Foundational Semantics I: Descriptive Accounts

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Abstract

Descriptive semantic theories purport to characterize the meanings of the expressions of languages in whatever complexity they might have. Foundational semantics purports to identify the kind of considerations relevant to establish that a given descriptive semantics accurately characterizes the language used by a given individual or community. Foundational Semantics I presents three contrasting approaches to the foundational matters, and the main considerations relevant to appraise their merits. These approaches contend that we should look at the contents of speakers' intuitions; at the deep psychology of users and its evolutionary history, as revealed by our best empirical theories; or at the personal-level rational psychology of those subjects. Foundational Semantics II examines a fourth view, according to which we should look instead at norms enforced among speakers. The two papers aim to determine in addition the extent to which the approaches are really rival, or rather complementary.

1. Introduction

David Kaplan ('Afterthoughts', 573–4) made an intuitively compelling distinction between *semantics* and *metasemantics*:

> The fact that a word or phrase has a certain meaning clearly belongs to semantics. On the other hand, a claim about the basis for ascribing a certain meaning to a word or phrase does not belong to semantics. "Ohsnay" means snow in Pig-Latin. That's a semantic fact about Pig-Latin. The reason why "ohsnay" means snow is not a semantic fact; it is some kind of historical or sociological fact about Pig-Latin. Perhaps, because it relates to how the language is used, it should be categorized as part of the pragmatics of Pig- Latin (though I am not really comfortable with this nomenclature), or perhaps, because it is a fact about semantics, as part of the Metasemantics of Pig-Latin (or perhaps, for those who prefer working from below to working from above, as part of the Foundations of semantics of Pig-Latin).

Robert Stalnaker ('Reference and Necessity', 535) makes a related distinction between what he (perhaps choosing "working from below", to use Kaplan's metaphor above) calls *descriptive* and *foundational* semantics. On the one hand,

> A descriptive semantic theory is a theory that says what the semantics for the language is without saying what it is about the practice of using that language that explains why that semantics is the right one. A descriptive-semantic theory assigns *semantic values* to the expressions of the language, and explains how the semantic values of the complex expressions are a function of the semantic values of their parts.

Foundational theories, on the other hand, answer questions "about what the facts are that give expressions their semantic values, or more generally, about what makes it the case that the language spoken by a particular individual or community has a particular descriptive semantics". I will illustrate the Kaplan–Stalnaker distinction by using another helpful

one made by David Lewis ('Languages and Language', 163). "What is a language?" he asks there, and in his way to provide a full answer he introduces the notion of an *abstract* language: "Something which assigns meanings to certain strings of types of sounds or of marks. It could therefore be a function, a set of ordered pairs of strings and meanings". Then he goes on to use this notion to characterize the language *used by a given population*, in a way we will examine below. In these terms, the (descriptive) semantics for a language used by a population consists of the ascription to it of semantic features effected in the abstract language that correctly characterized it; its foundational semantics/metasemantics, of the facts that make it the case that such abstract language is the one used by that population.

Consider for illustration the kind of view about indexicals defended by Larson and Segal. Putting aside details we do not need to go into here, on that view the condition that the referent of a use of 'she' in a context is *female* is *not* part of the *descriptive semantics* (the *semantics* proper, in Kaplan's terminology) of any abstract language adequate to characterize English; only the referent of those uses is. The fact that these referents usually (or, alternatively, always in felicitous cases) meet that condition might be one of the reasons why a particular abstract language, assigning particular referents to uses of 'she', is identified with English – if so, that fact belongs in the *metasemantics*, or *foundational semantics*, of English. In contrast, on the sort of view of indexicals and demonstratives that Kaplan calls 'Fregean' in 'Demonstratives' (whose additional details we can also ignore for present purposes), the condition in question belongs squarely into the descriptive semantics of English, because an abstract language adequate to characterize English would correlate uses of the expression 'she' with descriptive features including the property of *being female*.

Similarly, on the sort of view I defend in 'A Presuppositional Account of Reference-Fixing', abstract languages adequate to characterize natural languages assign to lexical items complex meanings including *presuppositions*, and the condition that the referent of 'she' is female would go into that slot in the abstract grammar of English, even though, at the level of the contribution of uses of 'she' to "what is said", the descriptive semantics of English only ascribes a referent, exactly as in Larson and Segal's. Thus, on this view, as on the Fregean view and unlike Larson and Segal's, the descriptive fact in question belongs to semantics proper, not to foundational semantics.

The Kaplan-Stalnaker distinction could also have been illustrated – as Stalnaker does in the passage where he introduces it – by means of views concerning where to locate in our theoretical account of the meaning of proper names in natural language the Kripkean "causal chains" linking their uses to "initial baptisms". On *Fregean causal descriptivism*, as on the sort of presuppositionalism that I myself favor, they belong straightforwardly into semantics proper (although in different theoretical slots in the semantics); for Stalnaker and Kaplan, they rather constitute facts of English's foundational semantics.

In this article and in its companion 'Foundational Semantics II: Normative Accounts', I will present and discuss the most influential recent proposals on the specific character of foundational semantics, i.e., on the kind of facts that should be taken into consideration in order to identify a particular language in use with a certain abstract language. As the illustrative examples just provided suggest, to characterize the metasemantic undertaking is correlative with devising the boundaries of languages themselves, i.e., the features of the abstract languages required to accurately describe languages in use – and thus what descriptive semantics is after, in a general outline. Hence, I will classify the different approaches as based on four contrasting views about the *nature of language*; because it is that what establishes what should go into the (descriptive) semantics of a language – i.e.,

whether the sort of descriptive conditions on the referents of indexicals and proper names considered above for illustrative purposes should be countenanced in the semantics of natural languages – and what sort of facts determines it.

The first proposal I will discuss is a so-called Platonist view, on which languages are entities independent of the psychology of human beings; this anti-psychologism was central to the conception of the founders of the analytic study of language, Frege, Russell, Moore and the early Wittgenstein. The second, promoted by Chomsky's successful research program in linguistics, and propounded for instance by Laurence ('A Chomskyan Alternative to Convention-Based Semantics'), sees languages as a feature of the non-conscious deep psychology of human beings, a genetically determined subpersonal part of the mind/brain alien to rational constraints – if we assume, as seems sensible to do, that rational states must be responsive to conscious deliberation and control. The third crucially appeals to the rational psychology of speakers, in two different guises: the Davidsonian interpretationist perspective on the one hand, and several Gricean proposals on the other, such as those promoted by Lewis ('Languages and Language') and Bach and Harnish. The fourth, to be discussed in full in the companion piece, is constituted by views on which languages consists of *speech-act potentials*, on the assumption that speech-acts are to be understood essentially as providing speakers with *normative* reasons.

In the following sections I will describe in outline these four types of proposals. I will be presenting them and indicating what I take to be the main critical considerations to choose among them. As it will become manifest, I myself favor a normative reasons view of the fourth type, thereby concurring with Dummett ('What Do I Know when I Know a Language', in *The Seas of Language*, 104): "Any adequate philosophical account of language must describe it as a rational activity on the part of creatures to whom can be ascribed intention and purpose. The use of language is, indeed, the primary manifestation of our rationality: it is the rational activity par excellence". I will outline its main features in the companion piece.

2. Foundations Without Reasons: The Platonist View

On the so-called *Platonist* conception put forward by Soames ('Semantics and Psychology', 209), "[l]anguages are abstract objects whose semantic properties are not dependent on empirical facts".[1] According to him ('Linguistics and Psychology', 157–8), linguists aim to answer some "leading questions", asking them to systematically articulate features with respect to which natural languages *are similar or differ*, which *distinguish them from artificial languages* or *with respect to which they change*. The subject matter of these questions is, he submits, "the structure of natural language, considered in abstraction from the cognitive mechanisms causally responsible for language acquisition and mastery".

To fix ideas, consider the apparently unmediated, "intuitive" judgments that speakers have about the acceptability or otherwise of strings of symbols, their truth or falsity with respect to specified conditions, their validity and the relations of consequence among them. On the three alternatives to the Platonist view to be characterized below, these judgments are (albeit in different ways) *constitutively* related to what actual languages are. On a Chomskyan view,[2] this is because those intuitions are causal products (together with linguistically irrelevant factors, whose influence the theorist should somehow learn to discard) of the cognitive structures that languages ultimately are (idiolects or "I-languages"). On Gricean views, this is because some such intuitions, which again the theorist should somehow select, manifest the *communicative intentions* on these views constitutive of languages; on a Davidsonian view, it would be instead because the selected

class of intuitions represents the basic data that a *radical interpreter* should accommodate in an *interpretive* truth–theory, constitutive of what languages are on this view. Finally, on *normative reasons* approaches, this is because some of those intuitions determine which among many alternative possible sets of constitutive norms defining speech act potentials are in fact ''in force'' among the members of a given population, setting for them permissions and obligations.

In contrast with all these, on Soames' ('Linguistics and Psychology', 174) view, ''even intuitions of grammaticality are not *data* for theories in linguistics; whereas facts about grammaticality are''; Soames is assuming here that 'data' is ''what theories make claims or predictions about.'' Intuitions of grammaticality, or semantic intuitions, are like mathematical or geometrical intuitions: indications, which we must take to be reliable if we are to have some starting point at all, of some of the facts – the only real *data* – about numbers or space that mathematicians aim then to gather in an encompassing system characterizing the structure of numbers or space. Number theory is about *two plus three being five* and related intuitive facts, not about *our intuition* that this is so; similarly, linguistics is on this view about abstract languages, say, languages that have 'the cat is on the mat' as a grammatical sentence, and 'some cat is on the mat' as logically following from it – not about our intuition that any of this is so: the *contents* of these intuitions provide the facts to be captured and systematized by the linguist in answering the ''leading questions'' mentioned above; the intuitions themselves (the psychological states) are irrelevant to that.

On this Platonist view, thus, foundational semantics is concerned with how to choose among abstract languages in order to answer those questions more efficiently. The contents of intuitions about truth-conditions or validity give us *prima facie* indications to choose systematic descriptive semantics encompassing them – or rather those among them that merit being ultimately accepted, the merit being decided on the basis of considerations compatible with Platonism: the simplicity, elegance and explanatory strength (vis-à-vis answering the leading questions) of the resulting systems. This should then put us in a position to say how natural languages differ semantically, how they semantically evolve in time or what distinguishes their semantics from those of artificial languages.

3. Foundations Without Reasons: The Chomskyan View

I will introduce the alternative Chomskyan no-reasons view of languages and the resulting foundational semantics, by presenting what I take to be a compelling objection, by Chomsky and his followers (cf. e.g., Fodor), to the just outlined Platonist view; as we will see, it extends to some of the other views we will present below.

Frege and the early Wittgenstein gave pride of priority to the *Principle of Compositionality* in devising semantic theories; and Davidson and Chomsky made the concerns that motivate the principle central to their theoretical goals and, through their influence, to those of all contemporary theorists of language. Informally, the principle says that the meaning of complex expressions is determined by the meaning of the expression's structure and that of its constituents; it thus constrains linguistic theorizing in general, because its application depends on some specification of what the parts of complex expressions are, and thus on syntactic, morphosyntactic (i.e., on the rules governing the formation of words from smaller semantic units, or morphemes) and even phonological matters.

The principle is motivated by the need to provide explanations for different capacities manifested by speakers. They include: the *productivity* and *systematicity* of natural language understanding, i.e., the capacity speakers exhibit to understand a potential infinity of

sentences, and the manifested interrelations between understanding some and understanding others; the ability to express and understand new thoughts; the learnability of languages with a potential infinity of expressions, or at least with expressions never encountered in the learning process; communicative success, i.e., the capacity to put one's thoughts in words so as to allow others to grasp them. Important issues arise concerning how to precisely formulate the principle, and the extent to which it is required to account for those facts. Relative to some adequate way of settling them, empirical issues also arise, concerning the extent to which natural languages are in fact compositional.[3] Here I will focus on the critical impact of the latter on Soames' Platonist approach to the foundational undertaking.

The problem is this: if we just consider the evidence that Soames' ''leading questions'' profess to be answerable to (in particular, our semantic intuitions, the way he understands them), plus methodological considerations of elegance, simplicity, explanatory strength and so on, we can expect to end up with a huge plurality of abstract languages equally adequate to meet them: to compare English to other languages – natural and artificial –, to characterize how it has changed, etc. The amazing success of Chomsky's program in linguistics, however, has pointed out many other considerations – among them, in particular, facts about language acquisition and language processing – unimaginable *a priori* and, in any case, going well beyond the data to which responses to Soames' questions are supposed to be answerable, which at least *prima facie* appear to be also relevant to select among abstract languages the ones that are best suited to characterizing natural languages. Practicing linguists, including semanticists, do take those further pieces of evidence very seriously, endeavoring to provide characterizations of languages capable of accounting for them.

To mention only the cases to my mind most striking – the most unimaginable *a priori* –consider the evidence concerning the process by which a pidgin turns into a creole, which, according to Pinker (32–9) – following Bickerton – provides direct evidence of the operation of a Chomskyan innate language faculty; particularly, the case of the development in recent decades of *Idioma de Signos Nicaragüense*, a new natural sign language that emerged in schools for the deaf around Managua: children exposed to a *pidgin* – a rudimentary system of communication without the compositional structure of a natural language – ''created'' from it a full-fledged language.[4] Or consider the case of patients with Specific Language Impairment (SLI), also invoked in support of a Chomskyan nativist conception of language by Pinker (297–314) – this time following work by Gopnik and collaborators. SLI patients, despite having normal non-verbal intelligence, speak slowly and with effort, frequently making errors in their production and comprehension of sentences and words, more specifically errors showing a severe disruption of morphosyntax. Important research is being devoted to studying the working and evolutionary history of the gene FOXP2, which appears to be responsible for the impairment. Or consider finally the ''poverty of stimulus'' observations about language acquisition originally invoked by Chomsky, which, properly articulated, are still for many the most significant: it appears to be impossible to explain by appealing to ordinary inductive learning mechanisms how children acquire their language given the empirical evidence they have available during the learning period.

It does not matter for our purposes whether the claims in support of the Chomskyan nativist view based on this evidence really establish those claims.[5] What I think they support beyond any serious doubt is that Chomsky was right in requiring from his early work of linguistic theories what he described as *explanatory* (as opposed to merely *descriptive*) *adequacy*: in principle, we cannot discard *a priori* that the facts we have mentioned, or

others that now we cannot conceive of, are relevant in order to select among different abstract languages the ones that are best suited to characterizing natural languages – and hence he facts relevant for the foundational undertaking in semantics. As Chomsky has repeatedly pointed out, by being open to the need to account for facts such as those mentioned for illustrative purposes in the previous paragraph, we will reduce the indeterminacy in the choice of a particular grammar (and hence a particular descriptive semantics) as correctly characterizing a given natural language. Although it has been superseded in the current ''minimalist'' program, the Principles and Parameters model briefly described below shows how such indeterminacy reduction might be accomplished, by requiring grammars to implement that very constrained model.

In particular, when we think whether natural languages obey a properly characterized Principle of Compositionality, and what this can account for, this seems perfectly well justified. Why should it be deemed irrelevant to a proper theoretical characterization of whatever productivity, systematicity, etc., natural languages in fact exhibit, that the proposal accounts for facts such as the development of creoles from pidgins, SLI, or facts about language acquisition? Why should the facts that linguistic theories try to account for be restricted to the data to which Soames' ''leading questions'' are supposed to be answerable? Allthough it is not needed to sustain the claim that these rhetorical questions suggest, we may bolster it by noting that *prima facie* natural languages (as much as the mental states of speakers subserving them) are *natural kinds*,[6] and we do not consider it explanatorily adequate to restrict in the aprioristic way Soames suggests the data that scientific theories of other natural kinds purport to account for. The Platonist attitude regarding the foundational undertaking in semantics in particular and linguistics in general appears to be unmotivated.[7]

Following Chomsky (ch. 2), several philosophers such as Laurence ('A Chomskyan Alternative to Convention-Based Semantics') have articulated a conception of what languages are which, even if it is a radical alternative to the Platonist view, agrees with it in constituting a no-reasons view. On the Chomskyan view, linguistics aims to characterize I-languages; the 'I' stands for 'internal'. An I-language is an abstract state the 'mind/brain' can be in, an informational state or state of knowledge, a ''competence''. This competence breaks down into two components, corresponding to the dual focus of contemporary linguistics (based on the nativist considerations) on Universal Grammar and on the grammars of particular languages. Universal Grammar is essentially a theory of the information codified in the language-acquisition mechanism. According to recent versions, this knowledge is embodied in a system of parameters, and language acquisition is basically a matter of setting the parameters of that language, which are ''set'' by ''triggering'' information in the corpus that the child is exposed to. For each general way that languages can differ from one another, there corresponds a parameter. Having set all the parameters, a child will have learnt all the syntactic principles governing the language.[8] Theories of particular languages' grammars are theories of the knowledge that results from this process, embodied in the acquired set of principles determined by the parameter settings. This knowledge base plays a central and essential ''subpersonal'' role in language processing.

On this view, linguists are not interested in languages conceived of as social entities, social artifacts devised for communicative purposes, which are usually understood to be what Chomsky (20) calls ''E-languages'' – the 'E' being for 'external' – in that the properties of an E-language are ''independent of the properties of the mind/brain''. These entities are said to be important for sociological, ethical or political considerations, but they cannot be object of a properly scientific study. As Chomsky (16) puts it:

> The commonsense notion … has a normative-teleological element that is eliminated from scientific approaches. […] Consider the way we describe a child or a foreigner learning English. We have no way of referring directly to what that person knows: It is not English, nor is it some other language that resembles English. We do not, for example, say that the person has a perfect knowledge of some language L, similar to English but still different from it. What we say is that the child or foreigner has a ''partial knowledge of English,'' or is ''on his or her way'' toward acquiring knowledge of English, and if they reach the goal, they will then know English. Whether or not a coherent account can be given of this aspect of the commonsense terminology, it does not seem to be one that has any role in an eventual science of language.

A scientific study of language can only be addressed to idiolects, even if, given their interest in unveiling general facts about the ''language faculty'', linguists focus on characterizing the ''stable state'' of an idealized speaker-hearer after passing the learning period which has fixed the relevant parameters in the ''initial state'' constituting the genetically codified UG.

In the companion piece to this article I will articulate a fundamental aspect of the normativity that, as Chomsky notes, characterizes our ordinary conception of languages, and I will suggest that there are no good reasons to think that we should renounce it in order to accommodate the compositionality-related explanatory concerns that – as I have been granting to the Chomskyan view – an adequate conception of foundational semantics should acknowledge. The view I will advocate will not understand them as E-languages, the way Chomskyans define them (i.e., as independent of deep-psychological facts). It is a matter of some concern whether a syncretistic view like the one to be advocated here is coherent, but I am confident that we have not been given good reasons to think that it is not.

4. Psychological Reasons Views: The Davidsonian Project

On the face of it, Davidson's early theorizing on language is driven on the one hand by the concerns behind the Principle of Compositionality, and by Quinean empiricist qualms about intentional notions and intensional entities on the other. Davidson came up with the idea of putting Tarski's work on truth-definitions to use in order to account for the semantics of natural languages. Tarski had shown how to make use of semantic recursive devices such as truth functions and quantifiers in artificial languages, originally characterized by Frege, to construct finite definitions entailing all instances of the following schema for sentences of those languages, having in place of 'p' a sentence in the metalanguage with the same meaning as the object-language sentence designated by the name occupying the place of 'S':

(T) Sentence S is true if and only if *p*

A truth-definition meeting this condition will be *materially adequate*, in that it characterizes the set of true sentences of the object language. In making this claim we essentially depend on the obtaining of the synonymy relation between sentences used in the right-hand-side of instances of (T) and sentences mentioned in the left-hand-side. Davidson, however, wants to appeal to Tarskian ideas to explain in a reductive way, meeting Quinean empiricist strictures, what it is for sentences of a language to have the meaning that they have, showing in so doing how the meaning of complex expressions depends on the meaning of their components. Appeal to Tarski's resources might help with the facts of composition, but reliance on notions such as *synonymy* must be shunned.

In trying to meet this goal, Davidson submits that meaning is what a correct theory of meaning characterizes; the meaning of the utterances of a speaker is just what a theory that would allow for successful interpretations ascribes to them; and he suggests that a true Tarskian truth-theory meeting certain constraints (intuitively intended to guarantee the obtaining of the condition Tarski places on (T), to wit, that the sentence used in the right-hand-side conveys the meaning of the one mentioned in the left-hand-side) would allow just for that: successfully interpreting the speaker, showing in so doing how the meaning of the complex depends on the meaning of the parts.

Given Davidson's foundational goals, constraints on the truth-theory should be free from locutions such as *meaning*, *translation* or *synonymy*; he contends that the relevant constrain is *confirmability from the standpoint of the radical interpreter*. A *radical interpreter* is someone who purports to interpret a speaker without any previous knowledge of the meaning of the expressions in the speaker's language, or of the speaker's propositional attitudes. The radical interpreter has access only to the speaker's interaction with his environment, and whatever other knowledge about the physical world he may need; and according to Davidson he will operate by assuming a *Principle of Charity*, which tells him to assign truth conditions to sentences such that speakers are right when plausibly possible.[9] These suggestions establish a constitutive connection between languages and psychological states: how a speaker understands the sentences he uses is one of the components (together with his other attitudes, beliefs, intentions and so on) that the radical interpreter purports to make the best sense of, given the speaker's behavior and his relations with the environment. On this view, in foundational semantics we should appeal to the psychological states that explain a speaker's behavior, as discerned by a radical interpreter.

Even though Davidson's proposal is thus very different from the Platonist one, it falls prey to the Chomsky-inspired objections outlined before – unless the radical interpreter is thought of as being in a position to appeal to data about language acquisition, language evolution and language-processing. Even if this is not ruled out in principle by the program, it appears to fit badly with Davidson's (314) motivation for his stance,[10] which is essentially behaviorist in spite of disclaimers:

> […] we *should* demand … that the evidence for the theory be in principle publicly accessible, and that it not assume in advance the concepts to be illuminated. The requirement that the evidence be publicly accessible is not due to an atavistic yearning for behavioristic or verificationist foundations, but to the fact that what is to be explained is a social phenomenon. Mental phenomena in general may or may not be private, but the correct interpretation of one person's speech by another must *in principle* be possible. A speaker's intention that her words be understood in a certain way may of course remain opaque to the most skilled and knowledgeable listener, but what has to do with correct interpretation, meaning, and truth conditions is necessarily based on available evidence.

However, as Chomsky has repeatedly pointed out with regard to these and similar considerations by Quine, this misses the possibility that what accounts for mutual intelligibility is a shared innate endowment, whose character is only accessible to empirical procedures going well beyond those available to the radical interpreter, given the way Davidson appears to think of this methodological posit.[11] As Lepore and Ludwig (ch. 12–5) argue, there is no good reason for thinking that successful radical interpretation is always possible, unless we make ontological assumptions about languages that are unjustified elsewhere. Why cannot there be, for instance, a language whose speakers directly perceive, and refer to by means of lexical items, properties beyond our epistemic reach? The efforts of one of us acting as a radical interpreter in such a case would be at least partially doomed.

Because of these problems, when it comes to the foundational undertaking, some writers who defend the Davidsonian Tarskian framework for descriptive semantics (such as Lepore and Ludwig; Larson and Segal),[12] defend the kind of Chomskyan supplementation that will also be proposed at the end of the ensuing discussion of the Gricean program; i.e., they suggest, as a further constraint on correct interpretation, that canonical derivations of semantic theorems provided by the theory somehow *mirror* the linguistic dispositions of the interpreted speakers.[13] This is, I think, a welcome addition, for the reasons mentioned above: it will adequately reduce the indeterminacy in the choice of grammar, and descriptive semantics resulting from the Davidsonian proposal. However, it appears to require abandoning the philosophically most ambitious aspects of Davidson's project. It requires abandoning the ontological, constitutive role of what languages are that the Principle of Charity plays in Davidson's conception; after that, it is hardly possible to derive the epistemological and ontological consequences that Davidson has been promoting, such as the rejection of alternative conceptual schemas, the impossibility of massive error or the inscrutability of reference.[14]

5. Psychological Reasons Views: The Gricean Project

Here I will briefly summarize what I take to be a plausible version of the Gricean program, which I have presented in more detail elsewhere.[15] Central to the Gricean conception is the notion of *speaker meaning*, which we can illustrate with an example. In one of Borges' short stories, 'The Garden of Forking Paths', Yu Tsun, a German spy in England during the First World War, finds no better way of communicating to his superiors in Berlin that the city they should bomb is Albert than killing in extraordinary circumstances a man named 'Albert'. (Yu Tsun makes sure that the news of such an apparently unmotivated murder will be in newspapers read in Berlin.) This example fits nicely with Grice's original explication of speaker–meaning in terms of *communicative intentions*: by ''uttering'' his murdering of Albert, Yu Tsun intends his superiors to judge that the city to bomb is Albert; and his plan is to produce this effect *precisely through their recognition of Yu Tsun's very intention* that they so judge. Now, it is certainly the case that Yu Tsun's ''utterance'' is not a conventional device for informing someone that Albert is the city to be bombed. The Gricean suggestion is that linguistic meaning results from the enlisting of conventional devices to facilitate exchanges such as the one just described, essentially dependent on the presence of Gricean communicative intentions.

However, as Grice himself found out, it is no simple matter to characterize the conventionalized meaning of natural language sentences in terms of the concept of speaker meaning, as applicable to cases like Yu Tsun's. The best proposal only indirectly appeals to Gricean communicative intentions; nonetheless, it is still a straightforward psychological account close to the one envisaged by Grice. It has recourse to Lewis' ('Languages and Language') explication of *convention*, on which conventions are regularities rationally ''self–perpetuated'' in that conformity is secured by the expectations of participants that others will conform, given shared goals whose satisfaction requires coordinated behavior. The goals are the benefits of communication; focusing on the specific one of sharing information, the relevant conventions can be described as conventions of *truthfulness* and *trust*: they require, for instance, speakers to regularly utter declarative sentences only when they take them to be true, and audiences to trust that uttered declarative sentences are true. On this view, what makes one of the many abstract languages the one spoken by a given population is the presence of such conventions of truthfulness and trust in the population: this is the Lewisian proposal we mentioned at the beginning of this article.

Psychological states of speakers thus remain essential to this conception of foundational semantics.

Curiously enough, as in the Davidsonian case, although this theoretical stance is very different from the Platonist one, and even though perhaps the framework does not necessarily require it, the way Lewis understands it makes him prey to the Chomskyan objections to the Platonist view. A crucial problem for the Gricean account is that, left to itself, the appeal to speaker-meaning cannot provide a necessary condition for determining the meaning of possible utterances of sentences (i) too long or too complicated to be actually uttered; (ii) trivially true or for uttering which no speaker could have a sufficient reason; (iii) typically uttered to perform non-literal acts of meaning, or, finally; (iv) saying such bizarre things that would not be uttered but to mean something different from what they say (Schiffer, 233–9; Lance and O'Leary-Hawthorne, 290–4).

What makes an account of linguistic meaning distinctively Gricean is that it is to be given in terms of the concepts used in the Gricean account of speaker-meaning, in particular that of *communicative intention*. What this amounts to is that it is to be given in terms of (self-supporting regularities involving) a specific form of rational purposive activity characteristic of persons. Now, only a small finite subset of all logically possible utterances with a literal meaning in a typical natural language occur under such rational control. To deal with this, Lewis ('Meaning Without Use', 109–10) appeals to

> […] extrapolation. First, use somehow determines meaning for the fragment of language that is actually used. There are rules of syntax and semantics that generate the right sentences with the right meanings within the used fragment. These rules also generate other, longer sentences, with meanings, outside the used fragment. Use determines some meanings, those meanings determine the rules, and the rules determine the rest of the meanings … True, there are many grammars. But they are not on equal terms. Some are 'straight' grammars; for example, any grammar that any linguist would actually propose. Others are 'bent', or 'gruesome', grammars.

However, as Schiffer (236–9) argues, from a Chomskyan viewpoint this is still too extrinsic a way to determine the language spoken by a given individual or community. For we can think of individuals who in fact speak a finite language without grammar, or one for which they have internalized (perhaps by explicit learning) a ''bent'' grammar, for which Lewis' recipe would produce the wrong extrapolation. Loar (257–60) resorted at this point to a Chomskyan psycholinguistic grammar internalized by the speaker to determine the actual language he speaks. Lewis resists this move with considerations that remind us of earlier arguments of his (cf. 'Languages and Language') against internally represented grammars:

> Maybe there is a grammar somehow written into the brain. And conceivably it is a bent grammar, so that the language it generates differs, somewhere outside the used fragment, from the language we get by straight extrapolation. Schiffer has asked: does straight extrapolation give the right answers even then? I think so. If not, then whenever we resort to extrapolation to answer questions of syntax and semantics, we are engaged in risky speculation about the secret workings of the brain. That seems wrong. (Lewis, 'Meaning without Use', 110)

What Lewis finds wrong, as Schiffer guesses, ''is that if the inference is risky, then language users will not know what language they are using. If L is used by P only if some grammar of P is used in the processing of utterances of L, and if no one is now in a position to go that deeply into the brain, then how can the members of P know that it is L that they are speaking?'' (Schiffer, 256, fn. 5). For the sort of reasons mentioned above in reply to the Davidsonian behaviorist considerations, I think Schiffer is right in rejoining as follows:

But the *most* that follows from the antecedent of this question is that members of *P* do not have knowledge of the function *L* in a way that affords them a finite definition of it. They may nevertheless know that, say, they speak Italian, where 'Italian' is a rigid designator of the language they speak; or they may have all sort of knowledge by description of the language they use, where the descriptions under which they have their knowledge of *L* do not give the wherewithal to determine the grammar that in fact makes *L* the language they use." (Schiffer, 256, fn. 5)

A potential source of resistance to accepting Schiffer's suggestion lies in that it involves referring to the language whose nature one is attempting to define in Gricean terms *in the explicans* of our philosophical account, not only in the *explicandum*. People approaching the Gricean project with reductionist goals will not be happy with this. Once the reductionist goals are abandoned, however, as I will suggest in the companion piece we must do in any case, there is no reason why we should not take Schiffer's advice. There is no good reason not to invoke Chomkyan help in dealing with the ''meaning without use'' problem for the Gricean, and, as we have seen, the same applies to the related difficulties for the alternative Davidsonian program in foundational semantics.

6. Conclusion

Given a language actually used by a population (perhaps the idiolect of a single individual at a time), its (descriptive) semantics consists of the attribution to it of semantic features effected in the abstract language that correctly characterizes it; its foundational semantics (metasemantics), of the facts determining that the language has that particular (descriptive) semantics. We have critically examined four views on the sort of facts that a foundational semantics should envisage: the contents of those of our intuitions about truth-conditions, validity, etc, acknowledged by an elegant, simple and explanatorily powerful system (vis-à-vis questions about similarities and differences among languages, etc) encompassing them, on the Platonist account; a selected portion of the communicative intentions of speakers put forward by means of devices conventionally designed for that purpose, on the Gricean view; the communicative behavior that would count as evidence for the interpretive recursive specification of truth-conditions to be provided by an ideal radical interpreter, on the Davidsonian proposal; and whatever neuroscientific data (in particular, about the acquisition of language) counts as manifestation of the internalized competence of a speaker, on the Chomskyan proposal. Throughout the discussion, I have emphasized the need to take very seriously the Chomskyan suggestion. In a companion piece I will present the *normative reasons* approach to foundational semantics, and I argue on the basis of the discussion there that the Chomskyan proposal cannot be the whole story.

Short Biography

Manuel García-Carpintero works in the Philosophy of Language and the Philosophy of Mind. He has published a monograph, *Las palabras, las ideas y las cosas* (Ariel, 1996) and co-edited *Two-Dimensional Semantics* (OUP, 2006) and *Relative Truth* (OUP, 2008). He has published more than 50 research papers, most of them on the nature of truth, reference, logical consequence and mental and speech acts, in journals such as *Journal of Philosophy*, *Mind*, *Notre-Dame Journal of Formal Logic*, *Noûs*, *Philosophical Studies*, *Philosophy and Phenomenological Research*, *Proceedings of the Aristotelian Society* or *Synthese*. He is currently Professor of Philosophy at the Department of Logic, History and Philosophy of Science, University of Barcelona, and a member of the LOGOS group.

Notes

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[1] For related views, cf. Devitt and Katz.
[2] For reasons of expediency, in presenting what I am calling 'Chomskyan view' I will abstract away from several aspects of Chomsky's own views (for instance, concerning mental causation), which I take to be idiosyncratic.
[3] Dever, Szabó and Pagin and Westerståhl provide useful recent surveys, which present careful formulations of the principle, and discuss the extent to which it can be taken to be well motivated by considerations like those mentioned in the main text.
[4] Cf. Senghas *et al.*
[5] Cowie provides a good critical overview, even if, by my lights, her criticisms are ultimately not very convincing. Crain and Pietroski provide a compelling articulation and defense of the ''poverty of stimulus'' argument.
[6] Boyd's homoeostatic property cluster theory of natural kinds, on which natural kinds are clusters of properties together with a mechanism accounting for their repeated coinstantiation, would help justifying this assumption.
[7] Laurence ('Is Linguistics a Branch of Psychology?') develops this criticism in more detail.
[8] Baker provides an excellent introduction.
[9] Davidson ('Radical Interpretation', 127). Cf. Lepore and Ludwig, ch. 12–3, and Glüer, ch. 2–3 for useful elaboration.
[10] Pietroski ('Meaning before Truth', 264–5) expresses similar concerns.
[11] Cf. Pietroski, 'Character before Content', 43–4.
[12] In 'Homophonic Prejudices' I offer some reasons to doubt the descriptive adequacy of the Tarskian framework, on the basis of facts about lexically based presuppositions.
[13] Pagin, however, defends the orthodox Davidsonian line.
[14] Cf. Lepore and Ludwig, ch. 18, 19 and 21 for sensible criticisms of these projects.
[15] Cf. García-Carpintero ('Gricean Rational Reconstructions and the Semantics/Pragmatics Distinction', 'Recanati on the Semantics/Pragmatics Distinction').

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