ON THE NATURE OF PROPER NAMES AND DEFINITE DESCRIPTIONS FROM A COGNITIVE PERSPECTIVE

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Abstract: In the present study, I present an analysis of proper names and definite descriptions based on Machery et al. (2004), in the treatment of Petho (2005a), which I revisit by pointing at several theoretical aspects not detailed or not mentioned by Petho. After presenting the experiment and its pitfalls I discuss the function and behaviour of definite descriptions, providing arguments that a cognitive approach would be more suitable to treat these linguistic phenomena.

1. Introduction

In this paper I present an experiment (Machery et al. 2004) in the treatment of Petho (2005a), which I revisit by pointing at several theoretical aspects not detailed or not mentioned by Petho. First I will present the experiment and its pitfalls, and then I will say some words on the function and behavior of descriptions, pointing to the fact that a cognitive approach would be more suitable to treat these linguistic phenomena.

2. Two competitive theories of the semantics of proper names

Petho (2005a) discusses two at first sight incompatible theories of the semantics of proper names: the descriptivist and the causal-historical or direct reference theory. The descriptivist theory claims that proper names are synonymous with their description (for example, Aristotle – 'the teacher of Alexander the Great', London – 'the capital of Great Britain'). On the other hand, the causal-historical theory says that there is no need of the mediation of a description in order to refer to something. When we utter the proper name Aristotle or London we simply refer to them by the act of naming them, or leaning on the already established history of naming.

3. The thought experiment used in the empirical study to test the validity of the descriptivist versus the causal-historical theory of the semantics of proper names

Linguists regard the causal-historical view as more adequate. This can be the result of the influence of Kripke's *Naming and Necessity* (1972/1980), which definitely argues against the descriptivist theory of proper names. Kripke used thought experiments in order to make his point clear. One of Kripke's thought experiments, cited as well and adapted by Machery et al. (2004) is the following:

"Suppose that Gödel was not in fact the author of the [Gödel]'s theorem. A man called 'Schmidt' [...] actually did the work in question. His friend Gödel somehow got hold of the manuscript and it was thereafter attributed to Gödel. On the descriptivist view in question then, when our ordinary man uses the name Gödel, he really means to refer to Schmidt, because Schmidt is the unique person satisfying the description 'the man who discovered the incompleteness of the arithmetic'.[…] But it seems that we are not" (Kripke 1972/1980: 83-84, as cited by Machery et al. 2004).

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The same story, reformulated by Machery et al. and used in their experiment is the following:

"Suppose that John has learned in the college that Gödel is the man who proved an important mathematical theorem, called the incompleteness of arithmetic. John is quite good at mathematics and he can give an accurate statement of the incompleteness theorem, which he attributes to Gödel as the discoverer. But this is the only thing he has heard about Gödel. Now suppose that Gödel was not the author of the theorem. A man called 'Schmidt' whose body was found in Vienna under mysterious circumstances many years ago, actually did the work in question. His friend Gödel somehow got hold of the manuscript and claimed credit for the work, which was thereafter attributed to Gödel. Thus he has been known as the man who has proved the incompleteness of arithmetic. Most people who have heard the name Gödel are like John; the claim that Gödel discovered the incompleteness theorem is the only thing they have heard about Gödel. When John uses the name 'Gödel' is he talking about:
a. a person who really discovered the incompleteness of arithmetic?
b. the person who got hold of the manuscript and claimed credit for the work?"

The researchers conducted the study on two groups of students (one American and one Chinese) with four different texts: two texts were models on Kripke's Gödel-case and one probe was modeled on Kripke's Jonah-case (cf. 2.1). One probe modeled on Kripke's Gödel-case and one probe modeled on Kripke's Jonah-case used names and situations that were familiar to the Chinese participants. For each text, they had to choose one of two possible given answers. In the case cited, Machery et al. took answers a. to be a corroboration of the descriptivist view and answers b. that of the causal-historical view.

The empirical hypothesis that the authors wanted to verify is whether there are significant differences between people living in different cultures. One such difference is that whereas "East Asians are more inclined to make categorical judgments on the basis of similarity, Westerners […] are more inclined to focus on causation in describing the world and classifying things". Thus, the persons who conducted the study expected East Asians to choose the answer which corresponds to the descriptivist theory and Westerners to choose the answer which corresponds to the causal-historical theory. The outcome of the experiment seemed to confirm this hypothesis. On average, the Chinese participants chose an answer favoring the descriptivist twice as often as US participants.

The results of Machery et al.'s study are shown below (SD – Standard Deviation score in parentheses):

(1) Gödel-cases
a. Western participants 1.13 (.88)
b. Chinese participants .63 (.84)

(2) Jonah-cases
a. Western participants 1.23 (.96)
b. Chinese participants 1.32 (.76)

The *t*-test yielded a significant difference between Chinese and Western participants on the Gödel-cases ($t(70) = -2.55$, $p<.05$). The conclusion is that Westerners were more likely than the Chinese to give causal-historical responses. However, in the Jonah-cases there were no significant differences between Chinese and Western participants ($t(69) = .486$, n.s.).

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3.1 The Jonah case

Kripke gives us another example of how someone can use the name of somebody in order to speak about the name's original bearer, whether or not the description is satisfied. Descriptivist theory requires that satisfying the description is necessary to for being the referent of the name. In this sense, according to descriptivism, Jonah would fail to have a referent.

The text of the original Jonah experiment (in Machery et al.'s experiment it was significantly modified) runs as follows:

"Suppose that someone says that no prophet ever was swallowed by a big fish or a whale. Does it follow, on that basis that Jonah did not exist? There still seems to be the question whether the Biblical account is a legendary account of no person or a legendary account built on a real person. In the latter case, it's only natural to say that, though Jonah did exist, no one did the things commonly related to him".

3.2 Problems with Machery et al.'s experiment

Petho draws the attention to the fact that there are several problems concerning Machery et al.'s experiment which can be classified as follows:

1. The proportion (~ 50% - 50%) of different answers, this is rather miraculous concerning the functioning of a linguistic community beside such huge differences even in substantial issues of how to use a proper name to refer.
2. There is an inconsistency between the empirical hypotheses on the one hand and the very empirical generalizations Machery et al. base this hypothesis, on the other hand: Machery et al. cite the most important differences between the East Asian and Western thinking. Petho outlines the inconsistency as it follows: 'whereas it can be deduced from the theory that Western reasoning should favor a descriptivist account of proper names, they assume that Westerners favor a causal-historical one' (Petho 2005a: 9).
3. Kripke's Gödel thought experiment was not the ideal way to test the validity of the descriptivist versus the causal-historical theory of the semantics of proper names. Petho argues that if we consider the two possible answers to the question asked in the Gödel text, we should see that neither of them is right; the correct answer should be something along the lines of *the person who got the manuscript and claimed credit for it, although John does not know this*' (Petho 2005a).
4. The choice of the participants was not a suitable one (they did not understand Kripke's original experiment and its point).
5. The Kripkean Gödel experiment is irrelevant for the distinction descriptivism/direct reference (the experiment's subject does not even know about Schmidt, then how can he refer to him?).

4. The epistemically and temporarily relativized version of the Gödel story

In his paper *Is Kripke's famous Gödel thought experiment irrelevant and incoherent?* (Petho 2005b), Petho argues that there is definitely a problem with the way the original Kripke's Gödel story is constructed. Petho argues that the original Gödel-story is irrelevant concerning the dichotomy descriptivist/causal-historical theory of proper names. In fact, the experiment does not argue against the descriptivist theories of proper names, but it is irrelevant concerning this theory. Thus Petho constructs another Gödel-Schmidt story which in his view can grasp the nature of the descriptivist theory and tell something about it. Petho does this by relativizing both temporarily and epistemicaly the original Kripkean story.

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4.1 Petho Gergely's epistemicaly and temporarily relativized version of the Gödel story

Petho calls the Kripkean Gödel-story irrelevant for the following reasons:

"According to Kripke, the descriptivist theory is supposed to claim that OM (ordinary man) intends to refer to Schmidt if and only if actually Schmidt is the unique person who satisfies the description. However, this claim is blatantly false. For if we consider it closely, OM does not even know about Schmidt. He only knows about one relevant person whom he considers to be the person who discovered the incompleteness of arithmetic. He does not have a mental representation about a single relevant person who could be identified with Schmidt. This means the descriptivist theory should in no way claim that OM should mean referring to Schmidt. He would be absolutely right to refer to Gödel […]. This on the whole means that Kripke's story is not relevant to the *descriptivism vs. direct reference* dichotomy" (Petho 2005b).

Thus we can see that the main problem is posed by the fact that the speaker does not know about the identity of the referent. In the lack of this knowledge we cannot draw conclusions regarding his/her intentions of referring attributively or referentially to it.

Petho Gergely's version of the Gödel story runs as follows:

"The proper name 'Gödel' has (at a certain time) the content 'the person who discovered the incompleteness of arithmetic' for speaker A and refers to a certain individual, namely, Gödel. Suppose that speaker A later learns that this individual, Gödel, did not actually discover the incompleteness of the arithmetic. It was rather some other person Schmidt, called 'Schmidt', who made the discovery, and Gödel just stole Schmidt's manuscripts and published them under his own name. According to the descriptivist theory, from this point on, 'Gödel' should for speaker A not to refer to the person it referred previously, but to the person, who really discovered the incompleteness of arithmetic, i. e. Schmidt" (Petho 2005b).

We can agree that the main problem is, as Petho himself concludes it, the fact that the speaker does not know anything about the precise identity of the referent, nor does he/she have a proper conceptual image of it. In this case the problem would not be solved by treating the experiment, and its outcome, even the stages of the rewriting of the experiment in a formal manner. This formalist approach can easily be shown in the line of Petho's argument. Although Petho's relativized version is treating the main problem (the speaker's lack of knowledge about the referent), the question on the whole remains still unsolved because of the formalist treatment/approach Petho is pursuing. This formalism can be seen as well in the way he approaches the interpretation of the name Gödel: Petho gives the following interpretation to his version of the Gödel – story: 'This means, of course, that A would consider the names 'Schmidt' and 'Gödel' as synonyms after having learned about the truth. In other words, Schmidt would have two names, and Gödel would not have a name any more at all (seen from the position of A) (Petho 2005b).

4.2 Referential versus attributive use of a definite description and its application to Gödel's case

Keith Donnellan in his article *Reference and Definite Descriptions* discusses the way we use definite descriptions. He distinguishes between two ways of using them: attributively and referentially. We use a definite description attributively when we refer to a certain object or a

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person by describing his or its attributes, these attributes / characteristics being essential to the object or person in question, and our intention being that of identifying that object or person via these characteristics. On the other hand, we use a definite description referentially when we want to identify a specific object or person, but the characteristics of that object or person are not known to us or are not as important. Thus, the identification does not involve those characteristic features at first in the sense that they are not essential to the identification. They mediate the identification in a less powerful way; they just lead our attention to the person or object in question, but not necessarily to his or its traits or features.

We can easily draw a parallel between the usage of definite descriptions and proper names. Proper names and definite descriptions both have the same pragmatic function, that of referring to someone or something. At this point we can also build the analogy between proper names and definite descriptions on one side and the two theories of the semantic of proper names on the other side. Thus, the usage of proper names would equal to the usage of the causal-historical theory of proper names in referring to somebody, while the usage of definite description would correspond to the descriptivist theory of proper names.

In analogy to this, another parallel can be drawn further on now between the two uses of the definite description (attributive and referential) and between the two theories of the proper names discussed in this essay (descriptive and causal-historical theory). I think this parallel would be more suitable than the one which Machery et al. drew between the two theories and the two kinds of thinking (holistic and analytic), for reasons mentioned above.

In Donnellan's view in the referential use of a definite description we may succeed in picking out a person or a thing to ask a question about even if he or it does not fit the description, but in the attributive use if nothing fits the description, no straightforward answer to the question can be given. Donnellan illustrates this with the following example:

"Consider the order: *Bring me the book on the table.* If *the book on the table* is used referentially, it is possible to fulfill the order even when there is no book on the table. If, for example, there is a book beside the table, though there is none on it, one may bring that book back and ask the orderer whether this is *the book you meant*. And it may be. But imagine we are told that someone has put a book on our antique table, where nothing should be put. The order *bring me the book on the table* cannot be obeyed unless there is a book that has been placed upon the table. There is no possibility of bringing back a book which was never on the table and having it be the one that was meant, because there is no book which was meant in that sense. In the first case the definite description was a device for getting the other person to pick the right book. If he is able to pick the right book even if it does not satisfy the description, one still succeeds in his purpose. In the second case, there is no *right book* except the one which fits the description. The attribute of being the book on the table is essential. Not only is there no book about which an order was issued, but the order itself cannot be obeyed" (Donnellan 1971: 104).

As put by Donnellan (1971: 104): "When a definite description is used attributively in a command or a question and nothing fits the question, the command cannot be obeyed and the question cannot be answered. This suggests some analogous consequences for assertions containing definite descriptions used attributively" (Donnellan 1971: 104).

In the light of all what I have written about Donnellan's point of view on the working of definite descriptions we can have a new look now at the following problem: why did not work the Godel experiment in Machery's case?

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My answer is that considering the answers to the questions in the experiment we can see that both answers are descriptions used attributively in a definite way (answer a. 'a person who really discovered the incompleteness of arithmetic' and answer b. 'the person who got hold of the manuscript and claimed credit for the work'). In the text of the experiment the subject did not have to find out that a mathematician Gödel existed at all, but the fact that he encapsulated one of the characteristics denoted by the answers and the main question of course is which one of those two different characteristics. That explains why the definite descriptions have to be used attributively by the subjects of the experiment. Going further on the line of what Donnellan predicts about the use of the definite descriptions we can easily see that if the subjects did not know at all about the existence of Gödel, we can assume that Gödel in fact did not exist for them, thus the use of the definite description attributively could not work. For a better understanding of this point I quote once again Donnellan's words: "When a definite description is used attributively in a command or a question and nothing fits the question, the command cannot be obeyed and the question cannot be answered. This suggests some analogous consequences for assertions containing definite descriptions used attributively" (Donnellan 1971: 104).

4.3 Outline of a cognitive approach

In my view, both Eastern and Western participants use both kinds of thinking when relating to proper names (holistic and analytic) grosso modo in the same amount. Petho 2005a mentions that Laszlo Nemes carried out basically the same experiment that Machery et al. report with Hungarian subjects (nurses in training and physiotherapists in training), and he found that there were similar significant differences between the answers of the two groups as between the Western and Asian groups of Machery et al. There may be cultural differences regarding the way different people think, but I do not think this test/experiment is really meant to grasp this. Both groups use even transitional forms as well, and it is up to the situation, and not to origins to decide which way of thinking is used when. This is transparent in the case of the Jonah experiments, where the original prediction (Eastern participants tend to have descriptivist intuitions, while Westerners tend to have causal-historical intuitions) was not confirmed. The answer for this can be the fact that in the Jonah case the descriptivist response is that the speaker's term fails to refer (cf. appendix). It simply may be the case that for pragmatic reasons, both the Westerners and the Chinese rejected the uncharitable interpretation that the speaker is not referring to anyone. In several cases the name is used for purposes of only identifying the referent for the sake of the speaker, while in other cases, the usage of the proper name is essential. The differences in usage may be attributed to differences in Idealized Cognitive Models (ICMs). And in the end, we can assume that there definitely are certain names which can not be interpreted outside a specific cognitive model.

4.4 Reference point construction

In this section I would like to grasp the problem of reference from an even closer and more specific cognitive point of view. For this I will be using the linguistic phenomenon called by Langacker reference point construction. The phenomenon of reference point construction can be described as follows: an entity (the reference point -R) is invoked for the purposes of establishing mental contact with another entity (the target -T) located within its dominion. A crucial factor in reference point construction is the dynamic nature of the reference point. Once the contact has been established we experience a shift of attention from the reference point to the target; as a consequence, although it may retain some prominence of the reference point, it will ultimately profile the target.

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We can say that both the definite description and the proper name (alternatively) can be reference points in order to reach the target (the referent, in our case). We have to add also that reference point construction is working properly only if we know the reference point and the target as well, otherwise we can be misled. Figure 1. presents us reference point construction in a simplified way.

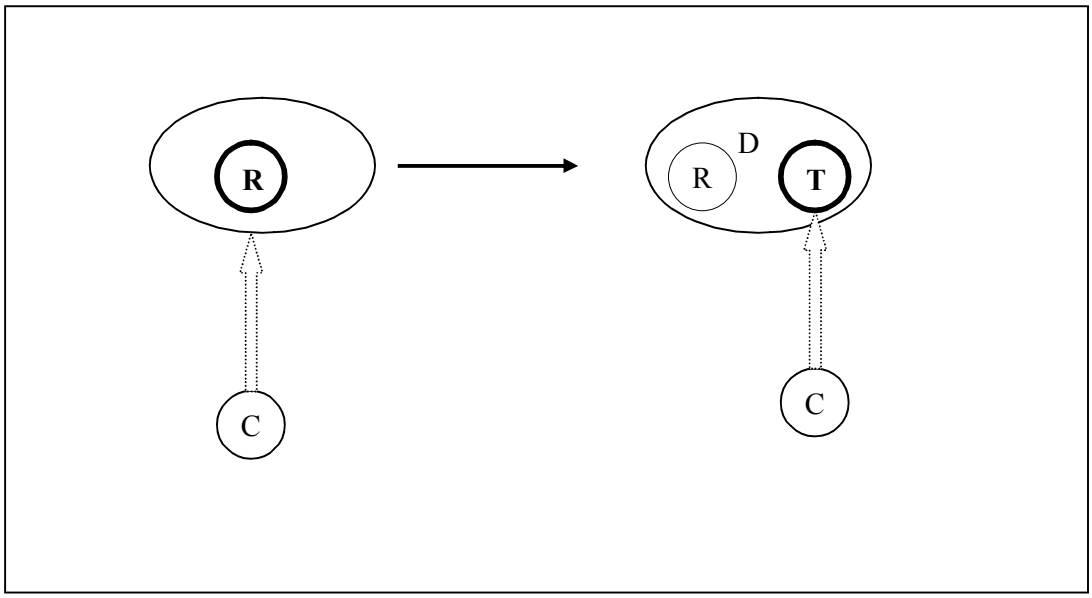


Figure 1. Reference point construction (**C** stands for conceptualizer, **R** for the reference point, **T** for the target, and **D** for the dominion, the 'neighbourhood' of the reference point (on the basis of Pelyvas 1996)

5. Conclusion

The overall aim of my linguistic research is to make an analysis on how semantic intuitions work concerning the use of proper names and definite descriptions and to provide a cognitive explanation of this in terms of Idealized Cognitive Models (ICMs).

In the present study, my analysis of proper names and definite descriptions is based on Machery et al.'s article (*Semantic, cross-cultural style* (Machery 2004), in the treatment of Petho (2005a). First, I showed how the two theories (causal-historical and descriptivist theory) of the semantics of proper names work, then I point out to some aspects of Machery et al's article and Petho Gergely's interpretation of fit. Then, I briefly presented the way Keith Donnellan sees the referential versus attributive uses of definite descriptions and I provided the outlines of a cognitive approach to the problem of the reference of proper nouns.

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