistently the common cause of a common response in two or more individuals then we will be able to identify a unique cause. But it is hard to see why we should suppose this. When two people sit down in front of the television each night to watch the news, where there are similar causes of similar re-

sponses, there are similar causal chains leading up to them. And there is a more radical difficulty, which Davidson recognizes in the case of a creature interacting alone with its environment, namely, the question of how we are to type causes. In the case of a single individual, there might be features of the causes of its responses which we find saliently similar. But this would not settle that it was responding to something of that type. So far as the basic facts go, it could be treated as responding to (what seem to us to be) a complex disjunctive type (being A or B or C …), as long as some (perhaps rough) law connects things falling under that type with the response. But the more general point is that if we have to construct the categories of a creature's thoughts out of the basic facts, we cannot privilege the types that seem natural to us. If we cannot do this in the case of an single creature alone interacting with its environment, we cannot do it in the case of a pair of individuals interacting with their environment, and if any types are allowable, there is little hope that adding another individual responding to the environment over time will help to identify a unique type of cause of a particular type of response.

A similar problem attends the identification of a common response. We want to identify a type of response. However, just as in the case of an individual interacting alone with his environment there will be many different types of responses we can identify as in common on the various occasions on which it interacts with its environment, so too in the case of a pair of individuals, if we do not limit the categories we can appeal to, there will be many different types of responses we can identify as common on the various occasions on which they interact with each other and the environment.[16]

---

[16] Davidson of course holds that there is indeterminacy in interpretation. Why not bite the bullet here and say that this is just an example of indeterminacy? One reason is that the same could be said about the creature considered by itself: it has thoughts as well, so communication is not necessary to fix objectively the content of thought, it is just that thought exhibits radical indeterminacy. If this is not a response Davidson is willing to accept in the case of a single individual, he should not be willing to accept it in the case of two, when the grounds for denying the basic facts are adequate are of basically the same kind. Beyond this, there has to be a principled basis for invoking indeterminacy. Davidson's reason is that semantic matters, and those conceptually tied to them, as he thinks propositional attitude psychology is, must be in principle publically

When we ask how it is that we do manage to interpret others, there is a natural response. It is one that Davidson appears to give in his preamble to his identification of triangulation as what solves the problem of the common cause. It is that it «is we humans for whom [certain] classifications are complicated and impossible to articulate» (Davidson 1991a: 202) and others natural.

> It is we who class cow appearances together, more or less naturally, or with minimal learning. And even so, another classification is required to complete the point, for the class of relevant causes is in turn defined by similarity of responses: we group together the causes of someone's responses, verbal and otherwise, because we find the response similar. What makes these the relevant similarities? The answer again is obvious; it is we, because of the way we are constructed (evolution had something to do with this), who find these responses natural and easy to class together. If we did not, we would have no reason to claim that others were responding to the same objects and events (i.e. causes) that we are (1991a: 202).

The solution is this: we identify as the common causes of the responses of others to the environment what we find or notice to be the similarities in the environment and in the responses. That is, we use the categories with which we think about the world, the saliencies we see in the environment, and in the responses of others to it, in interpreting them.

Is this a resource that Davidson can appeal to, however? It is not, if it is part of his project to show how to construct an account of what another thinks and means from the basic facts, the non-intentional and non-semantic facts about a creature's interactions with its environment. For the appeal to saliences we see or notice is an appeal to psychological facts

---

available, in a strong sense. The second part of this depends, of course, on his claim that language is required for thought, which is in dispute. In addition, the claim itself is clearly hostage to there being some limits on acceptable interpretations, which is why Davidson is sensitive to the problem of the underdetermination of the objects of thought by the structure of our causal interactions with the environment. If anything goes, the appeal to indeterminacy to defend the thesis that the basic facts provided an adequate ground for attributing semantic and psychological facts looks entirely *ad hoc*: a desperate attempt to defend an untenable thesis by inoculating it in advance against any untoward results that investigation may turn up, no matter how absurd.

about us. If this is essential for interpreting another, for imposing enough constraints on the evidence so that it yields a reasonably unique answer to the question what another thinks and means by his utterances, then we must admit that the facts available from the third person standpoint alone do not suffice for interpretation. This would show that premise (1) of the argument is incorrect. For the facts about our own psychological states which we appeal to are not facts that we have learned about from the basic facts, and to appeal to them as a constraint in interpreting others is to admit that we could not in principle arrive at an account of those facts about ourselves from the basic facts. Thus the first person standpoint on our own thoughts turns out to be essential for adequate interpretation. This is not compatible, however, with Davidson's basic stance on meaning and the propositional attitudes, which holds that the facts of the matter are exhaustively determined by the public, non-intentional, non-semantic facts, that is, the facts available from the standpoint of the radical interpreter, who presupposes, ultimately, nothing about what another thinks or means.

Furthermore, to appeal to what we find salient in causes and responses is essentially to assume that the creature we are interpreting finds the same things salient. This is an empirical assumption, well grounded in the case of conspecifics, but not something constitutive of thought or meaning. To suppose otherwise would require an argument to show that thinkers and speakers as such both share with us the same concepts and share with us the same similarity space. There is no a priori reason to suppose this.[17] If life can evolve in environments with significantly different physical characteristics than ours, where tracking, for example, electromagnetic radiation in the spectrum visible to us would not be useful, thinking creatures would not evolve to find the same saliences in their environment as we do. Even in our environment, it turns out that there are many creatures which

---

[17] Davidson's argument in "On the Very Idea of a Conceptual Scheme" (1974) assumes at a crucial point that another possesses concepts only if we can determine that to be so, and that we can do that only if we share a language with him (see Lepore and Ludwig 2005: 305-321). It rests, thus, on a kind of verificationist principle. There is a general, if not universal, consensus that such general verificationist principles cannot be established a priori. Whether such a principle restricted to matters connected with language can be established depends on the outcome of just such arguments as we are now considering. See the following remarks about premise (1) in this connection.

find different saliences (olfactory and auditory, for example) than we do. Even color saliencies differ significantly between species. Of course, there is a great deal of overlap in *object* saliences, but extensions of these sorts of differences in perceptual saliences (and even more radical ones, such as the ability to detect and track changes in magnetic fields) together with differences in what is important in an environment for survival could *prima facie* lead to very different object saliences as well. It is very difficult to see how an a priori limit could be put on what things in its environment could be salient to a creature.

In short, once we have made essential appeal to what we find salient as a constraint on interpretation, we have abandoned the project of showing how the basic facts alone can ground a theory of interpretation, we have given up on the claim that the mental facts can be shown to supervene conceptually on the non-mental facts, and we have adopted as a background assumption the empirical claim that those that we aim to interpret share with us a similarity space, and so share with us a psychology which we understand from our own case.

I end with two remarks about premise (1). First, premise (1) claims that the fundamental ground for the attribution of propositional attitudes and meanings rests on the basic facts about a creature's interaction with its environment. This rests in turn on the claim that the possibility of thought at all depends on the possibility of confirming from the third person standpoint an interpretation theory for another, and the impossibility of that absent seeing it as thinking about its environment. Taking the third person standpoint as basic is motivated in Davidson's work by thinking of it as the basic standpoint from which to investigate language, on the grounds that language is by its nature a tool for enabling us to communicate with others. Its nature, then, requires that it be decipherable by others. For this, however, to ground the claim that the third person standpoint is basic for the investigation of thought as such, not just thought that is bound up with language, requires the assumption that language is necessary for thought. Part of the grounding for the present argument can be seen, then, as resting on the conclusion of Davidson's earlier argument that the concept of belief is necessary for belief, that belief is necessary for thought, and that having the concept of belief requires having a language. Second, while premise (1) is a background assumption of the argument, it is clear that success in find-

ing an objective ground for identifying the objects of thought is essential if it is to be maintained (see note 16 in connection with this). In light of this, the case against (6) counts against (1) as well.

4. Summary and Conclusion

The idea of triangulation enters into Davidson work in two different connections.

The first is in connection with Davidson's argument in "Rational Animals" that language is necessary for thought. Trigonometric triangulation is used as an analogy to illustrate the thesis that only in the context of communication can a creature have the concept of belief. Together with the assumption that having the concept of belief is necessary for belief, and that belief is necessary for any thought, this yields the conclusion that language is necessary for thought. The argument depends crucially on the claim that only where there is scope for the correct application of a concept does it make sense to attribute it to a creature, and that only in the context of communication is there scope for the correct application of the concept of belief. We found the first assumption to be doubtful both because it is unclear that concept possession requires concept deployment and because it is unclear that if it does, it requires objective rather than subjective deployment. But even if we weaken the assumption, the argument for the necessity of language for thought, if not of communication, will go through accepting the rest of the argument. This shows the assumption that only in the context of communication is there scope for the application of the concept to be the central assumption. However, it is far from clear that it is only in the context of communication that one can find scope for the application of the concept of belief, with its attendant distinction between truth and error. Prima facie the possibility of the two contrasting perspectives needed to make sense of error can be provided either by a single individual's reflections on the same thing at different times or on reflection on another creature's thoughts as revealed by its non-linguistic behavior (as is *prima facie* possible) in contrast to what one believes oneself.

The second is in connection with the problem of the underdetermination of thought content by a creature's objective causal relations with its environment. Considering a creature by itself interacting with its environ-

ment, there are two intractable problems in trying to make sense of what it is thinking about, according to Davidson. The first is that even taking into account various occasions on which it is responding to its environment, there will always be multiple common causes of its reactions. The second is that to identify a common cause, one must also identify a common reaction, and there will be many different ways of deciding what counts as a common response. Davidson argues that the only solution is to see what determines the objects of thoughts about the environment as emerging from two speakers interacting with each other and objects in the environment which cause common responses in them (as illustrated in diagram 1). The central problem is that the addition of another creature does not suffice to solve the difficulties raised in the case of a single creature interacting with its environment. Wherever there is a common cause of a common response, there will be many; and a common type of cause will typically have common types of causes in its etiology. This is particularly evident if we put no constraints on the categories under which we type causes, a point Davidson makes in connection with the difficulty for a creature considered alone. This last difficulty arises also for identifying a common response to a common cause. There is nothing in the basic facts to tell us what are the relevant similarities across different occasions. The appeal to our categories solves both problems, but at the cost of undermining Davidson's goal of showing that there are adequate grounds from the third person standpoint to determine an adequate interpretation theory for another. The difficulties that arise rather suggest that there is not, and that it is therefore a mistake to attempt to understand psychological and semantic categories from a purely third person standpoint.

References

Davidson, D. 1974, "On the Very Idea of a Conceptual Scheme", *Proceedings and Addresses of the American Philosophical Association,* 47, 5-20; repr. in Davidson 1984 (from which I quote).

Davidson, D. 1979, "The Inscrutability of Reference", *The Southwest Journal of Philosophy,* 10, 7-20; repr. in Davidson 1984 (from which I quote).

Davidson, D. 1982, "Rational Animals", *Dialectica,* 36, 317-328; repr. in Davidson 2001 (from which I quote).

Davidson, D. 1989, "What is present to the mind?", in J. Brand and W.L. Gombocz (eds.), *The mind of Donald Davidson*. Amsterdam: Rodopi; repr. in Davidson 2001 (from which I quote).

Davidson, D. 1984, *Inquiries into Truth and Interpretation*. Oxford: Clarendon Press.

Davidson, D. 1991a, "Epistemology Externalized", *Dialectica,* 45 (2-3), 191-202; repr. in Davidson 2001 (from which I quote).

Davidson, D. 1991b, "Three Varieties of Knowledge", *Philosophy,* 30 (Suppl.), 153-166; repr. in Davidson 2001 (from which I quote).

Davidson, D. 1992, "The Second Person", *Midwest Studies in Philosophy,* 17, 255-267; repr. in Davidson 2001 (from which I quote).

Davidson, D. 1997, "Indeterminism and Antirealism". in C.B. Kulp (ed.), *Realism/Antirealism and Epistemology*. Lanham, MD: Rowman and Littlefield; repr. in Davidson 2001 (from which I quote).

Davidson, D. 2001, *Subjective, Intersubjective, Objective*. Oxford: Clarendon Press.

Lepore, E. and Ludwig, K. 2005, *Donald Davidson: Meaning, Truth, Language, and Reality*. Oxford: Clarendon Press.

Malcolm, N. 1973, "Thoughtless Brutes", *Proceedings of the American Philosophical Association,* 46, 5-20.

Quine, W.V.O. 1960, *Word and Object*. Cambridge, Mass.: MIT Press.

Strawson, P.F. 1959, *Individuals: An Essay in Descriptive Metaphysics*. London: Methuen.

Strawson, P.F. 1966, *The Bounds of Sense*. London: Methuen.

Stroud, B. 1968. "Transcendental Arguments", *Journal of Philosophy,* 65 (9), 241-56.