LANGUAGE CHANGE IN CONTEXT

by

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ABSTRACT OF THE DISSERTATION

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Linguistic diversity abounds. Speakers do not all share the same vocabularies, and often use the same words in different ways. Moreover, language changes. These changes have particular semantic effects: the meaning of a word can change both over the course of a long period of time and over the course of a single dialogue. In Language Change in Context I develop a foundational account of linguistic meaning that is responsive to these descriptive facts concerning language variation and change.

Noam Chomsky and Donald Davidson have, among others, argued that the lack of linguistic homogeneity among a community of speakers and the possibility of semantic innovation undermine standard philosophical characterizations of language as a shared system of sign-meaning pairs employed for the purposes of communication. I draw a different conclusion from the phenomena in question. I propose a dynamic characterization of the relation between agents and the languages they use for the purposes of communication. According to this dynamic account, agents regularly adapt the shared system of sign-meaning pairs that they use for the purposes of a conversation, and it is precisely this adaptive feature of language that makes it an effective instrument for successful communication.

I develop my account over the course of three self-standing chapters. In Chapter One I detail the animating ideas behind my dynamic approach to language with
particular attention to Chomsky’s critique of the theoretical utility of “public languages.” Chapter Two concerns the relationship between linguistic conventions and linguistic communication, with special attention given to cases of lexical innovation. Chapter 3 develops and defends semantic pluralism: the thesis that a semantic theory for a language associates a range of admissible semantic values with the simple and complex expressions of that language.
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“It is astonishing what language can do. With a few syllables it can express an incalculable number of thoughts, so that even a thought grasped by a human being for the very first time can be put into a form of words which will be understood by someone to whom the thought is entirely new.” Gottlob Frege, “Compound Thoughts.”

“Time changes all things; there is no reason why language should escape this universal law.” Ferdinand de Saussure, Course in General Linguistics.
Introduction

What follows is a study in the philosophy of cognitive science. In particular, I explore foundational questions concerning natural language semantics—an area of cognitive science whose central areas of inquiry concern the nature of linguistic meaning, how human agents come to acquire knowledge of linguistic meaning, and how knowledge of linguistic meaning is put to use in interpersonal communication.

Natural language semantics is a science—a special science, like geology and psychology, but a science nonetheless. Philosophers have had an unfortunate tendency to propose and evaluate claims about the nature and use of linguistic meaning using a priori strictures that have no obvious basis in the science of natural language semantics. Such tendencies should be resisted. Philosophical claims about semantics should be guided by the manner in which the science is practiced, and should be amenable to the results of the science. As its name suggests, natural language semantics is a natural science: it supplies abstract explanations of naturally occurring phenomena. While the toolbox of semantics is comprised of resources from model theory and higher-order logic, its subject matter is, empirical—it is not merely a branch of mathematics.

The natural phenomenon with which I shall primarily be concerned is what has been called the creative aspect of language use: the fact that human agents have the capacity to generate and understand the meanings of linguistic expressions they have never previously encountered, and do so on the basis of finite experiences and recourses. This remarkable fact about human agents has been the starting point for much theoretical work on language from Frege to
Chomsky. While I follow a long tradition in taking the creative aspect of language use to be my central point of departure, I shift the focus of attention in two significant respects.

First, theorists have often focused on individualistic aspects of the phenomena. They have been concerned with explaining what it is about an individual speaker or individual hearer that allows that agent to generate or understand the meanings of an indefinite number of novel linguistic expressions. In contrast, my focus in this dissertation is on social aspects of the phenomena—particularly, with the creative aspect of language use as it occurs in interpersonal communication. I am concerned with explaining what it is about both individual human agents and groups of human agents such that members of those groups can reliably coordinate on the meanings of an indefinite number of novel sentences given finite experiences and resources.

Second, theorists have often focused on the creative aspects of language use at the level of sentence meanings. They have been concerned with identifying the presumably recursive principles by which an agent (or group of agents) combines the meanings of words he or she already knows to generate and understand the meaning of novel sentences. In contrast, my focus in this dissertation is with the creative aspect of language use at the level of word meanings: a phenomenon I call *lexical innovation*. I am concerned with explaining what it is about an agent (or group of agents) that allows that agent to generate and understand the meanings of atomic linguistic expressions he or she has never previously encountered.

I’ve said that the dissertation is a study in the *philosophy* of cognitive science—particularly, of natural language semantics. With some exceptions, I
shall stick to my word: I shall not be characterizing the semantic properties of the words in a language, or elucidating the principles by which the semantic properties of phrases and sentences are generated from the semantic properties of their parts and their manner of combination. Instead, the aim of the dissertation is to develop a foundational account of linguistic meaning and communication that is responsive to the two phenomena concerning the creative aspects of language use mentioned above.

The need for such an account is driven by the following tension. One the one hand, productive and reliable interpersonal communication between a group of agents strongly suggests that those agents have common knowledge of an interpreted language. It is because the members of a group share an interpreted language (as opposed to some other signaling system) that those agents can productively exchange information with one another; it is because that interpreted language is common knowledge among those agents that communication is reliable between them (i.e. non-accidentally successful). On the other hand, the meaning of an innovative use of a word—that is, a lexical innovation—is by definition not fixed by the commonly known interpreted language. But members of a group can, and often do, reliably communicate with sentences containing lexical innovations. So it would appear that there is no constitutive link between common knowledge of an interpreted language and successful linguistic communication.

Over the course of this dissertation, I offer a way of resolving this tension. I do this by developing and defending a novel conception of the relation between human agents and the languages they use for the purposes of communication. I argue that there is indeed a constitutive connection between common knowledge
of a language and productive and reliable communication; however, there need not be any single language that is common knowledge for communication to be productive and reliable. The members of a group regularly expand their prior shared language to incorporate new word meanings and shift their prior shared language to revise the meanings of words with which they were already familiar, and they do so because of a mutual interest in efficient communication. Such local changes in word meanings are, I claim, bona fide language changes because of the way they systematically interact with other word meanings in the process of semantic composition; these changes should, in other words, be part of the subject matter of pre-semantics rather than relegated to the subject matter of post-semantics.

I explore the process of language change as it occurs in context. That is, I explore the way language change both affects, and is affected by, a background body of information that it mutually accepted by the members of a conversation. While I argue that language change is ubiquitous both across and within conversational contexts, I also argue that it is constrained. It is in virtue of the constrained nature of language change that it does not impede the efficiency of linguistic communication. I argue that the constraints on language change mirror the constraints on language acquisition in general, and lexical acquisition in particular. Specifically, I propose that the very same cognitive capacities that children first use to learn the meanings of words are constantly being redeployed by adolescents and adults in the course of their conversational exchanges.

Theoretical questions concerning language change and word learning have received little attention within the philosophy of language. This lack of attention is deeply regrettable. As my discussions illustrate, careful reflection on
language change offers a fresh perspective from which familiar questions in the philosophy of language can be addressed.

Consider, for example, recent debates concerning the semantic significance of speakers’ intentions. It has become increasingly common for philosophers to maintain that speakers’ intentions and expectations do not directly contribute to the determination of linguistic meaning in context (i.e. the determination of semantic values). According to such philosophers, the structural facts about a speaker’s language (i.e. the syntactic and semantic properties of a speaker’s language) are one thing and how that speaker intends to use that language in interpersonal communication is quite another.

However, these philosophers have said next to nothing about how knowledge of linguistic meanings is acquired in the first place. This is not surprising: research on lexical acquisition has emphasized the way children must integrate structural information about linguistic input together with information about speakers’ intentions in order to acquire a lexicon. But if structural and intentional aspects of language must be integrated in describing the process by which knowledge of meaning is acquired, then there is no good reason to believe that they are not also integrated in describing the process by which knowledge of meaning is put to use in interpersonal communication. In the three chapters that follow I provide a concrete proposal concerning how structural and intentional aspects of language coalesce to form an integrated description of the nature of language and its use.

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1 See Bloom (2002) for a useful overview of this work.
In **Chapter One** I detail the animating idea of my approach with particular attention to Noam Chomsky’s critique of the theoretical utility of public languages. Chomsky has argued that philosophical interest in public languages inappropriately detaches the subject matter of philosophy of language from the scientific study of the *human language faculty*—a biologically endowed cognitive capacity for acquiring procedures that recursively generate complex expressions and their meanings—and is inconsistent with the empirical facts concerning language variation. I argue, in response, that Chomsky’s critique only applies to views that take public languages to be independent of the human language faculty; however, but such a position on public languages need not—and indeed should not—be adopted. I provide an account according to which the public languages emerge out of a highly restricted range of options provided the human language faculty. I then show that this constrained account of public languages is perfectly consistent with the empirical facts concerning language variation.

**Chapter 2** concerns the relationship between linguistic conventions and linguistic communication, with special attention given to cases of *lexical innovation*. Donald Davidson took cases of lexical innovation to motivate the claim that “there is no such thing as a language, not if a language is anything like what many philosophers and linguists have supposed.” (1986, p. 446). I argue that lexical innovations show nothing of the sort. Instead, what cases of lexical innovation show is that linguistic conventions are both *adaptive* and *local*: they shift across and within discourse contexts, and often hold among a small group of agents. With this understanding of linguistic conventions in place, I show that successful linguistic communication does not require speakers and their
audiences to share prior knowledge of conventionally established word meanings. Rather, it requires that the members of a conversation successfully coordinate on the meanings of words occurring in a token sentence as their dialogue unfolds.

Finally, in Chapter 3 I develop and defend *semantic pluralism*: the thesis that a semantic theory for a language associates a range of admissible semantic values with the simple and complex expressions of the language. I motivate the thesis of semantic pluralism through considering cases of what I call *assertoric imprecision*. In cases of assertoric imprecision, speakers represent the world with their assertions in a way that only approximates how things are in the actual world. I consider—and reject—two recent pragmatic approaches to the phenomena: (i) *relevance theory*, which denies a constitutive connection between truth and assertion, and (ii) *semantic minimalism*, which denies that the semantic content of a sentence is the primary information a speaker intends to convey in asserting that sentence. I show how semantic pluralism resolves the problems raised by cases of assertoric imprecision without rejecting either a constitutive connection between truth and assertion or a tight connection between semantics and the objects of assertion.
Chapter 1

On the Utility of Public Languages

Introduction

Philosophers have often maintained that the study of language is, at least in part, the study of a social phenomenon. In particular, many philosophers of language have assigned a central theoretical role to *public languages*. Public languages are ways of pairing syntactic expressions and their meanings that are used by more than a single agent at a single time. In this sense, public languages depend on the linguistic capacities and actions of a community of agents rather than a single agent in isolation.

There is a familiar tension between this conception of language and the one provided by the empirical science of linguistics, as it has been developed within the broadly generative tradition. According to this conception, the study of language is the study of the organization and development of the human language faculty—an innately constrained cognitive capacity for acquiring procedures for generating linguistic expressions and their meanings. The important theoretical characterization of language, from this point of view, is that of an *I-language*: the state of a single human agent’s language faculty at a single time.

The tension between these two conceptions of language is not difficult to discern. Public languages are said to be used by a group of agents, whereas I-Languages are implemented by the cognitive system of a single agent. Thus,
public languages constitutively depend on social variables in a way that I-languages do not. Moreover, and in my view more importantly, the two conceptions of language involve different predictions concerning the process by which language is acquired. The acquisition of a public language is a kind of rational achievement: It involves learning specific facts concerning how others produce and interpret distinctively linguistic signals. In contrast, the acquisition of an I-language is a matter of mere growth: given exposure to primary linguistic data, an I-language will develop within an individual according to any innately specified trajectory.

Noam Chomsky, one of the central progenitors of the modern scientific study of language, has taken this contrast to motivate a skeptical attitude concerning the theoretical utility of public languages. My focus in this chapter is on two specific kinds of considerations that Chomsky has used to justify this skeptical attitude. The first is what I call the naturalness objection. The naturalness objection alleges that by invoking public languages philosophers unacceptably detach the scientific study of language from the subject matter of the philosophy of language. The second is what I call the diversity objection. The diversity objection alleges that there is no substantive way of drawing the boundaries of the linguistic communities within which a public language is supposed to be shared.

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2 As I will later point out, one could individuate the properties of an agent’s I-language externalistically—that is, in terms of relations that hold between an agent and her physical or social environment; indeed, such a position has been suggested by Higginbotham (1994) and (2006), Burge (1989), and Ludlow (2003) and (2011) among others. The point is thus that I-languages, in contrast to public languages, do not constitutively depend on social variables.
In this chapter I show that neither the naturalness objection nor the diversity objection undermine the theoretical utility of public languages. At most, the objections only apply to certain ways of characterizing public languages. In particular, the objections only apply to views according to which public languages are (i) independent of any specific linguistic endowment of a group of agents and (ii) not responsive to the particular attitudes and expectations of those engaged in a communicative exchange. However, a theory of public languages need not, and indeed should not, be committed to these implausible claims. I illustrate this by developing a novel conception of public languages according to which neither (i) or (ii) hold.

According to the account I develop, public languages emerge out of the options provided by the human language faculty. In particular, human agents’ I-languages serve to structure the search space among the kind of coordination problems to which public languages arise as solutions. I thus suggest that human agents’ innate linguistic capacities provide a rich toolbox of resources that allows them to engage in coordinated linguistic action in general and productive linguistic communication in particular. As a case study in how this process unfolds, I consider recent work on “homesign languages”—languages created by deaf children not exposed to any prior conventional spoken or signed language. Building on this case study, I show how public languages do not require the existence of homogenous linguistic communities, and hence are not at odds with the empirical facts concerning linguistic diversity.

The plan for the chapter is as follows. After briefly outlining David Lewis approach to public languages in Section 1, I develop Chomsky’s naturalness and diversity objections in detail in Section 2. In Section 3, I respond to the
naturalness objection by developing a constrained account of public languages. In Section 4 I show how a public language could be shared among a group of agents despite significant diversity in usage. Finally, in Section 5, I defend the claim that public languages are needed to explain basic facts concerning successful communication.

1.1. Public Languages

Philosophers of language have, as I noted above, given important theoretical weight to the claim that languages can be shared among the members of a group. There is, of course, little doubt that commonsense reflections involve the attribution of languages shared among the members of a group. For example, we often say that Armenian, English, Japanese, Swahili, and the like are languages shared among large numbers of people. There is also little doubt that there are a variety of intellectual and sociopolitical pursuits that centrally involve these commonsense divisions among the world’s languages: for example, studies involve Dante’s contributions to the development of Italian or laws in Quebec concerning the language that can be displayed on advertisements.

However, the discussion to follow will center on the theoretical interest of public languages for the purposes of philosophical inquiry. And for the purposes of that discussion, it should not be assumed that commonsense reflections on language are of any principled concern or that ordinary divisions among the world’s languages correspond to any theoretically significant distinctions. What is at issue is a claim about the nature of language, rather than a claim about the nature of commonsense conceptions of language.
I believe that the primary theoretical reason that philosophers of language have appealed to public language is to do certain work in explaining basic facts concerning *successful communication.* In cases of successful communication, cognitive agents exchange information through the use of an overt signal. Successful communication among cognitive agents is ubiquitous in the natural world. The fact cognitive agents in general, and human agents in particular, are so adept at communicating successfully is noteworthy in itself and I believe theoretically significant.

But philosophers of language have been particularly impressed by the fact that human agents *efficiently* and *productively* exchange information: the fact that human agents can quickly, and without much effort, successfully communicate an indefinite number of messages using *novel* signals—that is, signals that those agents have never previously encountered. It is a desire to explain this distinctively productive communication that has lead many philosophers to appeal to public languages. It has often been maintained that the members of a group will be able to productively exchange information with one another to the extent that they share a language. The central task for such philosophers is to

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3 This is not the only theoretical reason philosophers of language have appealed to public languages. Another theoretical role of public languages has been to explain certain facts concerning *semantic error*—specifically the fact speakers can be ignorant or confused about the truth-conditions of their utterances, given the standards imposed by others in their linguistic communities. Although important, I will set this issue aside for the purposes of the present paper.

4 That is to say, I am taking successful communication to require there be some bit of information $\Phi$ which a sender intends to convey and which a receiver recognizes that a speaker intended to convey.

5 Something like this point has, I take it, animated much of the theoretical work growing out of the discussion in Grice (1957). See, for example, Strawson (1971), Schiffer (1972), Bennett (1976), Sperber and Wilson (1986), and Tomasello (2008) among many others.
articulate exactly what it is for a language to be shared among a group of agents in a way that would explain these basic facts about communication.

1.1.1. Language and Convention

While a number of different approaches to public languages have been developed, I will take Lewis’ ((1969) and (1975)) influential treatment as my point of departure. Lewis proposed that a language was shared among the members of a group of agents in virtue of a set of linguistic conventions prevailing among those agents, and he gave an explication of linguistic conventions in terms of the mutually agreeing, and rationally reinforcing mental states of members of that group concerning an arbitrary connection between linguistic expressions and meanings. That is to say, Lewis proposed the following account:

Public Language: a set of simple and complex expressions \{e_1, e_2, ..., e_n\} together with meanings \{m_1, m_2, ..., m_n\} used as a matter of convention among group G.

This characterization has two central components. The first concerns what languages are qua abstract structures, and the second concerns what it is for abstract structures of that kind to be the actual language used by a group of agents. I’ll briefly look at each in turn.

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It is worth emphasizing that, despite some of his own rhetoric to the contrary, Lewis is using the term ‘linguistic convention’ in a technical sense explicated in the context of his overall theory. A number of theorists have objected to Lewis’ account of the grounds that it does not match our commonsense notion of convention; see, for example, Jameson (1975) and Gilbert (1983) and (1989). But, as I’ve said, the central issue should be the theoretical utility of Lewis’ technical notion of convention rather than how well it corresponds with commonsense conceptions of convention.
For Lewis, a language is a way of pairing linguistic expressions and meanings: a set of expression-meaning pairs. While any set of expression-meaning pairs constitutes a language, the facts about productivity mentioned above suggest that the languages used by human agents will have a non-trivial compositional structure. These languages will consist of a lexicon and a set of combinatorial rules. The lexicon of a language is a set of atomic expression-meaning pairs, and a set of combinatorial rules of the language that recursively specifies how to build up pairs of complex expression-meaning pairs on the basis of atomic expression-meaning pairs and their manner of combination.

A language, so defined, is shared among a group of agents when that language is used as a matter of convention among the members of that group. One of the central contributions of Lewis’ discussion was to provide a rigorous way of characterizing the nature of convention. For Lewis, a convention is a specific kind of solution to a coordination problem—a case in which a group of agents have multiple options to choose from, but the joint interests of those agents would be best served by selecting the same option as the other members of the group.

In the particular case of languages, Lewis proposes that a language L is used as a matter of convention among the a group of agents G when the following conditions hold: (i) L corresponds to the forms and meanings members of G use in communicating with other members of G; (ii) the fact that L is used for the purposes of communication is a matter of common knowledge among the

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7 See Lewis (1969), pp. 160-177 for discussion. Lewis also includes, among other features, “a representing operation” that serves to maps constituents onto strings of sounds or marks. I’ll ignore this complication for the purposes of my discussion.
members of G; (iii) insofar as (i) and (ii) hold, the members of G have a practical or epistemic reason to continue to use that theory in their communicative exchanges; and (iv) there is at least one language that could equally well satisfy (i)-(iii).  

In more colloquial terms, Lewis is proposing that a group of agents share a language to the extent that they have knowingly coordinated on a set of simple and complex expression-meaning pairs because of a mutual interest in communication. As should be apparent, Lewis’ account seems straightforwardly explain the facts about communication mentioned above. Insofar as a group of agents have coordinated on a set of atomic lexical expressions, and a set of combinatorial rules, those agents have established a signaling system that is both efficient and productive.

1.2. Two Challenges from Chomsky

“[O]rdinary usage provides no notion of “shared public language” that comes even close to meeting the requirements of empirical inquiry or serious philosophical reflection on language and its use, and no more adequate notion has been proposed. Nor is there an explanatory gap that would be filled by inventing such a notion, as far as is known.” (Chomsky (2000), p. 158).

Noam Chomsky has long taken a skeptical toward public languages and work in the philosophy of language that presupposes them. Chomsky’s attitude

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8 Notice that I haven’t followed Lewis (1975) in invoking the particular conventions of “Truthfulness and Trust.” This is because the general form of Lewis’ approach to public languages does not require invoking these particular convention rather than others. The cost of this abstraction is that the account no longer provides a reductive definition of what it is for an agent to use a particular expression-meaning pair. Since the possibility of a reductive definition of use is not under dispute in what is to follow, I’ll work with the more general definition provided here.
is not so much that public languages don’t exist or that they are conceptually incoherent; it is, rather, that he believes public languages are utterly devoid of theoretical interest or utility. While Chomsky has proffered a number of different considerations to motivate this skeptical attitude toward public languages, my focus in this section will be with two arguments: what I call the naturalness objection and the diversity objection.  

1.2.1. The Naturalness Objection

One objection that Chomsky has repeatedly raised is that philosophers who take public languages to be appropriate objects of theoretical study are unacceptably bifurcating the scientific study of language and the subject matter of the philosophy of language. I call this the naturalness objection, because it alleges that public languages are not natural objects of philosophical inquiry.

The starting point of Chomsky’s argument is the fairly uncontroversial claim that philosophy should be contiguous with the natural sciences. In particular, he assumes that philosophers of language should “take language and similar phenomena to be elements of the natural world, to be studied by ordinary methods of empirical inquiry.” A philosophical approach to language that is out of step with the science of language—or which approaches the study of language with special standards that would be inappropriate to apply to the

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9 For example, I am going to set aside Chomsky’s objections that are specifically directed against referential approaches to semantics; see Pietroski (2003), Ludlow (2003) and (2011), and Kennedy and Stanley (2009) for discussion. I will also not directly respond to Chomsky’s suggestion that a systematic theory of communication in general, and linguistic communication in particular, would efficiently require a “theory of everything” (Chomsky (2000), p. 41); see Carston (2002), pp. 1-12, and Stanley (2007), pp. 5-9 for discussion.

study of other natural phenomena—should be rejected.

The science of language, as it has developed within the broadly generative tradition, investigates the human language faculty: a biologically endowed cognitive capacity of human minds devoted to acquiring procedures that serve to recursively generate linguistic expressions and their meanings.\textsuperscript{11} According to a standard approach, the initial state of the language faculty specifies a body of highly specific grammatical principles that hold across all possible human languages. In addition, the initial state of the language faculty specifies a small number of parameters according to which human languages may vary.\textsuperscript{12} In the course of a human agent’s development, she will come to settle on one of the parametric options provided by the language faculty; that is, she will come to implement one of a small set of procedures for recursively generating an unbounded number of complex expressions and their meanings.

The central notion of language that emerges from generative linguistics is that of an I-language, which I will take to be the state of a single agent’s language

\textsuperscript{11} Strictly speaking, the language faculty doesn’t specify possible procedures for generating linguistic expressions and meanings but rather possible procedures for generating structural descriptions of linguistic expressions and meanings. These structural descriptions have often been understood in terms of \textless PF, LF\textgreater pairs; that is, pairs of phonological and logical forms. Since it won’t affect the central issues under discussion, I will work with the more colloquia description given in the text.

\textsuperscript{12} This “Principles and Parameters” architecture was first articulated by Chomsky (1981) and (1986). The details of this architecture have changed in important ways with the advent of the Minimalist program (Chomsky (1995) and (2004), although the core conception has remained. Although the account I develop in what follows will be formulated in terms of the Principles and Parameters account, the account could be reformulated in the Minimalist framework.
faculty at a single time. More exactly, I will take an I-language to be understood as follows:

**I-Language:** a procedure for recursively generating complex expressions and meanings from a lexicon that is implemented by the cognitive system of an individual human agent.

The aim of generative linguistics is to describe the initial state of the language faculty in a normal human agent and to describe the process by which the language faculty develops into an individual’s I-language on the basis of linguistic input to which that individual is exposed. It is for this reason that linguistics is often said to be a branch of individual cognitive psychology.

In order to help focus the discussion to follow, it is worth highlighting two central respects in which I-languages differ from public languages. The first difference concerns the abstract objects with which languages are identified. I-languages are identified with recursive procedures. As such, they are individuated *intentionally*: with specific ways of generating complex expression-meaning pairs from a lexicon. In contrast, public languages are individuated

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13 Two points of clarification with respect to my usage of the term ‘I-language.’ First, for reasons that will emerge, I’m not identifying I-languages with *idiolects*—which are parametric versions of the language faculty together with a single agent’s lexicon. That is, I will assume that an agent’s I-language can remain fixed despite changes to that agent’s lexicon. Second, as Peter Ludlow has pointed out to me, some theorists use the term ‘I-language’ more or less synonymously with the language faculty. So it should be noted that I am using the term ‘I-language’ in a more restricted sense throughout my discussion.

14 As this suggests, I do not believe that the difference between public languages and I-languages is usefully understood in term of the question of whether or not languages are abstract objects. See Higginbotham (1983) and George (1989) for further discussion.
extensionally: they are identified with sets of expression-meaning pairs independently of the manner in which they are generated.\textsuperscript{15}

The second difference concerns what is required in order for a recursive procedure of the kind in question to be the actual I-language of some particular individual. An I-language belongs to an agent when that agent has \textit{internally represented} (or “cognized”) that recursive procedure and hence can in principle be utilized by that agent in the production and processing of linguistic input (performance errors aside). The actual language relation is thus one that holds of a single agent’s cognitive system, rather than a relation that holds among a group of agents. However, this is not to say that the properties of an I-language—or indeed, the initial state of the language faculty—do not depend on relations that hold between an individual and her physical or social environment. One could, in other words, consistently hold that I-languages are internally represented but externalistically individuated.\textsuperscript{16}

As Chomsky repeatedly emphasizes, public languages play no significant role in the scientific study of language so understood. The aim of linguistic investigation is not to uncover the properties of any designated set of syntactic expressions or a set of semantic interpretations, but rather to uncover the

\textsuperscript{15} As Richard Heck (2006), p. 62 has insightfully pointed out, this difference between public languages and I-languages can be fruitfully compared to the two senses of the technical term ‘theory’: a theory can either be understood as a particular set of theorems or as set of axioms and rules of inference that serve to generate a set of theorems.

\textsuperscript{16} Indeed, this is the position suggested by Higginbotham (1989) and (2006), Burge (1989), and Ludlow (2003) and (2011) among others. Chomsky himself believes that I-languages are both internally represented (or cognized) and individualistically individuated, and so he does not clearly distinguish between these two senses of ‘internal.’ But it is important to recognize that adopting an I-language conception of language does not commit one either way with respect to the metaphysical issues of internalism vs. externalism concerning individual’s psychological states.
principles by which human agents generate pairs of linguistic expressions and their meanings. Indeed, from the point of view of linguistic theory, there may well be no way to characterize a set of expression-meaning pairs independently of the procedures that generate them. Likewise, it seems irrelevant for the purposes of investigating the state of an agent’s language faculty whether or not that agent has established linguistic conventions with the other members of a group.

These points, together with the plausible assumptions concerning the relationship between the philosophy of language and the science of language mentioned at the outset this section, seem to entail that public languages are not appropriate objects of philosophical inquiry. For interest in public languages would seem to be completely detached from the scientific study of language, and a philosophical perspective on language that is out of step with the science of language should be rejected.

1.2.2. The Diversity Objection

Another objection that Chomsky has repeatedly raised is what I’ll call the diversity objection. The objection focuses on the extent to which groups of agents are not homogenous with respect to their use of language. As Chomsky puts the objection,

“[Public language are] presupposed by virtually all work in philosophy of language and philosophical semantics....This idea is completely foreign to the empirical study of language. Nor has anyone indicated what sense it might have how do we decide, for example, whether the word "disinterested" in the language I partially know is pronounced as in Boston or in Oxford, or whether it means uninterested, as almost all speakers believe (ignorantly, we are told), or unbiased, as certain
authority figures insist? For the empirical study of language, the questions are meaningless. What are called ‘languages’ or ‘dialects’ in ordinary usage are complex amalgams determined by colors on maps, oceans, political institutions, and so on, with obscure normative-teleological aspects….In ordinary human life, we find all sorts of shifting communities and expectations, varying widely with individuals and groups, and no right answer as to how they should be selected.” (1993), pp. 18-19, emphasis mine).

The objection, as I understand it, turns on two core claims. The first is that there is significant diversity concerning the way groups of agents use language: members of a group rarely share exactly the same vocabularies and will often assign slightly different meanings to the same expressions. Indeed, there is significant diversity concerning a single agent’s use of language. The second claim is that, given this diversity in usage, there is no principled way to isolate the linguistic communities within which a public language is supposed to be shared. In particular, there is no principled linguistic basis for maintaining that an agent is using one public language rather than another.

Note that the central problem here is providing a substantive characterization of linguistic communities that does the work public languages are supposed to do. For example, I could stipulate that a particular public language consisted in all and only the expression-meaning pairs listed in the 2012 edition of the OED. But such a stipulated public language would do no work whatsoever in explaining basic facts concerning linguistic communication; after all, few speakers have shared knowledge of exactly those expressions-meaning pairs that appear in the 2012 edition of the OED.

As Chomsky is quick to emphasize, the objection is not one of vagueness or imprecision. That is, the objection is not merely that there are no sharp boundaries among linguistic communities; rather the objection is that attempts to
isolate linguistic communities are ultimately grounded more in “sociopolitical” concerns than linguistic ones. In contrast, there are substantive ways of characterizing I-languages despite the manifest diversity in usage that we find. The human language faculty delimits a relatively small number of parametric options and so variation among I-languages will be both circumscribed and principled.

The diversity objection does not require any background assumptions concerning the philosophy of language and the science of language. It merely requires that philosophers of language should be interested in principled facts concerning the nature of language. But since it is alleged that public languages are not grounded in any principled facts concerning the nature of language, it follows that they are not appropriate objects of philosophical study.

1.3. Priorities in the Philosophy of Language

In this section I develop a response to the naturalness objection. I argue that the objection only applies to views according to which public languages are independent of the innate linguistic endowment of human agents. I argue that a theory of public language can, and indeed should, be developed without this assumption.

1.3.1. Constrained Public Languages

The standard response to the naturalness objection is to reject the claim that the science of language investigates the human language faculty. One way to pursue this strategy would be to deny the reality of the language faculty.
According to this approach, human agents acquire language by employing a domain general learning mechanism, rather than setting the parametric values of any innately given universal grammar. Another way to pursue this strategy is to grant the existence of the human language faculty, but deny that this faculty constitutes the subject matter of linguistics. While psychologists are free to study the language faculty, linguistics is concerned with a linguistic reality independent of human agents’ psychologies.

It seems to me that neither way of developing this general strategy of response holds much promise. The claim that human agents have an innate psychological capacity for acquiring procedures for generating expressions and their meaning is well motivated empirically, and, I believe, is superior to its alternatives. Likewise, the claim that linguistics is concerned with a linguistic reality independent of human agents’ psychologies places a priori restrictions on the evidential basis of linguistics that is at odds with the manner in which linguistics is actually practiced.

In what follows I develop a different kind of response. I will accept both the reality of the human language faculty, and the claim that the science of language investigates its properties. What I deny is that accepting this claim undercuts the theoretical utility of public languages. Specifically, I maintain that one can recognize a theoretical role for both I-languages and public language

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17 See Quine (1972) and Stich (1972) for early versions of this position; see Goldberg (1995), Cowie (1999), and Tomasello (2003) for more recent developments and elaborations.
18 See Katz (1981), Soames (1984), and in particular Devitt (2008) for developments of this position.
19 See Crain and Pietroski (2001) and (2011), and Crain and Thornton (1998) for useful summaries of this empirical evidence and an evaluation of alternative approaches.
20 See Fodor (1985), Antony (2003), and Laurence (2003) for elaborations of this claim.
without unacceptably detaching the science of language from the subject matter of the philosophy of language.

The perspective I am offering is one according to which language is indeed a natural object, as Chomsky maintains: a natural object constituted by the mental states of individual human agents and \textit{distinctive relations that hold among the mental states of groups of human agents}. According to my account, the human language faculty provides a rich toolbox of resources that allows human agents to engage in coordinated language use in general, and productive linguistic communication in particular.

The seeds of such a response are contained in the Lewisian account of public languages with which I began. Recall that Lewis offered a deeply psychological account of what it takes for a group of agents to share a language. According to his proposal, public languages arise from the mutually agreeing and rationally reinforcing mental states of a group of agents concerning an arbitrary connection between linguistic forms and meaning; that is, as a matter of linguistic convention. Given the thoroughly psychological orientation of Lewis’ account, it would not be surprising if the ability of human agents to establish linguistic conventions depended upon those agents having innate linguistic capacities of the sort Chomsky describes. Indeed, the existence of innate linguistic capacities makes it far more likely that human agents are actually able to solve the kinds of coordination problem to which public languages arise as solution. For while a convention requires that there to be at least one alternative to be present, greater numbers of alternatives will make it more difficult for the members of a group to coordinate on a unique solution.
I propose that the human language faculty serves to structure and restrict the kinds of coordination problems to which public languages arise as solutions.\textsuperscript{21} Public languages are, I claim, \textit{constrained} by the human language faculty: They arise given the options provided by agents’ I-languages. This predicts that there will be perfectly well-defined sets of expressions-meaning pairs that never get used as public languages simply because they cannot be generated by the human language faculty (or parametric versions thereof).

These remarks are sufficient to undercut the naturalness objection: Chomsky is simply mistaken in holding that by invoking public languages one unacceptably detaches the scientific study of language from the subject matter of philosophy of language. It is, however, preferable to provide a more detailed explication of the relation between I-languages and public languages. After all, how exactly are I-languages supposed to structure and restrict the kinds of coordination problems to which public languages arise as solutions? In other words, what aspects of languages do I claim to be determined by the language faculty and what aspects of language do I claim to be determined by linguistic convention?

Ultimately, these are empirical questions whose answers depend on a completed science of language. But I believe that these questions can be profitably approached through considering developing research on language acquisition—particularly by considering the way children acquire language acquisition.

\textsuperscript{21} To be clear, I am not suggesting that the language faculty developed in the human species because of its role in interpersonal communication or social coordination. The view I am proposing is compatible with such a claim, but it is also compatible with the claim that the language faculty developed in the species for other reasons—for example, for its role in structuring thought. See Hauser, Chomsky, and Fitch (2002) and Pinker and Jackendoff (2005) for relevant discussion.
across varying kinds of linguistic input. The methodological idea is that if some feature of language remains invariant across radically different kinds of linguistic input, then that provides some reason to think it is part of the language faculty. Following this methodology, I will turn to recent work on “Homesign languages”—languages developed by deaf children not exposed to any prior spoken or signed language—and draw some morals about the relationship between the language faculty and linguistic conventions.

1.3.2 Homesign Languages

My discussion will focus on the extensive research conducted by Susan Goldin-Meadow and her collaborators over a period of twenty years. The study involved 10 deaf children from ages 18 months to four years old. In order to be included in the study, the children had to suffer from severe hearing loss (i.e. hearing loss greater than 71 decibels). In addition, the children could have no prior exposure to a conventional sign language system such as American Sign Language. In this sense, the children involved in the study were completely cut off from normal linguistic input. Apart from this fact, the children were all of normal intelligence and well integrated into family life.

Each participant was videotaped during interactive play sessions with a researcher assistant. The children did not interact with each other. Table 1 lists the ten children, along with the number of sessions each child was observed and

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22 I borrow this methodological idea from the work of Lila Gleitman and her many students. See Landau and Gleitman (1985) for a landmark study involving language acquisition among blind children.

Based on the video recordings, the children’s gestures were coded on the basis of their form and intended meaning.

Remarkably, Goldin-Meadow found that these children developed gesture systems that did not differ in kind from the languages acquired by children exposed to a conventional language. The children developed a robust set of lexical items that were used to express the same types of semantic relations as those typically expressed in early child language—for example, the children used their gestures to refer to individuals, properties and events in a shared perceptual space but also referred to entities that were not present in that space. The children combined these lexical items into phrases and sentences using the same types of structural devices that are found in early child language. In order to illustrate some of these claims, I will provide a few details of the system.

The children used a limited set of handshapes and motion forms in their
gestures. Goldin-Meadow found that these gestures were divided into three types: (i) *Deictic gestures* typically were pointing gestures that single out individual entities, (ii) *Characterizing or semi-Iconic* gestures which resembled the entities to which they were intended to refer, and (iii) *Marker or Modulator* gestures which were head or hand gestures (e.g., nods and headshakes, two-handed “flips” in which the palm rotates from down to up). The children consistently associated motion forms of these three types with particular meanings (or sets of meanings). That is, the children retained connections between the motion forms and meanings after they were established. These motion forms were discrete, rather than continuous, in that there were well-defined gaps between their uses. These two facts strongly suggest that the children’s motion forms were functioning as types of linguistic expression, rather than mere pantomimes.

This claim is further suggested by the way in which the children began to combine lexical items by producing handshapes with more than one motion, and motions with more than one handshape. Specially, over the course of the studies the children began to structure their gesture forms into hierarchical relations by employing grammatical devices (akin to inflectional morphology) to mark distinctions between nouns, verbs, and adjectives. These combinations began as complex expressions built out of two lexical expressions, and eventually developed into full sentences. What is especially significant is that the children organized their sentences using a consistent word ordering and displayed consistent use of predicate frames or theta roles.

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24 See Goldin-Meadow (2005), chapters 9 and 10 for detailed discussion of these claims.
Although much more could be said about the properties of these homesign languages, I want to take a step back and draw some general morals. The case of homesign languages provides strong motivation for invoking a human language faculty of the sort Chomsky describes. Given the paucity of linguistic input to which these children were exposed, it is very difficult to see how else they could have so readily utilized specific morphological and syntactic principles in their use of complex phrases and sentences without a language faculty.

However, the case of homesign languages also provides motivation for invoking linguistic conventions of the sort Lewis describes. The specific expression-meaning pairs that comprised the lexicons the children developed were sensitive to particular kinds of interactions between the children and their audience. When the members of the children’s audiences did not understand the meaning the children’s gesture form was intended to have, the children would recalibrate and use a different sign. In this sense, the perpetuation of a lexical item was due to both what a speaker intended a sign to mean and whether or not audience members could coordinate with the speaker on the intended meaning of that sign. That is to say that linguistic conventions were created in the course of the children’s interactions, and the presence of these conventions is central to explaining the specific lexicons that emerged.\textsuperscript{25}

\textsuperscript{25} For further support of this claim, see Richie, Yang, and Coppola (2013) for a recent longitudinal study involving homesign languages in Nicaragua.
1.3.3. Moving Forward

The foregoing suggests a certain division of labor between the language faculty and linguistic conventions. The language faculty places substantive structural constraints on the format of the lexicon and the specific combinatorial principles by which the forms and meanings of complex phrases and sentences are generated. However, the structural constraints provided by the language faculty do not determine the meaning of atomic open-class lexical items.\(^{26}\) Instead, there is reason to believe that the meaning of atomic lexical entries is determined as a matter of linguistic convention; specifically, through a process of coordination among particular speakers and their particular audiences.

These claims should not be terribly surprising. The process by which human agents develop I-languages has often been said to be a matter of mere growth along an innately specified trajectory. But even the most strident supporters of the language faculty recognize that the pairings between atomic expressions and their meanings have to be learned.\(^{27}\) There are not, after all, parametric versions of the lexicon. While the structural constraints provided by the language faculty help make it possible for human agents to rapidly learn the

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\(^{26}\) I am here alluding to a distinction that is often made among linguists between \textit{open-class} lexical categories (such as nouns, verbs, adjectives, etc.), and \textit{closed-class} lexical categories (such as determiners, prepositions, complementizers, etc.). The distinction is often cashed out in terms of the ease in which expressions of that lexical category can be added to the language—new open-class expressions are readily added to the language, while it is very difficult to add new closed-class expressions. The distinction is important for the evaluation of the present proposal because I suspect that the meanings of closed-class expressions are more or less completely determined by the language faculty.

\(^{27}\) See, for example, Chomsky (1980), p.81; Chomsky (2000), pp. 79, 120, and 170-171.
meanings of words, developing a lexicon is not a matter of mere growth along an innately specified trajectory.

These facts should, I claim, be reflected in an account of public languages. My proposal is that public languages consist in the aligned I-languages and coordinated lexicons of groups of human agents. In the next section, I will develop this characterization of public languages in more detail. As should be abundantly clear, appealing to public languages does not require unacceptably detaching the scientific study of language from the subject matter of the philosophy of language.

1.4. The Diversity of Public Languages

In this section, I turn to the diversity objection. I will argue that the foregoing account of public languages is not at odds with the manifest diversity in usage we find across communities of speakers. Specifically, I argue that the theoretical interest in public languages does not depend on the existence of homogenous linguistic communities.

1.4.1. Individuating Public Languages

I have developed an account of public languages that assigns an important role to both human agents’ innate linguistic endowment and to human agents’ ability to establish linguistic conventions. In particular, I have suggested that the human language faculty places substantive structural constraints on the format of the lexicon and serves to delimit the specific combinatorial principles whereby human agents generate complex expressions and their meanings.
However, the process by which atomic expressions are paired with meanings is sensitive to linguistic conventions.

Public languages are, I claim, individuated in terms of both these features. The members of a group share a public language to the extent that those agents have aligning I-languages and those agents have coordinated on a lexicon. The members of a group have aligning I-languages to the extent that the I-languages of those agents implement the same parametric version of the language faculty; that is, to the extent that there is overlap among those agents concerning the structural constraints imposed on the format of the lexicon and concerning the specific combinatorial principles whereby complex expressions and their meanings are recursively generated. The members of a group have coordinated on a lexicon to the extent that there is a set of atomic expression-meaning pairs which are used as a matter of convention among them.

My account ties the individuation conditions of public languages closely to the primary theoretical role that public languages are supposed to play in explaining linguistic communication. It is precisely to the extent that the members of a group have aligned I-languages and coordinated lexicons that they will be able to efficiently and productively exchange information. For it is because agents have coordinated on a lexicon that they each know what the individual words occurring in a sentence mean, and it is because those agents have aligning I-languages that they each are able to generate and interpret the meanings of an indefinite number of complex phrases and sentences which they have never previously encountered.

It should be noted that my proposal does not identify public languages with standard ‘English’ or ‘Dutch’ or the like. Rather, public languages are
identified with whatever expression-meaning pairs are common knowledge among two or agents and by the states of those agents’ I-languages. This will provide a principled way to isolate the groups of agents within which a public language is shared to the extent that human agents have language faculties that can implement parametric grammatical principles and have mutual attitudes and expectations with others concerning atomic linguistic expressions and their meanings.

Of course, the diversity objection was supposed to undercut the claim that there are principled facts of this sort. Since this objection is not intended to undercut the theoretical interest in I-languages, I’ll focus my discussion on the claim that there are conventions among the members of a group concerning the connection between atomic expressions and their meanings.

1.4.2. Diversity

Recall that the diversity objection tuned on two core claims. The first claim is that groups of agents are rarely, if ever, completely homogenous in their use of language: individual speakers’ lexicons are often comprised of different ranges of expressions, and will often assign slightly different meanings to the same words. The second claim was that, given this diversity in usage, there is no principled

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28 A elaborate this “local” feature of public languages in greater detail in Chapter 2.
29 This is not to suggest that there are not significant issues concerning interpersonal comparisons of I-languages. I set these issues aside for two reasons. First, the facts concerning language acquisition suggest that variation at the level of grammars is minimal; see Crain and Thornton for extended discussion. Second, proponents of the I-language conception are themselves often perfectly happy to talk about I-languages that overlap with respect to the parametric principles they instantiate; see, for example, Isac and Reiss (2008), pp. 72—75, and Ludlow (2013), p. 45. So whatever problems arise concerning the claim that agents’ have parametrically aligning I-languages, they are not unique to the present proposal.
way to individuate the groups of agents within which a public language is supposed to be shared—no principled way, that is, to ground to the claim that a speaker is using one public language rather than another.

The diversity objection tacitly assumes that public languages are only shared among linguistically homogenous groups of agents, and furthermore assumes that public languages do not shift with the attitudes and expectations of speakers and hearers. For these assumptions about public languages are required in order for the first claim of the diversity objection to provide any motivation whatsoever for the second claim. However, as I now show, the account of public languages I have developed does not require these assumptions.

In the particular case of the lexicon, I have said that a public language is shared among a group of agents if there is a set of linguistic expressions \( \{e_1, e_2, \ldots e_n\} \) that are used with meanings \( \{m_1, m_2, \ldots m_n\} \) as a matter of convention among the members of that group. And roughly following David Lewis, I have said that a convention is a solution to a coordination problem that is arbitrary, self-perpetuating, and commonly known about the members of a group.

Crucially, a set of expression-meaning pairs may be used as a matter of convention among a group of agents even if the members of that group have personal lexicons that are not comprised of exactly the same range of expressions. For example, it may well be that one member of the group is familiar with more expression-meaning pairs than the other members of the group. The account merely requires that there be overlap between the personal
lexicons of the members of a group and that this fact is common knowledge among those agents.\textsuperscript{30}

Likewise, linguistic conventions of the kind in question can be present among a group of agents even if there are systematic differences among those agents concerning which expression-meaning pairs they employ for the purposes of communication. The case of homesign languages discussed above provides a vivid illustration of this point. The children and their audiences were able to coordinate on a set of expression-meaning pairs, even though it was only the children that employed those gestures for the purposes of communication.

In each of the respects, the broadly Lewisian account of conventions that I have developed does not require the existence of homogenous linguistic communities. In particular, the account of conventions allows for \textit{orderly heterogeneity} to be present among linguistic communities.\textsuperscript{31} Given this fact, the lack of completely homogenous linguistic communities provides no evidence whatsoever against either the existence of public language or for the claim that there are no principled grounds for their selection.

The foregoing account of linguistic conventions also allows there to be shifts in public language both within a single discourse and across different discourses. Linguistic conventions are not, according this account, static objects

\textsuperscript{30} Indeed, the account allows that in any given communicative context the members of a group may have some uncertainty concerning exactly which set of expression-meaning pairs is common knowledge between them. In this sense, it may be more appropriate to ascribe a \textit{range of admissible public languages} to the members of a group. Where the common knowledge of the members of a group will establish some sets of expression-meaning pairs as definitely admissible, some as definitely inadmissible, and others as borderline cases. I exploit this fact in significant detail in Chapter 3.

\textsuperscript{31} I borrow this terminology from the influential discussion of Weinreich, Labov, and Herzog (1968), p. 100.
determined independently of the attitudes and expectations of particular speakers and hearers; rather, they are *adaptive* to what the members of a group mutually accept concerning the connection between atomic expressions and their meanings.\(^\text{32}\)

Speakers and hearers are well aware of the fact that different groups of agents use words in different ways and adjust their communicative practices accordingly. For example, I know perfectly well that the expression ‘valid’ has one meaning in the mouth a philosopher and another in the mouth of an ordinary speaker; similarly, I know that the expression ‘chips’ means something different when spoken in London than when spoken in New York. In each case, I knowingly adjust the expression-meaning pairs that are operant for the purposes of the conversation because of a mutual interest in communication.

There is nothing in the account of convention with which I began that requires there to be a fixed public language that an individual uses across all conversations. It is perfectly compatible with that account that an agent will use different public languages among different groups agents; indeed, the account allows that an agent can use a different public language among the same group of people. What the account requires is that two or more agents knowingly coordinate on a set of expression-meaning pairs, and that they do so because of a common interest in communication.\(^\text{33}\)

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\(^{32}\) These points have been highlighted in a number of papers by Peter Ludlow; see Ludlow (2000) and (2006). Ludlow draws a different conclusion from these facts than I do, arguing that they undermine a conception of language as a shared system of expression-meaning pairs employed for the purposes of communication. Nevertheless, I am indebted to his insightful discussion on these matters.

\(^{33}\) Again, see Chapter 2 for an elaboration and defense of these points.
Chomsky is thus quite right to point out that in ordinary life we find all sorts of shifting communicative attitudes and expectations among groups of agents. He is, however, wrong to maintain the shifting character of these attitudes and expectations entails that there is no right answer to the question of how public languages should be selected. As I’ve said, the members of a group share a public language to the extent that they can knowingly coordinate on a set of expression-meaning pairs. Over the course of a communicative exchange, there will be fact of the matter whether or not this has taken place; indeed, such facts are of a principled linguistic nature since they concern the use and interpretation of linguistic expressions. The diversity objection simply fails as an attempt to undermine theoretical interest in public languages.

Of course, it is one thing to claim that there are principled facts in a given domain and it is quite another thing to offer a principled explanation of those facts. That agents are able to knowingly coordinate on expressions-meaning pairs across shifting communicative attitudes and expectations is, I claim, sufficient to undercut the diversity objection. However, I have yet to give any clear sense of how this process of coordination actually takes place. While a complete explanation of the dynamics of this process would require a dissertation unto itself, I will close this section by outlining one way in which these issues can be fruitfully approached.

I suggest that dynamic process by which groups of agents come to coordinate on a lexicon patterns after the process of lexical acquisition in children. Specifically, I claim that the very same cognitive capacities that children

34 Suppressing the fact that I also require the members of a group to have aligning I-languages, which is not directly relevant to the point at hand.
first use to learn the meaning of words are constantly being redeployed by adolescents and adults to identify the meanings of novel words and old words used in novel ways. It is these cognitive capacities that I believe ultimately ground agents’ capacity to knowingly coordinate on expressions-meaning pairs across shifting communicative attitudes and expectations.

I will follow the recent theory of lexical acquisition developed by Lila Gleitman and her collaborators. According to this theory, agents use three distinct kinds of information sources or cues to converge on the meaning of a word:

1. **Grammatical information**, concerning the lexical category and thematic relations governing the word in question.
2. **Discourse information**, concerning mutually accepted world knowledge and prior knowledge of linguistic conventions.
3. **Attentional information**, concerning the objects, properties, or events in a shared perceptual environment taken to be currently under discussion.

As Gleitman et al. emphasize, different classes of words exhibit different kinds of sensitivity to these parameters. For example, proper names and concrete common nouns are learned by agents primarily from exhibiting sensitivity to the information provided by (2) and (3). However, many verbs cannot be learned in this way. It is, for example, very hard to see how verbs like ‘knows’ or ‘believes’ could be learned merely by being attuned to prior discourse knowledge or from a shared perceptual space. Gleitman et al. propose that it is only after an child has acquired a mature grammar, and hence becomes fully responsive to the

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35 Gleitman, Cassidy, Nappa, Papafragou, Trueswell (2005), Lidz, Gleitman, and Gleitman (2003), and Gleitman (1990). See also Bloom (2002) for a related, though slightly less constrained, approach to word learning.
information provided by (1), that they are able to learn the meaning of such verbs.

What makes this theory particularly attractive from the perspective of the account of public language I have developed is the role that it gives to the continual interplay between states of agents’ language faculties and a body of mutually accepted information. It is exactly this interplay that I have been at pains to emphasize. The theory serves to provide the first steps in a principled explanation of how members of a group coordinate on a set of expression-meaning pairs despite the manifest diversity that abounds.

1.5. Coordination and Communication

The discussion thus far has been devoted to showing that Chomsky’s objections do not undercut the theoretical utility of public language. I have argued that by taking public languages to be constrained by the options provided by states of agents’ language faculties one avoids both the naturalness objection and the diversity objection. In this final section, I turn from defending the utility of public languages to making a positive case for the utility of public languages. Specifically, I will argue that public languages are required in order to explain the way linguistic communication serves as a means of the transmission of knowledge.
5.1 The (In)Sufficiency of Overlap

At the outset of my discussion I noted that many philosophers have taken public languages to be implicated by basic facts concerning linguistic communication. I noted, in passing, that my account retains this tight connection between sharing a public language and efficient and productive communication. For it is precisely to the extent that members of a group have coordinated on a lexicon, and have aligning I-languages, that they will be able to efficiently and productively transfer information to one another.

It has occasionally been suggested that efficient and productive communication could equally well be explained by the fact that a group of agents have overlapping I-languages. However, the suggestion is a non-starter. The reason that mere overlap in I-languages cannot explain successful communication is perfectly straightforward. As I have said, I-languages are procedures for recursively generating complex expressions and their meanings from a lexicon. These procedures are invariant across changes to the lexicon; one could, in other words, hold an agent’s I-language fixed but vary that agent’s lexicon. Indeed, this is what gives I-languages their parametric character. So two agents could, in principle, have aligning I-languages but fail to share a lexicon. Since linguistic communication requires each agent to know the meanings of the individual words occurring in sentence, agents could have aligning I-languages but not be able to communicate efficiently and productively.

The more interesting question is whether linguistic communication could be explained in terms of overlapping idiolects. Let’s say that an idiolect is an

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36 Antony and Hornstein (2003), p. 9; Isac and Reiss (2008), pp. 72-75.
agent’s I-language together with that agent’s personal lexicon. Two agents’ idiolects overlap to the extent that those agents have parametrically aligned I-languages and their personal lexicons are comprised of the same set of expression-meaning pairs. Crucially, agents may have overlapping idiolects without sharing a public language. For there may be idiolectal overlap among a group of agents without those agents having common knowledge of the overlap; in particular, there may be overlap without there being coordination in Lewis’ sense.

On the face of it, it would seem that the mere overlap of idiolects is sufficient for successful linguistic communication to occur. Imagine two agents, Alf and Bea, who are stipulated to have largely overlapping idiolects. In order to make the case vivid, suppose that for some bizarre reason the word ‘honey’ means gas in both Alf’s and Bea’s lexicons. Further suppose that Alf and Bea happened to encounter each other in a parking lot, and have the following exchange:

Alf: Do you know where I can buy some honey?

Bea: Yes, there is a honey station two blocks south on Main St.

Is this a case of successful linguistic communication? I think the answer is yes: there is some bit of information (i.e. “Do you know where I can buy some gas”) that Alf intended to express and which is also such that Bea recognized that Alf intended to express. And that is what I maintained is required for communication to be successful. Notice that the point does not depend on the particular sentence uttered; indeed, given what was stipulated about their
idiolects, it seems that clear that there are an indefinite number of messages that Alf and Bea could successfully communicate to one another. So we seem to have shown that two agents can efficiently and productively communicate, without sharing a public language.

There are, of course, questions about the fortuitous circumstances that would lead for two agents’ idiolects (and, in particular, their lexicons) to overlap in the way it was stipulated that Alf’s and Bea’s did. While these questions are far from trivial, I’ll set them aside. I am perfectly willing to accept that overlapping idiolects among individuals allow for successful linguistic communication to occur between them. What I am less willing to accept—and indeed think there is good reason to doubt—is that the same strategy can explain the way knowledge is exchanged in linguistic communication.\(^\text{37}\) Specifically, the fact agents use language to efficiently and productively transfer knowledge.

Consider a variant of the above case of Alf and Bea. Suppose that Cal was also in the parking lot, standing close to Alf and Bea. Suppose that Cal’s idiolect overlaps with Alf’s and Bea’s, except for the fact that in Cal’s idiolect the word ‘honey’ means honey. Now suppose that Cal had uttered the sentence “Do you know where I can buy some honey?” to Bea. Presumably, Bea would interpret that question the same way she interpreted Alf’s; let also imagine that Bea issued the very same response: “Yes, there is a honey station two blocks south on Main

\(^{37}\) Gareth Evans maintained that the ability to transfer knowledge is a condition on successful communication; as he put it, “communication is essentially a mode of the transmission of knowledge” (Evans (1982), p. 310). A similar condition of successful communication is imposed by Heck (1995) and Dummett (1980) and (1989). If these theorists are correct, then my argument would in fact show that overlapping idiolects are not sufficient for communication. Since I ultimately think these conditions on successful communication are too strong, I’ll set this line of argument aside.
In this case, Bea’s interpretation of Cal’s utterance would be mistaken (i.e. successful communication would not have occurred) and she would have likely given Cal bad directions.

What this reveals is that while the overlapping idiolects of agents may make linguistic communication possible among those agents, it makes communication merely accidental or what I’ll call unsafe. Consider again the initial case of Alf and Bea. Although it was a case of successful communication, there is a very close possible world in which the utterance of the same sentence would have resulted in failed communication—namely the world in which it was Cal that asked the question rather than Alf. But it is a widely held among epistemologists that safety is a condition on knowledge: if one knows that P, then it could not have easily turned out that not P. Likewise, the efficient and productive exchange of knowledge requires not just successful linguistic communication, but safe communication—it requires hearers to identity the intended meaning of uttered sentence not just in the actual world, but also in nearby possible worlds.

As the above cases illustrate, the mere overlap of idiolects does not make communication safe—it allows that hearers will get the interpretation of an uttered sentence wrong in very nearby possible words. But communication regularly serves as a means of the transmission of knowledge. In particular, linguistic communication regularly serves as a productive means of the

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39 This is not intended to be a sufficient condition on the transfer of knowledge through testimony, since it say nothing about the speaker’s epistemic state with respect to the information communicated.
transmission of knowledge. So there are important facts that cannot be explained merely by appealing to overlapping idiolects.

This is, I claim, what linguistics conventions contribute over and above mere idiolectal overlap to explaining successful communication. For when linguistic conventions are established, the members of a group will knowingly coordinate on the meanings of the words occurring in a sentence. That is to say, when coordination occurs there is non-accidental overlap with respect to a set of expression-meaning pairs. This makes communication both possible and safe. It is in this sense that linguistic conventions are implicated by basic facts concerning linguistic communication. Linguistic conventions are needed to order to explain the fact that communication serves as a means of the transmission of knowledge.

This all well and good, you might reply, but should not the same reasoning apply to the combinatorial principles by which complex expression-meaning pairs are generated? If so, why have I not required that the members of a group have coordinated I-languages in addition to coordinated lexicons? If not, what explains the asymmetry between word meanings and the meanings of phrases and sentence? I confess to being slightly ambivalent about these questions. But ultimately I think it best to treat the lexicon and the combinatorial rules asymmetrically. I have two central reasons for going this way.

First, ordinary agents—and indeed most linguists—don’t have propositional knowledge of the principles of the language faculty or parametric versions thereof. We humans internally represent (or cognize) these rules but we don’t know them the way we know that Boston is north of New York, or that in the United States cars drive on the right side of the road. It thus seems wrong
to require that individual agents have *bona fide* knowledge of the combinatorial principles of their language, much less have common knowledge of these principles.

Second, and more importantly, the worries about luck don’t arise in the case of combinatorial principles; at least, they don’t arise in the same way they do in the case of the lexicon. After I have gone through the process of language development, my language faculty arrives at a fairly steady state. The parametric grammatical principles that I implement become a resilient feature of my cognitive repertoire. I will utilize these principles in the production and processing of linguistic input in both the actual world and in nearby possible worlds. The same is true of you. Given that we have been exposed to structurally isomorphic linguistic input, and given the small number of options each of our language faculties provides, it is not an accident that our I-languages are aligned.

However, the same cannot be said about the lexicon. As I have stressed throughout my discussion, word meanings vary in idiosyncratic ways across communities of speakers, and can change rapidly over time. Lexicons are fragile in a way that grammatical principles are not: their specific character is far more sensitive to the other agents with whom I interact than is the case with the state of my I-language. It is, for this reason, that I claim coordination is required in the case of the lexicon but not in the case of the combinatorial principles. Our shared biological endowment brings us much closer to converge in the case of the combinatorial rules than in the case of the lexicon, and additional work is required to pick up the slack.

My proposal that public languages consist in the coordinated lexicons and aligning I-languages thus has a principled basis. In particular, there is good
reason to think that such an account is required to explain the way linguistic communication serves as a means of transferring knowledge.

**Conclusion**

In this chapter, I have developed an account according to which public languages are natural objects constituted by the mental states of human agents, and distinctive relations that hold among the mental states of those agents. The account I have developed is one that does justice to the fact that language is both a biologically endowed component of individual human agents’ minds and a social phenomena that allows groups of human agents to efficiently and productively exchange information in general, and knowledge in particular. In so doing, I have provided an account of public languages that neither detaches the scientific study of language from the subject matter of the philosophy of language nor is at odds with the empirical facts concerning linguistic diversity.
Chapter 2

*Linguistic Conventions and the Problem of Lexical Innovation*

**Introduction**

Linguistic communication, like all forms of communication, presents a problem. Speakers must find a way to make their private information accessible to their audiences through the use of a public signal. A venerable philosophical tradition has assigned a crucial role to a conventionally established semantic theory in helping to solve this problem. According to this traditional account, linguistic communication minimally requires speakers and their audiences to have shared knowledge of the *conventional meanings* of the expressions occurring in an uttered sentence. Together with shared knowledge of how the words occurring in a sentence are to be combined and knowledge of the context of utterance, knowledge of the conventional meanings of expressions provides speakers and their audiences with a procedure for associating semantic contents with an indefinite number of sentences.

The foregoing picture concerning the relation between linguistic conventions and successful linguistic communication has recently come to be rejected as fundamentally mistaken. My focus in this paper is on one kind of consideration that has led to this trend, initially proffered by Donald Davidson. Davidson’s argument turns on cases of what I call *lexical innovation*: cases in which a speaker uses a sentence containing an expression for which no meaning has been conventionally established but nevertheless manages to communicate
her intended meaning successfully to her audience. Such cases *seem* to show, and indeed have been widely taken to show, that shared knowledge of linguistic conventions plays no essential role in explaining the process of successful linguistic communication.\(^{40}\)

In this paper I demonstrate that a commitment to a robust role for linguistic conventions in elucidating the process of communication is fully consistent with the existence of lexical innovations. Lexical innovations are ubiquitous in our everyday speech, and make genuinely semantic contributions to the sentences in which they occur; these facts are well-established, and I will not dispute them. What is required, and what I will provide, is a better account of the nature of linguistic conventions. In particular, I argue that cases of lexical innovation motivate a rejection of the widespread assumption that linguistic conventions are stable bodies of facts whose properties are determined independently of the agents engaged in a communicative exchange. In place of this static picture, we must invoke a *dynamic* account of linguistic conventions.\(^{41}\)

The dynamic account I develop makes two related claims concerning the nature of linguistic conventions. First, linguistic conventions are *adaptive*: prior conventions may be either expanded to incorporate new expression meanings or

\(^{40}\) See, for example, Davidson (1984) and (1986), Travis (1985) and (1996), Moravcsik (1998), among others.

\(^{41}\) The account I develop builds off recent work by Peter Ludlow; see Ludlow (2008) and (ms). See also Bartsch (1984), Clark (1996), Lassiter (2008), the papers in Cooper and Kempson (2008), and Rayo (Forthcoming) for related proposals. It should be noted that this use of the term ‘dynamic’ differs from the sense in which it is used to describe approaches to semantics, such as those developed in Kamp (1981), Heim (1982), Groenendijk and Stokhof (1990), and others according to which linguistic meanings are specified in terms of “context change potentials.” As we shall see, while I utilize some aspects of these approaches to semantics (particularly the notion of conversational context), my account is neutral on the issue of whether semantic values should be understood in terms of context change potentials.
revised to shift the meanings of expressions already in circulation. Second, linguistic conventions are local: they govern the connection between expressions and their meanings relative only to a background state of the common ground of a conversation. I argue that these dynamic aspects of linguistic conventions are not merely compatible with the theory of conventions developed by David Lewis but are in fact predicted by it.

Successful linguistic communication does not, according to my account, require speakers and their audiences to share prior knowledge of the meanings of the words occurring in a sentence. Rather, it requires that the members of a conversation successfully coordinate on the meanings of words occurring in a sentence as their dialogue unfolds. In this sense, the conventions relevant for explaining successful communication may be established “on the fly.” The resulting account is flexible enough to explain what is communicated by lexical innovations, while also capturing the pervasive constraints on their use.

As will become clear, my account offers a new perspective on the relationship between semantics and pragmatics. The account I develop maintains that general purpose reasoning about speakers’ intentions and expectations has an essential pre-semantic role to play in characterizing the meanings of their words. Specifically, it involves reasoning about the set of expression-meaning pairs being used for the purposes of a communicative exchange, and hence about what speakers’ utterances semantically encode. What distinguishes information that is semantically expressed from information that is merely pragmatically conveyed is not the fact that the latter depends on speakers’ intentions and the former does not. Rather, the two ways of communicating information are
distinguished by the kinds of effects speakers intend their utterances to have, and the manner in which those effects are intended to be realized.

My plan for the paper is as follows: In section (I) I lay out what I call the standard semantic picture concerning the relation between conventions and linguistic communication in more detail. In section (II) I outline the problems lexical innovation raises for this picture, and explain why these cases cannot be brushed aside as “merely pragmatic.” In section (III) I develop a dynamic account of linguistic conventions. In section (IV) I show how this dynamic account of linguistic conventions resolves the problems raised by lexical innovations. Finally, in section (V) I situate the dynamic account in relation to recent debates about the semantics-pragmatics boundary.

2.1. Communication and Conventions

For the purposes of the paper, I will work with the “information-transfer” model of linguistic communication. According this model, linguistic communication is a relation between a speaker, an uttered sentence, and an audience member. The speaker has some content P in mind and utters some sentence S with the intention that audience members entertain P, on the basis of receiving S and recognizing what it was intended to express. Communication has been successful, according to this model, only if the audience member comes to entertain the very same content that the speaker intended to express.42

42 The claim that successful communication requires a hearer to entertain the very same information that a speaker intended to express is not uncontroversial; for example, it has been questioned by Heck (2002), Buchanan (2010), and others. But since the assumption
The central question at issue in my discussion is what role, if any, do linguistic conventions play in elucidating the process of successful linguistic communication. Proponents of what I call the semantic account of linguistic communication have offered the following answer to this question: the semantic properties of a speaker’s words are determined, at least in part, by the linguistic conventions of a wider speech community to which the speaker belongs. Furthermore, speakers and their audiences must have shared knowledge of the semantic properties of the words occurring in a sentence in order for successful linguistic communication to occur between them.

Proponents of the semantic account often motivate their theory by drawing attention to the fact that linguistic communication is both productive and efficient. To say that linguistic communication is productive is to say that it allows speakers to generate, and audience members to understand, the meaning of an indefinite number of sentences—including sentences that the members of a conversation have never previously encountered. To say that linguistic communication is efficient is to say that speakers can trust audience members to identify successfully the meaning of the sentences they express, and that audience members can expect that they will be able to interpret a speaker as the speaker intended.

These two features of linguistic communication seem to require that speakers and their audiences have shared knowledge of a conventionally established semantic theory. A semantic theory for a language specifies the meaning of the atomic expressions of the language together with a set of

is accepted by all the parties to the dispute that I discuss, I will assume the claim for the purposes of the paper.
principles that recursively generate the meaning of complex expressions as a function of the meaning of their parts and their manner of combination.

Since many of the sentences speakers use to communicate are context-sensitive, a semantic theory for a language must associate both standing meanings and occasion meanings with the expressions of that language. The standing meaning of an expression is a context-invariant constraint on the range of semantic values uses of which that expression can be assigned. The occasion meaning of an expression is the particular semantic value it is assigned with respect to the context in which it occurs. This is often formally modeled in terms of David Kaplan’s (1987) distinction between character and content: the character of an expression is a function from contexts of utterance to semantic contents, and semantic contents are in turn functions from circumstances of evaluation to extensions.

Putting all of this together, the standard semantic account maintains that, in order to explain the productivity and efficiency of linguistic communication, speakers and their audiences must have shared knowledge of: (i) a lexicon, which specifies a set of basic categories together with a set of expressions occurring in the various categories and their standing meanings (or characters);43 (ii) a finite set of syntactic principles that recursively specify how basic expressions of the

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43 For the purposes of this paper, I shall remain as neutral as possible concerning the nature of these lexical categories; see Baker (2003) for an extended discussion. However, following Baker and others, I will assume that there is an important difference between open-class lexical categories—for example, nouns, verbs, and adjectives, and closed-class lexical categories—for example, determiners, prepositions, and conjunctions. The claims I shall develop below concerning linguistic conventions and the lexicon are intended to pertain to expressions among open-class lexical categories, leaving a discussion of whether similar claims may hold for expressions among closed-class lexical categories for another occasion.
various categories can be combined together into well-formed complex
expressions (including the class of grammatical sentences); and (iii) a (context-
dependent) semantics that recursively assigns semantic values to the basic and
complex expressions relative to contexts.  

It is worth making two important points of clarification. First, the
semantic account does not entail that all of language is conventional or even that
all aspects of linguistic meaning are conventional. Proponents of the semantic
account have no reason to deny—and, in fact, every reason to accept—that
human agents’ ability to acquire and use language is made possible by the fact
that they are endowed with a species-specific language faculty: an innate
cognitive mechanism that substantially constrains the ways in which syntactic
expressions can be paired with their semantic interpretations.  

There is, for example, strong empirical evidence that the principles of syntactic and semantic
combination are largely universal among human languages, varying only along
specific parametric dimensions.  

Rather, the claim is that linguistic conventions determine the meaning
assigned to the basic lexical entries.  And there is reason to believe that
conventionality does play a role here, for both the set of expressions in the

44 I am here ignoring two other central components: (i) a procedure for parsing the
incoming perceptual input into the relevant lexical categories—roughly a phonology for
the language, and (ii) a procedure for determining the mood of the sentences uttered (for
e.g., example, assertion, question, command, etc.).
45 Chomsky (1986) and (2000).
46 See Guasti (2004), Isac and Reiss (2008), and Crain and Pietroski (2012) for instructive
summaries of this evidence.
47 As David Kaplan has put the point, “The character of an expression is set by linguistic
conventions and, in turn, determines the content of the expression in every context.
Because character is what is set by linguistic conventions, it is natural to think of it as
meaning in the sense of what is known by the competent language user.” (1987), p. 505.
lexicons and the meanings they are assigned are not universal among the world’s languages. Even if we restrict the class of possible ways of pairing linguistic expressions with their meanings to those that are compatible with the principles of the language faculty, there will be many alternatives present that could equally well serve the purposes of linguistic communication. Thus, insofar as the members of a group have a common interest in productive and efficient linguistic communication, they face a coordination problem—a case in which a group of agents have multiple options from which to choose but in which their interests would be best served by finding a unique solution. According to Lewis’ influential outlook, conventions arise as solutions to precisely these kinds of coordination problems.48

For Lewis, to say that a semantic theory for a language L is used as a matter of convention among the members of a group G is to claim that (i) each member of G uses that theory in communicating with other members of G, (ii) the fact that this theory is used is a matter of common knowledge among members of G, (iii) insofar as (i) and (ii) hold, members of G have a practical or epistemic reason to continue to use that theory in their communicative exchanges,

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48 See Lewis (1969) and (1975). By allowing that the principles of syntactic and semantic combination are largely innate, and hence not fully established by convention, we can avoid the “meaning without use” problem raised by Schiffer (1993), Hawthorne (1990), and others. The problem is that if conventions primarily link sentences with their semantic contents—rather than atomic expressions and their standing meanings—the fact that speakers can generate and understand the meanings of a potentially infinite number of sentences seems inexplicable. Since I take productivity to be one of the primary facts about linguistic communication that needs to be explained, my account fills a serious lacuna in Lewis’ proposal. In a slogan, I take the relevant conventions to be those of “reference and acceptance” rather than “truthfulness and trust.” While the move to subsentential conventions raises a number of issues, including issues concerning the relation between personal and subpersonal psychological states, a detailed discussion is beyond the scope of the present paper. See Loar (1981), pp. 256-260 and Davis (2003), ch. 10 for relevant discussion.
and (iv) there is at least one other semantic theory that could equally well satisfy (i)—(iii).49

The second point of clarification is this: the semantic account does not entail that linguistic communication is simply a matter of identifying the semantic content of a speaker’s utterance. Proponents of the semantic account should accept that speakers often pragmatically convey contents over and above those they semantically express. What proponents of the standard account will insist is that the process by which such information is pragmatically conveyed takes the semantic content of an utterance as input and, together with auxiliary principles of pragmatics, outputs an implicated content.

With these two clarifications in place, we can state the semantic account as a conjunction of two core claims. First, the determination thesis: linguistic conventions determine the standing meaning (or character) of a linguistic expression, which in turn determines the semantic value of that expression relative to possible contexts of use. Second, the linking thesis: a necessary condition on successful linguistic communication is that audience members entertain the semantic content of a speaker’s utterance on the basis of their knowledge of the standing meanings of the expressions occurring in that sentence together with their manner of combination and the context in which they are used.

49 Lewis (1969) and (1975). See also Schiffer (1972). This definition of convention is not without its problems. For example, Burge (1975) argues that Lewis’ account over-intellectualizes convention; in particular, that agents need not know an alternative is present in order to conform to a convention. Gilbert (1992) argues condition (iii) does not follow from rationality alone, but requires non-trivial assumptions about agents’ psychology. I will set these important worries aside for the purposes of this paper.
2.2. The Problem of Lexical Innovation

The forgoing semantic account of linguistic communication has been the subject of much criticism in recent literature in the philosophy of language and semantics. One standard objection concerns the relationship between the conventional meaning of an expression and the particular content it has on a given occasion of use. A number of theorists have argued that the occasion meanings of many expressions vary in open-ended and unprincipled ways with background features of the contexts in which they are used; hence the standing meaning of expressions cannot be equated with any rule tacitly known by the members of a conversation.\textsuperscript{50} In short, it is alleged that the conventional meaning of expressions radically underdetermines what speakers can use those expressions to convey to their audiences.

My focus in this section will be on a different kind of problem—one that concerns not the sufficiency of the conditions imposed by the semantic account but whether those conditions are even necessary in order for successful linguistic communication to occur. The problem, first suggested by Donald Davidson, turns on cases in which a speaker uses a sentence containing at least one expression for which no meaning has been conventionally established but nevertheless successfully communicates her intended meaning to her audience. I shall call this the problem of \textit{lexical innovation}. In such cases, the lexicon shared

by the speaker and her audience prior to the utterance does not specify the
meaning of the expression in question.

Davidson pointed to malapropisms as a rich source of lexical innovations.
Suppose a conversation is taking place involving an audience member whom
the speaker knows often confuses two expressions, such as ‘erratic’ and ‘erudite.’
Given this knowledge, the speaker may utter

(1) You should avoid hiring Joe the plumber, because he is very erudite.

with the intention of expressing the property of being erratic with his use of
‘erudite.’ Now suppose that the audience member recognizes that the speaker
uttered the sentence with the intention to communicate that Joe is erratic. Then
(1) seems to provide a case of successful linguistic communication, despite the
fact that it was not derived as a function of the conventional meanings of the
expressions occurring in that sentence together with their manner of combination.

Although they go unnoted by Davidson, cases of what have been called
denominal verbs serve to highlight the same problem. Suppose that Alf is a guard
at a local prison complex who has been given the task of monitoring Bea, an
inmate with a penchant for escaping from her cell. Alf returns from his lunch
break and finds Bea’s cell empty. After carefully inspecting the room and finding
no evidence of how Bea may have escaped, Alf runs to his superior Cal and
utters (2):

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51 This case is adapted from Schiffer (1972). Davidson himself does not clearly
distinguish between intentional and non-intentional malapropisms; that is, between cases
in which speakers intend to be using words in novel ways and accidental slips of the
tongue or others kinds of performance errors. I believe this is a mistake, given both
Davidson’s own background framework and standard characterizations of successful
communication, and so I will focus exclusively on cases of intentional malapropisms.
52 See Clark and Clark (1979) and Clark (1983), from whom many of the following
examples are adapted.
(2) Bea managed to *Houdini* her way out of her cell.

Despite having never encountered the expression ‘Houdini’ used in this way, Cal may correctly interpret Alf to have said that Bea inexplicably escaped from her cell.

Instances of denominal verbs can happen with proper names, as in (2)--(4), and with common nouns, as in (5):

(3) A local resident expressed concern that incoming developers were going to *East Village* her neighborhood in Brooklyn.

(4) Many geniuses have *Einstein-ed* their way through grade school.

(5) Pat made sure to *whisky* the punch before the teachers arrived.

In each of these cases, the italicized expressions function as verbs serving to pick out a property or relation rather than an individual object. For example, in (2) ‘East Village’ is used to express a relation that applies to individuals (or collections thereof) if and only if those individuals are involved in the gentrification of a neighborhood, rather than a specific geographical area denoted by the nominal.

It may be tempting to treat the foregoing cases as idiosyncratic instances of linguistic communication, particular to a small class of linguistic constructions. However, lexical innovations are a common part of our everyday speech and are displayed across a number of different lexical categories.\(^{53}\) In addition, both

\(^{53}\) Three others cases of lexical innovation which have been used to make similar points are *metaphorical* uses of expressions, novel *compound nouns* (such as “Gabe bought a new cat-jacket” or “Tyler prefers to write in his arthritis-chair”), and cases of *deferred reference* (such as “The ham sandwich left without paying his bill” or “He has rarely been German” (said of the Pope)). I shall discuss metaphor in more detail in section 5.2, but a discussion of compound nouns and deferred reference is beyond the scope of the present paper; see Gleitman and Gleitman (1971), Downing (1979), and Weiskopf (2007)
children and adults are highly adept at acquiring the meaning of a novel word after a single encounter. In a study conducted by the psychologists Lori Markson and Paul Bloom (1997), children of the age of three were exposed to a novel count noun in passing: they were told that they would measure a particular object using a ‘koba.’ The children were tested one month later, and were able to correctly recall the object denoted by ‘koba’ at a rate far better than mere chance would allow.

Instances of lexical innovation challenge the claim that the meaning of a speaker’s words is determined by prior linguistic convention and that knowledge of linguistic conventions is an essential part of successful linguistic communication. In each of the cases we have considered, prior knowledge of linguistic conventions either fails to specify the meanings of the expressions in question, or fails to deliver the intuitively correct meaning of the expressions at issue.

2.2.1. A Pragmatic Reply

How might proponents of the semantic account reply to the problem of lexical innovation? One strategy for defusing the problem is to maintain that in cases of lexical innovation communication operates through what the speaker’s utterance conversationally implicates rather than simply what the speaker’s utterance semantically expresses. After all, we have seen that the semantic account does not deny that speakers can pragmatically implicate information over and above the semantic contents of their utterances. If what is

for discussion of the former, and Nunberg (1979), Jackendoff (1996), Stanley (2005), and Asher (2011) for discussion of the latter.
communicated in cases of lexical innovations could be treated in such terms, they would pose no threat to the semantic account—for such cases would fall within the purview of a suitable pragmatic theory and hence provide no challenge to the claim that the semantic properties of a speaker’s words are determined by convention.  

There are at least three problems with such a reply. First, in typical cases of conversational implicature, a speaker expresses a semantic content that fails to satisfy various norms of conversation, and this fact triggers the search for some other content that the speaker intended to convey. However, if the expressions in the above cases of lexical innovation involving denominal verbs were assigned their prior conventional meanings, the sentences in which they occurred would be straightforwardly ungrammatical and hence unsuitable for expressing a semantic content all. Such cases would thus lack the requisite input to generate the relevant interpretations via conversational implicature.

Second, lexical innovations appear to combine with other expressions in the sentences in which they occur in predictable ways. Their interaction with quantifiers, as in (4) above, conditionals, as in (1’), and negation, as in (5’), appear no different than non-innovative expressions:

54 A version of this response is tentatively suggested in both Stanley (2005) and Camp (2006).
55 Jeffrey King (pc.) has suggested to me that this difficulty could perhaps be circumvented by maintaining that in cases of lexical innovation, speakers fail to express a semantic content at all, and it is precisely the lack of semantic content that prompts audience members to look for something the speaker intended to pragmatically convey. This reply is unsatisfying, for it certainly seems as though speakers could utter the above sentences containing lexical innovations in order to semantically express a content. This is evidenced by the fact than an audience member could reply to an utterance of (3) above with “Two other residents said that, too.” It is difficult to see how lexical innovations could be picked up through propositional anaphora if the sentences in which they occurred were literally meaningless.
(1’) If Bea managed to *Houdini* her way out of her cell, then Alf will be fired.

(5’) Pat did not *whisky* the punch, though he did add some vodka.

In this way, lexical innovations make a clear contribution to the compositionally determined content of the sentences in which they occur. Conversational implicatures do not compositionally interact with elements of the semantic content of the speaker’s utterance in this way.\(^56\)

A final reason for doubting the claim that what is communicated by lexical innovations might be explained in terms of what is pragmatically conveyed is that lexical innovations are not in general *cancelable*. It is widely held that information pragmatically conveyed can be canceled either explicitly or contextually. A speaker might say, “Someone broke the glass,” followed by “In fact, *I* broke the glass!” and thereby cancel the conversational implicature that it was not the speaker who broke the glass. However, the interpretation of denominal verbs cannot be canceled in this way:

(2*) Bea managed to *Houdini* her way out of her cell yesterday—but I don’t mean to suggest she inexplicably escaped from her cell or did any other action often associated with Houdini.

(2*) is blatantly unacceptable. But, if what is communicated in cases of lexical innovation were due to what is pragmatically conveyed, it is not clear why they would not be readily cancelable.

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\(^{56}\) C.f. what Robyn Carston calls the *Scope Principle*: if an element of meaning is shown to fall under the scope of propositional connectives, it cannot be part of an implicature but has to contribute to the truth-conditional content of the utterance; see Carston (2002), pp. 191-197 for discussion.
2.2.2. Moving Forward

Given that what is communicated by lexical innovations cannot simply be explained away in terms of what speakers’ utterances conversationally implicate, it is natural to take it that the standard semantic account stands refuted. This is precisely what Davidson took cases of lexical innovation to show, and he consequently sought to develop an account of linguistic communication that makes no essential use of shared knowledge of linguistic conventions.\(^{57}\)

On Davidson’s alternative account, each conversational participant is equipped with a “prior” theory that specifies her private grammar, as well as general knowledge concerning the ways in which people tend to get their points across. In response to a speaker’s utterance, audience members develop a “passing” theory concerning how a speaker intended her words to be understood, making revisions to their prior theory as necessary. Communication has been successful, according to this account, if the passing theories of both speaker and audience assign the same meanings to the expressions occurring in the sentence used. As Davidson insists, linguistic conventions play no essential role in such an account.\(^{58}\)

Davidson is correct in claiming that general purpose reasoning about an agent’s goals and intentions plays a significant role in successful linguistic communication. He is also correct to emphasize the ways in which the members of a conversation may adjust the meanings they assign to expressions for their mutual interest in communication. However, Davidson’s rejection of any substantive role for conventional meanings comes at a serious cost, and the

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\(^{58}\) Davidson (1984), p. 16.
interpretation of lexical innovations is far more constrained than his theory predicts. For example, the following denominalizations seem unacceptable:

*(6) A student generously offered to car me home after the talk.

*(7) Oscar glassed the wine before serving dinner.

There is nothing in Davidson’s framework that explains why these denominal verbs should be any less acceptable than any of the other cases we have considered. But this flies in the face of the facts: even if audience members can figure out what a speaker would be trying to express in uttering (6) and (7), these cases are considerably more marked than those we have already considered. In the next section, I will argue that the existence of prior linguistic conventions helps explain the unacceptability of these cases.

Furthermore, by rejecting any substantive role for conventional meanings, Davidson sacrifices the ability to explain why the particular expressions a speaker uses would be an effective way to get her intended meanings across.59 In many of the cases of lexical innovation that we have considered, audience members’ knowledge of the background conventional meanings seems to serve as an essential component in recognizing what a speaker intended to express with her use of a word.

What each of these problems shows is that Davidson’s full-stop rejection of linguistic conventions is unwarranted. Instead, we need a more realistic account of linguistic conventions and the role that they play in elucidating the

59 This point was originally made by Michael Dummett (1986), and more recently has been developed in detail by Marga Reimer (2004).
process of successful linguistic communication. In order to do so, we should give up the popular assumption that linguistic conventions are stable bodies of facts whose properties are determined independently of the particular agents engaged in a communicative exchange. Instead, I propose that members of a dialogue work together to construct the linguistic conventions linking expressions and their meanings for the purposes of the conversation in which they are engaged.

What successful linguistic communication requires is that a speaker and audience successfully coordinate on the semantic content of a sentence with respect to those constructed conventions. Thus I maintain that while Davidson was correct in concluding that cases of lexical innovation motivate serious revisions to the standard semantic account, he was incorrect in claiming that a shared set of linguistic conventions was not required to explain the process of linguistic communication.

2.3. A Dynamic Account of Conventions

In this section I develop a dynamic account of linguistic conventions. This account makes two related claims. First, linguistic conventions are adaptive in that prior conventions may be both expanded in order to incorporate new word meanings and shifted in order to revise the meanings of words already in the lexicon. Second, linguistic conventions are local in that they govern the meaning of an expression only with respect to a background state of information

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60 Although rarely given any argument, this assumption is often taken for granted in many current discussions in the philosophy of language and semantics; see, however, Dummett (1978) and Wiggins (1997) for a statement and defense of this “static” conception of linguistic conventions.
mutually accepted by the members of a group. Adopting the terminology of Robert Stalnaker, we can call this body of shared information the *common ground* of the conversation.\(^61\)

That said, the account I offer retains the claim that speaker and audience have shared knowledge of a semantic theory for a language. In other words, members of a conversation share a stock of word meanings, together with a set of recursive syntactic rules and a semantic interpretation. As before, a lexicon consists of a set of categories, together with a list of the basic expressions in each of these categories and their meanings. The meaning of an expression is taken to be a constraint on the range of admissible semantic values to which uses of that expression can be assigned. These syntactic rules will recursively specify how to build complex expressions from simple ones on the basis of their categories. Finally, the simple and complex expressions in the lexicon will be assigned semantic values, relative to their meanings and to the context in which they are used.

The dynamic account thus maintains that while members of a conversation do share a conventional procedure for associating semantic values with linguistic expressions, they may adapt this procedure for the purposes of their communicative exchange. Recall that, according to Lewis’ definition, the convention to use one language rather than another is sustained by a common interest in communication among the members of a group. It is because you and I wish to communicate that you speak, and I interpret your speech, in accordance with our previously established linguistic conventions. However, this is perfectly

\(^{61}\)Stalnaker (1978) and (2002).
consistent with the fact that members of a group can adjust their conventions in order to facilitate communication. In fact, this point is actually predicted by Lewis’ account: if it is mutually clear to the members of a group that communication would be better served by using language $L’$, rather than language $L$, then members of that group have a reason to use $L’$ rather than $L$.

Lexical innovations can be modeled in precisely these terms. In such instances, a speaker is attempting to establish a new *lexical precedent* for the purposes of the conversation. When, for example, a speaker uses a novel expression such as ‘koba’ she can be understood as introducing a new lexical precedent for the purposes of the conversation. The precedent involves creating a new basic expression among the class of nouns and assigning it a meaning. If the other members of the conversation can identify that precedent and acquiesce to what it entails then the lexicon of the language being used by speaker and audience will be enriched with a new expression-meaning pair.

In cases of this sort, we can say that the innovative use of an expression has resulted in a *lexical expansion* of the language.\(^{62}\) A language $L’$ is a lexical expansion of language $L$ iff $L’$ is exactly like $L$, except for containing one or more additional lexical entries among its basic categories. In cases of lexical expansion, the set of conventional meanings available for use between speaker and interlocutor has been extended.

I maintain that denominal verbs provide another case of lexical expansion. If the speaker’s use of the verb is accepted, then the lexicon of the language being used by the discourse participants will contain two precedents: one governing

\(^{62}\) I am here adapting the terminology of Dowty (1979), pp. 298-300.
the meaning of the proper name ‘Houdini,’ and another governing the verb ‘to Houdini.’ When a denominal verb is completely novel, it requires that the conversational participants share rich background knowledge concerning the properties of the individual (e.g., Houdini) denoted by the noun from which the verb was derived. However, the connection between the meaning of the verb and the properties of the individual denoted by the noun may become far less direct. After all, many speakers are unaware that the verbs ‘lynch’ and ‘boycott’ were derived through a process of denominalization.\(^{63}\)

Crucially, members of a conversation do not add new lexical entries without reason. In many cases, the introduction of a new lexical entry is prompted by the fact that there is no single expression already in the lexicon that has the meaning the speaker wants to convey. In particular, agents attempt to respect what Eve Clark (1988) has called the principle of contrast: all things being equal, differences in form should signal differences in meaning. Clark’s principle implies that a member of a conversation should avoid introducing a new lexical entry if there is already an expression in the lexicon that has the same meaning.

\(^{63}\) Some may worry that this treatment of denominal verbs runs counter to the “Modified Occam’s Razor Principle” employed by Grice (1978), according to whom linguistic meanings should not be modified beyond necessity. In reply, it should be noted that in section 2 we saw a number of reasons for holding that denominal verbs have linguistic meanings, and should not be treated as conversational implicatures. Since all things are not equal in this case, it does not conflict with the principle in question. Furthermore, as the cases of ‘lynch’ and ‘boycott’ illustrate, it should be uncontroversial that some denominal verbs are conventional. If the Occam’s razor principle applied to denominal uses of ‘Napoleon,’ it is not clear why the principle would not also apply to every denominal verb. On the view I am suggesting, the difference between a verb such as ‘Napoleon’ and verbs such as ‘lynch’ and ‘boycott’ is not that the latter are conventional and the former is not, but rather how widely the conventions at issue are shared across a population.
I claim that this principle helps explain why the lexical innovations in (3) are unacceptable. In these cases, the expressions ‘to glass’ and ‘to car’ are used to express the properties of pouring and driving. Given that there are already expressions in circulation that serve to express these properties (e.g. ‘pour’ and ‘drive’) the speaker who uttered sentences (5) or (6) would be violating the principle of contrast. In cases such as these, prior conventions preempt the need for introducing new conventions.

In addition to expanding their linguistic conventions, members of a conversation may also adjust their shared language by revising the meanings of expressions already in the lexicon. Recall the conversation involving a speaker and an audience member who regularly confuses ‘erratic’ and ‘erudite.’ In such a situation, the speaker may say, “You should avoid hiring Joe the plumber, because he is really erudite.” In this case, the speaker has appropriated her lexicon to that of her audience and used the expression ‘erudite’ to describe the property of being erratic.

In these kinds of cases we witness not a lexical expansion, but a *lexical shift*. Language L’ is a lexical shift of language L, when L’ is exactly like L except that one or more of the basic expressions in L’ differ in meaning from the basic expressions in L.⁶⁴ To put it a bit differently, previous lexical precedents have

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⁶⁴ This, again, roughly follows the terminology of Dowty (1979), pp. 298-300. The definition makes the controversial assumption that linguistic expressions do not have their meanings essentially, and that they can instead be individuated in terms of their phonological, morphological, and syntactic properties. We can remain neutral concerning this controversial assumption by reformulating the definition of lexical shifts in terms of the notion of a *lexical counterpart*. An expression e* in language L’ is a lexical counterpart of expression e in language L iff e* and e have the same phonological, morphological, and syntactic properties. We can then say that L’ is a lexical shift of L iff (i) each expression in the lexicon of L’ has a lexical counterpart among the
been revised in a way that shifts the range of admissible semantic values for uses of some expressions in the language.

While lexical shifts may entail an inversion of the meaning of two expressions in the lexicon, they may also involve strengthening or loosening the meaning of a particular term. For example, members of a conversation can shift prior precedents for the expression ‘hexagonal’ in a way that allows for an utterance of “France is hexagonal” to express a truth. Similarly, as Peter Ludlow has pointed out, members of a conversation may debate whether Secretariat, the decorated racehorse, counts as an athlete. Such a debate centers on whether to use a language in which the extension of ‘athlete’ only includes humans, or to use another language in which the extension of ‘athlete’ may include non-humans.  

With regard both to lexical expansions and lexical shifts, members of a conversation adjust their linguistic conventions for the purposes of communication. Of course, the members of the conversation may have no disposition to use a newly constructed expression with other members of the population not engaged in the conversation. For this reason, it is useful to describe the language used by speaker and audience as a *micro-language*: an expressions of the lexicon of L, and (ii) there is an expression e* among the lexicon of L’ and an expression e among the lexicon of L, such that e* and e are lexical counterparts and e* differs in meaning from e. Thanks to Carlotta Pavese for helpful discussions on these issues.

Ludlow (ms). Similar debates, of course, arise for highly substantive expressions such as ‘person’ or ‘violence.’
assignment of meanings to linguistic expressions suited for use by the members of a conversation.\textsuperscript{66}

It is in this sense that linguistic conventions are \textit{local}, for they govern the meaning of an expression only relative to a background state of the common ground of the conversation.\textsuperscript{67} The common ground of a conversation will reflect a wide array of information that discourse participants take to be available in interpreting one another’s utterances. It will pertain to what the world is like, the topic of the conversation taking place, prior utterances in the conversation, and much else besides. It is conceptually useful to model the common ground in a way that reflects the structure of this information. For present purposes, I will model the common ground as sequence \texttt{<CS, QUD, DR>} consisting of a \textit{context set}, a set of \textit{questions under discussion}, and a \textit{discourse register}.\textsuperscript{68}

The context set of a conversation is the set of possible worlds compatible with everything the discourse participants have mutually accepted as true—specifically, possible worlds that the members of the conversation take to be live candidates for the actual world, given what each member of the discourse takes the other members of the discourse to affirm as true. The questions under discussion divide these possible worlds into various subject matters or \textit{issues}.\textsuperscript{69} These issues can be thought of as a partially-ordered list of questions which the

\textsuperscript{66} See Ludlow (2000) and (2008). The process by which agents establish these local lexical conventions in conversations has been studied by a number of psycholinguists; see, for example, Garrod and Anderson (1987), Garrod and Doherty (1994), Brennan and Clark (1996), and Brennan (1996).

\textsuperscript{67} See Rayo (Forthcoming) for further discussion.

\textsuperscript{68} This roughly follows the proposal in Roberts (1995) and (2004), Ginzberg (1995) and (2012), and Ginzburg and Cooper (2002).

\textsuperscript{69} See Lewis (1982). In speaking of subject matters as questions, I am assuming a standard semantics for questions, deriving from the work of Hamblin (1958) and Karttunen (1977); see also Groenendijk and Stokhof (1997) for a related proposal.
discourse participants are interested in answering, for example “who came to the party?” or “did Bea escape through the window?” Finally, the discourse register records the expressions that have been in circulation among the discourse participants as well as the meanings those expressions have been assigned.

The common ground of a conversation will change in characteristic ways as a conversation takes place. If the other members of a conversation accept a speaker’s assertion, they will eliminate possible worlds incompatible with the content of the assertion from the context set. If a new subject matter or a question is explicitly raised and the other members of the conversation do not object, a new issue will be added to the stack of QUDs. Finally, if a new expression is used or an expression already in circulation is used in a new way, the discourse register will be updated.

According to this picture, then, the meaning of an expression is a constraint on the admissible semantic values that different uses of the expression can be assigned, relative to background states of the common ground. This claim allows for the very same expression to be assigned a different semantic value relative to different states of the common ground. Suppose that Pat and Sue are in Paris for a trip with their history class and are discussing what each of them did that day. While sharing various memorable encounters with the locals, Pat says (7):

(7) A photographer told me to do a Napoleon for the camera.

Given the state of the common ground—and in particular, the questions under discussion—Sue may take (7) to express the proposition that a photographer asked Pat to strike a particular kind of pose for a picture. However, suppose that later in the conversation Pat asks Sue if she learned anything about recent French history during her visit, and Sue says (8):
Interestingly enough, a tour guide told us that Hitler did a Napoleon in Russia, during the winter of 1941.

Given the questions now under discussion, Pat may take (8) to express the proposition that Sue was told that Hitler marched his land troops through Russia in the middle of winter. In this way, the present conception of context provides a perspicuous account of the way sentences can be used to update the common ground and of the effects that these updates can have on the interpretation of sentences subsequently used in the conversation.

2.4. Communication On the Fly

In this section, I embed the dynamic account of the lexicon I have been developing in a general account of linguistic communication. The account I offer is one according to which speakers are performing a particular kind of intentional action when they utter sentences. These actions are intended to add specific bits of information to the common ground. I will argue that what distinguishes the intentions that serve to determine the semantic content of a sentence from other kinds of communicative intentions are the effects for which a speaker aims and the manner in which these effects are meant to be realized.

Since the groundbreaking proposal of Grice (1957), it has been common to model the goals of a communicative exchange in terms of a speaker intending to solicit a response from members of her audience on the basis of the audience members’ recognition of her intent to provoke that response. In terms of the present framework, we can say that the goal of a communicative exchange is to
update the common ground. In particular, a speaker’s communicative behavior can be characterized as a proposal to bring about a local change to the body of information mutually accepted by members of the conversation. Conversely, audience members may be characterized as attempting to identify how a speaker proposes to change the body of information mutually accepted by those members.

This description of the goals of conversation brings with it various norms to which speakers are committed insofar as they intend to communicate. It requires that speakers make it possible for members of their audience to identify how they have proposed to update the common ground. Likewise, insofar as audience members take the speaker to be acting cooperatively, they will expect that she has made it possible for them to recover the information she proposes to add to the common ground. These claims hold both for information a speaker intends to semantically express and, mutatis mutandis, for information a speaker intends to convey in addition to what she semantically expresses.

Following the general intention-based framework inspired by Grice, I hold that speakers’ intentions play a constitutive role in fixing the semantic value of a use of a particular expression. However, I also maintain that members of a

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70 This follows Stalnaker (1978) and (2002), and Thomason (1990).
71 Note, also, that this basic framework allows us to add more substance to the characterization of the various subsidiary norms of conversation discussed by Grice (1987). A speaker’s proposal to update the common ground is expected to be informative in that it is expected to eliminate some possible worlds from the context set. It is expected to be relevant, in that it is expected to answer one of the questions under discussion. It is expected to be orderly, in that it is formed grammatically and in a way that satisfies principles like contrast. Finally, it is expected to be accurate, in that it is taken to hold in the circumstances under consideration. See Roberts (1996) and (2011).
72 Two important caveats concerning this “intentionalist” claim should be noted. First, the claim does not entail that a speaker’s intentions will be perfectly transparent to her upon
speaker’s audience play a constitutive role in determining the semantic value of a given use of an expression. For a use of an expression \( e \) to have semantic value \( \Phi \) in a sentence, the speaker must intend to use \( e \) to have semantic value \( \Phi \) and for that intention to be such that the members of the speaker’s audience, with knowledge of the common ground, recover that \( e \) is intended to have \( \Phi \) as its semantic value; furthermore, members of the speaker’s audience must identify the value the speaker intended to express. In other words, it is the coordination of the speaker and her audience on a particular object, property, or relation that determines the semantic value of the use of the expression in question.\(^73\) We can say, then, that the semantic value of a use of an expression is determined by a speaker’s *audience-involving intentions*.

Generalizing this formulation to each expression that occurs in a sentence uttered by a speaker, we can say that \( S \) semantically expresses content \( P \) if and only if (i) the speaker utters \( S \) with the intention of using the basic expressions occurring in \( S \) to have their particular semantic values and for them to be combined together to form \( P \), and (ii) for an audience member, with knowledge of the common ground, to recognize that the speaker uttered \( S \) with the intention

\[^73\] I am here building off a recent proposal by Jeffrey King; see King (Forthcoming) for more discussion.
of using the basic expressions occurring in $S$ to have their particular semantic values and for them to be combined together to form $P$.\footnote{Notice that this account predicts that a speaker may semantically express different contents to different members of the audience, depending on what is taken to be common ground between them. That is, a speaker may semantically express more than a single content by uttering a single sentence. While it is beyond the scope of the present paper to tease out the implications of this prediction, I believe it to be a welcome result; see von Fintel and Gillies (2011) for an application of this idea to the case of epistemic modals.}

Needless to say, audience members cannot look inside a speaker’s head and identify her intentions. This is where the common ground and specifically the background linguistic conventions enter center stage. Audience members must rely on the speaker to act cooperatively, to make it possible to recover the content of her utterance on the basis of what is mutually presupposed between them.

We can break down the process that an audience member undertakes in order to identify the speaker’s semantically relevant intentions into the following steps. First, the audience member must attempt to identify the form of $S$. If the sentence is complex, this means identifying the category of each of the atomic expressions in $S$ and their mode of syntactic combination. Second, the audience member must attempt to identify the semantic values the speaker intended for each of the terminal nodes of $S$ and on this basis to compute the semantic content the speaker intended to express.

Identifying the category of the basic expressions occurring in the sentence the speaker uttered will provide the audience member evidence of the kind of value the speaker intended for a given expression. If, for example, an expression is being used as a noun, the audience member can take the speaker to have intended to pick out an object suitable for that category. Once she has identified
the category of an expression, the audience member will use the information in the common ground to form a hypothesis about what the speaker intended the value of that expression to be. In particular, she will attempt to find a suitable entity that could serve as the value of the speaker’s use of an expression given the background information provided by the common ground.

Of course, the process sometimes fails. Audience members are not always able to identify either the form or the intended content of a speaker’s utterance. This can happen because the speaker has failed to satisfy the principle of recoverability or else because audience members may have only partially heard what she uttered or were not paying sufficient attention. In such cases, the discursive techniques of clarification and feedback play a crucial role. An audience member may say, “What did you say?”, “What do you mean by ‘X’?”, or even simply “‘X’?” In so doing, they put a new question under discussion. Given the goals of conversation, a speaker must respond to such clarificatory questions either by elaborating on what she intended to express or by using an altogether different expression. However, if an audience member does not ask for further explanation nor raise any objections to a speaker’s proposal to update the common ground, it will generally be taken that the audience member both understood what the speaker said and chose to add it to the common ground.

How does this process work in the case of lexical innovations? Let us return to the case I mentioned at the beginning of this paper, in which Alf runs to Cal and utters (1):

(1) Bea managed to *Houdini* her way out of her cell.

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75 See Ginzberg and Cooper (2004) for more discussion.
Assume that Cal has correctly identified the form of (1) and so knows that the occurrence of ‘Houdini’ is functioning as a verb. Cal searches her lexicon under the category of verbs and does not find any entry corresponding to this expression. Although the expression does occur in Cal’s lexicon among the category of nouns, she knows it is of the wrong category and so cannot be what Alf intended to express. At this point, Cal can either try to infer what Alf meant on the basis of information in the common ground or she can request clarification by asking, “What do you mean by ‘Houdini’?” Let us suppose she does the former. Cal knows that the issue under discussion is Bea, who has a penchant for prison breaks. She also knows that it was mutually accepted by all the members of the conversation that Houdini, the historical person, was known for his feats of magic and escape. Since she presumes Alf was intending to be cooperative, she forms the hypothesis that Alf intended to use the verb ‘Houdini’ to pick out the property of staging daring and seemingly impossible escapes. On this basis, she takes Alf to have asserted that Bea managed against all odds to escape from her cell.

In the case at hand, Cal correctly identifies the property Alf intended to denote with the verb ‘Houdini,’ and hence her exchange with him constitutes a case of successful linguistic communication. Since Cal trusts Alf and accepts what he says, the common ground of the conversation will be updated with the information that Bea has inexplicably escaped from her jail cell. Performing this update on the token sentence that Alf uttered requires Cal to enrich her lexicon with a new type of expression. If Cal recovers the meaning Alf intends that expression to have and acquiesces to what it entails, the shared lexicon of the conversation will be expanded. In this way, Alf’s utterance serves to provide Cal
with information both about the world and about the linguistic conventions governing their conversation.\textsuperscript{76}

How would this process work in a case involving a lexical shift? Consider the following dialogue between Sue and Pat, adapted from Carston (2002):

Sue: I hope to meet a bachelor at the party tonight.

Pat: Rudy is not married and I know he will be there.

Sue: There is a reason Rudy is unmarried; he’s no bachelor.

Pat: Well, let’s hope some real bachelors show up then.

In this dialogue, Sue raises a new issue by announcing that she wants to meet a bachelor at the party, and Pat addresses it by asserting that Rudy is an unmarried man who will be at the party. In her reply, Sue agrees with Pat’s assertion that Rudy is an unmarried man. Since Pat can presume that Sue is being cooperative and she knows that she is not contradicting Pat’s claim that Rudy is an unmarried man, Pat can infer that Sue must be intending to use ‘bachelor’ in a shifted sense. She might, for example, be intending to use it to express ‘eligible unmarried man.’ By responding the way she did, Pat acquiesces to Sue and begins to use the term ‘bachelor’ in a shifted sense.

\textsuperscript{76} Davidson once objected that any semantic theory suitable for addressing the problem of lexical innovation would “erase the boundary between knowing a language and knowing our way around the world more generally.” Davidson (1986), p. 173. While it is true that the present account characterizes the language shared between speakers and their audiences in terms of more general shared information about the world, it does not erase the distinction between knowledge of language and knowledge of the world. A distinction is to be drawn between learning information that eliminates possible worlds from the context set of the conversation but does not result in either a lexical expansion or a lexical shift and learning information that results in a lexical expansion or lexical shift. For example, an agent can come to learn that Mr. Smith is in Boston, without thereby altering the meaning of ‘Smith’ or ‘Boston.’
Let us take stock. I have proposed that successful linguistic communication requires that a speaker and her audience coordinate on the semantic content of a sentence by coordinating on the semantic values of its parts and their manner of combination. The role that background linguistic conventions play in this process is to provide the scaffolding that allows coordination to occur on the fly. In cases of lexical innovation, audience members use prior conventions and other information provided by the common ground to identify what a speaker intended her words to express semantically. When things go well, a new lexical precedent will be established and prior conventions will be either expanded to incorporate a new word meaning or shifted to revise the meaning of an expression already in the lexicon.

2.5. Semantics and Pragmatics

The dynamic approach I have developed assigns a foundational role to the shared intentions, goals, and presuppositions of the members of a group in order to explain the process of successful linguistic communication. Some may worry that any such account collapses the distinction between semantics and pragmatics. In this final section, I briefly lay out a scheme for differentiating semantics from pragmatics within my framework and discuss some of its implications. Here I argue that, rather than eliding the distinction between semantics and pragmatics, the dynamic account provides a principled way to distinguish between them.
It should be noted at the outset that ‘semantics’ and ‘pragmatics’ are terms of art and are often used in disparate ways by individual theorists. Some have used ‘pragmatics’ to describe the role of beliefs and intentions in a general account of the production and interpretation of linguistic expressions and ‘semantics’ to describe the meanings of linguistic types that do not vary across contexts of utterance. Although this may seem to be simply a matter of nomenclature, there is good reason to be dissatisfied with such usages. Given the characterization of successful linguistic communication in terms of intention recognition and given that many of the sentences speakers utter contain context-sensitive expressions, these ways of understanding pragmatics and semantics trivialize the role the latter plays in explaining the process of successful linguistic communication.

For my part, I have used these two terms to describe kinds of properties of uttered sentences. The semantic properties of an uttered sentence—“what is said” by that sentence—are determined by the semantic values of the atomic expressions occurring in the sentence uttered together with principles for generating the meanings of complex expressions. The semantic value of an atomic expression is, in turn, determined by the local conventions governing that expression together with the audience-involving intentions of the speaker. In contrast, the pragmatic properties of an uttered sentence—what is “merely implicated” by that sentence—are determined by what a speaker intends to communicate to her audience that is not solely a function of the semantic values

77 This use of the terms ‘pragmatic’ and ‘semantic’ is the one employed by Sperber and Wilson (1986/95), Carston (2002), (2008), Recanati (2001) and (2011), and, with some important caveats, Bach (2002).
of the atomic expressions occurring in a sentence and their manner of combination. Instead, these properties of the uttered sentence are derived from general principles of cooperative action that are not specific to any particular set of linguistic conventions.\textsuperscript{78}

We can model the distinction between semantics and pragmatics by making recourse to the two ways in which a speaker can intend to update the common ground. In the case of information semantically expressed, a speaker utters a form of words with the intention that members of the audience will assign those words a particular content and come to add the content expressed to the common ground. In the case of information pragmatically conveyed, a speaker also utters a form of words with the intention that the members of her audience assign it a particular content. However, she also intends her audience to recognize that the content expressed was not (or not merely) what she intended to communicate and thus to look for another content that was intended to be added to the common ground.

This division of labor between semantics and pragmatics is very much in the spirit of Grice’s (1978) original proposal. For Grice, what distinguishes information semantically expressed from information pragmatically conveyed is not the fact that the former depends on speakers’ intentions and the latter does not. Rather, the two ways of communicating information are distinguished by

\textsuperscript{78} C.f. Saul Kripke (1978), p.263: “The notion of what words can mean, in the language, is semantical: it is given by the conventions of our language. What they mean, on a given occasion, is determined, on a given occasion, by these conventions, together with the intentions of the speaker and various contextual features. Finally what the speaker meant, on a given occasion, in saying certain words, derives from various further special intentions of the speaker, together with various general principles, applicable to all human languages regardless of their special conventions.”
the kinds of effects speakers intend their utterances to have and the manner in which those effects are intended to be realized.

This way of characterizing the general purpose reasoning at issue in identifying the semantic content of a speaker’s utterance places substantive constraints on the manner in which background features of the common ground can influence what is said by the utterance itself. What is said by a speaker’s use of a sentence can vary with background features of a conversational context only insofar as the contribution of that sentence’s constituents do, too.\(^79\) In the particular case of lexical innovations, the process of interpretation does not concern an ad-hoc development or enrichment of what a speaker’s utterance semantically encodes. Rather, it concerns reasoning about what is semantically encoded by a speaker’s utterance. In this sense, the general purpose reasoning at issue is a matter of pre-semantics: it concerns what language the speaker intends to be speaking for the purposes of the conversation.\(^80\)

In order to help clarify the forgoing approach to semantics and pragmatics, it will be worth considering two more specific worries. The first concerns a case described by Saul Kripke and the second concerns metaphorical uses of expressions.

### 2.5.1. Semantic Reference and Speaker Reference

Consider the following case from Saul Kripke (1978): Alf and Bea are having a conversation, and in the distance they see a man working in his yard.

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\(^79\) Szabo (2001).

\(^80\) See Taylor (2001) for related points concerning the difference between the role of intentions and expectations in establishing pre-semantic facts in contrast to the role of intentions and expectations in establishing post-semantic facts.
Alf asks, “What is Jones doing?” Bea answers: “Jones is raking the leaves.” But Alf and Bea have made a mistake; the man they were looking at was Smith, not Jones. Furthermore, Alf and Bea both know that Smith is called ‘Smith’ and Jones is called ‘Jones.’ Kripke proposes the following diagnosis: while Alf and Bea have both semantically expressed something about Jones with their uses of ‘Jones,’ they have speaker-meant something about Smith.

It may seem that this diagnosis is incompatible with the present account of conventional meaning. After all, Alf and Bea coordinated on Smith as the value for the use of the name ‘Jones’ (i.e., they both took Smith to be the referent of ‘Jones’). It may appear, then, that the present account would predict that this coordination would result in a local convention being established to the effect that the meaning of ‘Jones’ is Smith, thus controverting the semantic reference/speaker reference distinction. According to my account, the conventional meaning of a word among a group of agents is characterized in terms of those agents’ mutual presuppositions concerning the pairing of linguistic expressions and their meanings. But, as the case is described, Alf and Bea mutually presuppose that uses of the name ‘Jones’ refer to Jones and uses of the name ‘Smith’ refer to Smith. It is these presuppositions which determine the conventional meaning of their words, and what their use of the name ‘Jones’ semantically expresses.

What gives rise to the fact that speaker-meaning and semantic meaning diverge in such a case is that Alf and Bea are speaking with conflicting intentions. More particularly, while Alf and Bea each intend to refer to the man they both see in the distance, they also intend to do so in accordance with their background presuppositions concerning the names ‘Jones’ and ‘Smith.’ Since they have each
coordinated on the same man in the distance with their uses of ‘Jones,’ they have successfully speaker-referred to Smith. But given their intentions to use the name ‘Jones’ in accordance with their background presuppositions, the semantic content of their words diverges from the content they have communicated to one another. If we follow Kripke’s diagnosis of the case, this is exactly as it should be.

2.5.2. Metaphor

Metaphorical uses of language seem to have many of the same properties that I have attributed to cases of lexical innovation. After all, the meanings of metaphorical uses of expressions depart from prior conventional meanings. For one thing, they seem to combine in standard ways with other expressions in the sentences in which they occur. They can also be picked up through propositional anaphora and verb-phase ellipsis. It would therefore appear that if lexical innovations should be analyzed in semantic terms, so too should metaphor. But some may think that this is surely incorrect, and that metaphor is, rather, a paradigm of the pragmatic.

In response, I deny that all metaphorical interpretation should be treated using the same theoretical tools. I propose that we distinguish between at least two kinds of metaphor, namely “shallow” and “deep.” We will call a metaphor shallow if the metaphorical interpretation of the sentence can be localized to a single expression occurring in the sentence uttered. For example, (12) and (13) are examples of shallow metaphors:

(12) Pat is a bulldozer.

(13) Many Americans are hawks.
In contrast, we will call a metaphor deep if its interpretation cannot be localized to a single expression occurring in the sentence. For example (14) and (15) would be examples of deep metaphors:

(14) I am a little world made cunningly.

(15) We are drifting back and forth/between each other like a tree breathing through its spectacles.

The metaphorical interpretation of both (14) and (15) is due to a complicated interaction of each of the expressions occurring within these sentences. While the dynamic account of linguistic conventions I have developed could be straightforwardly applied in the case of shallow metaphors, it does not obviously apply in the case of deep metaphors. When it comes to shallow metaphor, the speaker is using a language in which the expressions ‘bulldozer’ and ‘hawk’ are assigned meanings which depart from the meaning of those expressions in the language established by prior convention; here, we essentially have a species of a lexical shift. In cases of deep metaphor, however, there is no single way to shift the language the speaker is using in order to arrive at the relevant metaphorical interpretation.

The fact that the account I have developed readily applies to shallow metaphors but does not apply to deep metaphors is a welcome result. First, shallow metaphors are part of the regular process of language change: they rapidly “die” or dwindle into highly conventionalized forms, including colloquialism or cliché. Second, shallow metaphors are often used to communicate information that directly contributes to the practical deliberations of those engaged in a conversation. For example, in a debate over who should be
nominated for the chair of the Parent-Teacher Association, a speaker may utter (12) with the intention to convey that Pat would make an excellent chair because she removes obstacles in her path.\footnote{This example is adapted from Bezuidenhout (2001).}

Neither of these features generally hold true for deep metaphors. Deep metaphors do not rapidly decompose into conventional meanings, and, when they do, they are preserved as more or less whole phrases. Moreover, deep metaphors are often open-ended in ways ill-suited for communicating information that directly contributes to the practical deliberations of those engaged in a conversation. In cases of deep metaphor, there does not seem to be a single content that a speaker intends to express, or which she expects audience members to recognize her as intending to express.\footnote{This point is made with great clarity in Lepore and Stone (2010).} This feature of deep metaphors seems to be, at least in part, what gives them their power, whether that power is affective or aesthetic: there is a varied and open-ended number of contents a speaker could be expressing, and audience members must imaginatively consider which (if any) were intended to be expressed. It seems to me a mistake to try to locate the vast potential of deep metaphor using a semantic theory, and so I happily acknowledge that such cases fall outside the purview of the framework I have developed.

**Conclusion**

I have shown that cases of lexical innovation do not undermine an essential role for linguistic conventions in explaining the process of linguistic communication. Against Davidson, I have argued that a commitment to
linguistic conventions helps explain both why certain cases of innovation fail and how audience members identify the meaning a speaker intended to semantically express with her use of a word. Linguistic conventions arise as *local* solutions to coordination problems, and it is these local conventions that do the work in elucidating the process of successful linguistic communication.
Chapter 3

Truth and Imprecision

Introduction

Alf and Bea are standing in the library lobby. Alf asks Bea for the time. Bea looks at her watch, and replies “It’s three o’clock.” Alf thanks her, and goes on his way. Alf and Bea have had a successful information exchange: Alf requested some information that he lacked, Bea acquired the information in question and uttered a sentence that expressed it. Alf understood what information the sentence was intended to express, trusted Bea, and updated accordingly.

One of the aims of the philosophy of language is to provide a systematic account of the practice whereby languages are used to exchange information successfully. When we reflect on humdrum cases of information exchange, like that of Alf and Bea above, various kinds of regularities seem to emerge. By and large, speakers perform speech acts with the intention to provide accurate information, and by and large hearers expect that speaker intended to provide accurate information. Each of these facts is a matter of common knowledge among conversational participants. In addition, speakers by and large perform speech acts with the intention to be understood and hearers likewise expect that speakers will speak in a way that can be understood as intended. These facts, too, are common knowledge. That these two kinds of regularities obtain, and that they are common knowledge, seems to provide us with the makings of a theory
that explains that remarkable success with which languages are used to exchange information.

There is, however, a problem. Speakers often speak loosely: the information they provide often only approximates how things are in the actual world. In our humdrum case above, let’s suppose that it was 3:03. Indeed, let’s suppose that Bea’s watch read 3:03. It thus seems that it was not actually 3:00, as Bea’s assertion represented things as being. For reasons that will emerge I’ll call this a case of assertoric imprecision. There can be no denying that speakers do often speak loosely in this way. Our ordinary practices of linguistic communication would be strained if they did not: speakers would be far more pedantic in what they said, hearers far less interested in what was said, and the efficiency of linguistic communication would be threatened. What is, however, a matter of theoretical controversy is the implications that cases of assertoric imprecision have for the nature of semantic theory—particularly, the relationship between semantics, truth, and communication.

In recent years, a number of theorists have taken cases of assertoric impression to suggest serious revisions to the platitudes with which we began. Some theorists have used the problem to motivate a rejection of standard alethic norms on assertion. Daniel Sperber and Deidre Wilson ((1986), (2002)), for example, have taken such cases to suggest that assertion is not governed by a norm of truth or knowledge but instead a norm of relevance. Other theorists have taken the data to suggest that the semantic content of a sentence is rarely the primary information a speaker intends to convey in asserting that sentence. For example, Peter Lasersohn (1999) has argued that while there is a norm of assertion this norm does not govern the semantic content of speakers’ assertions,
but rather govern the *pragmatic halos* of speakers’ assertions—that is, a set of propositions that differ from the semantic content of an asserted sentence in ways that are pragmatically ignorable in the context of utterance.

In this chapter, I will argue that these revisions to the classic picture of assertion are both unacceptable in their own right and unnecessary. Instead, what we need is a better account of the relation between conversational participants and the languages they use for the purposes of communication. In particular, the problem motivates a version of what I call *semantic pluralism*. Semantic pluralism is the thesis that a conventionally established semantic theory for a language associates a range of admissible values with the expressions of the language (relative to a context of utterance). As a consequence, a speaker may semantically express multiple propositions in asserting a single sentence. I will show how semantic pluralism can straightforwardly address cases of assertoric imprecision while retaining standard connections between assertion, truth, and semantics. In particular, I will show that the data does not motivate a rejection of a constitutive connection between truth and assertion, or a tight connection between semantic content and assertoric content.

The plan for the chapter is as follows: in Section 1, I show how the problem of assertoric imprecision arises within one particular version of a standard theory of assertion, adapted from the work of Robert Stalnaker and David Lewis, and I identify some desiderata that any adequate account of assertoric imprecision should satisfy. In Section 2, I consider the two aforementioned responses to the problem and argue that they should be rejected. In Section 3, I develop my version of semantic pluralism and characterize the relations between assertion, truth, and semantics within this framework. In
section 4 I show how semantic pluralism meets the desiderata for an account of assertoric imprecision.

3.1. Assertion, Truth, and Semantics

In what follows, my focus shall be on assertoric uses of language. Assertions are intentional actions—actions performed with the intention to accomplish characteristic sorts of ends, and which have characteristic sorts of effects. Since they are more or less assumed by all parties to the dispute that I shall discuss, I will assume a few broad points about assertion. First, assertions are intentional acts that express propositional contents—entities that, whatever else they are, can be evaluated for truth or falsity relative to a state of the world. Second, speakers make assertions with intention to communicate propositional contents to the other members of a conversation and successful communication consists in the members of a conversation coordinating on the very same propositional content.

Of course, it would be nice to have a slightly more rigorous characterization of assertion. To this end, I will work with an abstract framework that models assertion in terms of the way it serves to update to the common ground of a conversation. 83 The common ground of a conversation is a body of information that is taken by the conversational participants to be mutually accepted for the purposes of a conversation; slightly more formally, the common ground is a set of propositions that is accepted as true by each conversational

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83 The model is taken from Stalnaker (1978) and Lewis (1979), who were in turn building on Grice (1954).
participant, and that is believed to be likewise accepted as true by each other member of the conversation. The common ground of a conversation can, in this sense, be understood to be a kind of mutually accessible public record of a conversation.

Within this model, assertions are distinguished from other uses of language—such as questioning and commanding—by updating a set of open possibilities. These open possibilities are ways the world could be that are left open by what has been mutually accepted as true in the conversation; roughly, they are possible worlds that the conversational participants are treating as live candidates for the actual world. The essential effect of an assertion is to update the common ground by eliminating open possibilities inconsistent with the content of that assertion. That is, in making an assertion the speaker is seen as making a proposal to the other members of the conversation in order to narrow the set of open possibilities provided by the common ground to those in which the content of the assertion is true.

The problem of assertoric imprecision, as I understand it here, arises given two widely accepted claims concerning assertion. The first concerns the connection between assertion and truth, and the second concerns the connection between assertoric content and semantics. Each of these claims seems implicit in the model of assertion just presented.

First, it is widely maintained that there is a constitutive connection between assertion and alethic notions like truth or knowledge. Speakers are committed to representing the world accurately with their assertions—in this sense, accuracy is one of the principle aims of an assertion. Although the
literature on assertion is replete with differing versions of such a claim, many theorist have invoked the following principle:

(\text{TRU}): \text{All things being equal, one should only assert content } P \text{ if one takes } P \text{ to be true.}^{84}

The principle is not a mere statistical generalization. Rather, (TRU) expresses a norm governing the practice of making assertions—something to which speakers take themselves to be committed and to which audience members expect that speakers are committed. Indeed, the principle is said to be constitutive of assertion in that were speakers not committed to (TRU), they would not be making assertions. In terms of the model of assertion involving the common ground, (TRU) amounts to the claim that speakers are expected to assert only contents that serve to narrow the possibilities in the context to those containing the actual world. This is to say, conversational participants expect that the actual world will be among the possibilities remaining when they update with the content of a speaker’s assertion.

Second, and somewhat more controversially, many theorists have endorsed a tight connection between the content asserted by an utterance of a sentence in a context and the semantic content of that sentence in that context. Specifically, many theorists have adopted the following claim:

(\text{SEM}): \text{Unless there is common knowledge to the contrary, the content expressed by an assertion of sentence } S \text{ in context } C \text{ is the semantic content of } S \text{ in } C.^{85}

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84 The qualification is included so that the principle can allow for other norms, for example moral imperatives, to overrule the truth norm on assertion.
This claim is motivated by the familiar idea that the aim of a semantic theory of a language is to provide an account of the relation between sentences of a language and the information about the world that is conventionally communicated by utterances of those sentences.

Since linguistic communication is both systematic and productive, it is generally assumed that adequate semantic theories should derive the truth conditions of sentences-in-context as a function of the denotation—or semantic value—of the basic expressions occurring in those sentences together with their manner of combination. The semantic content of a sentence, and the semantic value of an expression, at a context of utterance are then evaluated for truth and reference relative to a circumstance of evaluation (which I’ll simply treat as a possible world). In terms of the common ground model of assertion, (SEM) amounts to the claim that the conversational participants have common knowledge of which possibilities to eliminate on the basis of accepting a speaker’s assertion.

Putting these two claims together, we can say that a semantic theory for a language elucidates what members of a group can use that language to say, and there is a norm according to which speakers only assert semantic contents that are true.

85 The qualification is included so that the principle can allow for assertoric content and semantic content to diverge in cases of conversational implicatures, irony, satire, and the like.
3.1.2. Assertoric Imprecision

The foregoing account of the relation between semantics, truth and assertion looks to be at odds with the existence of cases of what I call *assertoric imprecision*. In cases of assertoric imprecision, speakers represent the world as being a certain way with their assertions that only approximates how things are in the actual world. Here are three characteristic examples:

(1) “Sam arrived to the party at 6:00 p.m.”
Fact: Sam arrived to the party at 6:03 p.m.

(2) “I’m going to a conference in Chicago this weekend.”
Fact: The conference is in Evanston, just outside of Chicago.

(3) “Two hundred students attended the lecture today.”
Fact: One hundred and ninety nine students attended the lecture.

In each case, it appears that the semantic content of the speakers’ assertions—roughly, their literal meanings—are not true given the actual facts. Indeed, speakers routinely make such assertions even when the indicated facts are known to obtain. But this seems to be at odds either with (TRU) the claim that truth is the primary norm of assertion or (SEM) the claim that it is the semantic content of a speaker’s assertion that we are evaluating for truth or falsity.

There is nothing particularly exceptional about (1)—(3): ordinary discourse is replete with assertions that equally well generate the problem. That speakers do assert sentences like (1)—(3) in the described circumstances should not be controversial. Neither should it be controversial that such utterances constitute *bona fide* assertions. What is at issue concerns whether the semantic
content of the speakers’ assertions—their literal meanings—are not true given the actual facts. Indeed, it is the primary aim of this paper to argue that, perhaps despite appearances, the semantic contents of sentences such as (1)—(3) are literally true in the contexts in which they were made. In this sense, I will argue that there is no problem of assertoric imprecision because the cases are perfectly consistent with (TRU) and (SEM). But it would be preferable if the debate did not simply turn on mere differences in intuitive truth-value judgments. For this reason, it will be worthwhile to consider some of the more theoretical reasons that seem to support the claim that assertoric imprecision involves cases of literal falsehoods. I will focus on two such considerations.

The first consideration centers on data involving what I’ll call *abominable conjuctions*. Consider assertions of the following two sentences:

(4) "Although the bell rang at 3:00, it wasn’t until 3:03 that it rang."

(5) "I am going to a conference in Chicago this weekend; it is in Evanston, just outside of Chicago."

There is something clearly defective with asserting (4) or (5). Indeed, Peter Lasersohn has argued that these assertions express semantic contradictions: there is no context and world in which the two conjoined propositions could both be true. But contrast (4) and (5), with (4’) and (5’):

(4’) “Although the bell rang at approximately 3:00, it wasn’t until 3:03 that it rang.”

(5’) “I am going to a conference around Chicago this weekend; it is in Evanston, just outside of Chicago.”
These sentences seem perfectly assertable, and clearly not semantic contradictions. What this data has been taken to suggest is that if an assertion of (1) above could be literally true even if uttered at 3:03, we would expect that (4) should be both true and assertable, as we find with (4’). Since this is not what we find, there is reason to think what is semantically expressed by asserting sentences such (1)—(3) is literally false.

A second consideration centers on various kinds of retraction data. Consider the following dialogue:

Alf: Two hundred students attended my lecture today.
Bea: That’s not true: there were only one hundred and ninety-nine students in your lecture today.

Whether or not Bea is being unreasonable or pedantic in this exchange, a natural response is that she is correct: what Alf literally said was not true. Indeed, speakers often concede that they spoke falsely with their assertions in such cases. For example, a natural continuation of this dialogue is as follows:

Alf: Two hundred students attended my lecture today.
Bea: That’s not true: there were only one hundred and ninety-three students in your lecture today.
Alf: OK, fine, you’re right: there were only one hundred and ninety-three students in my lecture today.

The question is why speakers would be so willing to retract their assertion, if what they said were not literally false? A straightforward answer to this question is that appearances are as they seem and speakers are uttering literal falsehoods with their assertions in such cases.
So an adequate treatment of assertoric imprecision should specify what modifications, if any, need to be made to (TRU) and (SEM); furthermore, it should do so in a way that addresses the data involving abominable conjunctions and rejections. But before going on to consider attempts to do this, it is perhaps worth first making clear what the problem is not.

First, the problem of assertoric imprecision should be distinguished from the many problems raised by the vagueness displayed by expressions such as ‘heap’ or ‘bald.’ According to a standard view, the semantic values of vague expressions have *borderline cases*—entities that neither definitely fall within the extension of the term nor definitely do not fall within the extension of the terms—and furthermore there are *no sharp boundaries* between the respective extensions, anti-extensions, and borderline cases of the terms at issue. But cases of assertoric imprecision need not have borderline cases, and there may well be sharp boundaries between the extension and anti-extension of the semantic values of the terms involved. For example, the problem of imprecision generated by an assertion of (3) seems to remain if we are in an idealized situation in which there is no vagueness associated with terms ‘two-hundred,’ ‘students,’ or ‘lecture.’ So the problem of assertoric imprecision would remain even if we assumed there was no semantic vagueness present, and each of the expressions occurring in the relevant sentences had perfectly determinate extensions with sharp boundaries.\(^{86}\)

\(^{86}\) If one adopts an epistemicist conception of vagueness, of the sort defended by Timothy Williamson, then the extensions of vague expressions will not have borderline cases, and will in fact determine sharp boundaries. But the epistemicist does maintain that we cannot—as a matter of principle—say what the sharp boundaries are for vague terms because these boundaries are unknowable for us. But in cases of assertoric imprecision,
The problems raised by cases of assertoric imprecision should also be distinguished from cases of assertion involving pretense. Speakers sometimes presuppose propositions for the purposes of a conversation that they believe to be false. For example, in a conversation with a politically conservative family member, a speaker may presuppose things that she does not believe to be true in order to focus the conversation on other things or simply to be polite. In cases like this, one may assert a content that one does not take to correspond to the actual facts. In particular, a speaker may aim to represent the world as the other members of the conversation take it to be rather than the speaker takes the world to be. Assertions involving this kind of pretense should be distinguished from cases involving assertoric imprecision. In the latter kind of cases, speakers need not be presupposing propositions they take to be false. In particular, in cases of assertoric imprecision it does not seem that the world of evaluation—the world that truth is evaluated with respect to—has been shifted from the actual world.

3.2. Previous Proposals

In this section, will consider two kinds of responses to the problem of loose assertions. These responses attempt to defuse the problem by rejecting one of the core claims of the standard account: the first response denies any constitutive connection between assertion and truth, and the second response denies that the objects of assertion are closely connected to the semantic contents agents may be perfectly capable of specifying the boundaries of the terms they are using. So even an epistemicist can accept the present distinction between vagueness and imprecision.
of assertions. I will argue that while each of these approaches captures something important about the phenomena under consideration, they each suffer from serious difficulties. This discussion will then set the stage for the development of my own theory in section 3.

3.2.1. Deny the Truth Norm

Perhaps the most straightforward response to the problem is to simply deny that truth is a norm governing assertion. This style of response drops (TRU): the claim that one should assert content P only if P is true. According to such an approach, there is nothing particularly surprising, or theoretically significant, about cases in which speakers assert falsehoods. This is, of course, compatible with the claim that the contents of some assertions are true and that truth is something for which speakers often aim for in making their assertions. However, the view maintains that there is no constitutive connection between truth and assertion.

The challenge for any response of this sort is to provide an account of the norms of assertion that make no essential appeal to alethic notions like truth or knowledge. In a series of papers, Daniel Sperber and Deidre Wilson have attempted to address this challenge head-on using the framework of Relevance Theory. Relevance theory is a general theory of interpersonal communication. The mechanisms employed by the theory are aimed at modeling a process that applies after a hearer recognizes that a speaker’s utterance was a communicative act and after the hearer has decoded the syntactic and semantic properties of the speaker’s utterance; the principles of Relevance Theory are supposed to take the
hearer from those syntactic and semantic properties to the speaker’s intended meaning.\textsuperscript{87}

According to Sperber and Wilson, the problem of assertoric imprecision shows that verbal communication is not governed by a norm of truthfulness, but instead is governed by a \textit{norm of relevance}. In their framework, relevance is determined by a distinctive kind of cognitive cost-benefit analysis: relevance is a feature that holds for cognitive processes that maximize positive cognitive effects, while minimizing processing costs. In the case of verbal communication, relevance is given by a maximization of the information an utterance conveys while minimizing the cost of compression on the part of hearers. Relevance is thus an essentially comparative notion, varying with the background assumptions, interests, and cognitive capacities of those involved in a conversation; it is also is a matter of degree, something is more or less relevant but not relevant simpliciter.\textsuperscript{88}

Sperber and Wilson define a property of \textit{optimal relevance} that applies to the interpretation of speakers’ utterances:

\begin{flushleft}
\textsuperscript{87} Relevance theorists distinguish between two such processes: one which allows the hearer to determine the intuitive truth-conditions of the speaker’s utterance (what they call the \textit{explicatures} of the utterance), and another which allows the hearer to determine the information a speaker intended to convey over and above the truth-conditions of the utterance (what they call the \textit{implicatures} of the utterance).
\textsuperscript{88} I have followed Sperber and Wilson in defining relevance to be a property of the inputs to cognitive processes. However, this formulation is ambiguous between the claim that relevance is a property of utterances themselves and the claim that relevance is a property of possible interpretations of utterances. These two formulations are clearly not equivalent, as the latter makes relevance hearer-dependent in a way that the former does not. While Sperber and Wilson are not entirely clear of this point, I shall assume that relevance is a property of possible interpretations of utterances.
\end{flushleft}
(OR) An interpretation I of utterance U is optimally relevant for hearer H
iff I is relevant enough to be worth H’s processing effort, and that content
is the most relevant one compatible with the speaker of U’s abilities and
preferences.

According to Sperber and Wilson, linguistic communication is driven by the
attempt to maximize optimal relevance; it is optimal relevance that speakers aim
for, and which hearers expect. Truthfulness, in this model, is at best an
interaction effect: it is among the positive cognitive effects of what is
communicated, but truthfulness is not the only positive effect and it is not the
driving force behind linguistic communication in general or the interpretation of
assertion in particular. Relevance theory thus seems well suited to address the
problem of assertoric imprecision. Imprecise assertions are ways to make
maximally relevant contributions to the conversation, even though their contents
are not strictly true.

Relevance Theory offers a novel way to develop a non-alethic approach to
assertion. I believe that Sperber and Wilson are correct in emphasizing the ways
in which the interpretation of speakers’ linguistic utterances is sensitive to a
background network of intentions, expectations and preferences. As I shall go
on to argue, this is especially important for characterizing the phenomena of
assertoric imprecision. However, their rejection of a substantive role for truth in
the process of interpretation is misguided. I will raise one objection that applies
to any response to the problem of assertoric imprecision that rejects a substantive
role for truth in the process of linguistic interpretation, and a second objection
that is specific to Relevance Theory.

One general worry for accounts that reject a constitutive connection
between truth and assertion is that they fail to do justice to the distinctly
epistemic dimensions of assertion. Assertoric uses of language do not merely serve to communicate information, they also serve to provide others with epistemic warrant concerning the information communicated. That is to say, speakers use assertions to put one another in a position to acquire knowledge. There has been much dispute concerning exactly what is required in order for epistemic warrant to transfer across agents in testimony. I assume, however, that the following are at least necessary conditions: (i) hearers must be able to reliably identify what information the speaker intended to express, and (ii) the information the speaker intends to express must reliably track the state of the world; in this sense, in order for epistemic warrant to transfer through testimony there must minimally be reliability in both the mind-to-mind connection and the world-to-mind-to-mind-to-world connection.

Accounts that reject a constitutive connection between truth and assertion, like Relevance Theory, have no trouble meeting condition (i)—they can account for the reliability of communication. However, they do not ensure that condition (ii) is met: since assertion is not governed by a norm of truth, the information that speakers intend to communicate could perfectly well fail to track the states of the world. But this threatens to undermine the epistemic significance of testimony. Since much of what agents know is acquired from others through the process of testimony, I take this to be a very serious cost for views of this sort.

The second related worry is specific to the framework for addressing assertoric imprecision developed by Sperber and Wilson. Relevance Theory is, as I’ve said, a general theory of interpersonal communication. Sperber and

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89 A related argument has been developed by Sanford Goldberg; see Goldberg (2011).
Wilson’s treatment of assertoric imprecision focuses on the process by which audience members attempt to recover a speaker’s intended meaning. Given this fact, Sperber and Wilson seem to make a prediction: the phenomena at issue should only arise in cases of interpersonal communication. For if the phenomena could arise in cases outside of interpersonal communication, then the solution offered would not be sufficiently general. But the prediction made by Sperber and Wilson is mistaken: the problem at issue can equally well be raised in the case of the contents of thoughts. That is, there is just as much a problem of *attitudinal imprecision* as there is a problem of assertoric imprecision. But Relevance Theory does not, and was not intended, to apply to mental content: it is not even clear what it would be for a thought content to be assigned through a process of optimal relevance. After all, one does not interpret the content of one’s own thoughts: one simply has them.

These two problems are revealing. The first problem suggests that an adequate account of assertoric imprecision should retain the connection between truth and assertion. The second problem suggests that an adequate account of assertoric imprecision should center on the contents communicated by assertions. That way, the account could be generalized to apply outside the contents of linguistic utterances—for example, to the contents of thoughts or pictures.

3.2.2. Semantic Minimalism

A second, and in my view more plausible, response is to retain the claim that assertion is governed by a norm of truth, but to maintain that this norm does not govern the semantic contents of speakers’ assertions; instead, the truth norm
applies to what speakers pragmatically convey with their assertions. This style of response drops (SEM): the thesis that, all things being equal, the content asserted by a sentence S in context C is the semantic content of S in C. With respect to the problem of assertoric imprecision, the central idea is that this will provide us with the resources to explain how speakers could successfully convey truths in making loose assertions, despite the fact that the literal meaning of the sentences asserted (their semantic content) is false.

Peter Lasersohn (1999) has developed an account along these lines to address the problem of assertoric imprecision. Lasersohn’s discussion is commendable both for its technical ingenuity, as for its attempt to provide a compositional procedure for calculating the information pragmatically conveyed by a speaker’s assertion. This latter feature is especially important since versions of semantic minimalism have often be criticized for failing to identify the mechanisms by which speakers’ pragmatically convey information.

Lasersohn proposes an account in which uses of expressions are associated with both a semantic value and a set of pragmatic halos. A pragmatic halo for an expression E is a set of denotations (that differ from the actual semantic value of E in ways that are pragmatically ignorable in the context in which E was used. More exactly:

PRAGMATIC HALO: For any expression α, the pragmatic halo of α is a set of objects of the same semantic type as \([\alpha]_{w,c}\) that differ from \([\alpha]_{w,c}\) in ways that are pragmatically ignorable in C.

So, for example, an expression like ‘Chicago’ will receive a region as its semantic value in context, and its pragmatic halo consists of a set regions that differ in
pragmatically insignificant ways in that context from the semantic value of ‘Chicago.’

It is worth emphasizing two points about pragmatic halos. First, the set of pragmatic halos associated with an expression will be ordered, either totally or partially, with the semantic value of that expression forming a center for the ordering. This is to say that objects comprising a pragmatic halo are ranked according to the degree to which they differ from the semantic value of the expression in question. This point is important because Lasersohn maintains that slack regulators serve to affect the ordering associated with a pragmatic halo—expressions like ‘precisely’ and ‘exactly’ narrow a halo to those closer to the center, while expressions like ‘approximately’ or ‘around’ expand a halo to incorporate values further away from the center.

Second, the pragmatic halo associated with an expression will vary with conversational context. Although Lasersohn says very little about the determinates of what is pragmatically ignorable in a context, it is presumably a function of the presuppositions, intentions, and goals of the conversational participants.90 As the presuppositions, intentions, and goals of conversational participants shift, so too will the pragmatic halo associated with an expression. This is important because it allows Lasersohn to account for the way that the imprecision of expressions varies across conversational situations.

The pragmatic halos associated with expressions will have a systematic impact on what is conveyed by asserting sentences containing those expressions. The semantic content of a sentence in a context will be given in the usual way by

90 See Lauer (2012) for an attempt to develop such an account on Lasersohn’s behalf.
composing the semantic values of its parts in context and their manner of combination. Likewise, the pragmatic halo of a sentence in context will be given by composing the pragmatic halos of its parts in context and their manner of combination. In asserting a sentence a speaker both expresses the semantic content of that sentence and in addition conveys a set of propositions given by the pragmatic halo of the sentence. The beauty of this approach is that it provides a compositional mechanism whereby a speaker may assert multiple propositions in uttering a single sentence.

This allows Lasersohn to retain the claim that truth is the norm of assertion. In particular, it leads him to maintain that one should only assert a sentence if the pragmatic halo associated with that sentence in context contains at least one true proposition. So understood, the norm of assertion can be satisfied even when a speaker asserts a sentence that semantically expresses a falsehood; for the norm of assertion require the truth of one of the propositions in the pragmatic halo of a speaker’s utterance, rather than the semantic content of that utterance.

Lasersohn’s takes this framework to straightforwardly address the problem of assertoric imprecision. Consider an assertion of (3):

(3) Two hundred students attended the lecture today.

The semantic content of (3) is a function which returns the value TRUE at a possible world just in case there are exactly two hundred students at the lecture in question at that world. So if as a matter of actual fact there were only one hundred and ninety-nine students attending the lecture, then an assertion of (3) is literally false. But (3) may still be assertable in that context, so long as the difference between two hundred students and only one hundred and ninety-nine
students is ignorable given the practical interests of the conversational participants. For in such a context, one hundred and ninety-nine will be a member of the pragmatic halo associated with ‘two hundred’ and it is indeed true that one hundred and ninety-nine students attended the lecture. So we can explain why speakers can appropriately assert (3) in spite of the fact that it is literally false—that is, we explain why (3) is appropriate to assert even though it expresses a false semantic content.

I believe that Lasersohn has correctly identified something important about cases of assertoric imprecision: in such cases, speakers put into play multiple propositions in asserting a single sentence. However, as developed, the framework suffers from a number of serious problems. These problems derive from the assumptions the model requires concerning the nature of semantic content. I will focus on three related problems for this view.

The first problem concerns the fact that Lasersohn proposes an extremely demanding criterion for what literal truth requires. In particular, he assumes an approach to semantics according to which expressions are associated with extraordinarily precise semantic values in context. For example, the expression ‘6:00’ in an assertion of a sentence like (1):

(1) Sam arrived to the party at 6:00.

is assigned a single instant of time as its semantic value in context. So the semantic content of an assertion of (1) is false if Sam arrived at any later than that instant of time. But, as Lasersohn notes, events like arriving take more than a single instant to perform—they occur across intervals of time. But it follows from this that assertions of sentences like (1) are never literally true: ordinary speakers always semantically express falsehood when they assert sentences such
as (1). Lasersohn himself is willing to accept this conclusion because—although never literally true in the actual world—his framework does allow assertions of sentences like (1) to pragmatically convey something true. But the quasi-skeptical result that the vast majority of speakers’ assertions are literally false is sufficient, I believe, to render Lasersohn’s approach to semantics highly unattractive. I’ll call this the problem of too-high-standards.

Second, Lasersohn’s view threatens to undercut the explanatory role of semantics. As we have seen, Lasersohn maintains that the norms of assertion do not govern the semantic contents of speakers’ assertions; rather, the norms of assertion govern what is pragmatically conveyed by speakers’ assertions. In addition, semantic contents play little-to-no role in characterizing successful communication between the members of a conversation: semantic contents are neither what speakers are primarily intending to communicate with their assertions, nor what audience members need to arrive at in order for communication to be successful. It is, rather, coordinating on pragmatic halos that is required for successful communication. The problem is that Lasersohn’s view seems to make semantic content an idle wheel in explaining basic facts concerning our linguistic practice.

One way to see the significance of this worry is to focus on the question of what grounds the selection of semantic values as such, within Lasersohn’s account. Specifically, what it is about a group of agents that determines that semantic theory $T$ is the correct semantic theory for their linguistic exchanges, rather than some alternative semantic theory $T^*$? It is not, as we’ve seen, because the agents in question are truthful or trusting with respect to $T$ nor because $T$ captures significant regularities concerning linguistic communication between
those agents. The issue here pertains to *meta-semantics*—the description of the features in virtue of which speakers’ utterances have the semantic properties they do. Meta-semantics is a notoriously difficult and controversial affair. The objection is not that Lasersohn has failed to provide a complete meta-semantics. Rather, the objection is that Lasersohn’s account seems to require that such meta-semantic descriptions can be given independently of how the members of a community *use* language. But this is incorrect. Any adequate meta-semantics must be responsive to the linguistic practice of the agents the theory aims to characterize. I’ll call this the *problem of grounding semantic theory*.

### 3.3. Semantic Pluralism

The views I have discussed thus far have all tacitly assumed the doctrine of *semantic uniqueness*. Semantic uniqueness is the thesis that background linguistic conventions (or whatever features fix the “actual language relation”) associate a single semantic value with each expression of the language relative to a context of use. I claim that rather than motivating a rejection of (TRU) or (SEM), the phenomena of assertoric imprecision motivate a rejection of semantic uniqueness. In this section, I will develop an alternative framework that I call *semantic pluralism*. After developing this framework in detail, I illustrate how it has the resources to capture the distinctive truth-conditions of loose assertions.

Semantic pluralism is the thesis that linguistic conventions may associate a range of admissible semantic values with the simple and complex expressions of a language relative to a context of utterance. The core idea behind semantic pluralism is that there are degrees of freedom in what it takes for a speaker to
correctly apply specific expressions. Speakers and their audiences mutually know that this flexibility holds concerning the interpretation of these terms, and exploit it in their conversational exchanges. When speakers assert sentences containing such terms, they semantically express multiple propositions; indeed, they do so as a matter of the linguistic conventions governing the expressions they use in so asserting.

The version of semantic pluralism that I develop has important points of commonalities with views I discussed in section 2. Along with Sperber and Wilson, I maintain that the contents of speakers’ assertions are sensitive to a background network of intentions, preferences, and expectations, and further that this network may change dynamically both across and within conversational contexts. Along with Lasersohn, I maintain that an expression \(E\) can be assigned multiple values of the kind appropriate for an expression of \(E\)’s semantic type. However, unlike these other approaches, I claim that these facts have semantic significance: they impact the literal truth-conditions of speakers’ assertions. For a speaker’s assertion of a sentence to be literally true, according to this approach, merely requires the truth of one of the propositions a speaker semantically expresses.

Semantic pluralism is not a novel doctrine.\(^91\) Indeed, the thesis was initially suggested by David Lewis in a neglected passage of *Convention*:

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\(^91\) See von Fintel and Gillies (2012) for the cases of epistemic modals, King (Forthcoming) for the case demonstratives, and indeed context-sensitive terms generally, and Tappenden (1993), Soames (1999), Shapiro (2006), and especially Barker (2002) for the case of vague expressions.
“I think we should conclude that a convention of truthfulness in a single possible language is a limiting case—never reached—of something else: a convention of truthfulness in whatever language we choose of a tight cluster of very similar possible languages....The sort of convention I have in mind is this: almost everyone, almost always, is truthful in at least some languages in the cluster: but not necessarily the same ones for everyone or for one person at different times.” (1969, p. 201).

In this passage, Lewis suggests that the members of a conversation coordinate on a range of interpreted languages. What literal truthfulness requires is for a speaker to be truthful with respect to at least one interpreted language within those that have been established by a coordinating convention.

I believe that Lewis’ suggestion can be exploited to resolve the problem of assertoric imprecision. Unfortunately, Lewis never systematically connected his discussions of the dynamics of conversation with his discussions of foundational semantics. In particular, Lewis did not seem to appreciate the degree to which the “tight cluster of possible languages” is affected by specific features of the context of utterance. I think we can do better.

The chief insight comes from recognizing that members of a conversation have mutual attitudes and expectations both concerning what the world is like as well as the interpretation of a shared vocabulary. In particular, the common ground does not merely record information about what possible worlds are live options, given what’s been mutually presupposed; the common ground also records information about what interpreted languages are live options, given what’s been mutually presupposed.

In terms of the model of common ground discussed in the first section, I am proposing that our model of the common ground should be enriched to include a set L of interpretation functions—functions which each provide a
mapping from the simple and complex expressions of the language to intensions of the appropriate for the semantic type of each expressions. The interpretation functions in L will be characterized recursively in a familiar manner; for example, an interpretation function will assign an individual at a world to names, n-ary sequences of individuals at a world to n-place predicates, and truth value at a world to sentences.

In short, the common ground determines a set of ordered pairs <w, l> consisting of a possible world and an interpretation function. One can intuitively think of these as possible worlds and possible interpreted languages that are compatible with what the conversational participants mutually accept as true concerning both what the world is like and how to interpret a shared vocabulary. It is with respect to these factual and linguistic possibilities that members of a conversation interpret one another’s assertions. That is to say, the semantic content of an assertion is sensitive to these features of the common ground. Likewise, it is these possibilities that are updated on the basis of accepting the content of a speaker’s assertion. That is to say, when audience members accept a speaker’s assertion they exclude from the common ground world-language pairs inconsistent with the content of a speaker’s assertion as being live candidates from actuality.

I propose that semantic values be assigned to speakers’ uses of simple and complex expressions as a function of what is admissible given the background state of the common ground. An admissible interpretation is one that is compatible with the common ground. Slightly more formally:
(Admiss): An interpretation function \( l \) \textit{admissible} relative to a conversational context \( C \) iff \( l \) is a member \( C \).

So according to the version of semantic pluralism I am suggesting, a semantic theory associates each admissible value with the simple and complex expressions of a language relative to the background state of the common ground.

For some expressions of the language the common ground may well determine a uniquely admissible interpretation. For example, given the conversational participants’ mutual attitudes and expectations, it may be that the man David Kaplan is the only admissible interpretation of uses of the name ‘David Kaplan.’ But what is distinctive about semantic pluralism is the claim that the common ground need not determine a unique admissible value for each expression of the language—in particular, certain expressions may be associated with a distribution of semantic values. When speakers assert sentences containing such expressions, they will semantically express multiple propositions—a proposition for each admissible way of assigning semantic values to the basic expressions occurring in the sentence that the speaker asserted.

Consider a simplified example. Suppose that the common ground of a conversation allows for three admissible interpretations of uses of the expression ‘3:00’—say times \( t_1, t_2, \) and \( t_3 \). Further suppose that all other expressions of the language have uniquely admissible interpretations. Now consider an assertion of (1) with respect to that state of the common ground:

(1) Sam arrived to the party at 6:00 p.m.
The semantic content of (1) consists of three propositions: the proposition that Sam arrived to the party at $t_1$, the proposition that Sam arrived at the party at $t_2$, and the proposition that Sam arrived to the party at $t_3$. We might paraphrase the semantic content of (1) as being the claim that Sam arrived at one of the admissible interpretations of ‘6:00.’ Likewise, if audience members accept the content of the speaker’s assertion they will eliminate possibilities according to which Sam arrived at times outside the range of admissible interpretations—in the case, all times other than $t_1$, $t_2$, or $t_3$.

The example is highly simplified. It involves a case in which there are a small number of interpretative possibilities involving just a single expression. But the simplistic example helps to illustrate the way in which the model I am suggesting offers an alternative conception of what is required for the content of an assertion to be literally true—that is, it offers an alterative conception of what is required to satisfy the truth-conditions given by the semantic content of a speaker’s assertion.

In order for the assertion of a sentence to be literally true, the actual world (or world of evaluation) must be a member of the set of sets of possible worlds semantically associated with that sentence in the context in which the assertion was made. That is to say, to be literally true merely requires the truth of one of the propositions the speaker semantically expressed in context. In the toy example of an assertion of (1) just given, the speaker’s assertion is literally true just in case Sam arrived at $t_1$, or Sam arrived at $t_2$, or Sam arrived at $t_3$—Sam arriving at any one of those times in the actual world is sufficient to make the speaker’s assertion literally true. Crucially the truth of one of the propositions semantically expressed is sufficient to make the assertion literally true;
conversely, the literal falsity of an assertion requires the falsity of each proposition semantically expressed.\(^92\)

The simplistic example also illustrates an important fact: assertoric contents may be literally true without being precisely true. According to the present framework, one measures the imprecision of an expression in terms of its range of admissible interpretations in a context. The occurrence of an expression is precise iff that expression has a uniquely admissible interpretation, given the state of the common ground in which it was used. But speakers can make assertion that are literally true but which also contain imprecise occurrences of expression. Given the context in which it was asserted, the semantic content of (1) is imprecise: it consisted of a range of admissible propositions. But the speaker nonetheless was being literally truthful in asserting (1), because the actual world as among the ways the speaker represented things as being.

The present framework captures the sense in which speakers represent the world with assertions in a way that only approximates how things are in the actual world. Moreover, it does so in a way that preserves the claims embodied in both (TRU) and (SEM). The account I have developed retains the connection between truth and assertion: speakers should only assert contents they take to be literally true. Likewise, the account I have developed retains a tight connection

\[^{92}\text{Notice that the conditions for literal truth and falsity are not symmetrical. The literal truth of assertion requires the truth of a single proposition semantically expressed, whereas the literal falsity of an assertion requires the falsity of every proposition semantically expressed. In the terminology of Fine (1975), assertoric truth is not identified with SUPERTRUTH, while assertoric falsity is identified with SUPERFALSE. One could drop this assumption and give a more symmetrical treatment, if one was willing to adopt a paraconsistent logic; in fact, semantic frameworks of this sort have been developed under the label of subvaluationism; See Hyde (2007) and Ripley (2013) for discussion.}\]
between assertoric content and semantic content: all things being equal, the content of an assertion is the semantic content of the sentence asserted in context. What this shows is that cases of assertoric imprecision can be addressed in a way that preserves the connection between truth and assertion, as well as a tight connection between assertoric content and semantic content. Semantic pluralism thus offers the recourses to address cases of assertoric imprecision in a way that avoids the problems that beset alternative approaches.

3.4. Semantic Pluralism and Assertoric Imprecision

I have shown how the framework of semantic pluralism offers the resources to address the intuitive problem of assertoric imprecision. In this section, I turn to the two theoretical problems concerning assertoric imprecision noted in section 1—specifically, data involving abominable conjunctions and data concerning retractions. I argue that the data is naturally explained within the framework that I have developed.

3.4.1. Abominable Conjunctions

Recall that one of the desiderata of an account of assertoric imprecision was to explain what is wrong with asserting sentences like (4) and (5):

(4) #“Although the bell rang at 3:00, it wasn’t until 3:03 that it rang.”
(5) #“I am going to a conference in Chicago this weekend; it is in Evanston, just outside of Chicago.”
These sentences are clearly infelicitous. Indeed, it is difficult to hear any true readings of assertions of these sentences. And recall, also, that assertions of (4) and (5) stand in marked contrast to (4’) and (5’):

(4’) “Although the bell rang at approximately 3:00, it wasn’t until 3:03 that it rang.”

(5’) “I am going to a conference around Chicago this weekend; it is in Evanston, just outside of Chicago.”

Assertions of these sentences seem totally felicitous. Indeed, it is not difficult to hear true readings of assertions of these sentences.

But it may be alleged that my view makes incorrect predictions about these cases. After all, I have claimed that a speaker may assert a sentence such as “The bell rang at 3:00” and express a true semantic content even if, in actual fact, the bell rang at 3:03. So it would seem that I predict that assertions of (4) and (5) should be perfectly felicitous and indeed true, just as we find assertions of (4’) and (5’).

I submit that assertions of sentences like (4) and (5) are not true, and not predicted to be true by the account I’ve developed. There are no true readings of these sentences, because no admissible interpretation function is such that it allows (4) or (5) to be true. This is because assertions of sentences like (4) and (5) violate natural penumbral connections that govern connections between the interpretations of terms. These penumbral connections place restrictions on the class of admissible interpretations; specifically, no admissible interpretation

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93 See Fine (1975) for further discussion of penumbral connections.
function can violate these conditions. In the case of (4), the penumbral connections I have in mind is something like (PC1):

(PC 1) For any event E, if E occurs wholly at time T₁ and time T₂ is before or after T₁, then E did not occur wholly at T₂.

But the natural interpretation of (4) violates (PC1): a speaker would be asserting that the bell rang at 3:00 and that the bell also rang at 3:03. Likewise, it can be shown that an assertion of (5) requires admissible interpretations that violate penumbral connections involve spatial expressions. But given these facts, there is a straightforward explanation for why we judge assertions of such sentences unacceptable: there are no contexts in which (4) and (5) can be truly asserted.

Notice, in addition, that sentences like (4’) and (5’) do not violate the stated penumbral principles. Specifically, there is no penumbral principle that states “If E occurs around T₁, and T₂ is earlier or later than T₁, E does not occur at T₂.” Indeed, part of the point of asserting a sentence like (4’) is to allow for such a possibility. So while penumbral principles may prevent assertions of (4) or (5) from having any true readings, those principles do not prevent assertions of (4’) or (5’) from having true readings. This is as it should be, and the present account can capture it.

But for the sake of argument, let me set aside these points about penumbral connections. In particular, let me grant that assertions of (4) and (5) are semantically acceptable. I believe that even under these assumptions, the unacceptability of (4) and (5) can be explained within the confines of the present framework. There are plenty of assertions that are perfectly consistent—and perhaps even true—that are nonetheless not assertable. This point can be
illustrated by cases involving disjunction; consider, for example, an assertion of (7):

(7) The Abbey Pub offered college faculty one free beer or one free whisky, but not one free whisky.

An assertion of (7) is infelicitous. Indeed, this assertion is infelicitous even if we stipulate that a truth-functional semantics for ‘or’ is common knowledge among the conversational participants. In this case, the semantic interpretation of (7) is perfectly consistent—and may well be true—and yet (7) is not assertable. This is presumably because there is a constraint on disjunction to the effect that one should not assert a disjunction and in the same breath remove one of its disjuncts. A related constraint would serve to explain the infelicity of (4) and (5), given the framework I’ve developed. In asserting a sentence like (4) the speaker would be expressing a range of propositions and in the very same speech act removing one of the propositions from within that range. A speaker may be able to do so consistently, as for example in (4’) and (5’), but without signaling so we should expect such assertions to be pragmatically odd or inappropriate.

The more general point is this: while truth (or knowledge) may be the only constitutive norm governing assertion, there are typically other (non-constitutive) norms at play in conversational exchanges involving assertions. In addition to aiming to speak truly, speakers also generally aim to be as relevant, orderly, and as precise as possible with their assertion given the goals of a conversation. Assertions may be deemed infelicitous for failing to satisfy these norms, even if they are literally true. Although I favor the more direct semantic
treatment of abominable conjunctions, this shows that independently motivated pragmatic principles can be used to explain the cases.

3.4.2. Retraction Data

I turn now to the data involving retractions. Recall that the data here was that speakers often concede that they spoke falsely in cases of assertoric imprecision. The point is illustrated in the following dialogue:

Alf: Two hundred students attended my lecture today.
Bea: That’s not true: there were only one hundred and ninety-nine students in your lecture today.
Alf: OK, fine: there were only one hundred and ninety-nine students in my lecture today.

Let’s assume that prior to Alf’s initial assertion, ‘one hundred and ninety-nine’ was among the admissible interpretations of ‘two-hundred.’ So according to the view I have proposed, Alf’s assertion was literally true. The data involving retractions raises two kind of challenges for my view: first, to explain why Bea would reject Alf’s assertion if the content of his assertion was literally true; second, to explain why Alf would agree that he spoke falsely and retract his assertion in response to Bea’s challenge if the content of his assertion was literally true. I will address each of these challenges in turn.

The view I have developed makes a distinction between the content of an assertion being literally true and the content of that assertion being precisely true. An assertion may be literally true, while nonetheless failing to be precisely true. Alf’s initial assertion is a case in point. Given the initial common ground, the actual world was among the ways Alf represented things as being with his
assertion; however, he was being less than fully precise since there were multiple admissible interpretations associated with the sentence he asserted.

The distinction between literal truth and fully precise truth is important for understanding the retraction data at hand. I suggest that conversational participants sometimes reject a speaker’s assertion on the grounds that the content of the speaker’s assertion failed to be precisely true. Moreover, I think that conversational participants sometimes judge the content of a speaker’s assertion to be false because the content of the speaker’s assertion failed to be precisely true—that is, they judge the content of an assertion to be false because the sentence asserted has at least one admissible interpretation that fails to be true.⁹⁴ We should understand Bea’s rejection of Alf’s assertion in these terms: Bea is rejecting Alf’s assertion, and judging it to be false, on the grounds that Alf’s assertion failed to be precisely true.

Although her response may be pedantic, Bea is perfectly within her rights to issue such a challenge. As I pointed out in discussing abominable conjunctions, speakers’ assertions are typically governed by a variety of norms (even if literal truth is the constitutive norm of assertion); among these norms is that speakers’ assertions are expected to be as precise as possible given the goals of the conversation. An audience member, like Bea, can challenge a speaker’s assertion if they believe the speaker was not adequately precise given the goals of the conversation. So there may be good reasons for Bea to reject Alf’s assertion, even if what Alf semantically expressed with his assertion is true. In

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⁹⁴ A full discussion of indirect speech reports—including an account of the truth-conditions of indirect speech reports—is beyond the scope of the present paper. However, I assume that each member of the set of admissible interpretations of an assertion can be individually targeted in an indirect speech report.
addition, this helps explain why Alf would retract his assertion in response to Bea’s challenge; for her assertion signals that Alf did not meet the level of precision that Bea expected. Since Alf’s assertion was imprecise, Bea’s assertion gives him a reason to retract.

But Alf’s retraction has another source, one that falls out the dynamics of assertion that the present model highlights. The contents of assertions depend on the prior state of a common ground; but the contents of assertions also serve to change the posterior state of the common ground. If accepted by the other members of the conversation, assertion updates the common ground by excluding factual and linguistic possibilities inconsistent with the content of that assertion. In the case at hand, Bea’s assertion was intended to eliminate one hundred and ninety-nine as an admissible interpretation of ‘200.’ But given that Alf didn’t reject Bea’s assertion, we can assume that the common ground was updated accordingly. What follows is that Alf can no longer truly make his initial assertion—given the shifted standards of admissibility, asserting the ‘Two hundred students attended my lecture today’ would be literally false. This does not show that Alf’s initial assertion was false. But it does help make clear why Alf might be tempted to retract his assertion.

Conclusion

I submit that semantic pluralism is an attractive framework, one that has clear advantages in its treatment of assertoric imprecision in comparison previous approaches. I have not attempted to address the full complexities of imprecision in natural languages. Rather, I have used simple cases to illustrate the way in which semantic pluralism offers to capture the distinctive truth-
conditions in cases of assertoric imprecision while retaining a constitutive
connection between assertion and truth and between assertoric content and
semantic content.
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