Coordination, Triangulation, and Language Use

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ABSTRACT   *In this paper, I explore two contrasting conceptions of the social character of language. The first takes language to be grounded in social convention. The second, famously developed by Donald Davidson, takes language to be grounded in a social relation called triangulation. I aim both to clarify and to evaluate these two conceptions of language. First, I propose that Davidson's triangulation-based story can be understood as the result of relaxing core features of conventionalism pertaining to both common-interest and diachronic stability—specifically, Davidson does not require uses of language to be self-perpetuating, in the way required by conventionalism, in order to be bona fide components of linguistic systems. Second, I argue that Davidson's objections to conventionalism from language innovation and language variation fail, and that certain kinds of negative data in language use require an appeal to diachronic social relations. However, I also argue that recent work on communication in the absence of common interests and common knowledge highlights the need for broader non-conventional social relations like triangulation. In short, I suggest that the choice between coordination and triangulation is not either/or: that we need to appeal to both if we are adequately to explain the nature of language and its use.*

1. Introduction

Everyone—well, everyone engaged in the debate I'll be discussing—agrees that language is social. Both the structures that language provides and the meanings those structures are assigned depend on relations that hold between groups of cognitive agents and the environments in which those agents find themselves.[1] And everyone agrees that language serves as a powerful instrument of interpersonal communication, whereby

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[1]That is, I will assume in what follows a form of what Tyler Burge has called anti-individualism about language; see Burge, 'Individualism and the Mental' and 'Wherein is Language Social?' for motivations and elaboration.

with a few syllables it can express an incalculable number of thoughts so that even a thought grasped by a human being for the first time can be put into a form of words which will be understood by someone to whom the thought is entirely new.[2]

But this is about where the agreements end. Theorists have not seen eye to eye on the nature of the social facts upon which language is said to depend or on the role that agents' knowledge of these social facts plays in enabling episodes of successful interpersonal communication. There have, in other words, been substantial disagreements about the what and the how connecting language to the social. This paper is about one such disagreement, in the form of Donald Davidson's rejection of the claim that natural languages—or, more specifically, the use of natural languages in interpersonal communication—are governed by social convention.

Davidson does not deny that conventions of language exist. Nor does he deny that the conventions of language are connected to what goes on in episodes of successful linguistic communication. But, for Davidson, social conventions stand to natural languages as forks stand to eating.[3] Forks, for many of us much of the time, facilitate eating in obvious but pervasive ways; yet, forks are in no sense an essential part of what it is to eat or of explaining how eating supports nourishment. So too, Davidson holds, social conventions facilitate language use in many practical respects; yet, social conventions are in no sense an essential part of what natural languages are or of explaining how natural languages support interpersonal communication.

Of course, as Davidson himself acknowledges, the ultimate persuasiveness of these claims about linguistic convention depend on the availability of an alternative account of the nature of language and its use in interpersonal communication.[4] And, in his way, Davidson did attempt to shoulder this explanatory burden: he proposed that what is constitutive of language happens within a space created by a complex social relation called triangulation. At its core, triangulation consists of two or more creatures properly equipped to respond to an objective world and who are also properly equipped to respond to one another. This nexus of triangular causal relations is said to make it possible to understand, and to make oneself understood, with a structured system of sign-meaning pairs. According to Davidson, nothing more is essential to language use.

My goal in what follows is both to clarify and to evaluate. I will begin, in (Section 2), by outlining a familiar and well-studied model of communication and social convention adapted from the work of David Lewis. Using Lewis' model as a clear target, I outline in (Section 3) why Davidson took empirical

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[2]Frege, 'Compound Thoughts', 1.
[3]Davidson, 'Communication and Convention'.
[4]Davidson, 'The Social Aspect of Language'.

facts about language innovation and language variation to undermine conventionalism as a foundational account of language and communication. I also show how Davidson's triangulation-based story can be understood as the result of relaxing certain core features of Lewis' model—specifically, Davidson does not require uses of language to be self-perpetuating, or grounded in any agreement over time, in order to be a bona fide component of linguistic systems or to be utilized in episodes of successful interpersonal communication.

With these points of clarification in place, I turn, in (Section 4), to evaluation. I argue that Davidson's objections to conventionalism are unsound, resting on a mistaken assumption concerning the dynamics of convention explicitly denied by the version of conventionalism with which we began. In addition, I argue that there are powerful reasons for maintaining that Davidson's account is far too unconstrained to serve as a general explanatory model of language use. However, in (Section 5) I argue that, while Davidson was wrong to reject deep explanatory roles for linguistic convention, recent work on communication in the absence of common interests and common knowledge highlights the need for broader non-conventional social relations like triangulation. In short, I will argue that the choice between coordination and triangulation is not either/or: we need to appeal to both if we are adequately to explain the nature of language and its use.

2.   Lewis' conventionalism

My point of departure in what follows will be David Lewis' influential theory of communication and social convention, as developed in his revised dissertation Convention: A Philosophical Study and refined in 'Languages and Language'. There are, of course, other ways we might go about characterizing social convention and Lewis' account is by no means universally accepted.[5] But Lewis' discussion has the advantage of being both familiar to many philosophers of language and of being explicitly targeted by Davidson's attack. I will begin by outlining Lewis' discussion of coordination problems, and then turn to his account of social convention in general and the conventions of language in particular.

2.1.   Coordination and communication

According to Lewis' theory, conventions are distinctive kinds of solutions to coordination problems. Coordination problems are social problems: they are problems that arise for more than a single agent at a single time. But what makes coordination problems distinctive is that they are cooperative problems

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of interdependent decision-making in which each member of a group of agents must select one of the multiple available paths in order to satisfy her common interests.

The examples here are familiar. You and a friend desire to meet for coffee, but you each must show up at the same place at the same time. A group of campers all agree to go search for firewood; they don't much care which direction they each look so long as nobody covers the same ground. Two cyclists approach each other in opposite directions on a narrow street, both wishing to pass the other without slowing down. The agents involved in such cases each stand to benefit, so long as they are all able to match their choices with the choices of the others involved; indeed, every agent involved stands to be worse off if any single member of the group fails to match her choice with the choices of the others.[6] In this sense, the agents have a common interest in ensuring that coordination is achieved. But in each such case, there are multiple paths available to the agents that would serve their common interests equally well. Thus, the situation they collectively face is properly called a problem, for each agent must settle on one of the multiple, equally good, options in situations in which choice is arbitrary or optional—not completely settled by universal features of human biology, psychology, or rationality.[7]

Lewis took interpersonal communication in general and linguistic communication in particular to be instances—special instances, but instances nonetheless—of this broad social pattern. Let's start, as Lewis himself did, with what might be called informative signaling. In cases of informative signaling, a communicator or speaker[8] has observed that the world is in one of a number of possible states and wants her audience to be made aware of the fact that the world is this state; audience members, for their part, also stand to gain from being made aware of the state of the world because how they will subsequently act is sensitive to how they take the world to be. Slightly more formally, let's define an informative signaling path to be a set of ordered pairs $\langle f_S, f_A \rangle$ in which the first member consists in a mapping from possible states of the world to signs, and whose second member consists in a mapping from signs to acts.

The mappings here need not be one to one. The communicator may not be able to distinguish between distinct states of the world, and audience members may treat distinct signs as the same for the purposes of their actions. But the

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[6]To say that the agents' actions 'match' is not to say that those agents did exactly the same things. Indeed, in some cases, matching actions with other members of a group requires doing precisely what the other members did not do. I will return to this point later while replying to Davidson's criticism involving linguistic variation.

[7]In his helpful overview of theories of social convention, Michael Rescorla identifies this as the central claim of any conventionalist theory; see Rescorla, 'Convention'.

[8]I use the term 'speaker' to designate a certain role in communication events—the role of sign generator or communication initiator—and not to designate acts of vocalization. This is both for the obvious fact that much interpersonal communication is non-verbal and for the less obvious and more important fact that competence in a natural language does not require an ability to produce or process sounds. Lewis' own labels of 'communicator' or 'sender' seem preferable in these respects.
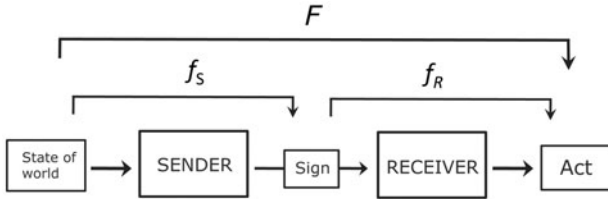
Figure 1. (Due to Peter Godfrey-Smith, 'Signs and Symbolic Behavior'): informative signaling path.
Note: f_S: mappings from states of the world to signs; f_R: mappings from to signs to acts; F: the resulting mappings from states of the world to acts.

communicator's choice of path and the audience's choice of path must match in the appropriate way—i.e. the value of F in Figure 1 must satisfy the common interest of communicator and audience. But since many alternative choices of signs will present themselves, a coordination problem is thereby generated.

Informative signaling is an interesting and important case; but, for the present purposes, it is in some ways too specific and in other ways too general. It is too specific because it does not immediately apply to cases in which the choice of a speaker's signal is only indirectly correlated with the state of the world or to cases in which the choice of an audience member's response is only indirectly correlated with a practical action. Informative signaling is too general because it isn't specifically linguistic—it applies equally to traffic lights, trail markings, and gestures as it does to uses of a natural language. The study of informative signaling can thus not by itself reveal what, if anything, is distinctive about linguistic communication as opposed to interpersonal communication per se.

We can begin to address the issue of specificity by reflecting on the general problem that speakers face in attempting to make their private representational states of mind accessible to others through the use of an overt sign, and that audience members face in attempting to correctly identify the representation that the speaker had in mind on the basis of observing the sign that the speaker produced.[9] We can, in particular, incorporate what might be called general communication paths—mappings from representational states of mind to signs

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[9] I will make two primary assumptions about the so-called representational states of mind: (i) they are *distinguished internal states* of an organism or states of the organism which some device within the organism can distinguish between and (ii) they are *associated with representational content*, and hence can be evaluated as correct or incorrect, fulfilled or unfulfilled with respect to the states of an objective world. That is, I assume that representational states of mind have both syntactic and semantic features; See Gallistel and King, *Memory and the Computational Brain* for discussion of the former, and Burge, *Origins of Objectivity* for discussion of the latter.
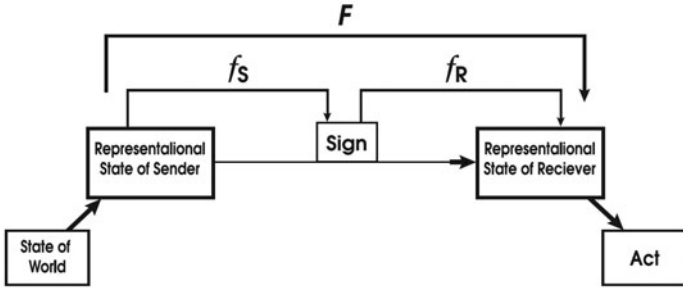
Figure 2. General communication path.
Note: f_S: mappings from representational states of mind to signs; f_R: mappings from signs to representational states of mind; F: resulting mappings from representational states of mind to representational states of mind.

and mappings from signs to representational states of mind—into the problem space that Lewis introduced.[10]

These general communication paths model the ways in which speakers' choices of signs vary as a function of their representational states of mind, and the ways in which subsequent representational states of mind of audience members vary as a function of the signs they observe. In contrast to informative signaling, general communication paths allow for more indirect connections with both the objective states of the environment and with practical action.[11] But as before, some such pairs of choices will match, given the interests of both the speaker and audience, while other pairs of choices will not (Figure 2).

Moving in the other direction, we can begin to address the issue of generality by requiring that the objects playing the role of signs be part of a wider system of signs organized with respect to some distinguishing features of natural language systems. It is an empirical question what's included on this list of features (linguistic signs are typically said minimally to have phonological, morphological, syntactic, and semantic features), and it is an empirical question what principles determine the distribution of these linguistic features (the principles are

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[10]Additional conditions on communication, such as those suggested by Grice in 'Meaning' and assumed by Lewis in 'Languages and Language', could be added to this basic model, but I will not assume that they are necessary here.

[11]Given the previous note about representational states, it should be clear that when I say that the connection between representational states of mind and the states of the world is 'indirect', I don't mean that the connection is superfluous or otherwise beside the point. Rather, the point is that the domain of the speakers' paths and the range of the audience members' paths involve more complex relations, like being a state of the world under an agent's (or agents') perspective, or like being a state of the world organized with respect to an agent's (or agents') preferences or goals. Similar remarks apply to the connection between representational states and practical action.

typically said to be at least recursive). But, for the purposes of modeling the basic problem that linguistic communication presents, we need not settle these empirical questions. We can count any communication path that features pairs of (non-trivial) compositional mappings as a form of linguistic communication. These linguistic communication paths will consist of mappings from representational states of minds to complex signs, and complex signs to representational states of mind, such that the form and content of the complex signs can be derived from the form and content of a set of simple signs in a lexicon and a set of structural rules of combination; in other terms, linguistic communication paths will be mappings to and from a grammar.[12]

2.2.   Social conventions

I've focused on Lewis' way of approaching problems of interpersonal communication, and interdependent decision-making more generally. But Lewis' own focus was not on the problems themselves but on their solutions: he had the ambitious goal of explaining both (i) the spontaneous emergence and (ii) the historical persistence of solutions to coordination problems. The former task requires accounting for how a solution to a coordination problem could emerge among a group of agents without those agents having already made explicit agreements about how to solve the underlying problem. The latter task requires accounting for the self-perpetuating character of social conventions—the fact that agents tend to carry solutions to coordination problems forward in time when they reencounter social problems they've faced before.

Lewis was particularly keen to carry out each of these tasks when it came to the conventions of communication. This is because the conclusion of a well-known argument (considered by Rousseau and Russell, but also closer to home for Lewis by way of his dissertation advisor Quine) alleged that systems of communication could not possibly have arisen by convention, for in order for a group of agents to be able to establish conventions of communication, there would have to be some systematic means of stating agreement or disagreement—i.e. a system of communication—already in place and a regress would quickly follow.[13]

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[12]Such 'bi-directional' compositionality will, of course, impose substantive constraints on the nature of the representational states of mind in the domain of the speaker's path and in the range of the audience's path; see Pagin, 'Communication and Strong Compositionality' for discussion. Although it has been a matter of some debate, I will assume that the imposition of these constraints is a useful idealization in modeling the systematic and productive linguistic communication that is typical among groups of human agents.

[13]As Rousseau puts the argument, '[A] substitution of voice for gesture can only have been made by common consent, something rather difficult to put into effect by those whose crude organs have not yet been exercised; something indeed, more difficult to conceive of having happened in the first place, for such a unanimous agreement would need to be proposed, which means that speech seems to be absolutely necessary to establish the use of speech' (Rousseau, *A Discourse on Inequality*, 38). See also Russell, *The Analysis of Mind*; Lecture and Quine, 'Truth by Convention'.

So, assuming that coordination problems do manage to get solved but barring an appeal to prior communication, how should we proceed?

Sometimes coordination problems are solved, as Lewis notes, as a matter of dumb luck. But Lewis also maintains that agents will more reliably solve coordination problems using their capacity for what we can call social competence.[14] For Lewis, this social competence enables agents to generate a suitably concordant system of expectations about one another's choices, backed by both common preferences and common capacities for reasoning. More exactly, Lewis proposes that each agent does her part in solving a coordination problem because each agent expects the others to do their part and each agent has a common reason to believe that these expectations are in play. This latter feature is what Lewis dubs common knowledge—the fact that each agent has reason to believe that some state of affairs holds, that this fact indicates to each agent that each agent has a reason to believe the state of affairs holds, and so on for each potential iteration that the agents may have reason to inquire.[15]

The capacity for social competence, as Lewis understands it, can be used to solve coordination problems in two ways. First, agents' choices in a coordination problem will initially be based on what each agent finds psychologically salient: based, that is, on one solution to the problem standing out to each of them in some conspicuous respect.[16] In such scenarios, certain choices just seem to make sense to each agent and each agent expects that these choices will make sense to the others as well. But after this initial case, agents can solve coordination problems by extrapolating from past cases and basing their choices on weight of precedent. Lewis thinks that it is at this point that a convention has emerged. To be specific, he proposes that social conventions are solutions to coordination problems that are produced due to precedent, and backed by common knowledge; conventions will, in turn, self-perpetuate, given the agents' common interest in coordinating and their reasonable expectations that they will each go on as before.

Lewis took all this to provide an attractive account of both the emergence and the persistence of the conventions of communication. A group of agents will initially coordinate on communication paths by either luck or salience. These episodes of coordination will, in turn, serve to create precedents concerning mappings from states of mind to signs and from signs to states of mind that agents can reasonably expect to be in play in their future exchanges. In this way, an arbitrary system of communication can be established tacitly among a group of agents as a byproduct of their communicative interactions

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[14]I owe this use of the term 'social competence' to Lepore and Stone; see their 'David Lewis on Convention' and *Imagination and Convention*.

[15]As Lewis notes, 'Languages and Language', 272, the term 'common knowledge' is unfortunate since it need not pertain to actual states of knowledge but merely to reasons for believing—reasons which need not be in fact be believed or even true. See Schiffer, Meaning, and especially Cubitt and Sugden, 'Common Knowledge, Salience and Convention', for more discussion of this point.

[16]Lewis is here drawing on Thomas Schelling's discussion in *The Strategy of Conflict*.

and sustained by their common interest in communication. The point similarly applies in the case of language. For Lewis, the members of a linguistic community have established a set of linguistic conventions or share a conventional language to the extent that they have coordinated on some particular pair of compositional mapping functions G, rather than another pair G* of compositional mappings, where G is both commonly known and sustained by a common interest in communication among the members of the community.[17] In short, linguistic conventions emerge and are perpetuated in relation to the role they play in linguistic communication paths.

Although the details remain controversial, many philosophers of language have it that Lewis is basically on the right track. Natural languages are indeed established by social convention, and the presence of those conventions plays an ineliminable role in explaining what makes language such an efficient device of interpersonal communication. That is to say, many philosophers have adopted a form of conventionalism about natural languages and systems of communication more generally.

3. Davidson on communication and triangulation

In an (in)famous and often cited passage in 'A Nice Derangement of Epitaphs', Davidson claims:

> [T]here is no such thing as a language, not if a language is anything like what many philosophers and linguists have supposed. There is therefore no such thing as to be learned, mastered, or both with. We must give up the idea of a clearly defined shared structure which language users acquire and then apply to cases.[18]

There is much to be said in favor of making one's claims bold, but bold claims also come with associated dangers of both confusion and incredulity; as Davidson himself put it, such claims are the sort of thing for which 'one can expect to be pilloried'.[19]

In retrospect, it is clear that Davidson's remark in 'A Nice Derangement' is not targeted at the concept of language per se but at the concept of conventional language, like the one developed in the last Section. And, indeed, Davidson concludes his paper by suggesting that 'we should give up the attempt to

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[17]This is closer to the way Lewis treats the conventions of language in 'Meaning Without Use' than the treatment in *Convention* or 'Languages and Language'. For reasons developed in Noam Chomsky, *Rules and Representations* and in Schiffer, 'Two Perspectives on Knowledge of Language', Lewis arguably never adequately characterized the conventions of grammar. See Millikan, 'Some Differences of Consequence Between Rules and Conventions' and my 'The Language Faculty: In and Out of the Social World' for two attempts to do better.

[18]Davidson, 'A Nice Derangement', 107.

[19]Davidson, 'The Social Aspect', 109.

illuminate how we communicate by appeal to conventions'.[20] I will suggest below that Davidson's rejection of conventionalism is motivated by facts concerning linguistic innovation and linguistic variation; I will then attempt to clarify Davidson's alternative, triangulation-based approach, and how it is supposed to avoid the problems he has raised for conventionalism.[21]

3.1. Problems of innovation and variation

Davidson's chief complaint against conventionalism is that it does not do what it is supposed to do: explain how language serves interpersonal communication. More exactly, Davidson alleges that an appeal to conventions plays no essential role in explaining linguistic communication in light of two important, if often neglected, facts about language use. First, linguistic innovation abounds: speakers often use language in unprecedented ways, yet nonetheless manage to achieve communicative success with their audiences. Second, linguistic variation is ubiquitous: rarely do any two speakers share exactly the same vocabularies, combinatorial principles, or manner of pronunciation. Davidson, as I read him, takes these facts about innovation and variation to undermine—not so much as the existence of linguistic conventions—the claim that linguistic conventions can play the explanatory roles the conventionalist assigns them. Let me briefly say why.

Consider the set of linguistic conventions that hold among a group of agents at some given time. We can then say that a use of language is innovative, for those agents, if it is a direct pairing of a simple or complex linguistic sign with a content that is not fixed by the linguistic conventions of the agents at the time of the utterance.[22] In this sense of innovation, rather mundane uses of language can count as being innovative or unprecedented. For example, when a speaker uses a proper name that you've never previously encountered, the speaker's utterance will be innovative relative to the linguistic conventions that were common knowledge between you and the speaker prior to the utterance.[23] But innovations can also be genuinely novel to both speaker and audience, as when a speaker utilizes a new verb, as in (1), or a new idiom, as in (2):

[20]Davidson, 'A Nice Derangement', 107. See also Davidson's earlier discussion in 'Communication and Convention' in which Lewis is explicitly identified as one of the targets of the attack.
[21]Davidson's discussion is exegetically complex, particularly in presentation of the argument against conventionalism. While I believe that the arguments I presented are fairly clearly grounded in Davidson's own discussions, I don't mean to suggest that there are not other arguments one could not also reasonably extract from those discussions; see, for example, the argument developed by Begby in 'Deranging the Mental Lexicon'.
[22]The word 'direct' in this characterization is intended to exclude conversational implicatures and other kinds of purely 'pragmatic' content. Linguistic innovation pertains to what in 'A Nice Derangement', 91, Davidson calls first-meaning, or what might also be called semantic content.
[23]Davidson points to proper names as an instance of the problem for conventionalism in 'A Nice Derangement', 99.

(1) I caught a student trying to whiskey the punch at the reception last month.
(2) You shouldn't change shoes in midstream.

What makes linguistic innovation problematic for conventionalism is this: speakers can, and regularly do, engage in successful linguistic communication while producing linguistic innovations. But, by definition, innovative uses of language are not established by linguistic convention among those engaged in the communicative exchange. So, we cannot explain agents' ability to communicate successfully in these cases simply by appealing to their shared knowledge of prior linguistic conventions.[24] There must, in short, be broader mechanisms at work in explaining linguistic communication beyond those pertaining to linguistic conventions. It is, according to Davidson, these broader mechanisms that should be the focus of our attention in the study of language.

The facts about linguistic variation serve to make the foregoing points general. If language users rarely share the same language, then linguistic innovation will not be rare or isolated—the sort of thing reserved for poets, scientists, or headline writers for newspapers—but a regular part of linguistic interaction. Audience members will have to be able to cope with innovation as a common part of their (linguistic) lives. In particular, the existence of widespread linguistic variation will require interacting agents to be equipped to deal with grammars and manners of pronunciation that are idiosyncratic and may well deviate from wider linguistic conventions as they are encoded in a standard dictionary.[25] In addition to bolstering the point about innovation, Davidson uses the fact of linguistic variation to help reorient our thinking about the nature of linguistic communication. The fact that two agents don't speak exactly the same language does not appear to prevent those agents from engaging in successful linguistic communication. So, an appeal to shared languages grounded in linguistic convention cannot get to the heart of the philosophical questions about meaning and communication. As before, Davidson concludes that the explanatory action lies elsewhere.

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[24]In order for this point to stick, the innovative uses cannot be fully productive or wholly derivable from the principles of composition shared among the conversational participants. In particular, Davidson is not objecting to conventionalism on the grounds that it cannot explain the facts that had led him to posit recursive structures in language use (See Davidson, 'Theories of Meaning and Learnable Languages', and 'Truth and Meaning'). Rather, the objection is that there are creative uses of language that are still left unexplained, even after we supply the conventionalist with the resources needed to explain the productivity of linguistic communication.

[25]I believe that Davidson's own focus on accidental malapropisms and other kinds of 'slips of the tongue' has distracted from the force of the underlying point. Indeed, for reasons that I elaborate in 'The Problem of Lexical Innovation', Section 5, I believe that such cases are largely beside the point.

3.2. Triangulation

It has been common to take Davidson's rejection of conventionalism as tantamount to an endorsement of some form of individualism about language, or the thesis that the constitutive features of a language are wholly determined by the intrinsic features of a single agent and at a single time.[26] Given Noam Chomsky's endorsement of a related conclusion from similar premises involving innovation and variation, this is perhaps understandable.[27] But Davidson is no individualist; he holds that language constitutively depends on social interactions—that 'there couldn't be anything like a language without more than one person'.[28]

It is here that Davidson invokes the social relation of triangulation. In its most primitive form, triangulation consists of a network involving two or more organisms, both of which interact with the world and interact with one another; a network of organisms, in other words, 'equipped to correlate the responses of the others with the events and situations they jointly distinguish'.[29] So we have two pegs of a triangle, which correspond to the pattern of interaction between each organism and the world, and we have a third peg, to complete the triangle, that corresponds to the pattern of interaction among the organisms. This setup is ubiquitous in nature: a group of geese fly south as winter approaches, a school of fish spiral left in response to an approaching shark, a pack of lions hunt a gazelle, two monkeys struggle over an egg that has fallen from a nearby nest. In each case, the crooked course of evolution has fitted each creature with systems of information registration and response that are sufficiently similar to enable the triangular pattern of interaction.

This primitive form of triangulation is quite important for Davidson: he maintains that it provides a necessary scaffolding from which all cognition and language emerge.[30] However, Davidson's primary focus is on a more sophisticated form of triangulation. In its more sophisticated incarnation, triangulation involves two or more human agents already equipped with detailed abstract concepts and complex linguistic capacities interacting with the world and each other.[31] In this

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[26]See, for example, 'Idiolects' by Barber.

[27]Chomsky, Knowledge of Language and 'Language from an Internalist Perspective'. Chomsky's individualism is more centrally methodological than metaphysical, focusing on the individual as the central object of theoretical investigation and idealization; but Chomsky does often seem to infer the metaphysical version of individualism from its methodological cousin.

[28]'The Social Aspect', 110. A rejection of individualism is a recurrent theme throughout much of Davidson's later philosophy; See, for example, 'The Second Person', 'Three Varieties of Knowledge', 'The Emergence of Thought', and 'Externalisms'.

[29]Davidson, 'Reply to Dagfinn Føllesdal', 730; see also 'Rational Animals'.

[30]See 'The Emergence of Thought', and 'What Thought Requires'.

[31]There is an obvious worry about circularity here. It looks as if Davidson is proposing both that sophisticated triangulation depends on language and that language depends on sophisticated triangulation, and that seems like a pretty small circle. Davidson has replied that thought and language might well co-emerge as equal partners and that we shouldn't expect anything else within the non-reductive naturalistic approach to thought and language he endorses; see 'Three Varieties of Knowledge', for more discussion.

scenario, the agents have an understanding of their own capacities for representation (and misrepresentation) in thought and speech, and the agents have a mutual understanding of the practices in which they are each engaged.[32] This setup is ubiquitous in many areas of human culture: a group of friends play poker, a mother teaches her daughter how to change a tire, passengers scramble for seats in a crowded subway car, a student asks his professor about the meaning of the word 'recursion'. Each agent involved in such interactions is equipped with sufficiently similar psychological systems to enable them to each represent the outside world, to represent one another's representations of the outside world, and to draw upon these representations in the production of action.[33]

Triangulation looks a lot like coordination. Like coordination, triangulation is the product of the attitudes and actions of more than a single agent at a single time. Like coordination, triangulation will typically involve a degree of arbitrariness: the agents involved will not be forced to interact in a certain way by any biological or psychological necessity. And the triangulation that Davidson focuses on requires a kind of mutual understanding and common knowledge that is quite similar to the conditions Lewis imposed on coordination problems. So, two questions present themselves. First, how does triangulation differ from coordination? In other words, what features do coordination problems have that triangulation lacks, or has Davidson simply introduced a new label for a familiar phenomena? Second, how do triangulated social relations—actual patterns of social interactions to which the triangle applies—differ from social conventions? What features do social conventions have that triangulated social relations lack?

As far as I am aware, Davidson never provided a clear answer to the first of these questions; that is, he never said how he thought triangulation differed from coordination. But if I had to venture an answer on Davidson's behalf, I would reply that triangulation is interest-neutral in a way that coordination problems are not. Coordination problems are situations of interdependent decision-making in which some selection of choices best suits the common interests of the agents involved—social situations in which there are selections of choices for which no agent's interests would be better served by unilaterally deviating. But triangulation involves no such requirement on common interest: the structure is equally applicable to situations of total common interest as it is

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[32]Davidson has been criticized (rightly, in my view) for failing to assign any important roles to mid-level forms of triangulation: triangulation that occurs between creatures more sophisticated than purely biological organisms without minds but also less sophisticated than mature human agents with concepts of truth and error, and with full-blown language capacities. See Burge, *The Origins of Objectivity*, 264–83; Bar-On and Priselac, 'Triangulation and the Beasts'; Bar-On, 'Sociality, Expression, and This Thing Called Language' for developments of this criticism.

[33]This is not exactly how Davidson would put the point. He would prefer to say that we have no other way of describing the behavior of the agents' than by ascribing to them a rich, interlocking system of representations. I will suppress the instrumentalist glosses on Davidson's claims in what follows.

to situations of complete conflict of interest (as to everything in between). This interest-neutrality makes triangulation more general than coordination since it is present in both cooperative social environments and in competitive social environments.

Davidson did attempt to answer the second of these questions; that is, he did attempt to say how triangulated social relations differ from social conventions. The answer involves a certain kind of diachronic or historical neutrality.[34] Social conventions are solutions to coordination problems that are reproduced due to weight of precedent—solutions to coordination problems that are utilized because they've been used before. But triangulated social relations need not reoccur across time: they can be, as it were, one-off. The fact that a group of agents enter into a specific form of triangulation in one case does not imply anything about how those agents will act—or, indeed, should act—the next time they cross paths. So, in contrast to social convention, triangulation pertains to what is happening at a time, rather than what has happened or what will happen over time.

3.3.   Triangulation in language use

With these points about triangulation in place, let's now return to Davidson's picture of language. Davidson adopts many of the core claims of conventionalism about language: he agrees, for example, that languages are structured systems of sign-meaning pairs that depend on the attitudes and actions of a group of agents. In particular, Davidson agrees with Lewis that language centrally depends on the paths chosen by both speakers and their audiences in episodes of interpersonal communication:

> Success in communicating propositional contents—not just accidental or sporadic success, but more or less reliable success, achieved by employing devices capable of a wide range of expression—such success is what we need to understand before we ask about the nature of meaning or of language, for the concepts of a language or of meaning, like those of a sentence or a name or of reference or of truth, are concepts we can grasp and employ only when the communication of propositional concepts is established. Meaning, in the special sense in which we are interested when we talk of what an utterance literally means, gets its life from those situations

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[34]Of course, triangulation does essentially involve some diachronic relations. Triangulation is made possible by agents having similar enough capacities of biological or psychological registration and response, and this in turn requires a rich background of causal histories in both the individual and the species; c.f. Davidson's discussion of Swampman in 'Knowing One's Own Mind'. The claim of diachronic neutrality at issue here concerns the specific social relations that have been realized in the space created by triangulation, not the conditions that have made triangulation itself possible.

in which someone intends (or assumes or expects) that his words will be understood in a certain way, and they are.[35]

In this sense, Davidson agrees that language can be fruitfully modeled in terms of what I've called linguistic communication paths: ordered pairs of mappings from representational states of mind to linguistic signs and mappings from linguistic signs to representational states of mind. However, Davidson rejects the claim that the explanatorily central social relations in language—the communication paths our theories of language should be theories of—are those grounded in social convention. It is this feature of Davidson's picture that makes it distinctive.

Here is how Davidson sees the landscape: linguistic communication does require speaker and audience to each be equipped with an idiolect, a 'portable interpretation machine' which generates and processes linguistic utterances on the basis of a lexicon and (recursive) rules of morpho-syntactic and semantic composition. And linguistic communication does require the speaker and their audience to use their idiolects—in conjunction with other abilities—to converge on the intended form and meaning of a speaker's utterance. But linguistic communication does not require speakers and their audiences to share exactly the same lexicon and (recursive) rules of morpho-syntactic and semantic composition prior to the point of convergence, nor does it require that the form-meaning pair converged on by speaker and audience be deployed by them again in the future. Recall the discussion of linguistic innovation above. In each such case, the path traveled by speaker and audience need not be established prior to the point of utterance or returned to again after the point of utterance in order for linguistic communication to be successful.

It should now be clear why Davidson maintains that language constitutively depends on triangulation, rather than social convention, for language gets its life from successful episodes of interpersonal communication involving a structured system of sign-meaning pairs. Triangulation opens up a space in which agents with overlapping capacities acquired from a common external world can both understand and be understood in their uses of language. But triangulation does not require that the paths of communication that occur within this space persist across time or be reproduced later due to the weight of the precedent. As Davidson points out, this does not show that speakers and their audiences don't often utilize social conventions to achieve convergence in linguistic communication; but Davidson does take this to show that social conventions are not necessary for language and that an appeal to social conventions throws no light on how linguistic communication is achieved.

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[35]Davidson, 'The Social Aspect of Language', 120–1.

4.   In defense of conventions

So we have two alternative approaches to the relationship between language and the social: one that grounds language in coordination and another that grounds language in triangulation. Which account should we endorse? Was Lewis right or was Davidson right? The central goal of this paper is to argue that the answer to this question is neither and both. In particular, my claim is that the choice between coordination and triangulation is not either/or: that we need to appeal to both if we are to adequately explain the nature of language and its use.

In this Section, I'll argue that Davidson's attack on conventionalism fails. Specifically, in (Section 4.1), I will argue that social conventions, as Lewis understands them, are dynamic; once this dynamic aspect of social conventions is appreciated, Davidson's objection from innovation loses its force. I then argue, in (Section 4.2), that significant linguistic variation is fully compatible with the claims of conventionalism. Finally, in (Section 4.3), I argue that triangulation is not enough—that unless supplemented with an explanatory role for social conventions, Davidson's account radically over-generates the range of interpretations uses of language actually exhibit. This defense of conventionalism will set the stage for (Section 5), in which I argue that Davidson was nevertheless right to emphasize the theoretical importance of non-conventional social relations like triangulation.

4.1.   Innovation and dynamic conventions

Davidson argued that conventionalism was mistaken because it floundered on unprecedented uses language—cases in which the path of linguistic communication taken by speaker and audience had not already been prepared prior to the point of utterance. Davidson's argument here depends upon a crucial assumption about the nature of linguistic conventions. The assumption in question is that what is conventional in language is tantamount to the features of language which have been learned in advance by the conversational participants. Indeed, throughout 'A Nice Derangement', 'conventional' and 'learned in advance' are used more or less as synonyms.[36] We can interpret this to mean that Davidson assumes that linguistic conventions are static or fixed across a communicative exchange.

I believe that Davidson provides a powerful objection to conventionalism about language, when the static conception of convention is assumed. And so I agree with Davidson that, insofar as philosophers of language have labored under this static assumption, their accounts of language are seriously threatened by facts about innovation and language change. However, it is important to see how foreign the static assumption about convention is from the point of view

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[36]The assumption of a static conception of social convention has not, as far as I can tell, been challenged in any of the vast literature offering responses to Davidson's attack on conventionalism.

of the broadly Lewisian account of convention with which I began: the assumption is not entailed by Lewis' account and for a core class of cases, Lewis' account actually predicts that the static assumption will not hold.

Recall that one of Lewis' central goals in Convention was to respond to the Rousseau/Russell/Quine worry about regress. He wanted to show how the existence of one set of linguistic conventions did not depend upon the prior existence (and awareness) of another set of linguistic conventions. Lewis' claim is that linguistic conventions can spontaneously emerge among a group of interacting rational agents without those agents having recourse to any prior linguistic conventions.[37] Social conventions are, according to this account, not static but rather dynamic: they can develop on the fly without necessarily being established in advance. Lewis' account of conventions thus forces us to pry apart what is conventional in language from the features of language that are learned in advance.

There is no reason to think that this point is just about the prehistory of languages, or about how languages evolved from non-languages in the distant past. The mechanisms at work would be just as relevant for shaping languages today as they would be for shaping languages in the distant past, provided the mechanisms are relevant at all. Davidson's own example of the use of unfamiliar names serves as a case in point. Suppose, for example, that on a walk you encounter a stranger walking his dog, and after the dog jumps up toward you, the stranger utters:

(3) Mupsy loves to greet strangers with a lick

We can grant that while you had no knowledge of the conventions governing the name 'Mupsy' prior to the utterance of (3), you nevertheless successfully identify the content the speaker intended to express. Such a case is no threat to conventionalism, for the conventionalist can maintain that, while speaker and audience didn't have common knowledge of the conventions governing 'Mupsy' prior to the speaker's utterance, the speaker's utterance served to transmit common knowledge of the relevant linguistic conventions to the audience.

I have argued elsewhere that this point generalizes to uses of expressions that are novel to both speaker and audience.[38] A single use of a novel expression in a linguistic utterance is, I argue, sufficient to establish an entirely new linguistic convention among the group of agents engaged in a communicative exchange. As Lewis himself points out, '… a convention is so-called because of the way it persists, not because of the way it originated'.[39] In particular, the claim is that a group of agents have established a convention if, having found an arbitrary solution to a coordination problem, the members of the group are

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[37]Again, see Skyrms, *Evolution of the Social Contract and Signals* for an attempt to generalize Lewis' account so that it could be used to explain the emerge of new conventions among groups of non-rational interacting organisms.

[38]Armstrong, 'The Problem of Lexical Innovation'.

[39]Lewis, 'Languages and Language', 181.

committed (and expect that the other members of the group are likewise committed) to reverting to that solution should that problem reoccur.[40] More exactly, a group of agents have established a novel semantic convention if they successfully coordinate on a pair of rules mapping representational states of mind to signs and signs to representational states of mind, and expect that those same rules will be utilized again if the sign comes to be redeployed.[41] The use of a neologism or a novel phrase can, I submit, serve to generate concordant expectations of exactly this kind among those engaged in the communicative exchange.[42]

Of course, it might be objected that even if novel linguistic uses can serve to establish novel linguistic conventions, the presence of those novel linguistic conventions cannot themselves explain the fact of communication's success; the novel linguistic conventions are partly the result of successful linguistic communication, rather than the other way around. It is undoubtedly true that the newly constructed linguistic conventions cannot serve as part of the explanation of how successful linguistic communication occurred in the first place. But to think this is an objection to the claims I've been making is to seriously misconstrue the role of conventions in facilitating communication. The conventionalist explains communication that takes unprecedented paths the same way she explains communication that takes paths established by prior precedent: a suitably concordant system of mutual expectations. When agents communicate without conventions, they cannot utilize their prior experiences with one another to guide their signaling choices. In such situations, successful coordination may be more difficult to achieve; but the situation differs from communication with convention in matters of degree rather than matters of kind.[43]

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[40]As I elaborate in 'The Problem of Lexical Innovation', this point corrects the common misunderstanding that Lewis takes linguistic conventions to be patterns of use (or regularities) that frequently reoccur over time. While the conventions are forward-looking in that they involve commitments and expectations concerning the reoccurrence of coordination problems, the underlying problems may well only occur once 'between two people, for a few minutes' (Lewis, *Convention*, 44)—as, for example, when a linguistic expression is used once between friends but never repeated. Notice: I am not claiming that conventions do not as a matter of actual fact reoccur often over time; rather, I am claiming that regular reoccurrence is not a condition on conventionality.

[41]Although additional complications are needed to address the establishment of a context-sensitive semantic convention, the same basic point applies; see Millikan, *Varieties of Meaning*, ch. 12 for some initial discussion.

[42]Note that the modal here is 'can' rather than 'must'. In particular, I do not claim that these expectations are inevitably generated in every such case; see 'The Problem of Lexical Innovation'.

[43]I develop an account of the mechanism at play in unprecedented linguistic communication in 'The Problem of Lexical Innovation'. It should be noted, though, that the point is independent of exactly how one conceives of the mechanisms that underwrite the generation of convention.

4.2.   Variation and orderly heterogeneity

Let me now turn to Davidson's objection from linguistic variation. The worry here was that conventionalism requires an implausible degree of linguistic uniformity among groups of communicating agents. Speakers and their audience can, the objection has it, communicate successfully despite the fact that they do not share exactly the same lexicons or rules of combination and despite the fact that those agents articulate their linguistic sounds or gestures in quite different ways. Moreover, one or both, speaker and audience, may be in complete error about the dictionary definitions of the words used and communication can go as smoothly as it would have had the agents been fully informed about what's found in the dictionary.

As with the objection from innovation, I believe that the objection from variation rests on deep misunderstandings about the nature of social convention. First, social conventions do not require each participant to do exactly the same thing or to act on the basis of exactly the same background information; rather, social conventions require that the participants involved do their respective parts solving the coordination problem, given the information that is available to them. Second, the social conventions that hold between the members of a small group may depart from the conventions that hold within a wider population; in particular, the dictionary definition of a word need not correspond to the conventional meaning of that word among a group of language users. Let me develop each of these two points in turn.

First, the point about acting the same. Sharing a convention with someone need not be like sharing a car or a slice of pie with them—there does not have to be a single entity (or rule) to which each of the participants in the convention is related. A group of campers can, for example, share a convention for collecting firewood despite the fact that they all go out searching in different directions at different paces and pick up different sticks. The campers' actions are complimentary, each aiming to contribute to a common end, but they are not identical. The same is true of the conventions of language use. A group of agents can share a set of linguistic conventions despite the fact that they articulate the same linguistic forms in different ways or use altogether disjoint linguistic forms. For example, you and I may share a set of linguistic conventions despite the fact that I say 'to-may-toe' and you say 'to-mah-toe' or, alternatively, if you only speak Armenian to me and I only speak French to you. Similarly, you and I can share a set of linguistic conventions despite the fact that your vocabulary is exponentially larger than mine or the fact that you strip suffixes to form plurals in a way that I do not.

What is required in order for us to share a set of linguistic conventions is that we coordinate our linguistic choices and responses in a way that allows for successful linguistic communication. More exactly, a group of agents will share a set of linguistic conventions to the extent that their choices in and out of linguistic communication paths—the mappings they utilize from representational

states of mind to linguistic signs and from linguistic signs to representational states of mind—are grounded in their mutual expectations and common interests. Such coordination can be achieved in the face of significant linguistic variation. In particular, conventionalism is fully compatible with the existence of what Weinreich, Labov, and Herzog have dubbed orderly heterogeneity in language use.[44] This kind of linguistic variation is orderly in that it doesn't undermine agents' ability to use language to communicate successfully, or implode their linguistic competence; it's heterogeneous in that it involves agents using language in ways that, although complementary, are not identical.[45] Winreich, Labov, and Herzog maintain that orderly heterogeneity is pervasive across linguistic communities, and nothing in conventionalism suggests otherwise.

Let me now turn to the second point about the ignorance of dictionary meaning. Davidson takes the conventional meaning of an expression to be closely related to the meaning that one would find in a standard dictionary. On this picture, linguistic conventions are abstracted from the usage patterns of a large community of speakers over a large period of time. It is this assumption that licenses Davidson to claim that idiosyncratic uses of language—for example, using 'allegory' to mean alligator or 'cremated' to mean created—are uses that deviate from background linguistic conventions. But there is nothing in conventionalism that requires the conventions of language to be grounded only in the usage patterns of a large community of language users; as Davidson himself acknowledges, 'nothing in [Lewis'] analysis requires more than two people. Two people could have conventions, and could share a language'.[46] For this reason, it is important to distinguish between (i) conventional meaning, or the set of form-meaning pairs conventionally established among two or more agents and what can be called (ii) institutionalized meaning, or the set of form-meaning pairs that are encoded in a standard dictionary.

The distinction is important to keep in mind when discussing idiosyncratic uses. Conventionalism holds that agents' reasons to conform to a convention are sensitive to their expectations about what other agents will do. If I encounter an idiosyncratic speaker whose uses depart from the linguistic conventions of a wider group, my expectations for conformity will shift and my reasons for using the wider group's conventions will change; these shifted expectations

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[44]'The Empirical Foundations for a Theory of Language Change', 100.

[45]More exactly, the variation is ordered with respect to social features that language users value. The ability to communicate successfully with those with whom a person interacts will be one such value, but it will not be the only such value—for example, linguistic communities can be ordered with respect to group-affiliation, prestige, power, and etc. See Lassiter 'Semantic Externalism, Language Variation, and Sociolinguistic Accommodation' for further discussion.

[46]'Communication and Convention', 276. It is unclear what led Davidson to neglect this aspect of convention in 'A Nice Derangement', given the point he explicitly notes in the earlier paper. My own suspicion is that there was a shift in Davidson's focus from objecting to any form of conventionalism to objecting specifically to the conventionalism of Michael Dummett. This suspicion is founded on the fact Dummett is the only conventionalist cited throughout Davidson's writing on the subject, but it remains merely a suspicion.

can, in turn, be utilized in the process that serves to generate novel conventions. The fact that one or both of us is ignorant of the dictionary meaning of a word is not directly germane to the issue of linguistic conventions: our usages could be significantly different from wider community patterns of use and still be conventional.

Of course, audience members are not forced to accommodate a speaker's idiosyncratic uses. Audience members may well challenge a speaker's usage by saying, 'hey, wait a minute, what do you mean by 'derangement' here'? or more directly, '"derangement" does not mean arrangement'. While I do think that audience accommodation is quite common, it is in no sense required or inevitable.[47] Different cases will, no doubt, go different ways depending on a host of factors—for example, the importance of the topic of conversation or the patience and sympathy of audience members. But however the details go, such cases do not raise a serious problem for conventionalism. Indeed, rather than being an embarrassment for conventionalism, cases like these serve as an advertisement for it.

4.3.   Why triangulation is not enough

Davidson took the facts about linguistic innovation and linguistic variation to reveal the descriptive inadequacy of conventionalist models of language and, thereby, to motivate an alternative foundational picture of language and communication. Thus far, I have argued that Davidson's objections fail: neither the facts about innovation nor the facts about variation undermine conventionalism. But I now want to turn to a positive argument against Davidson's alternative account of language and communication. I will argue that Davidson's account wildly over-generates the range of interpretations uses of language actually exhibit and is itself thereby rendered descriptively inadequate.

Descriptively adequate accounts are those that explain all the relevant data. In the case of language use, a descriptively adequate account must be able to explain the full range of forms and meanings that language users are able to produce and process in the course of their interactions. But descriptively adequate accounts of language use must also explain the full range of forms and meanings that are unavailable, or are otherwise unacceptable, to language users. That is to say, descriptive adequacy requires explaining both the positive data about the forms and meanings we do find as well as the negative data about the forms and meanings we do not find. I allege that triangulation-based

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[47]As I point out in 'The Problem of Lexical Innovation', there are obvious parallels here with the ways in which audience members can accommodate (in the sense used in Lewis' 'Scorekeeping in a Language Game') presuppositions or assertions that they know to be false. So, just as a conversational participant can temporarily accept a proposition for the purposes of a conversation, so too can they temporarily utilize conventions suited for an idiosyncratic speaker for the purposes of a communicative exchange.

accounts of language, like the one Davidson provides, are descriptively inadequate because they fail to explain various kinds of negative data.

Consider the facts about linguistic innovation. Davidson correctly points out that accounts of language use need to be able to capture the fact that speakers are able to generate, and audience members to understand, sentences containing innovative verbs such as (1), introduced above, and (4):

(1) I caught a student trying to whiskey the punch at the reception last month.
(4) The delivery boy porched the paper at every house (Clark and Clark, 1979)

But Davidson fails to take note of the fact that not all innovations in language use are equally acceptable. For example, contrast the innovations in (1) and (4) with the innovation in (5) and (6)

#(5) It was the first time she was able to airplane to Australia.
#(6) After finishing work, I immediately goed for a run.

For many speakers, there are clear differences between the pairs of cases: (1) and (4) are well formed and interpretable, while (5) and (6) are grammatical marked and semantically confusing.

The problem is that there is nothing in Davidson's account that explains the contrast between the cases. Indeed, Davidson's account is at odds with the standard explanation of the unacceptability of (5) and (6). The standard explanation—often called 'preemption' in the literature on lexical acquisition and 'blocking' in the literature on morphology—is that prior linguistic precedents impact the acceptability of present linguistic uses.[48] In particular, it is maintained that because there are already linguistic forms—the forms 'went' and 'fly', respectively—that are conventionally used (among speaker and audience) to express the meanings that the innovations in (5) and (6) are intended to express, those innovations are preempted or blocked. Since Davidson rejects any explanatory role for linguistic conventions, he is left without an explanation of the unacceptability of these cases and his alternative account is rendered descriptively inadequate.

The basic problem for Davidson generalizes. Many types of negative data in language use depend on diachronic facts: be it facts about the way that the prior states of the language constrain the present range of possibilities for the users of that language, or be it facts about the way that language users' present

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[48]See, for example, Clark, 'Convention and Contrast in Acquiring the Lexicon', and The Lexicon in Acquisition, for the former terminology; see Aronoff, *Word Formation in Generative Grammar*; Bauer, *Morphological Productivity*, for the latter terminology.

commitments and expectations constrain the range of admissible uses in the future.[49] But triangulation is essentially synchronic: it depends on the causal relations that hold between two agents and a shared world at a time (or within a short interval of times). So triangulation won't suffice to explain the kinds of negative data at issue. Davidson is free, of course, to posit structure beyond triangulation to help bring his theory in line with the data; he could, for example, add diachronic constraints on the interpretative process—constraints governing transitions between what Davidson calls the prior theory of interpretation and what he calls the passing theory of interpretation. But while the addition of such constraints would render Davidson's theory more descriptively adequate, they would also serve to undermine the distinctive historical neutrality of Davidson's view. In particular, Davidson's view threatens to collapse into a variant of conventionalism when diachronic or historical constraints are added to it. So Davidson faces a dilemma: either his account is distinctive but descriptively inadequate or descriptively adequate but not distinctive. He can't have it both ways.

5.   The limits of Lewisian conventions

In this final Section, I want to turn to a claim of Davidson's that I've yet to address: the claim that there is no necessary or constitutive connection between natural languages—construed as structured systems of interpersonal communication—and social conventions. The claim, in other words, is that it is possible for two agents to engage in successful linguistic communication with one another without those agents having shared knowledge of a set of linguistic convention. As Davidson memorably put it,

> Knowledge of the conventions of language is thus a practical crutch to interpretation, a crutch we cannot in practice afford to do without—but a crutch which, under optimum conditions for communication, we can in the end throw away, and could in theory have done without from the start.[50]

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[49]It is worth noting, emphatically, that I'm not claiming that these are the only sources of negative data in language use. As Pietroski, following Chomsky, has recently argued (*Conjoining Meaning: Semantics without Truth-Values*, Oxford: Oxford University Press, forthcoming), many types of negative data appear to result from purely structural constraints imposed by the human language faculty. For an attempt to integrate internal and historical sources of negative data, see Yang, 'Universal Grammar, Statistics, or Both'? and 'Three Factors in Language Variation'.

[50]'Communication and Convention', 279; see also, 'The Social Aspect of Language', 110: 'Of course I did not deny that in practice people usually depend on a supply of words and syntactic devices which they have learned to employ in similar ways. What I denied was that such sharing is sufficient to explain our actual communicative achievements, and more importantly, I denied that even such limited sharing is necessary'.

Is Davison's claim here correct? Could there be successful linguistic communication in the absence of linguistic conventions?

In addressing this question, philosophers have often turned to various kinds of thought experiments. They have, for example, asked us to consider a group of agents whose genetic endowment equips them to utilize one, and only one, language in the course of their linguistic exchanges, or, perhaps, a group of agents who find themselves in the same position after having ingested radioactive bile.[51] Since such agents have no alternative to the language they use, they use language in the absence of linguistic conventions. Alternatively, we are asked to consider a group of superhuman minds whose complete knowledge of both physical laws and parapsychology allow them to reliably engage in linguistic communication in the total absence of linguistic conventions.[52]

Such philosophical flights of fancy are not completely without purpose, given a certain understanding of the underlying question. If the question is whether social conventions are necessarily included in an analysis of our ordinary concept of a language—or, in a less analytic vein, whether there are any metaphysical possibilities in which linguistic communication takes place without social conventions—then the above cases would warrant further discussion. But if our question is to consider what's necessary given the actual nature of human language(s) and given the actual mechanisms that underwrite interpersonal communication in humans, then such thought experiments will be entirely beside the point. For the question is not whether the connection between linguistic conventions and communication is necessary full stop, but whether the connection holds within a suitably restricted domain of possibilities. So I propose that we consider Davidson's claim about linguistic communication without linguistic conventions in this more empirical context. What evidence could be adduced in its favor?

One type of evidence operates through a consideration of cases. That is, we might try to isolate unconventional uses of language that nevertheless result in successful communication. In light of the discussion of linguistic innovation in the last Section, the uses in question should not merely be novel or infrequent, but genuinely one-off—uses in which the conversational participants do not mutually expect that, were the same linguistic form to appear, it would have the same meaning. A variety of cases have been said to have this feature, even setting aside the obvious case of context-sensitive expressions, from metaphor and malapropisms to deferred reference and temporary nicknames.[53] But this

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[51]The former example is due to Peacocke, 'Truth Definitions and Actual Languages'.

[52]A variant of this case in introduced by Lepore and Ludwig, 'The Reality of Language: On the Davidson/Dummett Exchange'.

[53]See Carston, *Thoughts and Utterances*; Wilson and Carston, 'A Unitary Approach to Lexical Pragmatics', for discussion of the case of metaphor, Nunberg, 'The Pragmatics of Deferred Interpretation', for discussion of deferred reference, and Davidson, 'A Nice Derangement' for discussion of malapropism and temporary nicknames; see Stanley, 'Semantics in Context' for a range of responses to such cases.

line of argumentation has its drawbacks. For one thing, it has proven to be controversial whether the messages communicated in these cases are genuinely linguistic (rather than merely pragmatic) and, if so, whether the relevant mutual expectations for future use are truly lacking. More importantly, what's communicated in such cases seems to depend on some kind of association with conventional (or institutionalized) meanings and hence can't be used to motivate the claim that linguistic communication is possible without any linguistic conventions being in place.[54]

In what follows, I will consider a more systematic line of argumentation. Lewis' characterization of linguistic conventions, like his characterization of social conventions more generally, turns on situations in which both common interests and common knowledge predominate. If it could be shown that linguistic communication is possible without either full common interest or common knowledge, then Davidson's claim would be vindicated—linguistic communication would be possible in the absence of (Lewisian) conventions. I'll argue that while recent evidence suggests that communication without common interest or common knowledge is indeed possible, this fact does not, contra Davidson, undermine an ineliminable explanatory role for social conventions in the study of language use. So while social convention is not the conditio sine qua non of either language or communication, it is nonetheless an important mechanism underwriting both language use and reliable episodes of interpersonal communication.

5.1. Convention and common interest

In characterizing linguistic conventions as special kinds of solutions to coordination problems, Lewis is following a long tradition that views interpersonal communication as a fundamentally cooperative enterprise that agents have a common interest in having available to them.[55] Of course, subordinating speech abounds and it does so in a depressingly wide variety of forms. The existence of these subordinating forms of speech should lead us to question whether Lewis exaggerated the degree of common interest that underwrites language use. There appear to be no shortage of mappings from linguistic forms to representational states of mind that subgroups within a wider population would be better off deviating from, even if unilaterally. The fact that these sub-

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[54]This point is simply taken for granted in discussion of metaphor and deferred reference, and has been a common theme in critical discussions of Davidson's use of malapropisms, as in Dummett, 'Some Comments on Davidson and Hacking'; Reimer, 'What Malapropisms Mean'; Green, 'Davidson's Derangement'.

[55]'It is only a general sense of common interest; which sense all the members of the society express to one another, and which induces them to regulate their conduct by certain rules … When this common sense of interest is mutually express'd, and is known to both, it produces a suitable resolution and behavior. And this may properly be call'd a convention or agreement betwixt us'. Hume, *A Treatise of Human Nature*; c.f. Grice, 'Logic and Conversation'.

ordinating forms of speech persist even among the relevant subgroups does not fit well with Lewis' account of convention. Still, it is hard to shake the feeling that at least some minimal level of cooperation or common interest is at work in explaining how reliable channels of interpersonal communication develop among groups of agents. Recall the point of the fable of the child who cried wolf: if speakers never spoke truly or never accurately reported their states of mind, there would be no benefit to responding, but if everyone stopped responding, there would be no benefit in speaking.

In an important recent paper, Peter Godfrey-Smith and Manolo Martínez seek to elucidate the degree of common interest that is required for the possibility of successful communication.[56] Godfrey-Smith and Martínez define a measure over agents' signaling preferences—that is, a measure of the degree of overlap between orderings on agents' preferences concerning informative signaling paths, of the sort described in Section 2, ranging from complete common interest to zero common interest.[57] This measure of the common interest of a group of agents in an episode of communication can then be compared with the private benefit that each agent would accrue in that episode of communication. Godfrey-Smith and Martínez then ran a computer search over a massive sample of hundreds of thousands of games that model this setup to find sign-using equilibria: situations in which signs are produced and responded to and in which neither agent could improve their private benefit by deviating from their choice of strategy.

The results were surprising. Godfrey-Smith and Martínez found that there were games with sign-using equilibria without common interest: there are games in which the speaker's choice of sign co-varies with the state of the world, and in which the receiver's action co-varies with sign they observe, but in which there is no overlap at all in speaker's and audience's interest in signaling.[58] However, Godfrey-Smith and Martínez also found that that the number of sign-using equilibria across the games increases monotonically with increases in the degree of overlap in common interest: the number of games which achieve sign-using equilibria steadily grow with increases in the degree of common interest. In other words, the greater the degree of common interest

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[56]Godfrey-Smith and Martínez, 'Communication and Common Interest'.

[57]More exactly, the measure they use calculates the degree of overlap between two agents' preference orderings by counting, and then averaging, the number of *discordant pairs* found across the two agents' preference orderings. This makes the degree of overlap in preferences sensitive not merely to the number of overlapping items on each agent's list, but where those items are located on each agent's list. Notice the measure does not evaluate the degree of *conflict* between agents' interest, merely the degree of commonality.

[58]One might wonder whether communication is possible between agents with conflicting interests. Although Godfrey-Smith and Martínez's results do not settle the matter, Elliott Wagner has recently found that some forms of communication are possible even in situations of conflicting interest; see Wagner, 'Deterministic Chaos and the Evolution of Meaning', and 'Conventional Semantic Meaning in Signaling Games with Conflicting Interests'.

between speaker and audience, the greater the possibilities are for communication between them.

At one level, these results serve as a vindication of Davidson's claim: social conventions require common interest; communication is possible without common interest, and, therefore, communication is possible without social convention. And since triangulation, in contrast to social convention, is interest-neutral, the social structures that Davidson takes to be at issue in communication are just as applicable to situations of no common interest as they are to situations of complete common interest. But at another level, these results militate against Davidson's broader claims about communication and convention, for the results indicate clear explanatory relations that hold between the degree of mutual interest present within a group and the possibility of communication among the members of that group. Social situations in which common interest predominates do indeed prove to a rich breeding ground for stable systems of interpersonal communication. The traditional claims about the connection between cooperation and communication are thus true and important, even if not necessarily so.

5.2.   Convention and common knowledge

We've seen that Lewis holds that conventions are grounded in a distinctive kind of social competence: a capacity to recognize and anticipate others' expectations and preferences. Lewis also holds that conventions are backed by a rich system of common knowledge, or iterative reasons to believe, that is available to each of the participants in a convention. Since the mid-1970s, it has often been alleged that Lewis' account is guilty of over-intellectualization. That is, Lewis has been accused of demanding too much of psychological capacities along with greater degrees of rational control than what is plausibly at work in the social situations in question.[59]

This general criticism of Lewis has become even more potent in recent years with the rise of alternative models of how systems of communication in general and linguistic meaning in particular could be generated and sustained in the absence of common knowledge. Many of these models utilize generalized

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[59]See, for example, Burge, 'On Knowledge and Convention'; Millikan, *Language, Thought, and Other Biological Categories*; Chomsky, *Rules and Representations*; Gilbert, 'Rationality, Coordination, and Convention'; and Laurence, 'A Chomskian Alternative to Convention-Based Semantics', among many others, for developments of this criticism. Of course, these criticisms can also be raised against Davidson's account insofar as he maintains that a sophisticated form of triangulation is constitutive of any communication at all. Here, again, we see the need for mid-level forms of triangulation that occur between creatures more sophisticated than purely biological organisms without minds but also less sophisticated than mature human agents with concepts of truth and error, and with full-blown language capacities.

evolutionary mechanisms involving sign reinforcement and replication.[60] For example, we might consider a population of relatively unsophisticated agents who lack a capacity for social competence but have a common interest in communication. Each member of the population has a set of sending and receiving strategies available to them, or a set of available speaker–audience communication paths. When engaged in a communicative interaction, speaker and audience will each choose a strategy at random or by personal fiat. If coordination fails to be achieved, speaker and audience will each adopt a different strategy in their next communicative encounter (with each other or some other member of the population). If coordination is achieved, then speaker and audience will keep that pairing of sign and message in their repertoire to replicate in future communicative encounters.[61]

Given certain constraints on the initial set of available strategies, it has been shown that mechanisms of this sort can be guaranteed to generate a system of communication among a population of egocentric agents lacking common knowledge; as Brian Skyrms has summarized this work, '[T]he emergence of meaning is a moral certainty … Which signaling system is selected is a matter of chance, not salience'.[62] Moreover, it has been shown that these same cognitively undemanding mechanisms of learning also serve to explain how the system of communication generated in the population can stabilize and persist over time.[63] So again, we appear to see a vindication of Davidson's claim that knowledge of conventions is not necessary for successful communication; indeed, the foregoing may be taken to suggest that knowledge of conventions can be dispensed with not merely in theory, but in actual practice.

There are at least two reasons for thinking that things are not quite so simple. First, the models under discussion all depend on the differential reproduction of communicative strategies: strategies that produce coordination are reproduced, those that do not die off. But, in the case of general communication paths, it is unclear that agents have access to the success or failure of coordination independently of their social competence. That is to say, speakers determine the success of their strategy of communication on the basis of their ability to read the cues the audience provides about their state of mind—whether, for example, an audience member has furrowed her brow or dropped eye contact. So, some minimal level of social competence seems to be at work

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[60]Millikan, *Language, Thought, and Other Biological Categories* was among the first to appreciate the interest of such models for philosophical questions about meaning and communication, and work within this tradition has witnessed an explosion following the work of Skyrms, *The Evolution of the Social Contract and Signals*.

[61]This is the 'Stay-Switch' model of Young, 'Individual Learning and Social Rationality', as adapted by Barr in 'Establishing Conventional Communication System: Is Common Knowledge Necessary?'

[62]Skryms, *Evolution of the Social Contract*, 93; see also Huttegger 'Evolution and the Explanation of Meaning'.

[63]See, again, Skryms, Evolution of the Social Contract; Hutteger, 'Robustness in Signaling Games'.

in influencing which strategies of interpersonal communication are differentially reproduced.

Second, the models under discussion do not directly explain the rate at which human agents are able to coordinate in interpersonal communication. Many areas of human communication—but particularly linguistic communication—involve a kind of 'fast-mapping' in which speaker and audience successfully coordinate over a single encounter.[64] In contrast, coordination is achieved in these models very slowly over the course of a large number of trials. The models need therefore to be enriched to allow for the possibility of fast-mapping if they are going to illuminate the mechanism that underwrites these forms of human communication.

In my view, the application of these evolutionary models to communication systems serves as a useful corrective to Lewis' discussion, which is indeed guilty of over-intellectualization. In order to establish systems of communication, agents do not need to understand the nature of the communicative problems they face or to justify their expectations about one another through iterated common reasons to believe. Nonetheless, Lewis was right to emphasize the theoretical interest in agents' ability to identify or anticipate others' states of mind, and to adjust their communicative choices accordingly.[65] Social competence has important explanatory roles to play in interpersonal communication, even if Lewis misdescribed its nature and exaggerated its scope.

6.   Conclusions, or how to be a moderate conventionalist

Lewis and Davidson developed accounts of communication and language that are not, at the end of the day, all that different. Both agree that natural languages are structured systems of sign-representation pairs grounded in the role they play in interpersonal communication—in this sense, they both agree that language is social. And they agree that agents are able to engage in successful linguistic communication on the basis of 'intuition, luck, and skill', in addition to more specialized capacities for mapping states of mind to signs and signs to states of mind. But I have argued that Davidson was wrong to deny deep explanatory roles for social convention, and for diachronic relations more generally, in the study of language and communication. Furthermore, I have argued that Davidson's objections from linguistic innovation and variation turn on mistaken assumptions about the nature of linguistic convention: linguistic conventions can develop dynamically in the course of a conversational exchange and allow for orderly heterogeneity to present among linguistic communities.

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[64]The term 'fast-mapping' is due to Carey and Bartlett, 'Acquiring a Single New Word'; see Trueswell et al., 'Propose but Verify' for a recent discussion.

[65]See Cumming, 'From Coordination to Content' and 'Creatures of Darkness' for more discussion.

At the same time, I have attempted to motivate the need for what might be called a moderate conventionalism. This moderate conventionalism recognizes deep explanatory roles for social convention in the study of language and communication without insisting that social conventions are constitutive of all aspects of language or of the possibility of reliable interpersonal communication; moderate conventionalism takes language and communication to be governed often by convention, but does not insist that language and communication are wholly grounded in convention. In this way, the moderate conventionalist is free to appeal to non-conventional social relations like triangulation to characterize non-cooperative communicative situations. Similarly, the moderate conventionalist can appeal to mechanisms that are represented in agents' psychologies and those that are not so represented in explaining the emergence and persistence of systems of communication. Drawing the lines between these social relations and underlying mechanisms of communication will no doubt be a complicated empirical affair. Still, by insisting that such lines are there to be drawn, we retain what's right about conventionalism while still giving Davidson his due.

Acknowledgments

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