

## Notes on Denotation and Denoting

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In their now classic introduction to the foundations of semantic theory, Chierchia and McConnell-Ginet (1990/2000) observe that “denotation might constitute the fundamental semantic relation” if it is possible, as they argue, to extend the elementary case of a proper name to other expressions, perhaps “to expressions of any kind whatsoever.” In the elementary case, a name like *Pavarotti* “refers to or denotes its bearer (the popular singer)”; and generally, “from a denotational point of view, symbols stand for objects.”

This core notion -- the *referentialist doctrine* -- is standard, as indicated even in the titles of some of the founding works on these topics in the early days of contemporary linguistic semantics over half a century ago: *Words and Things* (Brown 1958), *Word and Object* (Quine 1960). And of course the referentialist doctrine has much deeper roots. Chierchia and McConnell-Ginet argue that it should serve a dual function, leading to explanation of the two fundamental questions of semantics: the link between symbols and their information content, the “aboutness of language,” its connection to the external world; and “language as a social activity.”

To illustrate the critical role of denotation beyond the elementary case, Chierchia and McConnell-Ginet provide examples of language use in which noun phrases “besides proper names seem to derive their significance or semantic power from their reference.” In these cases, “an act or demonstration” individuates the reference of the expression “in our perceptual space” - e.g., the expression “this” in an utterance of “this is yellow.” And we would not “understand the meaning of the NPs in these [cases] if we didn’t know what they referred to.” Accordingly, “the notion of reference appears to be a fundamental component of what the NPs in question mean.”

As indicated by the illustrative examples, the relation of reference derives from acts of referring (“an act or demonstration”).<sup>1</sup> The name *Pavarotti* refers to Pavarotti insofar as we refer to him by using the name. In much the same way, we say “the key opens the door,” presupposing an agent who opens the door with a key, the latter being the basic notion (to borrow an analogy of Richard Larson’s). Distinguishing denoting (an action) from denotation (a mind-world relation<sup>2</sup>), it would seem more appropriate to take the notion of referring, not reference “to be a fundamental component of what NPs mean.” That acts of referring take place is uncontroversial, but it does not follow so easily that the derivative relation of denotation holding between *Pavarotti* and the bearer of the name is any more significant or substantive than the derivative relation of *opening* holding between the key and the door. The examples provided by Chierchia and McConnell-Ginet illustrate the act of denoting (referring). But the examples leave open the status of the relation of denotation; that is, the question whether there is a relevant relation

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<sup>1</sup> See Strawson (1950).

<sup>2</sup> I will keep to the relations between linguistic symbols and extra-mental entities that could in principle be identified by a natural scientist without attending to the mind of the speaker. Essentially the same questions arise, along with others, in the case of denotation of mental states and events.

between the internal symbol used to refer and some mind-independent entity that is picked out by the expression that is used to denote: an object, a thing, individuated without recourse to mental acts. Or even whether such an object or thing exists, except in the circumstance-dependent sense in which a particular sound exists when we pronounce the name (for a lucid discussion of some of these issues in a more general context, see Elbourne 2011).

We can perhaps clarify what is at stake by considering this latter aspect of mind-world relations in the case of human language, the case of Word-and-Sound, that is, the ways internal symbols are externalized by the sensorimotor system SM. Take the word *kitten* and the corresponding phonetic symbol [ki'n], the latter an internal object, an element of I-language, in the mind. We can carry out actions in which we use [ki'n] to produce a sound S (or counterparts in other modalities), the act of pronunciation. The sound S is a specific event in the mind-independent world, and there is a derivative relation between the internal symbol [ki'n] and S insofar as we use [ki'n] to pronounce S. There is however no relevant direct relation between [ki'n] and S, and it would be idle to try to construct some mind-independent entity to which [ki'n] corresponds even for a single individual, let alone a community of users. Acoustic and articulatory phonetics are devoted to discovering how internal symbols provide ways to produce and interpret sounds, no simple task as we all know. And there is no reason to suspect that it would be an easier task to discover how internal systems are used to talk or think about aspects of the world. Quite the contrary.

Returning to the denotational aspect of the relation of internal symbols (say, *Pavarotti* or *this* or *kitten*) to the external world, suppose we take the fundamental component of what NPs mean to be the action of referring, as seems reasonable. We use the internal symbol to refer to/denote some aspect of the mind-independent world, which we take to be a specific instance of an object or a thing (not innocent notions), much as we use the internal symbol [ki'n] to produce (or interpret) a specific mind-independent event S. In the latter case, we do not go on to posit a relation between [ki'n] and S (or some construction from possible S's). Should we depart from this practice in the former case, postulating a relation between *Pavarotti* or *this* or *cat* and a mind-independent object or thing, in accordance with the referentialist doctrine? That would require an argument, and it is not clear that there is one that carries any weight. Furthermore, there is good reason to believe that it would be a mistake and that the referentialist doctrine is untenable. If so, the meaning of *Pavarotti* is not an object that a physicist could identify without reference to the mind, but rather an array of perspectives for referring to the world – rather as [ki'n] provides “instructions” to the SM system for the acts of pronouncing and interpretation.

A familiar objection, going back at least to Frege, is that meanings in this sense are individual, internal properties, and as such would interfere with use of language as a social activity, for communication in particular. The objection is correct, but it is hard to see why it should be considered to have any force, any more than it does with regard to externalization as sound. Communication and other forms of social interaction with language are not Yes-or-No affairs; rather More-or-Less. The hearer seeks to determine the expression that the speaker is using, often not an easy task; and beyond that to determine what the speaker has in mind, perhaps dismissing linguistic evidence in the process (typically without awareness).

Let's turn to the objects and things to which a speaker refers. What qualifies? Quine was much concerned with this topic in his influential *Word and Object*.<sup>3</sup> He observed that in some cases an NP may not be "a compelling candidate – on the surface, anyway – for thinghood," as Dennett (2012) puts the matter in discussing the issues Quine raised. We say "for Pete's sake" or "for the sake of," but would be hard put to answer questions about sakes or about Pete that are appropriate for things, for example, what are the identity conditions for sakes, how many are there, how tall is Pete, etc.? Similarly, Dennett observes, "Paris and London plainly exist, but do the *miles* that separate them also exist?" Quine's answer is that a noun of this kind is "*defective*, and its putative reference need not be taken seriously from an ontological point of view."

Often there is direct linguistic evidence of deficiency of "thinghood." Consider the nouns *flaw* and *fly*. In some constructions they function in similar ways: *there is (believed to be) a fly in the bottle – a flaw in the argument*. In others not: *there is a fly believed to be in the bottle (\*a flaw believed to be in the argument); a fly is in the bottle (\*a flaw is in the argument)*. Some constructions carry a form of existential import that others lack, a matter that falls within an explanatory framework with a variety of consequences (and, as usual, interesting open problems, cf. Chomsky 2001).

There do seem to be distinctions among "candidates for thinghood," but questions soon arise. Presumably the word "thing" should be a compelling candidate for thinghood. So what are the identity conditions for things and how many are there? Suppose we see some branches strewn on the ground. If they fell from a tree after a storm, they are not a thing. But if they were carefully placed there by an artist as a work of conceptual art, even given a name, then they are a thing (and might win an award). A little thought will show that many complex factors determine whether some part of the world constitutes a thing, including human intention and design, which are not properties that can be detected by study of the mind-independent world. If *thing* does not qualify for *thinghood*, then what does?

What about Dennett's examples Paris and London? Surely we can refer to them, as if I were to say that that I visited London the year before it was destroyed by a great fire and then rebuilt with entirely different materials and design 50 miles up the Thames, where I intend to re-visit it next year. Does the extra-mental world contain an entity with such properties, an entity that a physicist could in principle discover? Surely not. How then can we truly refer to London, either by using the expression *London* or a pronoun linked to it (or some more complex phrase, say, "Ken Livingston's favorite city")? Assuming the referentialist doctrine, we cannot, even though we clearly can. It seems then that we must abandon it in this case. If we do, the problem dissolves. In my I-language there is an internal entity *London* (or the *meaning of London*) – not necessarily matching exactly for you and me – which provides perspectives for referring to aspects of the world, much as the internal entity [ki'n] (or the configuration of its component properties) – also not necessarily matching exactly for you and me – provides means to pronounce and interpret certain events in the world. This is only one of a host of similar

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<sup>3</sup> Quine's concern was in part natural language, in part "regimented" language designed for science and a minimal ontology, two different enterprises, not always clearly distinguished.

problems discussed in the literature, including the simplest words that are used to refer to things in the world.<sup>4</sup>

The difficulties posed by the referentialist doctrine extend to other proper names, like *Pavarotti*. Adapting Saul Kripke's Paderewski paradox (Kripke 1979), suppose that Pavarotti happens to be an anarchist, and Pierre, who is perfectly rational, knows him as a singer and as an anarchist but is unaware that it is the same person. Suppose that attending an opera, Pierre says sincerely that Pavarotti is tall, and at a street rally sincerely denies that he is tall. Thus a rational person can sincerely hold contradictory beliefs, which makes no sense. The paradox presupposes the referentialist doctrine, and dissolves when we abandon it. There is nothing puzzling about the possibility that Pierre has two lexical entries, with different meanings (arrays of perspectives for use), which happen to be pronounced the same way and when used by Pierre to refer, happen to pick out the same person – whatever a person is, again not a simple matter.<sup>5</sup>

There are many traditional paradoxes of a similar nature. Consider the famous puzzle of the ship of Theseus, tracing to Plutarch. Suppose that the ship is in the Athens museum, a board falls off and is replaced by another one, etc., until every board has been replaced. It is still plainly the ship of Theseus. Suppose further that the boards have been collected and used to reconstruct the ship of Theseus out of its original materials. That is also the ship of Theseus. But now there are two ships, each the ship of Theseus, which cannot be. A paradox, if the referentialist doctrine holds, and the NP *ship of Theseus* picks out an entity in the mind-independent world; but no paradox if the internal entity *ship of Theseus* provides perspectives that do not happen to provide a clear answer for every situation that can be conjured up. As Wittgenstein observed, we use language against a background of beliefs, and if these do not hold, we may have no answers to questions about referring and much else.

Science fiction often plays with such examples, and often the answers are obscure. To mention an experiment (with a ludicrously small sample), my grandchildren sometimes corralled me into watching a TV series featuring a space ship equipped with a box that a person can enter and be transported to some distant planet – but remaining the same person. I once asked them what would happen if the person who was transported also remained in the box. Which would be the original person (essentially the ship of Theseus)? Mostly puzzlement, no clear answers, nor should that be surprising.

Many other cases are considered in classical philosophy. Aristotle (*Metaphysics* Bk VIII.3; *De Anima* Bk I.1) concluded that we can “define a house as stones, bricks and timbers,” in terms of material constitution, but also as “a receptacle to shelter chattels and living beings,” in terms of function and design; and we should combine both parts of the definition, integrating matter and form, since the “essence of a house” involves the “purpose and end” of the material constitution. Hence a house is not a mind-independent object. That becomes still clearer when we investigate further, and discover that the concept *house* has far more intricate properties, an observation that generalizes far beyond (see references of note 4). In his development of the Aristotelian theory of

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<sup>4</sup> See among others Chomsky (1966), including James McGilvray's introduction to the third (e-) edition of this book (McGilvray 2003); Chomsky (1996); Chomsky (2000) and my comments on Peter Ludlow's essay included in Antony and Hornstein (2003).

<sup>5</sup> Kripke's puzzle about belief generally presupposes the referentialist doctrine, in some form, and does not arise if it is abandoned.

language, Moravcsik (1975) suggests that “there are no expressions that perform solely the task of referring,” which we can revise as the suggestion that the referentialist doctrine is radically false: there are no expressions that pick out objects or things that are mind-independent. That seems accurate for natural language. Many inquiries illustrate that even the simplest expressions have intricate meanings; it is doubtful that any satisfy the referentialist doctrine.<sup>6</sup>

The referentialist doctrine has a role elsewhere. In mathematics, for example – though exactly what numerals refer to (if they do at all) is not a trivial question. In the sciences, one goal is to adhere as closely as possible to the referentialist doctrine. Thus in devising technical notions like *electron* or *phoneme*, researchers hope to be identifying entities that exist in the world, and seek to adhere to the referentialist doctrine in using these notions. It is common to speak of “the language of mathematics/science,” but these constructs should not of course be confused with natural language – more technically, with the linguist’s I-language. Further confusions can arise if these different systems are intermingled. Thus chemists freely use the term “water” in informal discourse, but not in the sense of the word of natural language. There is much discussion in the literature of the status of the expression “water is H<sub>2</sub>O,” a question that cannot even be posed unless it is determined what language the expression is in (it’s accepted that the meaning of a sentence depends on the language to which it belongs). It is not the “language of chemistry,” which does not have the term *water* (though it is used informally). It is not the natural language English, which does not have the term H<sub>2</sub>O, at least if we take enough care to distinguish the sharply different ways in which expressions that enter into thought and interchange are acquired and used. If we consider the mixed system in which the expression appears, its status will depend on whether *water* is used in the sense of normal English (in which case the expression is false) or in the sense of chemistry (in which case it is true by definition, putting aside some technicalities, and irrelevant to the topics for which it is invoked).

Note that Aristotle was defining the entity *house*, an exercise in metaphysics, not the word *house*. The entity in his terms is a combination of matter and form. In the course of the cognitive revolution of the 17<sup>th</sup> century, the general point of view shifted towards seeking the “innate cognoscitive powers” that enter into our understanding of experience, expressions of language in particular -- interpretive principles that “derive from the original hand of nature,” in Hume’s phrase; genetic endowment, in contemporary terms. Summarizing many years of discussion of such topics, Hume concluded that “the identity we ascribe” to minds, vegetables, animal bodies and other entities is “only a fictitious one” established by the imagination, not a “peculiar nature belonging to this form,” a conclusion that appears to be basically correct (cf. references of note 4 for discussion and sources).

One classical illustration of the deficiencies of the referentialist doctrine is the concept *person*. Thus when we say that the name *Pavarotti* denotes its bearer, what exactly is the bearer? It cannot simply be the material body. As Locke observes in *Essay Concerning Human Understanding* (Book II, chap. XXVII), there is no absurdity in thinking that the same person might have two different bodies: if the same consciousness (which individuates a person) “can be transferred from one thinking substance to another, it will be possible that two thinking

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<sup>6</sup> For discussion in the context of consideration of Saul Kripke’s theory of names, see Chomsky (1975) and references of note 4.

substances may make up one person.” And there are many variants. Personal identity thus consists (at least) in “identity of consciousness,” in psychic continuity. Locke adds that the term *person* (or *self*, or *soul*) is, furthermore, “a forensic term, appropriating actions and their merit; and so belongs only to intelligent agents, capable of a law, and happiness, and misery.”

The roots of the conception are classical (for a lucid review of the history of the topic, see Goetz and Taliaferro 2011). For Plato, it is accidental that Pavarotti has this particular body (and reincarnated, he will have a different one). Aristotle too takes a person to be a composite of form and matter (rather like a house), where the form is the *soul*, a type of soul that differs from those shared with other organic entities in that it provides for the possibility of thought.

Similar notions appear throughout the history of thought, along with the conception that actions of humans are explained irreducibly by purposes and reasons. The notions are explored in science fiction – transporting one person’s thought into another body, etc. – and are perfectly natural for young children. In a typical fairy story, the wicked witch turns the handsome prince into a frog, and so he remains until the frog is kissed by the beautiful princess – but he was the prince all along, though he had the physical properties of a frog. The same extends easily to animals, and further investigation reveals that psychic continuity as a condition (or even the criterion) for personhood presumably falls together with the manner in which organization of parts and common end are taken to determine what counts as the same tree or river, or any other entity of the natural world that enters into our thought and reflection, also topics investigated in the philosophical tradition, suggestively if inadequately (again, see references of note 4).

Recent studies of language acquisition (Gleitman and Landau 2012; Landau and Gleitman 1985; Medina, Snedeker Trueswell, and Gleitman 2011) have shown that meanings of even the most elementary linguistic expressions are acquired from very restricted evidence, and very rapidly during the early years of life, even under severe sensory constraints. It is difficult to see how one can avoid the conclusion that these intricate structures depend on “innate cognoscitive powers” of the kinds explored in interesting ways in the “first cognitive revolution” of the 17<sup>th</sup> century. Intricacies mount rapidly when we proceed beyond the simple elements used to refer, reinforcing the conclusion that innate properties of the mind play a critical role in their acquisition and use. Such considerations seem impossible to reconcile with traditional views of language acquisition as based on ostention, instruction, and habit formation; in particular, with what Føllesdal (1990), in his penetrating study of Quine’s theory of meaning, calls the “MMM thesis: *The meaning of a linguistic expression is the joint product of all the evidence that helps learners and users of the language determine that meaning.*”<sup>7</sup> Analogous theses are untenable for phonology and syntax, and are even more remote from reality in the case of the meanings of expressions.

The conclusions pose very serious problems for any potential theory of evolution of language – more properly, evolution of language users, since languages do not evolve (in the biological sense of the term). It appears to be the case that animal communication systems are based on a one-one relation between mind/brain processes and “an aspect of the environment to which these

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<sup>7</sup> In an appreciative comment, Quine endorses Føllesdal’s interpretation, but with a crucial modification, stating that “What matters is just that linguistic meaning is a function of observable behavior in observable circumstances” (Barrett and Gibson 1990: 110) – which would be true no matter how rich the crucial innate endowment, just as the visual system is a function of observable visual input.

processes adapt the animal's behavior.” (Gallistel 1991). If so, the gap between human language is as dramatic as what we find in other domains of language structure, acquisition, and use.

If such conclusions as those discussed here do indeed generalize, then it would follow that natural language has no semantics in the sense of relations between symbols and mind-independent entities. Rather, it has syntax (symbol manipulation) and pragmatics (modes of use of language).<sup>8</sup> And at least in this respect, the two interface systems have significant common properties. These are all matters that seem to me to deserve considerably more attention and concern than they have received.

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<sup>8</sup> Formal semantics, including model-theoretic semantics, falls under syntax in this categorization. Though motivated by external world considerations, the results do not fall within metaphysics (“what there is,” in Quine’s formulation).

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