WHAT IS LANGUAGE?

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Linguists (and philosophers of language) have long disagreed about the ontology of language, and thus about the proper subject matter of their disciplines. A close examination of the leading arguments in the debates shows that while positive arguments that language is *x* tend to be sound, negative arguments that language is not *x* generally fail. This implies that we should be pluralists about the metaphysical status of language and the subject matter of linguistics and the philosophy of language. A pluralist ontology of language, however, involves pitfalls for research on language, and to avoid this pitfalls researchers should temper the pluralist attitude with two strictures. First, pluralism about the ontology of language precludes agnosticism about the ontology of language. Second, pluralism should not lead to isolated research programs.

1. Introduction

For the purpose of the scientific and philosophical study of language, the question "What is language?" is the flipside of the question "What is the (proper) subject matter of linguistics?" I am not primarily concerned with *language*, the folk concept, since while the folk concept may have been the jumping off point for research, it doesn't significantly constrain the science or philosophy of language. To answer the question "What is the ontology of language?" then, we must begin by asking what sort of roles the concept of language plays in linguistic theory and practice. Chief among these roles is that it picks out the object of study. Language, the scientific concept, is thus descriptively whatever it is that linguists take as their primary object of study, and normatively whatever it is they should be studying.

Regarding the descriptive question, I will argue that the object of linguistic study is multifaceted, comprising three separate but related types of entities. Many linguists take as their primary objects of study mental structures relat-

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ing to language. The particular set of structures differs—a generative syntactician might take herself to only be studying language- (or even syntax-) specific structures, while many psycholinguists are happy to study any mental activity involved in linguistic processing—but everyone in this category takes their object of study to be psychological. Other linguists, especially those with ties to the social sciences, take their object of study to be primarily a social entity of some sort. Finally, some linguists take themselves to be studying abstract patterns evident in linguistic communication, with an ontology analogous to the metaphysics of mathematical entities. So in answer to the descriptive question "What is language?" we must respond that there are actually many types of language, roughly sortable in to three classes of ontologies, one psychological, one social, and one abstract.[1]

To answer the normative question, we look to see if there are reasons to favor one of these targets of inquiry over another. The most compelling reason to give up on one of the three facets of language would be to show that it either doesn't actually exist or that it is unsuitable for scientific study, and several philosophers of linguistics have tried to make just such a case. Partisans of each ontology also appeal to answers to the descriptive question to answer the normative one, since extant scientific practice constrains to some extent which ontologies are legitimate. I'll review the most significant arguments of this sort, and give reason to reject them. Consequently, I'll conclude that we should give a plural answer to the question "what is the proper subject matter of linguistics?"

Although this analysis of the ontology of language preserves the extant diversity within the linguistic sciences, it does have some ramifications for the practice of linguistics. In particular, it tells against a tendency towards sub-disciplinary parochialism that is fueled in part by non-plural conceptions of the proper subject matter of linguistics. I'll also show how the fact of plurality requires making explicit the target of any particular work in linguistics. Agnosticism about the ontology of language should be avoided because the relation between hypothesis and evidence is shaped by the scientist's conception of her subject matter, and it follows that confirmation and theory choice can depend on which particular variety of 'language' a researcher is studying.

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1. It would be a mistake to assimilate this tripartite division to that of Katz (1981) for two reasons. First, Katz commits to Platonism as the ontology of language analogous to the ontology of mathematics, but the division I will explore leaves open other options from the metaphysics of mathematics as analogs for the metaphysics of language. Second, for good historical reasons Katz sees non-neurophysiological nominalism as one of the major contenders, but structuralism is more remote from contemporary linguistics than it was in 1981, and the social ontology I have included as one of the contenders has more sway on the contemporary science of language.

2. Criteria for a Conception of Language

Debates over the proper subject matter of linguistics and correct ontology of language tend to come back to the same small set of issues, and by identifying these we can pick out the key criteria for a valid conception of language. Philosophers and linguists making a case that language is x generally attempt to demonstrate three things:

(1) x exists, in a form accessible to scientific study,
(2) x is (descriptively) a primary object of study for linguists, and
(3) x is reasonably referred to as 'language'.

Additionally, most attempt to show that competing ontologies of language fail to satisfy one or more of these criteria. (1) through (3), then, appear to be taken more or less as necessary and sufficient criteria for establishing the proper subject matter of linguistics. Before moving on, then, let's take a closer look at each.

None of the advocates of the chief candidates for the ontology of language take language to be equivalent to the primary data gathered by linguists. Linguists, in the first place, study artifacts such as patterns of vibration in the air, symbols on a page, or reports of introspective judgments. Few these days argue that language merely is these artifacts. Arguments that a preferred conception of language satisfies (1), then, typically appeal to an inference to the best explanation for observed patterns among these artifacts. According to the argument, x must exist because x is a theoretical posit licensed by the explanatory role it plays in our best theories explaining the primary data.

Similarly, partisans of all three camps sometimes argue that their ontology uniquely satisfies (2). For each of the types of ontology it isn't difficult to find linguists who hold it to be what they study. So non-pluralists must, and do, argue that to identify the primary object of study of linguistics we can't look to linguists' meta-theoretical reflections, but must instead infer it from their practice. I'll accept the premise that deeds, not words, determine whether x satisfies (2), since if I didn't, pluralism would be trivial to establish. Valid application of (2), however, takes more than an impressionistic sense about what occurs in day-to-day linguistic work. I propose the following heuristic to determine what counts as a primary object of study in linguistic practice: if x is the common link between otherwise disparate objects of study, x is a good candidate for the primary object of study. Suppose, for instance, that a linguist makes use of both data about subjects' eye movements and reaction times in a lab, as well as her own intuitions about semantic facts. Her intuitions and her subjects' eye movements have no direct connection, but both bear directly on language processing. Language processing is thus a good candidate for her primary object of study.

This heuristic will allow us to assess arguments about whether a particular ontology satisfies (2).

(3) is essentially practical. The issue is not so much that we need to hew closely to some prescriptively correct use of the term 'language,' but that only constrained disagreement about subject matter is possible within a research community. A particular scientist could come up with an idiosyncratic ontology which satisfies (1) and perhaps (2). For example, he might take language to be "information transferred through genetic material." Now, information transferred through genetic material exists, and that scientist could certainly make it his primary object of study, but to call his subject matter 'language' in any way other than metaphorically would cause confusion and insert him into the wrong research community. His work would have little to say to nearly all other linguists, and theirs would have little ramification for his. So to reasonably call an object 'language' in a scientific context, it must have at least some significant connection to what the community of linguists is already engaged in studying. This does not preclude novel uses of the word 'language' or novel conceptions of the ontology of language, but it does constrain which novelties are acceptable.

Having these criteria in hand allows us to situate the various arguments for each ontology of language. Most such arguments will seek to establish that a particular account of a language satisfies all three, but its competitors do not. In what follows I'll defend the positive aspect of each argument—there are ontologies of all three classes which meet the criteria—but I'll reject the negative aspects by showing how the putative reasons to think the other ontologies fall short are misguided. We'll begin with the most-discussed type of linguistic ontology, treating language as a component of individual minds.

3. Language as Psychological

The most influential advocate of language as a psychological entity is Chomsky, whose argument begins by establishing the same approach to metaphysics that we have adopted here. He argues that since the time of Descartes, it has been a common practice in philosophy to take the validity of the natural sciences as a fixed point, and metaphysics has reshaped itself around this fixed point (Chomsky 1995). The correct account of language, then, depends on the theoretical entities postulated by our best science, and according to Chomsky our best language science gives us an account of the state of the cognitive system responsible for language, which he calls both the 'language faculty' and "'I-language', 'I' to suggest 'internal' and 'individual'" (1995: 13).[2] Chomsky is aware that there is room

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2. Also "intensional," but that falls beyond the present discussion.

for further specification. Does the language faculty include every physiological contributor to linguistic activity, including not just many parts of the brain but also parts of the vocal tract, etc.? Does the language faculty refer to the idiolect of speaker, meaning her unique, individual lexicon and grammar? Or should we take I-language to be more specifically the innate, universal biological endowment shared by speakers of different idiolects? Chomsky's own position is that language should be understood in the latter way, that is, as Universal Grammar, which consists of some minimal computational principles (Chomsky 2013). We need not follow him to such extremes, however, to accept the validity of a psychological account of the ontology of language. The cognitive sources of linguistic behavior exist and they seem to be a primary object of study for many linguists both within and without the Chomskian research program (e.g., non-Chomskian psycholinguists, phonologists interested in the neural components of articulation, etc.) so they satisfy two of our criteria for an ontology of language.

Dissension often focuses on the third criterion. Devitt and Sterelny (1989) call attention to the fact that Chomsky's idea of what language is departs significantly from what they call "Grandma's View." Chomsky's definition of language would seem puzzling to Grandma, and Devitt and Sterelny think that Grandma is mostly right: linguistics "is about symbols and explains the properties in virtue of which symbols have their roles in our lives" (1989: 515). Since Chomsky is happy to write off the role language plays in communication as "peripheral" (2013: 655), he's not really using the term 'language' reasonably.

If this were the extent of the critique, it would have little bite. True, the technical definition of 'language' for Chomsky and his allies has little enough to do with the lay understanding of language or linguistics, but experts have been using the term in Chomsky's sense for half a century now, so we can't say it's unreasonable to call it 'language'. But Devitt and Sterelny's critique has more force than mere appeal to folk conceptions, since it is also meant to target our second criterion. Linguists themselves, they argue, are in practice much nearer to Grandma's View than Chomsky's, in that something like Grandma's View is the actual primary object of linguistics, despite what linguists may claim in their meta-theoretical reflections.

Devitt (2003) draws out this point clearly by an analogy. Suppose we want to study horseshoes. We could gather samples of horseshoes and analyze them, or we could instead try to examine the psychological processes internal to the blacksmith when she creates horseshoes. Even if for some reason we did decide to approach the subject by looking at the blacksmith rather than the horseshoes themselves, we wouldn't think that her mental representations were the real horseshoes, and the shaped metal bars only objects of peripheral interest. Recall our rule of thumb for how to determine a primary object of study: if *x* is the com-

mon link between otherwise disparate objects of study, *x* is a good candidate for primary object of study. If you look at all the things involved in horseshoe-ology, you'd find not only the study of the blacksmith's expertise, but also study of the various uses horseshoes are put to (throwing implements in games, fashion accessories for horses, etc.), and of the symbolic roles they play (as lucky charms, as markers of cowboy culture, etc.). The common thread uniting all these objects of study is not the cognitive blueprint for horseshoes in the blacksmith's head, but the external, U-shaped bars of iron. So by our rule of thumb, the cognitive apparatus can't be the primary object of horseshoe-ology.

The physical horseshoes, obviously, correspond to Grandma's View of language, and the blacksmith's cognition to Chomsky's. Devitt's key point is not that to call the blacksmith's mental representations 'horseshoes' is intuitively silly, but that it doesn't correspond to what scientists would actually do. Linguists, Devitt argues, might pay lip service to the psychological account of language, but in practice they're actually concerned "with the properties of expressions in a language, symbols that are the outputs of a competence. [Their] work and talk seems to be concerned with items like the very words on this page" and not in the first instance with I-language (2003: 15). When we look at what linguists actually study, the common thread seems to be the external symbols used for communication. So Devitt argues that the psychological ontology of language not only fails the third criterion, but also falls short of the second, since it's not the primary object of study even for linguists who say that it is.

Devitt's arguments give us good reason to think that something like Grandma's View must be right as an ontology of language, but they don't suffice to disqualify the psychological ontology[3]. He's right that much of linguistics is concerned with external symbols, but Chomsky's claim that the analysis of those external symbols and the acts of producing them—of *performance*, to use the technical term favored by generative linguists—can just be a method at understanding the underlying psychological phenomena is legitimate. After all, psychologists frequently use external measures to study internal psychological phenomena. If psychology consisted only of introspection and brain scans, we would have very little in the way of good psychological theory. When the psychologist asks a subject to adjust a patch of color until it matches another, he's studying visual cognition, not patches of color. When physicists observed tracks in cloud chambers, their primary object of study was subatomic particles, even though their data came in the first place from patterns of vapor. Along the same lines, Chomsky and his adherents seem to be justified in claiming that their primary object of study is a theoretical postulate which is observed only indirectly. Note the

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3. In fact, as Antony (2008) points out in response to Devitt, even if external social languages are among our objects of study, one essential way to study them would still be to study the individual, mental, linguistic competence.

clear disanalogy with the horseshoe example: the varieties of data used by the psychologically-oriented linguist really are held together by the common thread of having a connection to the mechanisms of linguistic cognition.

To argue that the psychological ontology of language can't actually be the primary object of study, then, requires more than a claim that linguists often gather data that aren't psychological entities. We would have to show that those data do not serve as useful evidence for the psychological entities linguists often purport to study. Katz (1984) makes just such a case. He argues that the grammars produced by linguists accurately model performance, but there is little evidence that they capture the actual cognitive processes underlying linguistic behavior. This is in part because any particular pattern in performance could be produced by an infinite number of possible underlying cognitive systems, so we can't infer that the language faculty works in any particular way just from the primary data. It's difficult to come up with a straightforward rejoinder to Katz' argument, because it's no more than a special case of the thorny problem of underdetermination of theory by evidence. But this fact allows us an oblique response: while it's true that the primary data of linguistics are consistent with an infinite number of psychological grammars, this places psychologically-oriented linguistic theory in the same boat as all scientific theories, including those committed to different ontologies of language. So the issue Katz raises is one worth exploring,[4] but the underdetermination of theory by evidence gives us no grounds to favor one subject matter of linguistics at the expense of the others.

Thus far we have seen how attempts to reject the claim that language is a mental entity on the basis of criteria (2) and (3) fail. Criterion (1), that the proper subject matter of linguistics must exist, gives even less ground for criticism. Claims that some particular account of the language faculty picks out a non-existent entity are legitimate, of course. It is an interesting and important question, for instance, whether Chomsky's "faculty of language, narrowly construed" (Hauser, Chomsky, & Fitch 2002) exists at all, and if it does exist, it is an interesting and important question whether it looks anything like what Chomsky says it does. But a negative answer to either of these questions is not a negative answer to the question of whether or not a psychological entity is a proper subject matter for linguistics. Even if no one yet has an accurate description of what the faculty of language is, there must be some cognitive and neurophysiological facts about humans underlying our linguistic behavior and these facts describe the language faculty. So there must be some psychological ontology of language which satisfies (1).

In short, the language faculty must exist in some form or another, it is a

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4. Presumably we can partially solve the problem by appeal to theoretical virtues such as simplicity, as well as by seeking the intersection of multiple forms of evidence.

primary object of study for many linguists, and given the history of modern linguistics it's reasonable for linguists to call it 'language'. The psychological ontology of language is therefore a legitimate response to the questions "what is language?" and "what is the proper subject matter of linguistics?"

4. Language as Social

It is not, however, the only legitimate response. Even Chomsky acknowledges, with rhetorical surprise, that other conceptions of language "remain current in contemporary cognitive science" (2013: 649). Many of those other conceptions treat language as a social object, and thus take linguistics to be at least partly a social science. As with the psychological ontology of language, the social ontology is a family of quite distinct conceptions of language rather than a uniquely defined object. While the ontology of social objects is a serious philosophical question,[5] for present purposes we'll take it for granted that since the social sciences successfully study social objects, there is some correct account of social ontology. After all, we can give accurate descriptions and make successful predictions about social objects such as the Basque separatist movement, the song "Greensleeves," this year's autumn fashions, and Oaxacan cuisine, so these must exist in some form or another. The question then becomes whether or not language can be properly understood as having an analogous social existence.

Many linguists and philosophers of language think it can, and they are generally lead to that conclusion by facts about language acquisition, methodological considerations, or facts about meaning. Labov argues that the object of study for sociolinguists must be a social entity because

> we are programmed to learn to speak in ways that fit the general pattern of our community. What I, as a language learner, want to learn is not 'my English' or even 'your English' but the English language in general. (2012a: 6)

In other words, children learning language aren't trying to learn any individual's I-language, but trying to learn something that exists on a community level. Labov acknowledges that this is a contingent fact. We can conceive of language learners who did try to learn something which existed on an individual psychological level, such as a parent's I-language. But all the evidence points to a social-level target for language learners, since "if they are brought into a new community before the age of nine, children will have the dialect system of that

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5. Some significant discussions: Durkheim (1895: Chapter 1), Searle (1995), Hacking (1999).

community, not of their parents" (Labov 2012a: 6). This fact gives us compelling reason to think that the scientific study of language acquisition needs a social ontology of language.

Linguists favoring a social ontology of language often do so because conceiving of language as a social object fits best with the methodology, training, and research questions standard in their sub-discipline. Clear examples are sociolinguistics and anthropological linguistics. Since these subfields take social sciences to be among their parent disciplines, both their research techniques and their guiding questions favor taking their object of study to have a social ontology. A popular sociolinguistics textbook, for instance, defines language as "what members of a society speak" (Wardhaugh 2006: 1) and emphasizes that "language is a communal possession" (2006: 2). Similarly, an upper-level textbook in linguistic anthropology situates the field as dealing with "language as a cultural resource and speaking as a cultural practice," "language as a set of cultural practices," and "language as a set of symbolic resources that enter the constitution of the social fabric" (Duranti 1997: 2–3). In fact, Labov, who has as much claim as anyone to have founded modern sociolinguistics, argues that "the central dogma of sociolinguistics" is that "the community is conceptually and analytically prior to the individual," making language an "abstract pattern located in the speech community and exterior to the individual" (2012b: 266).

This is not to say that all sociolinguists or anthropological linguists take language to be a social object, only that language is so construed in the exemplars of those subfields. Nor do I mean to suggest that the social ontology of language belongs exclusively to subfields of linguistics with close ties to the social sciences. My point is simply that one good reason to adopt the social ontology is because of the tools and interests of a particular research program.

Coming at the issue from a different direction, philosophers and psychologists of various stripes have argued that language cannot be merely individual on the grounds that I-language is insufficient to account for facts about meaning. In particular, individual language users seem to attempt to conform to an external, social entity in their language use. The classic externalist arguments of Kripke (1972), Putnam (1975), and Burge (1979) can all be seen as arguing for the existence of social-type linguistic objects. Similarly, Dummett (1986) argues that we need a social ontology of language to explain how an individual speaker can be wrong about language. Even those of us who are skeptical of those philosophers' arguments for semantic externalism should be convinced by Lewis's (1969) treatment of language, which demonstrates the explanatory power of treating language as an imperfectly-shared social convention, that is, by analyzing language at the level of multi-agent interaction rather than at the level of purely individual psychology. Similarly, even many of the leading psychologically-oriented theories of pragmatics take as their level of analysis

interacting groups of speakers rather than individual cognition (e.g., Grice 1957; Sperber & Wilson 1986; Stalnaker 2002; Tomasello 2008). So even if the social ontology of language supervenes on individual psychologies, these arguments give reason to think that a social entity must play an important explanatory role in our language science and philosophy of language.

So far then, language qua social entity seems to easily satisfy the three criteria we've set out. (1) It exists, in the same way that other objects of the social sciences exist. (2) It is a primary object of study for a significant number of linguists. (3) It is reasonably referred to as 'language'. In fact, of the three ontological categories, it is probably the closest to both the everyday conception of language and the origins of linguistic study. For this reason, opponents of the social ontology attack it on the grounds than it fails (1) or (2), typically arguing that, construed as a social object, language does not exist in a form accessible to scientific study.

Unsurprisingly, the classic arguments that the social ontology fails (1) and (2) come from Chomsky. In *Knowledge of Language* (1986) he explains why it is a scientific mistake to take our object of study to be externalized language, or E-language. E-languages, he argues, "are not real world objects but are artificial, somewhat arbitrary, and perhaps not very interesting constructs" (1986: 26). He claims this in part on the grounds that the folk understanding of language muddles sociopolitical facts with the linguistic facts, such as when we refer to 'Chinese' as a language despite Chinese dialects being as diverse as the Romance Languages. Additionally, the folk individuation of languages is incurably vague, as demonstrated by dialect continua such as the gradual geographic transition from German to Dutch. For these reasons, Chomsky argues, "all scientific approaches have simply abandoned [the sociopolitical] elements of what is called 'language' in common usage" (1986: 15). Consequently, a linguist can't just adopt the everyday concept of language, and must refine it into a technical notion of E-language. This refinement, however, necessarily involves idealization away from the facts of linguistic diversity. Even a refined technical concept of 'English' will need to elide many of the idiosyncratic differences between different speakers of English. So far, no problem. All science idealizes, so to reach the punchline of his argument Chomsky needs to further show why the idealizations leading to a technical notion of E-language are illicit.

To establish that the idealizations leading to E-language are problematic, Chomsky appeals to the unity of the sciences as a desideratum. "Linguistics, conceived as the study of I-language," he proposes, "becomes part of psychology, ultimately biology" (1986: 27). This is desirable, he thinks, because the further we travel up the ladder of sciences, the closer we get to understanding the real mechanisms behind phenomena. "E-language, however construed, is further removed from mechanisms than I-language" (1986: 27), so the idealizations behind the technical concept of E-language are taking us down the ladder of

sciences—the wrong direction. Pulling Chomsky's argument together, we get the following: In idealizing from I-language to E-language, we lose access to the real mechanisms. We gain nothing from this loss, however, since the I-language conception can explain all the linguistic facts on its own. The social ontology of language thus fails to satisfy (1) because of both its "artificial nature" and its "apparent uselessness" (1986: 27). For similar reasons, it fails to satisfy (2). E-language is "an epiphenomenon at best" (1986: 25), so it can't be the primary object of linguistic study.

This is a sophisticated argument, but we should be skeptical of nearly all its premises. Categories which smoothly fade into each other, such as German and Dutch, can be real and useful categories. Wiggins (1997: 501) compares dialects to colors in this respect, and in general, so long as there are clear cases, the existence of borderline cases does not give compelling reason to be skeptical of a categorization scheme. If they did, all vague predicates would pick out entities inaccessible to scientific study. It isn't always the case that objects of scientific study need to be able to be outlined in terms of necessary and sufficient conditions, or even be clearly defined. The concept 'species' remains ineliminable in biology despite all its conceptual problems, and a good case can be made[6] that languages, dialects, and so on are analogous to species in this respect.[7] Linguists can (and sometimes must) make use of fuzzy, ill-defined concepts just as other scientists do. The sociolinguistics textbook cited earlier points out, for instance, that "the concept [of speech community] has proved to be invaluable in sociolinguistic work in spite of a certain 'fuzziness' as to its precise characteristics" (Wardhaugh 2006: 119). It is significant that this is not an instrumentalist approach to sociolinguistic concepts; the author goes on to say that "speech communities, whatever they are, exist in a 'real' world" (2006: 120). Chomsky's criteria for proper scientific concepts seem to be too strict, and once relaxed they give no reason to exclude social conceptions of language.

Furthermore, Chomsky is also mistaken that all linguists have abandoned trying to define linguistic categories partially in terms of sociopolitical facts. Sociolinguists are often comfortable doing so, given their subject matter. Take, for example, Labov's seminal definition of 'speech community' which states that the concept is "not defined by any marked agreement in the use of language elements, so much as by participation in a set of shared norms" (1972: 120–1). A generative linguist, given her preoccupation with Universal Grammar, will want to avoid defining linguistic objects in terms of sociopolitical facts, but lin-

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6. For example, Lassiter (2008).

7. They are probably analogous to species in another respect as well. Just as a species is a set of populations of interacting but often quite different individuals rather than a set of instantiations of an ideal type, a language (seen as a social phenomenon) is likely more like a set of populations of interacting individuals with different idiolects, rather than some abstract ideal type.

guists with other scientific goals may have good reasons to use social facts to pin down their objects of study. We should note as well that even in the counterfactual world where all linguists really did give up on defining languages (e.g., Urdu, Portuguese, Quiché) because they could not do so without appeal to sociopolitical facts, this doesn't mean we can't define language as a set of richly variegated social objects. So Chomsky's preliminary salvo on the social ontology of language—his attack on its resemblance to the folk concept—fails to hit the target.

His premises about scientific idealization are also fishy. Idealization is a property of how we represent our objects of study, not of the objects themselves, so idealized objects are not necessarily unreal. Chomsky himself must accept this, since I-language is constructed by idealization as much as E-language is. To construct the scientific object I-language, we must idealize away from individual variation, from cognitive limitations, and from the integration of the language faculty with other cognitive systems, to give a few examples. E-language concepts need not make the same idealizations but this gives us no reasons to favor E-language over I-language, nor vice versa. The idealizations made by linguists who adopt a social ontology and the idealizations made by linguists who adopt the psychological ontology are generally different, but neither is better in any strong sense. Given certain goals, certain idealizations are preferable, but linguistics need not be characterized by one true set of goals. The idealizations involved in doing linguistics with E-language as primary subject matter do not necessarily make research more removed from the actual mechanisms than idealizations do in other approaches to linguistics.

Perhaps most perplexing of all of Chomsky's premises, however, is his claim that studying E-language is "useless" because we can handle all the linguistic facts by studying I-language. The only way such a claim is true is if we give 'linguistic fact' a narrow, ad hoc definition which excludes, say, facts about communication or language change. Chomsky and his allies do sometimes attempt just such a narrowing, and while they are justified in doing so for their own immediate research program, they have no grounds to suggest that their ad hoc narrowing is binding on the rest of the discipline. The fact of the matter is that many linguists pursue many questions which are best answered by appeal to facts about E-language, sometimes in tandem with facts about I-language. In summary, most of Chomsky's argument for why we shouldn't take social objects to be the target of linguistic inquiry falls apart under scrutiny.

Another argument that might be taken to bear against an external, social ontology for language comes from Rey (2006a; 2006b), who makes a compelling case that many of the components of language, (phonemes, noun phrases, etc.) don't exist. There is no set of physical acoustic properties, for instance, that corresponds to the phoneme /t/ and only the phoneme /t/. Instead, all that exist are

mental representations of the phoneme /t/ generated in response to a stimulus (but the stimulus itself is not really /t/). Linguistic entities, if this is correct, are intentional objects but non-existing, or *intentional inexistents* in Rey's parlance. And if linguistic entities are intentional inexistents, then they are found purely in the realm of the mental, which might tell against the social ontology of language in favor of a psychological one.

Even if we accept Rey's argument that linguistic entities are intentional inexistents, however, we can hold onto the social ontology as a valid ontology for language. That some aspects of language exist only in the mental realm is not only compatible with a social ontology, it is uncontroversial. Devitt, for instance, rejects a psychological ontology in favor of a social one, but acknowledges that some psychological facts both "cause" and "partly constitute" linguistic facts (2008: 674). Likewise, many of the most plausible social ontologies for language acknowledge an essential role for mental representations, but see language as emerging from the interaction of multiple minds. Theories of this sort include those of Grice, Stalnaker, and Lewis. In fact, Rey himself points out that "conventions can attach as much to intentional inexistents as real objects" (2006b: 558), and presumably intentional inexistents can also be the object of higher-order mental representations, be found in the common ground, and so forth. Rey's argument against the existence of standard linguistic entities thus does not tell against most social ontologies of language.

Davidson (1986) attacks the existence of language from a somewhat different angle. He argues that "there is no such thing as a language, not if a language is anything like what many philosophers and linguists have supposed" (1986: 265). The argument hinges on the potential for linguistic innovation. Language use involves error and creativity, and successful communication requires creating a hypothesis about meanings peculiar to each individual conversation. Any 'language' stable enough to be studied would thus be too local to be of scientific interest. In short, we can't have scientific theories of English or Tagalog, because 'English' and 'Tagalog' pick out something different for each language-user at each conversational turn. We could have a scientific theory about the local language used by so-and-so and so-and-so in such-and-such particular interaction, but that wouldn't be an interesting or useful subject for science. For this reason, we might take studying language qua social object to be a doomed enterprise.

Davidson creates an excellent philosophical puzzle, but we need not infer from it the conclusion that social objects are an unfitting subject matter for linguistics. Instead of taking Davidson's philosophical puzzle as an impossibility theorem, we should take it as a scientific puzzle: given the fact of constant language change, how are communities of successfully communicating speakers maintained? This is a question answerable by language science. We can use sociolinguistic techniques to study the nature of language change and the constraints

on linguistic novelty (e.g., Labov 2011), we can create formal models showing how speakers create a local language out of the resources of a broadly shared language (e.g., Cooper & Ranta 2008), or we could even, perhaps, do some philosophy of language (Armstrong 2016). Linguistic novelty, even frequent lexical innovation of the sort Davidson describes, is perfectly consistent with a shared language. Moreover, even if Davidson's puzzle gives some prima facie reason to be skeptical that languages exist, we can safely ignore that skepticism, just as we safely ignore philosophical skepticism in the sciences generally. Linguists and social scientists successfully create explanations, descriptions, and predictions in terms of shared public languages all the time. We can explain why I can successfully communicate with a typical Australian but not a typical Kazakh by appealing to the existence of English. We can describe the Great Vowel Shift as a historical change in the pronunciation of English. And we can do sensible sociological work describing how second-generation immigrants to the United States almost always learn English. Davidson's puzzle is not nearly compelling enough to force our science to abandon these sorts of claims.

This same point—that social objects like English and Tagalog play important roles in many of our best social scientific theories—also counters the other main argument against the social ontology of language. Some authors have suggested that even if languages qua social objects exist, they are superfluous from a scientific standpoint. Chomsky, for instance, argues that a "naturalistic approach to linguistic and mental aspects of the world seeks to construct intelligible explanatory theories, taking as 'real' what we are led to posit in this quest" (1995: 1). What we are led to posit, Chomsky thinks, is I-language and I-language alone, since we can explain all the linguistic facts by appeal to internal mental states. E-language "appears to play no role in the theory of language" (1986: 26). In a related vein, Heck argues that when it comes to the ontology of language, "the crucial question here is one of explanatory priority" (2006: 64), and clearly I-language is explanatorily prior, since all the social facts supervene on facts about individual speakers (see also Pietroski 2008).

Neither of these arguments succeeds. Chomsky is right that in our quest for the best explanations, we are led to posit I-language, but we are also led to posit languages, topolects, dialects, speech communities, etc. This fact is undeniable, since these social objects are central posits in not only the work of many sociolinguists and field linguists, but also for generative syntacticians who discuss the features of individual languages, for computational linguists designing software meant to translate from one language to another, and for similar reasons in nearly every other subfield of linguistics as well. Chomsky's methodological naturalism certainly forces us to accept the psychological ontology as a proper subject matter for linguistics, but for the exact same reasons it forces use to accept the social ontology as well.

Heck's appeal to explanatory priority fails no better. He's likely correct about the metaphysical priority, since social facts are probably in-principle reducible (in some weak sense) to the psychological facts, but metaphysical priority doesn't entail explanatory priority. Explanations come in a variety of flavors (Salmon 1998; Lombrozo 2006), and linguistics can make use of explanations of psychological facts in terms of social facts as well as the other way around.[8] For instance, we appeal to differences in social linguistic environment to explain why language acquisition produces different results in different children. The question of explanatory priority will not favor one ontology of language over the other, and neither will reducibility. Even if we could in principle redescribe all the social facts as collections of psychological facts, in practice this would be a bad idea. Science might aim for unification, but it's clear that it doesn't aim for strong reduction. The goal of biology, for example, is not to eliminate talk of cells and species in favor of talk of atoms and molecules; biology instead embraces multiple levels of description, and there is no end goal to reduce them to one. Different scientific questions require treatment at different levels of granularity. Likewise, the goal of the social sciences, including many approaches to linguistics, is not to eliminate social objects in favor of talk of psychological facts. Linguistics has room to embrace multiple levels of description as well. In short, appeal to explanatory roles gives us more, not less, reason to accept the social ontology of language.

My arguments in this section have leaned heavily on the fact that linguists frequently appeal to social entities such as languages in their practice. The terms of the debate, accepted even by opponents of the social ontology such as Chomsky, are that scientific ontology is determined by the entities we are lead to postulate in the process of theory development. The standard objection to arguments such as mine is that reference to languages such as English or Southern Paiute is a matter of convenience, a useful set of fictions. Sometimes, I think, this is true, and a linguist referring to 'English' really just means a set of idiolects typified by a particular set of features. My claim stands, however, as longer as either (a) a significant number of linguists are not fictionalists about languages, or (b) the objects that 'English,' 'Southern Paiute,' and so on are convenient shorthand for are sometimes social objects. Both conditions are met if we consider the variety of linguistic disciplines, particularly those with close ties to the social sciences. In sum, given commonly accepted naturalistic methodology, (1) language has a real social reality, and (2) language qua social object is a primary object of study for a significant number of linguists. Since the social ontology never had a problem satisfying criterion (3), being a reasonable use of the term 'language', we can

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8. In fact, Lewis (1983) runs the explanatory priority argument in the other direction, against purely individualist conceptions of language.

confidently conclude that the social ontology of language is a legitimate subject matter for linguistics.

5. Language as Abstract

"Language as Analogous to Mathematics" would have been a more apt title for this section, but for the sake of concision, I'll use 'abstract' as shorthand for 'whatever the ontology of mathematical objects is,' even if that ontology turns out not to be abstract (e.g., nominalist). This is because linguists who favor this third option for the ontology of language often argue for it on the grounds that we need an ontology for mathematical objects, and we can use that same ontology for language.

By way of background, let's get some positions from the philosophy of mathematics on the table. *Platonism* takes a realist stance towards abstract objects. Numbers, functions, and so on exist abstractly in the same way that trees, stars, etc., exist concretely. Just as we perceive concrete objects, we intuit abstract objects. *Formalism* treats mathematics as a set of games according to which symbols are manipulated according to particular rules. Symbols need not be Platonic abstracta; they can be concreta such as scratches on a page, or they can be nominal categories. *Fictionalism* claims that mathematical entities have the same reality or unreality as characters and objects in fictional stories. It is true that Hamlet murders Polonius, and false that Polonius murders Hamlet, but neither Hamlet nor Polonius is a real object. Likewise, it is true that 2 + 2 = 4, and false that 2 + 2 = 7, but '2' and '+' are not real objects.

Ontologies of all three sorts are in principle as available to philosophers of language as they are to philosophers of mathematics. Platonism is reasonably ascribed to some of the pioneers of formal semantics, such as Frege and Montague, but it has had its most thorough defender in Katz, who argues that "grammars are theories of the structure of sentences, conceived of as abstract objects in the way that Platonists in the philosophy of mathematics conceive of numbers" (1984: 18). I haven't found anyone who explicitly draws an analogy between the ontology of language and formalism in the philosophy of mathematics, but one plausible reading of the outdated school of American Structuralism could take formalism to be their position. Bloomfield's remarks that grammar is "the meaningful arrangement of forms in a language" (quoted in Chomsky 1986: 20) as well as the structuralist emphasis on the patterns of occurrence of discrete symbols both lend themselves to a formalist account of the subject matter of

structural linguistics.⁹ Finally, fictionalism in the linguistic context can be a thesis about the primary object of linguistic study. Consider, for instance, Carnap's methodological stance:

> The direct analysis of [natural languages], which has been prevalent hitherto, must inevitably fail, just as a physicist would be frustrated were he from the outset to attempt to relate his laws to natural things—trees, stones, and so on. In the first place, the physicist relates his laws to the simplest of constructed forms; to a thin straight level, to a simple pendulum, to punctiform masses, etc. (2002: 8)

To Carnap, the linguist, like the physicist, studies abstract models "in the first place." Obviously, this methodological stance is consistent with the primary object of study for the scientist being the target system of his models, but it is also consistent with the models themselves becoming the primary object of study. The point of these examples is simply that the whatever our position for mathematical ontology, we could potentially adopt that same position for linguistic ontology and thus the abstract ontology can satisfy criterion (1).

The best argument that the ontology of language is analogous to the ontology of mathematical objects is that some linguists are concerned merely with extensional adequacy. A grammar is extensionally adequate when it correctly captures the linguistic facts of the natural language it is meant to describe. It must, for example, reject all the ungrammatical sentences of the language, and identify all the analytic sentences of the language as unconditionally true. Extensional adequacy does not require capturing the actual psychological procedure speakers use to arrive at the linguistic facts. In fact, as Katz (1984) observes, we can achieve extensional adequacy without any knowledge of the psychological facts, since there is always an infinite number of possible psychological procedures which could produce the same set of linguistic facts. This doesn't mean that linguists can't look for the psychological facts, but it does mean that linguists can study the extensional linguistic facts without committing themselves to the psychological ontology. This occurs sometimes in sub-disciplines such as formal semantics, where some researchers will claim, for instance, that their analyses have "nothing whatsoever to do with what goes on in a person's head when he uses [the word in question]" (Dowty 1979: 375). This concern with merely the extensional facts, with disregard for the psychological and social aspects of language, marks linguists who are committed to an abstract ontology of some sort. Since such linguists exist, language, construed abstractly, appears to be a prima-

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9. This strikes me as a more charitable understanding of the structuralist ontology of language than the crude behaviorism sometimes attributed to them.

ry object of study for some linguists, so the abstract ontology meets criterion (2).

Chomsky's arguments for the non-existence of languages run as well against the abstract ontology as they do against the social ontology, in other words, not all that well. So instead of focusing on criterion (1) as a weak point of the abstract ontology, we'll consider criterion (2). The best argument against the abstract ontology is that it can't be a primary subject matter of linguistics because it's not worth studying. We have clear reasons for being interested in the psychological and social conceptions of language. Psychological and social objects have causal effects in the world, and linguistics construed as either psychology or a social science has clear connections to other sciences. Those virtues do not characterize linguistics construed as mathematics to the same extent. For that reason, Fodor argues, the primary problem with language qua mathematical object is that "nobody is remotely interested in it" (1981:158). But we've seen that at least some linguists are interested in it, and I think they have good reason to be. Extensional adequacy is an easier target to hit than accurate psychological description, so for practical purposes it's is all that's required, it's beneficial to have linguistic theory aiming only at extensional adequacy. Consider, for instance, the applied linguistics involved in developing natural language processing systems. For most practical purposes, we don't care whether or not artificial intelligence systems use the same psychological mechanisms as humans do to generate linguistic behavior. The mark of a better natural language processor is greater extensional adequacy, not greater psychological accuracy. Since linguistics construed as mathematics is in some ways easier than linguistics construed as psychology, it's more likely to provide useful input applied settings of this sort. Consequently, somebody *is* interested in language qua abstract object. We thus have reason to take the abstract ontology of language to be a potential primary object of study for linguists, even if it is often of less interest than the other two classes of ontology.

6. Why a Plural Ontology?

We've seen so far that all three classes of objects—psychological, social, and abstract—serve as satisfactory answers to the question, "what is the proper subject matter of linguistics?" In this section, I'll argue that it follows that in the context of linguistics, this implies a plural ontology of language. In other words, I'll defend the methodological principle I introduced at the beginning: that in this context we can and should treat the questions of methodological subject matter and metaphysical status as equivalent.

This principle is restricted to the context of the scientific study of language. As I stipulated from the start, my talk of "ontology" refers to the ontology em-

ployed by the science, not necessarily to some fundamental accounting of what exists in what form in the universe. I'm agnostic about metaphysics in that broader sense. It may in fact be that in some extra-scientific metaphysical sense there is only one thing which is language, and the three classes of objects I'm discussing are its facets, parts, or different presentations.[10] The possible existence of a unitary language in that sense, however, is compatible with the fact that the objects known as language in linguistics are plural. Linguists do not typically take as their object of study some chimeric entity combining the psychological, social, and abstract, either implicitly or explicitly. So far as I can tell, there are few serious attempts within linguistics to characterize what such a chimera would be like, whereas there are many attempts to characterize what language in only one of the three categories would be like. To give a famous recent example, Hauser, Chomsky, and Fitch (2002) propose as scientifically useful two specifications of language qua psychological object. Linguists, in short, take as their ultimate objects of study language in one sense or another, not the language-chimera. This is not to say that, if the language-chimera actually exists, it may become an ultimate object of study in linguistics, but even if it did, unless it became *the only* ultimate object of study, pluralism would still be warranted.

My goal, it's worth keeping in mind, is to sort out disputes about whose approach to linguistics is correct, and these disputes take place in a discourse laden with ontological terminology: "this is what language *is*," "languages don't *exist*," etc. My pluralist solution takes this ontological terminology seriously— these really are discussions about the categories employed by and the objects studied by the science—and is thus able to engage with it on its own terms instead of summarily dismissing it as not even playing the right game. This is why it doesn't make sense for me to go in for a pluralism about methodology without a pluralism about ontology. To clarify, consider Sober and Wilson's discussion of a "pluralism of perspectives," where the same process (or in our case object) is fruitfully represented in different ways (1999: 331). Such pluralisms of perspectives do exist in linguistics, but the plural commitment to psychological, abstract, and social subject matters is not one of them. A linguist ultimately interested in how the brain parses speech and one interested in how languages change in contact with each other will have a lot to learn from each other, but they aren't merely taking two perspectives on the same subject matter. One is ultimately interested in a psychological subject matter, and her inquiry is satisfied once we understand the parser, even if we don't yet understand how languages change. The reverse is true for the other. If the difference between the two was merely one of perspective, they would, in the end, be after the same answers, but this is manifestly not the case. So insofar as we're discussing the status of lan-

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10. I'm grateful to an anonymous reviewer for helping clarify my thinking on this point.

guage in scientific ontology, pluralism is the best way to make sense of practice in linguistics.

7. Two Strictures on Pluralism

My endorsement of pluralism about language isn't without restrictions. Pluralism has its pitfalls, so a sophisticated pluralism about the subject matter of linguists requires attention to two issues. On the one hand, sophisticated pluralism should not collapse into isolationism. On the other, it should forbid agnosticism.

7.1. Stricture 1: Pluralism Should Not Collapse into Isolationism.

The three classes of ontology we've considered bring along with them concomitant differences in subject matter and methodology, and are reflected to a large extent in the social structure of the discipline. It's tempting, given these differences, to postulate that what we really have are three Kuhnian paradigms. "There is a tendency," Labov observed back when *The Structure of Scientific Revolutions* was still fresh, "to see linguistics as a kind of debating society, where the winner is awarded the privilege of not reading the papers of the losers" because Kuhnian paradigms are incommensurable (1975: 56). So the social paradigm of language would have nothing to say to the psychological paradigm, and vice versa. We should not yield to this temptation, since as Labov aptly observes, "the construction of such paradigms is a favorite occupation of those who would prefer to discuss the limits of knowledge rather than add to it" (1975: 56). The three ontologies of language are interrelated, and research bearing on one will usually have indirect significance for the others. If we treated linguistics as a number of distinct disciplines coincidentally located in the same academic department, we would miss out on knowledge to be gained through this indirect route.

Moreover, isolationism and insistence on incommensurability are antithetical to the important research project of understanding the connections between the three different types of object called 'language.' Questions about the metaphysical, explanatory, and causal relationships between the different ontologies of language are important questions for both linguists and philosophers of language. They are questions enabled by pluralism—we can't ask about the interaction of I-language and E-language, for instance, unless we accept both as real objects of study—but questions defeated by isolationism. So a sophisticated pluralism treats linguistics as a unified field characterized by multiple primary objects of study, not as three isolated fields with their own independent subject matters.

7.2. Stricture 2: Pluralism Requires Explicit Commitment to an Ontology

The second, equally great, danger of pluralism is the temptation for the individual scientist to be agnostic about the ontology of language. In any particular context, however, it is important to be explicitly committed to one or another primary object for a number of reasons. The first is that some debates are intractable unless it's clear what the subject matter is. Partee makes this point in her classic "Semantics—mathematics or psychology?" (1979). Semanticists, she points out, tend towards agnosticism about their subject matter and this leads to avoidable disputes. For example, she argues, Millianism about the semantics of names makes the most sense for certain extensional ontologies of language, but descriptivism works better for some psychological ontologies. The debate between Millianism and descriptivism is thus in part an artifact of the oft unacknowledged ontological commitments of the various discussants. This is a general phenomenon, because which claims about language are true depends on what language is. Consequently, when making a claim about language, it's important to be clear about which ontology is under discussion.

Similarly, commitment to an ontology needs to be explicit because the idealizations a scientist is licensed to commit depend on the subject matter at hand. Doing research into a particular linguistic question requires ignoring most of the facts about language, and distorting a few others to simplify the problem space. Whether it makes sense in a particular case to idealize away from a particular linguistic fact depends on which ontology we're trying to describe. For example, if we're currently taking the social ontology to be our primary subject matter, we might be comfortable ignoring individual performance errors, since they don't reflect the social facts of language. If we're after language construed as psychology, however, performance errors might be particularly illuminating data points, so we won't want to ignore them. Since the ontology of language bears on idealization, and idealization is central to scientific methodology, agnosticism about the ontology of language is untenable.

Finally, agnosticism about subject matter must be avoided because it makes confirmation difficult. No datum counts as evidence purely in virtue of its individual properties. Evidence is at least a two-place relation, in that all evidence must be evidence for something. If we're agnostic about a scientific subject matter, we're leaving out the second member of that evidence relation, so we can't be clear about the strength and valence of a particular piece of evidence. For example, the statistical analysis of linguistic data from Twitter speaks directly to language construed as a social object, but less directly to language processing. Conversely, data from fMRI brain scans might have more bearing on our understanding of the psychological ontology of language than on our understand-

ing of language construed as a mathematical object. So when a linguist cites a data point as evidence in favor of a theoretical statement, we can't fully evaluate that claim unless we know which ontology of language she's committed to. This gives us yet another reason to avoid being agnostic or non-committal about the ontology of language.

References

Antony, Louise (2008). Meta-Linguistics: Methodology and Ontology in Devitt's Ignorance of Language. *Australasian Journal of Philosophy*, *86*(4), 643–656.

Armstrong, Joshua (2016). The Problem of Lexical Innovations. *Linguistics and Philosophy*. DOI: 10.1007/s10988-015-9185-9

Burge, Tyler (1979). Individualism and the Mental. *Midwest Studies in Philosophy*, *4*(1), 73–121.

Carnap, Rudolf (2002). *The Logical Syntax of Language.* Open Court Publishing.

Chomsky, Noam (1986). *Knowledge of Language: Its Nature, Origin, and Use.* Greenwood Publishing Group.

Chomsky, Noam (1995). Language and Nature. *Mind, 104*(413): 1–61.

Chomsky, Noam (2013). The Dewey Lectures 2013: What Kind of Creatures Are We? Lecture I: What Is Language? *The Journal of Philosophy*, *110*(12), 645–662.

Cooper, Robin, and Aarne Ranta (2008). Natural Languages as Collections of Resources. In Robin Cooper and Ruth Kempson (Eds.), *Language in Flux: Relating Dialogue Coordination to Language Variation, Change and Evolution* (109–120). College Publications.

Davidson, Donald (1986). A Nice Derangement of Epitaphs. In *Truth and Interpretation* (251–265). Blackwell.

Devitt, Michael (2003). Linguistics is Not Psychology. In Alex Barber (Ed.), *Epistemology of Language* (107–139). Oxford University Press.

Devitt, Michael (2008). Methodology in the Philosophy of Linguistics. *Australasian Journal of Philosophy*, *86*(4), 671–684.

Devitt, Michael and Kim Sterelny (1989). Linguistics: What's Wrong with "The Right View". *Philosophical Perspectives*, *3*, 497–531.

Dowty, David. R. (1979). *Word Meaning and Montague Grammar: The Semantics of Verbs and Times in Generative Semantics and in Montague's PTQ*. Springer.

Dummett, Michael (1986). A Nice Derangement of Epitaphs: Some Comments on Davidson and Hacking. In Ernest LePore (Ed.), *Truth and Interpretation: Perspectives on the Philosophy of Donald Davidson* (459–476). Blackwell.

Duranti, Alessandro (1997). *Linguistic Anthropology*. Cambridge University Press

Durkheim, Émile (1895). *Rules of Sociological Method*. Félix Alcan.

Fodor, Jerry (1981). Some Notes on What Linguistics Is about. *Readings in the Philosophy of Psychology*, *2*, 197–207.

Grice, H. Paul (1957). Meaning. *The Philosophical Review*, *66*(3), 377–388.

Hacking, Ian (1999). *The Social Construction of What?* Harvard University Press.

Hauser, Marc. D., Noam Chomsky, and W. Tecumseh Fitch (2002). The Faculty of Language: What Is It, Who Has It, and How Did It Evolve? *Science*, *298*(5598), 1569–1579.

Heck, Richard (2006). Idiolects. In Judith Jarvis Thomson and Alex Byrne (Eds.), *Content*

and Modality: Themes from the Philosophy of Robert Stalnaker (61–92). Oxford University Press.

Katz, Jerrold. J. (1981). *Language and Other Abstract Objects*. Rowman and Littlefield.

Katz, Jerrold. J. (1984). An Outline of Platonist Grammar. In Thomas G. Bever, John M. Carroll and Lance A. Miller (Eds.), *Talking Minds: The Study of Language in the Cognitive Sciences* (17–48). MIT Press.

Kripke, Saul. A. (1972). *Naming and Necessity.* Springer

Labov, William (1972). *Sociolinguistic Patterns*. University of Pennsylvania Press.

Labov, William (1975). *What is a Linguistic Fact?* Humanities Press International.

Labov, William (2011*). Principles of Linguistic Change Volume III: Cognitive and Cultural Factors*. John Wiley & Sons.

Labov, William (2012a). *Dialect Diversity in America: The Politics of Language Change*. University of Virginia Press.

Labov, William (2012b). What is to Be Learned? The Community as the Focus of Social Cognition. *Review of Cognitive Linguistics*, *10*(2): 265–293.

Lassiter, Daniel. (2008). Semantic Externalism, Language Variation, and Sociolinguistic Accommodation. *Mind & Language*, *23*(5), 607–633.

Lewis, David (1969). *Convention: A Philosophical Study*. John Wiley and Sons.

Lewis, David (1983). Languages and Language. In *Philosophical Papers* (Vol. 1, 163–188). Oxford University Press.

Lombrozo, Tania (2006). The Structure and Function of Explanations. *Trends in Cognitive Sciences*, *10*(10), 464–470.

Partee, Barbara (1979). Semantics—Mathematics or Psychology? In Rainer Baüerle, Urs Egli, and Arnim von Stechow (Eds.), *Semantics from Different Points of View* (1–14). Springer

Pietroski, Paul (2008). Think of the Children. *Australasian Journal of Philosophy*, *86*(4), 657–669

Putnam, Hilary (1975). The Meaning of 'Meaning'. *Minnesota Studies in the Philosophy of Science*, *7*, 131–193

Rey, Georges (2006a). The Intentional Inexistence of Language – But Not Cars. In R. Stainton (Ed.), *Contemporary Debates in Cognitive Science* (237–255). Blackwell.

Rey, Georges (2006b). Conventions, Intuitions and Linguistic Inexistents: A Reply to Deviit. *Croatian Journal of Philosophy*, *6*(18), 549–569.

Salmon, Wesley. C. (1998). *Causality and Explanation*. Oxford University Press.

Searle, John. R. (1995). *The Construction of Social Reality*. Simon and Schuster.

Sober, Elliot, and David S. Wilson (1999). *Unto Others: The Evolution and Psychology of Unselfish Behavior*. Harvard University Press.

Sperber, Dan and Deirdre Wilson (1986). *Relevance: Communication and Cognition*. Harvard.

Stalnaker, Robert (2002). Common Ground. *Linguistics and Philosophy*, *25*, 701–721.

Tomasello, Michael (2008). *Origins of Human Communication*. MIT.

Wardhaugh, Ronald (2006) *An Introduction to Sociolinguistics* (5th ed.). Blackwell.

Wiggins, David (1997). Languages as Social Objects. *The Journal of Philosophy*, *72*(282), 499–524.