**Theories on sense and reference**

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In this paper the question whether proper names have sense as well as reference is going to be examined. Frege, Russell and Wittgenstein managed to investigate how language and reality are connected. They managed to see how linguistic expressions, names and propositions, refer to the respective entities of the world, objects and facts. First we should distinguish between sense and reference, as Gotlob Frege did. The reference of an expression, a name or a proposition, is the real entity in the world, which is depicted by the expression in question. Such entities may be objects of our everyday life. The second term of the distinction, the sense of an expression, is the way that we find the reference of that expression, the way that its reference is presented and its role in our language. Various theories (Millian, descriptive, 'cluster' and causal) have been offered to answer this question.

Early Wittgenstein dealt with the first term of this distinction, reference, as he was thinking how language is connected with reality. In the *Tractatus,* the meaning of a simple name is its reference, as Russell meant it: the objects to which simple names refer are also simple and consequently they cannot be defined or described. Late Wittgenstein dealt with the second term of this distinction, sense, as Frege meant it.

He left aside the search for a strict and accurate logical language and turned his attention to the roughness and the indeterminacy of our everyday language[1]. According to late Wittgenstein, the meaning of a name is its use in our everyday language, and this is probably his most important and original contribution in the philosophy of language.

After explaining the distinction between sense and reference, we will be concerned with the question whether proper names have a sense, as well as a reference. There are several alternative theories that provide us answers to the above question. According to J.S. Mill's theory, a proper name is purely referential, having an object of reality as its reference. Against such a theory, Frege stated that the sense and the reference of a proper name can be determined by some description, without being identified with it. Russell opposes to Frege's distinction, thinking that proper names have only a reference, but not a sense, as Frege thought. This was also early Wittgenstein's approach, concerning his logically simple names in the *Tractatus*. Late Wittgenstein's and John Searle's view is that the sense and the reference of proper names could not be identified with a description, but rather with a cluster of descriptions, whereas the sense of a name is the way in which a language community uses it could be regarded as an evolution of Frege's theory.

Let us begin with J.S. Mill's theory[2], according to which names only denote or refer to something, but do not connote. A word connotes, when it applies to an object in virtue of the possession of some attribute. So proper names have reference, but not sense. A proper name, like 'Dartmouth', does not have to connote a town in the mouth of the river Dart. It only has to denote, to refer to something, which may not be in the mouth of the river Dart. Names, like 'John' or 'Mary', denote a certain person, but do not connote –anyone could have those names.

Mill's analysis is surrounded by many problems and Frege's[3] 'descriptive' theory (for which names have both sense and reference) comes as a response. One problem with Mill's analysis is focused in the case of bearerless, fictional names (like 'Pegasus'). If such names have neither sense nor reference, then what is their role in our language? Frege thought that names should necessarily have sense, but only contingently reference in the actual world.

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[1] Wittgenstein, *Philosophical Investigations* 107: 'Back to the rough ground'.
[2] Mill 1882: 30-50.
[3] Frege 1948: 209-230.

A second problem is that Mill's analysis lacks an account of how names refer to their referring items. 'Dartmouth' refers to Dartmouth, but how can this be determined? Frege's solution was that this can be done by means of definite descriptions. Even if Dartmouth is not in the mouth of the river Dart, it can be determined by some of its other features.

Another problem is that of two names having the same referent, like 'Phosphorus' and 'Hesperus', which both refer to Venus. Ancient people used to call Venus, when seen in the morning, Phosphorus (the morning star) and when seen in the evening, Hesperus (the evening star). Later astronomers discovered that Phosphorus and Hesperus were the same planet. For Frege, these names have the same reference, but different sense, as the first name is associated with different descriptions from those of the second. The propositions 'Phosphorus is Phosphorus' and 'Phosphorus is Hesperus' differ in their cognitive, informative value. For Mill, there is no descriptive difference between these propositions, whereas for Frege, these propositions offer different modes of presentation by means of the descriptions associated with the names involved. 'Phosphorus' and 'Hesperus' are different names, because they have different senses. Names are connected with certain definite descriptions: 'Phosphorus' is 'the morning star' and 'Hesperus' is 'the evening star'. A proper name functions as an abbreviated definite description showing the sense of a name.

It should be clear that, according to Frege, the sense of a name should not be identified with the picture or the image of an object in our consciousness[4]. Frege was an antipsychologist and the distinction between logical and psychological -or objective and subjective- was important in his philosophy. An internal image or a picture of an object is subjective or 'psychological'. For Frege sense must be objective, public, intersubjective, 'platonic', realistic. Frege's concept of sense is similar to that of late Wittgenstein, that is, the meaning of a name is its use. It is similar in that the meaning of a name cannot be private and subjective, but it must be objective and intersubjective following some public rules. Let us take moon as an example. Moon itself, the celestial body, as an entity in the world, is the reference of the name 'moon'. The way the moon is presented to us, its public image that anyone recognizes and –according to late Wittgenstein- the use of the name 'moon' is its

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[4] Diamond 1995: 1-10, 115-43.

sense. Then there is also the private image or picture of the moon each one of us experiences and feels. In this respect we should distinguish the subjective images and pictures we have in our minds from the objective, platonic ideas or senses that are eternal, unchangeable, which exist in the world objectively and independently of the various thinking subjects.

Frege's philosophy focuses on what is independent of our mind, on the objective content of the propositions and on the expressions of our everyday language and their translation into a more precise formal and symbolic language –given that our everyday language is inadequate for deep philosophical inquiry. For Frege, objective, platonic ideas are the objects of mathematics and logic. In philosophy, mathematics and logic there is nothing vague, indefinite and meaningless, but everything is clear and meaningful, regardless of our ability to realize it. Philosophy, mathematics and logic are not concerned with the content of our individual minds, they have nothing to do with what Wittgenstein calls 'frivolous' empirical psychology[5]. Wittgenstein's main debt to Frege was his distinction between logical and psychological and his antipsychologism. Wittgenstein did not embrace Frege's view on platonic, eternal and unchangable ideas, as well as his view that logic is a science (he considered logic as its presupposition) and later he was not a follower of strict formal and symbolic languages[6].

Fregean analysis is not a complete way to understand the sense of proper names, as it connects a proper name with a definite description. Could we take 'Aristotle' and 'the author of the *Nicomachean Ethics*'' as interchangeable in any occasion? This is unlikely as being the author of the *Nicomachean Ethics* is a contingent, but not a necessary property of Aristotle.

Proper names and descriptions should not be used as interchangeable because the former are rigid designators, whereas the latter are not. A rigid designator designates the same object (not just a similar object) in all possible worlds in which it designates something. If there is a possible world in which the reference of 'Aristotle' is something other than the actual Aristotle, then 'Aristotle' is not a rigid designator. If there is no such world, then 'Aristotle' is a rigid designator. 'Aristotle' is a rigid designator, because it designates the same object in all possible worlds. A description like 'the author of the *Nicomachean Ethics*' is not a rigid designator as we may

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[5] Wittgenstein, *Tractatus Logicophilosophicus*, 5.5421.
[6] Diamond 1991, also in Crary, Read (eds) 2000: 148-73, Weiss 2001: 237.

imagine a possible world in which Aristotle would not have written this treatise. This is a very crucial difference in the nature of proper names and descriptions. 'The author of the *Nicomachean Ethics*' is not the sense of 'Aristotle', because it is not a rigid designator. 'Aristotle' is a rigid designator because it refers to the same object in which it refers in all possible worlds. A description can determine the reference of a name, but it is not equal with its sense.

So what is the sense of a proper name, if it is not a description? For 'cluster' theories, which are essentially modified 'descriptive' accounts (Searle)[7], that a proper name has a sense means that it is logically connected with some features of the object it refers to or that it is logically connected with some (not only one) descriptions. Proper names do not specify any features of the referred objects, but they presuppose that there are such features. We use proper names as pegs on which to hang descriptions and we use descriptions in order to determine proper names. So according to 'cluster' theories, we should not focus on one property of a referent, like being the author of the *Nicomachean Ethics*. We should not count 'Aristotle' as synonymous to 'the author of the *Nicomachean Ethics*'. No such description is the meaning of 'Aristotle'. Its meaning should be a cluster of descriptions rather than any single description. For a cluster theory a name does not have a sense, if sense is a single description, but it has a sense, if sense is a cluster of descriptions.

Cluster theories are imperfect, since they also face problems: the possession of an entire disjunction or conjunction of properties is sometimes a necessary fact and sometimes a contingent fact. The cluster of '3x3', '1+8', '4+5' is necessarily possessed by '9'. But the cluster 'the author of the *Nicomachean Ethics*', 'the founder of Lyceum', 'the Stagirite', etc., is only contingently possessed by 'Aristotle', as he might not have been a philosopher, an educator or born in Stagira. No cluster of descriptions can be a rigid designator, as we might think that objects could be different bundles of properties in other possible worlds. So the 'cluster' descriptive theory is not completely satisfactory, because clusters of descriptions are not rigid designators.

Though descriptions are useful in our everyday life in order to pick out reference, their use in this is sometimes problematic. We can pick out 'Aristotle' as 'the author of the *Nicomachean Ethics*', but we can also pick out the description 'the

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[7] Searle 1958: 166-173.

author of the *Nicomachean* Ethics' as 'Aristotle'. This is vicious circle and a successful theory should not be circular. Further some kinds of descriptions do not pick out a unique referent. Even a definite description, like 'the founder of Lyceum', may refer to the founder of some other school called Lyceum and consequently it does not refer uniquely to Aristotle. Consequently descriptive theories are not completely satisfactory, as they ignore the social role of meaning. Descriptions are not always sufficient in order to determine the sense or the reference of a name. Though not sufficient, it is often practical that a speaker should use some description in order to denote something.

Causal theories[8] of proper names (Kripke) give an alternative answer to the question about the way names are connected to their reference, which is somehow a return to the Millian view. Let us see the following case: we know Gödel, as 'the man who discovered the incompleteness of arithmetic'. Suppose that unknown to us, the man who really discovered the incompleteness of arithmetic was not Gödel, but his friend Schmidt. Gödel found Schmidt dead in his apartment, stole his manuscripts and later presented them as his own. We used to pick out Gödel, using the description 'the man who discovered the incompleteness of arithmetic', though this is not really one of his features in our fictional case. To whom do we refer by using this description? The intuitive answer remains Gödel and not Schmidt, as we do not know what really happened.

For causal accounts of proper names, we attach a proper name to its referent, by means of someone's membership in a community. According to a variation of causal theories, 'I know that Gödel is the man who discovered the incompleteness of arithmetic, because X, who was told so by Y, who was told so by Z, told me so'. There must be a causal chain of informants I should be aware of. For another variation, it is not really important that we know from whom we have been told who Gödel is. That which is important is that there really is such a chain of communication leading from the name in question to me, even if I am ignorant of some of the intervening links.

But there might not really be a chain connecting us to an item if, say, a name changes denotation. Madagascar took its name, because Marco Polo misunderstood some sailors, who were talking about some African port. We use the name

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[8] Kripke 1980: 22-105, Evans 1973: 187-208.

Madagascar to refer to an island, but this name is originally connected to an African port. The chain of intentions is not sufficient to make one's use of a name refer to the reference of the name at the beginning of the chain. So we should focus on our social context: we refer to an object due to our connection with other speakers in our community. Even if we ascribe some object with a property it does not really have, due to what the members of our community think, we can still refer to that object by means of that property. When we receive a name, we should use it in the way that the one from whom we received it intended to use it. The intention of our informants is an important factor in order to determine the reference of a name.

In conclusion, from descriptive and 'cluster' theories of proper names we should keep the notion that, though a proper name is not synonymous to any description or cluster of descriptions - as any such association is a contingent fact - its sense or its reference is practically determined by means of an associated body of information. From causal theories (which focus on reference) we should keep the notion that, being a rigid designator, a proper name must have the same reference in all possible worlds; that there must be a kind of (known or unknown) causal chain or connection between us and the proper names in question and that we should give special weight to the social role of meaning and the intentions of the speaker or the informant. So though not complete in themselves, both kinds of theories are helpful in order to determine the meaning of a proper name.

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