

# Reference, Semantic Reference, and Determination

## Introduction

This paper connects a dominant approach to studying natural language semantics with a fundamental thesis about how people think - and talk - about particular objects. I argue that the approach to natural language semantics that I will call the “formal approach” has strong motivation to embrace what I will call a “Determination View” of reference to objects in language and in thought. This conclusion should prompt a reconsideration of the formal approach, since the Determination View can be questioned. It also challenges the view, often going hand in hand with the formal approach, that the study of natural language semantics is independent of the investigation of cognition.

The formal approach to natural language aims to explain human linguistic capacity by using the tools of model theory to model finite lexicons and finite sets of grammatical rules. Saul Kripke (1977) famously explored the question of what notion of *reference* has a place in such an approach. He called the favored notion of reference “semantic reference.” I am going to suggest that Kripke, and others following him, have a choice to make about how to regard the semantically disfavored notion of reference, what Kripke called “speaker’s reference.” This choice is between two views about how people actually manage to think and talk about particular objects. One of the views is the Determination View, which holds that people manage to think and talk about particular objects by invoking properties that these objects uniquely instantiate. The other is what I will call the “Process View.” It holds that people can think and talk

about particular objects simply because *those objects* are appropriately involved in the production of the thinking or talking. I argue that accepting the Process View about thinking and talking leaves practitioners of the formal approach with an unwanted artificiality in their semantic theorizing. Thus, they have strong motivation to accept the Determination View instead. But this commits them to a substantive view about human cognition, which is in need of defense. Though there is not space here to make a full case against the Determination View, I will close the paper by sketching a general problem it faces. The message to take from the paper is that this problem about the nature of *cognition* turns out to matter for the kinds of *semantic* inquiry into natural language that can fruitfully be pursued.

### “Semantic reference”

The formal approach aims to explain how it is possible that human beings learn, speak, and understand their languages. The strategy is to explain this phenomenon in terms of people’s mastery of finite lexicons and finite sets of grammatical rules, using the tools of model theory. As Brendan Gillon has put it, the aim is “to do for the expressions of a natural language what model theory does for the notation of logic: given an assignment of values to the minimal constituents, to assign a value to the complex expression.”<sup>1</sup>

A critical assumption of this formal approach is that both the assignment of values to minimal expressions<sup>2</sup> and the rules for assigning values to complex

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<sup>1</sup> Gillon (2008), p. 374.

<sup>2</sup> In the case of indexical expressions, the assignment would assign rules for assigning values relative to context of use.

expressions on the basis of their constituent expressions are invariant across people's particular uses of the language. This assumption about the formal project reflects the invariance in *meaning* that linguistic expressions actually have.<sup>3</sup> The formal project is thus responsible to our intuitions about natural language *meanings*, often modeled as *intensions*, or functions from possible worlds to sets of individuals.<sup>4</sup> Further, the formal project's assignment of truth conditions to sentences is responsible to our intuitions about the truth of natural language sentences across circumstances.

But what about *reference*? How is the formal project responsible to our intuitions about what people are referring to, mentioning, or talking about in language? Saul Kripke (1977)<sup>5</sup> recognized this as an important question, and made a claim early on about the way in which reference matters for semantics. He distinguished two types of reference: "speaker's reference" and "semantic reference." As the labels indicate, he claimed that only the latter is relevant to semantics. Semantic reference, on Kripke's view, is what the invariant meaning<sup>6</sup> of an expression would *determine* as its referent on a given occasion. Speaker's reference, by contrast, is not determined by the invariant meanings of expressions. It is what a speaker *intends* to refer to, on a given occasion, using an expression. This could not be a semantic relation, given the focus of the formal approach on assigning values (or rules for assigning values) to expressions, not to utterances. On this picture, semantics is not responsible to our intuitions about what people are referring to in particular uses of

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<sup>3</sup> Presumably, even if meanings are context-sensitive, they exhibit some kind of invariance.

<sup>4</sup> This treatment of meaning derives from Carnap (1947).

<sup>5</sup> Prompted by Donnellan (1966).

<sup>6</sup> An invariant *convention of use* could also play this role. Both meanings and conventions of use can be modeled as intensions.

language. Rather, semantics is responsible to our intuitions about the meanings of *expressions* and about the truth conditions of *sentences*. Any semantic facts about reference will flow from these aspects of semantic theory, unbound by intuitive data about reference itself.

### **Ways of understanding “speaker’s reference”**

Let us linger for a moment on the kind of reference that Kripke rules out of semantics, what he calls “speaker’s reference”. How should this phenomenon be understood?

One way of understanding it is that in saying that a speaker intends to refer to a certain object, we avail ourselves of a kind of shorthand. We are saying that the object was involved in a certain way in a process leading to an event - a referring utterance - that we classify as intentional. Instead of describing the whole process in which the object was involved, we simply say that the object was what the speaker intended to refer to. This is a *de re* view of intention, in that what it is one’s intention to refer to is not determined by the descriptive content of one’s intention. My perception of a rock might lead me to make an utterance intending to refer to *the man I am looking at* - as I might put it, since my perception has gone awry. On the view of intention contemplated here, my intention is nonetheless to refer to the rock, because that is what played the appropriate role in leading to my intentional utterance. Even if I am *also* looking at a man (but it is not my perception of him that leads to my utterance), I do not intend to refer to *him*. I will call this a “Process View,” both of intending and of speaker’s reference.

This way of understanding speaker's reference connects it to a non-linguistic, purely cognitive relation to an object. This is the relation of thinking about an object, or, to use Keith Donnellan's (1966) term, having an object in mind. Intending, in a given utterance, to refer to a particular object is just a matter of one's utterance being generated in a certain way by one's thinking about, or having in mind, that object. One's thinking about that object will in turn have been generated by one's interaction with that object or its effects.

A good way of thinking about the Process View is as analogizing referring to vision and other perceptual processes. Just as a person *sees* a particular object because of the role that object plays in her visual process, so she *refers* to a particular object because of the role that object plays in what might be called her "referential process".

If the formal approach thinks of *speaker's reference* in this Process way, it takes on what might be called a "Partial Determination View" of *reference in general*. On this view, one way of referring to things using language is by having what you are referring to determined by the conventional meanings of the expressions you use. That is semantic reference. Another way of referring to things using language is to have your thinking about them generate intentional utterances, in this process-given, *de re* way. That is speaker's reference.

A different way of understanding speaker's reference leads to what might be called a "Full Determination View" of reference in general. On this view, just as the meaning of an expression may determine a referent, so a speaker's intention, through its descriptive content (for instance, in the above example, *the man I am looking at*), may determine a referent. The expression used may determine the same referent as the speaker's intention, or they may determine different referents. But both referents are

determined by the speaker invoking a property - through linguistic meaning or through conceptual grasp - that is uniquely instantiated by the referent. The view that a speaker's ability to speaker-refer to an object relies on her conceptual identification of it goes hand in hand with the view that her ability to think about the object also relies on such conceptual identification. For it is implausible that a speaker might think about an object (without identifying it conceptually) but not be able to refer to it (assuming she has language).<sup>7</sup>

My aim here is not to argue that Kripke viewed speaker's reference in one way or the other.<sup>8</sup> What I want to ask is: how *should* anyone broadly working within the formal approach regard speaker's reference? Should they have a Partial or a Full

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<sup>7</sup> Of course, she might not know an expression conventionally used to refer to the object, but this does not make it cognitively impossible for her to refer to it. This is why people have been able to invent useful terms like "whatchamacallit".

<sup>8</sup> Kripke's discussion in Kripke (1977) and related work in Kripke (1980) and Kripke (1979) is rich, complex, and points in different directions on these matters. For instance, the reader might object that Kripke's view of *semantic reference* is not a Determination View. After all, Kripke explicitly denies that what a name refers to in a speaker's vocabulary is determined by any descriptive content that the speaker associates with that name. Instead, names refer via "chains of communication" going back to the bestowal of the name on a particular object. However, it should be noted that a critical question about Kripke's view is whether a reference-fixing or baptism must happen by description. Kripke claims that baptisms *can* happen by description: he gives the example of Leverrier naming the planet Neptune by giving the name to whatever planet "caused such and such discrepancies in the orbits of certain other planets." (1980, p. 79, n. 33) In this case, Leverrier names Neptune by invoking a property that Neptune uniquely instantiates, and subsequent users piggy-back on that property invocation. So, while it is true that subsequent users need not associate any descriptive content with the name "Neptune," they nonetheless ride on Leverrier's use of an identifying property. Kripke says that baptisms also may happen by ostension, and it is not clear whether he thinks ostension is a species of description (he suggests this in footnote 42 of *Naming and Necessity*) or whether he thinks ostension is a different phenomenon - perhaps a process phenomenon involving no determination.

There is not space here to begin to address the intricacies of Kripke's views - ultimately, I do not think it is clear what Kripke's view is. But I am more interested in the commitments of the formal approach, which has by and large viewed the distinction between speaker's reference and semantic reference as keeping the cognitive circumstances of particular uses of language out of the realm of "semantics". I want to suggest that such exclusionary stipulations are not for free, but come with some commitments about the very subject - cognition - that is to be excluded.

Determination View of reference in general? I am going to suggest that they have strong motivation to accept a Full Determination View. In this way, the formal approach to natural language semantics is tied to a substantive view about how human beings cognize particular objects.

### **The trouble with the Partial Determination View**

Suppose someone working with the formal approach adopts a Partial Determination View. On this view, it is accepted that *one answer* to the question of how people refer to things in language is a *process* answer. Very roughly, things impinge causally upon people through perception (whether directly or indirectly),<sup>9</sup> leading to their thinking about those things, perhaps remembering those things, and as a result uttering certain expressions, where their understanding of the conventional use of the expressions they use together with the linguistic and epistemic situation of their audience causes them to utter those expressions rather than others. We classify their utterances as intentional, and as being done with the intention of referring to the objects that got the chain started - the objects to which their utterances are downstream reactions. All we mean by this, though, is that the speaker responded with an utterance to a thinking event whose origin involved one object rather than another. This is a process of reference, and things come to be referred to by setting in motion (in a certain way) such a process.

Although this answer is rough and the details need filling in, it is the framework for a *complete answer* to the question of how people refer to things using language. It

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<sup>9</sup>There is, of course, much to say about how far indirect perception may extend, since people are able to refer to things very far removed from their immediate perception. There is not space to pursue this matter here.

sketches the role that people play in reference, the role that expressions play, and the role that referents play. If this answer were filled in, no question would remain about how people use expressions to refer to things. In particular, there would be no need to postulate any determination of reference external to this *process* of reference.

In light of this, the prospect of now isolating a feature of the process - the expression used - and asking what *it* determines independently of the process seems unnecessary. The question about reference has already been answered - or at least, a framework for answering it has been set out. One may certainly *define* a notion of “semantic reference” as what is determined by the meaning of the expression used. But in doing so, one recognizes that this determination does not figure in the full explanation of how people use expressions to refer to things.<sup>10</sup> Semantic reference becomes a theoretical notion introduced for the purpose of fitting reference into modern semantic theory’s favored approach to understanding language use: in terms of invariant features of a lexicon and a grammar.<sup>11</sup>

By accepting a Process View even of “speaker’s reference,” one admits - at least implicitly - that one’s contrasting notion of “semantic reference” does not track - or even attempt to track - the way that people actually use language to refer. The formal approach ends up irresponsible to the intuitive data about linguistic reference. This seems a bad result for a project that is motivated by the attempt to understand how people manage to use and understand natural language.

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<sup>10</sup> For instance, note that while the conventions governing the expression “the man drinking a martini” may figure into the explanation of someone’s uttering, “The man drinking a martini is happy,” the fact that these conventions *determine* a certain individual does not.

<sup>11</sup> With the theory of pragmatics stepping in to explain how these invariant features might be put to work by speakers in various circumstances.

For this reason, the formal approach is pushed toward a Full Determination View of reference. I have argued that if there is a correct *process* answer to the question of how people refer to things, then it is a *complete* answer to the question. But perhaps there is no correct process answer to the question - perhaps, contra the Process View, reference is not analogous to vision and other perceptual processes. Perhaps reference, unlike vision, must involve a speaker's zeroing in on a particular object by the invocation of a property that the object uniquely instantiates. This is what the Determination View holds. If this is right, then there is room for different *kinds* of reference, each determined by different properties that a speaker invokes. In any referring utterance, there are (at least) two kinds of reference: the kind determined by the properties a speaker invokes in her intention, and the kind determined by the properties she invokes through the lexical-structural conventions of the expression she uses.<sup>12</sup> This allows "speaker's reference" and "semantic reference" to be put on equal footing with regard to their claim on reality.

On this picture, semantics need not embrace a notion of reference that is artificial on its face. Semantics simply chooses one of many ways that reference might be determined as the way that is relevant for the purposes of semantics. Semantic reference as Kripke describes it is the relevant notion for modern semantic theory because it is determined by the invariant meaning of lexical items, together with the invariant rules of interpretation that are paired with the grammar of the language.

### **The trouble with the Full Determination View**

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<sup>12</sup> She might piggy-back on the property invocations of others in her linguistic community. See footnote 8.

The foregoing has illustrated the way in which a methodological approach to the study of natural language - the formal approach - should strongly motivate its practitioners to accept a certain view about cognition. They should accept the Determination View of reference - both of linguistic reference and reference in thought. The primary aim of this paper is only to display this connection of the Determination View to the formal approach to natural language. The formal approach is, if not committed to the Determination View, at least strongly pushed toward it. This is an important result, because it suggests that formal semantics may not be able to remain neutral on the workings of actual human cognition.

There is not space here to evaluate the Determination View in detail. It and the opposing Process View are fundamental theses about the nature of cognition. But let me sketch some considerations that should make us question the Determination View.

The Determination View says that reference in general is not merely a matter of a speaker responding to one thing rather than another (as, say, vision is a matter of a person's visual system responding to one thing rather than another).<sup>13</sup> Instead, reference involves the selection or determination of a single, particular object. This singling out must proceed by the invocation of a property that the object uniquely instantiates.

The basic problem with this view of reference was spotted by Saul Kripke and Keith Donnellan, and used by them to reject what is often called the "description theory" of names.<sup>14</sup> The problem is that any property a speaker invokes in thinking or

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<sup>13</sup> For instance, one's visual system responds to objects situated within a certain spatial range of one's eye, reflecting light of certain wavelengths, etc., and not to other objects.

<sup>14</sup> The relevant texts are Kripke (1980) and Donnellan (1970).

speaking about an object may not be uniquely instantiated by the object she is thinking or speaking about.<sup>15</sup> Kripke and Donnellan illustrated this, for the case of names, with compelling examples. A speaker may think of Columbus as the first man to realize that the earth was round, which he was not. Nonetheless, the speaker refers to Columbus, not some other man, when she uses the name “Columbus”. (And, one might add, when she *thinks* about Columbus.) (Kripke 1980, p. 85) A child may think of a man he was introduced to as “Tom” at a party held by his parents only as a man who was at a party of his parents’ (there are many such men). Nonetheless, the child may refer to this man in particular by the name “Tom”. (And, one might add, the child may think of this man in particular.) (Donnellan 1970, p. 343)

What such cases suggest is that people’s thinking about particular objects is prior to their invocation of properties to pick out those objects. Thinkers invoke the properties they do (sometimes correctly, sometimes not) as a result of already having in mind the objects that they believe to instantiate those properties. The reverse is not the case: they do not get objects in mind as a result of those objects instantiating properties that they are invoking to pick out the objects. To put it in a slogan, reference is prior to attribution.

Reference being prior to attribution does not entail that reference can happen without attribution. It might be that the process of referring to (or thinking about) an object does, as a matter of fact, involve attributing some property or other to that object (i.e., it might involve conceptualizing that object in some way or other). If so, the

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<sup>15</sup> Applied to the description theory of names, the problem is that (1) the descriptions backing a speaker’s use of a name may be false of the thing she refers to using the name; (2) the descriptions backing a speaker’s use of a name may be insufficient to single out the thing she refers to using the name.

attribution of a property is not what determines what one refers to, but a step in the process of referring to an object that gets started when the object comes into a position to be referred to. This is analogous to the way in which seeing an object involves the formation of a retinal image. The retinal image does not determine what one sees (e.g. by being a perfect representation of a single particular object) but is a step in the process of seeing an object that has come into position to be seen.

These brief considerations supporting the idea that reference is prior to attribution are not conclusive. Among other matters, they do not address motivations for the opposite view, that attribution is prior to reference. One motivation, what Barry Loewer (1997) has called the “fine-grainedness” of reference, has its roots in Quine’s (1960) argument that reference is indeterminate. The idea is that we cannot recover reference from any description of a causal process. Adapting Quine’s famous example, rabbits and undetached rabbit parts have the same effects; thus even if we knew the whole causal story, there would be no way to tell which a speaker was referring to in using the word “rabbit”. Indeed, Quine took it that there is never a fact of the matter about what is referred to. Others have taken Quine’s challenge to show that in order to refer to something, one must determine one’s referent using a suitably fine-grained conceptual apparatus.<sup>16</sup>

So, there are strong intuitive considerations that reference is prior to attribution, but also countervailing challenges. The issue cannot be settled here. But what bears emphasizing is the fundamental importance of the question to be answered. It is the question of whether the objects of the world come to us in

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<sup>16</sup> Michael Devitt’s (1981) “qua problem” reflects this kind of worry, and his solution to it reflects the Determination View.

cognition, or whether we go to them, via our concepts. In the 1970s, Kripke and Donnellan presented strong intuitive arguments that objects can come to us in cognition even when we lack the conceptual resources to get to them. It should not go without remark that the formal approach to studying natural language is closely aligned with the opposite view.

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