Identity and Identification*

Dimitris Dimitriadis
ILLC/Dept. of Philosophy, University of Amsterdam — Master of Logic Thesis
Dept. of Philosophy, University of Stockholm — Master Thesis
dimitris@illc.uva.nl

June 19, 1997

*This thesis is written in the memory of my Father $\Theta\epsilon o\delta\omega\rho o\varsigma$ $\Delta\eta\mu\eta\tau\rho\iota\alpha\delta\eta\varsigma$ and it is dedicated to my Mother, $M\alpha\rho\iota\alpha$ and my Sister, $A\lambda\epsilon\xi\alpha\nu\delta\rho\alpha$.

Abstract

In this thesis the question raised is whether, and, if so, to what degree, we can establish *identity* using linguistic means, such as names, descriptions, indexicals and demonstratives. First, we look into different ontological considerations; after having done that, we note that taking a stand in this discussion renders some theories of naming, descriptions and so forth, more plausible than others.

I will argue that the Causal Theory of names is plausible and defend it against arguments presented by Evans. Also, the claims made by Donellan concerning definite descriptions (referential and attributive use, respectively) will be qualified. Indexicals and demonstratives will then be given an account of, and the conclusion will be that we *can* establish identity using descriptions and demonstratives, but *not* using names and indexicals.

Contents

1 Introduction

The aims of this thesis are two. On the one hand an investigation into the distinctions between ontology on the one hand and epistemology on the other is undertaken; the results from this are used toward a conclusion as regards the second goal, that of setting up a taxonomy of different tools that language provides us with. Especially, we look into the question whether, and if so, to what degree, we can establish identity using linguistic means, i.e. how great the powers of identifiers really are.

Certain topics, among them essentialism, counterparts and modality, that lie close to the topics examined in this work, will not be dealt with; mainly for reasons of space and definitely not because of lack of interest.

1.1 Ontology and Epistemology

There is a great difference between ontology[1] and epistemology. I will briefly discuss two different positions with regard to ontology, i.e. *metaphysical realism*, and *metaphysical relativism*, the denial of the former. I lean toward realism, and will indicate the reasons why. However, this account will not suffice to stand as a discussion in and of itself of these two different positions; my ambition is rather to try to establish some overall implications that embracing one rather than the other of these two positions has for the concepts to be discussed in what follows. My belief is that taking a stand on this topic so to speak limits the space within which a discussion on names, descriptions and so forth is carried out, thus rendering some conclusions more plausible than others. Subscribing to a specific kind of relativism, for example, implies that one does not accept the necessity of identity of objects, something a realist (with a specific view on names, as will be discussed) probably does. However, there are many different versions of realism and relativism, and some more attention will be paid to these in the following.

1.1.1 Remarks on Ontology

The world consists of objects.[2] These objects, or entities, can be (thought of as) forming sets, being part of relations, being the referents of names, or what have you. Also, these objects, and some other categories of things as well, like relations, serve as the referents of expressions in language. We use language to gather information about the world, to convey this information to others, to

[1] I prefer using this term instead of *metaphysics*, basically to avoid possible associations with, say, the works of Heidegger (I wouldn't mind possible associations with the work of Aristotle, however). That is not what interests me, I rather want to investigate ontological matters, i.e. what *is*.

[2] Already here someone might object and claim that I have, by talking in this way, taken a stand I am not entitled to take; i.e. they might claim that objects actually do not exist at all, that they are rather theoretical constructs. I do not personally believe this.

make theories, to predict and so forth. It seems plausible to assume that there is something being talked about, then, otherwise these very activities would be futile.

I will take the terms *necessity* and *possibility* to belong to the ontological realm. If something necessarily is the case, it *could not* have been otherwise.[3] If something is merely possible and not necessary, it could have been the case that it was different. In a possible worlds setting, being necessarily true is being true in all possible worlds (at least in those worlds in which the object claimed to be necessarily so-and-so exists to begin with), whereas it is enough to find *one* world in which something is the case for it to be possible, regardless of if there are other worlds in which this is not the case. These possible worlds are to be thought of not as actual worlds that we can look at, but rather as theoretical constructs that model various ways the world might have been; we get a possible world by altering something that is the case in this world; e.g. a world in which I am not called Dimitris Dimitriadis is a world similar to this in many respects, but different in some others. The necessity can then be put as follows: I might have different likings for tobacco in these different worlds, but in no world can I be a pile of bricks. Thus, in a different (possible) world I might prefer Virginia over Burley, but in no case can I be an inanimate object.

One might want to allow for more than objects to be a part of ontology. We might want to have e.g. properties and relations as constituents of the world. On a minimal account (and especially an account that suffices for the ambitions of this thesis) we can claim that only objects *exist*. I do not want to propose any version as better than any other, although I might state that on the account of ontology I prefer, both objects and properties *are real*, i.e. *exist*. For the purposes of this thesis, however, it is not that relevant what one claims exists, i.e. which ontology one subscribes to. One just has to bear in mind that one's ontological preferences may have some implications as to what views it is plausible to hold on non-ontological matters, such as theories of names, descriptions, and so on.

1.1.2 Remarks on Epistemology

Epistemology, on the other hand, deals with our ability to come to know how things stand and how we establish this. Knowledge can be obtained either through experience, or independently of it. *A priori* is the term for the latter, experience-independent kind of knowledge. Mathematics is usually claimed to belong to this kind of knowledge, even though there is mathematical knowledge that involves experience, for example proofs that one has to go through in order to establish that something is the case. All knowledge that requires that we have experience of some sort, where this sort of experience is an *essential* element

[3] This is the bluntest and least detailed way to put the matter. In what follows, I will gradually state a more refined account.

for obtaining knowledge, is *a posteriori*. The above mentioned experience in mathematics is usually not claimed to belong to this latter kind of experience.

What I find intriguing about epistemology is that it is in some sense (and on some accounts, it should be noted) parasitic on ontology; we use language to *convey* information *about* things in the world, to *establish* that this or that holds, to *predict* that this or that might come to be the case, and so on. In addition, epistemologies look different from one another. The very fact that there can be many epistemologies (many ways in which we can give an account of how we come to reach knowledge, how we can use the same language, how we can understand meanings and so forth) at the same time that we presuppose that these different epistemologies actually speak about the same (or at least parts of the same) world, seems to suggests that ontology, as a discipline, is prior to epistemology. Of course, some might claim that the converse is true: that we cannot but take epistemology to be prior (Kant, for example). I believe this is, rather, a matter of philosophical temperament and inclination.

Different theories of meaning have both an ontological side (dealing with reference) and an epistemological side (dealing with concepts). Of course, different theories have different ontological (and epistemological) presuppositions. A Fregean theory of meaning, for example, presupposes the existence of a third realm where meanings reside (Frege claims that meanings are *real*). A satisfaction theory a la Tarski does not need this, but still makes ontological commitments to there being something to satisfy sentences. And so on, for many other theories.

1.1.3 Metaphysical Realism and Relativism

Metaphysical realism might be described in three points:[4]

R1 The world consists of a fixed totality of mind-independent objects,

R2 There is exactly one true and complete description of the way the world is,

R3 Truth involves some kind of correspondence

Without wanting to discuss these matters here (for example there is a question as to whether the second and third points presuppose the first) and without giving conclusive arguments for or against it, this is what I will take to be the metaphysical realist's position. What mainly is of interest to me is what follows from taking a stand in this question as regards questions of naming, reference, meaning and so forth.

The metaphysical relativist might challenge one or more of the above points. He might start with saying that the world (or "the world" as he might put it, ironically, since according to him there is no such thing as a totality of mind- or language-independent things; thus any talk of the world is meaningless),

[4]Here I state a three-fold distinction that Putnam uses in his [Put83, p. 30]

actually does not consist of objects at all, something that would undermine any serious attempt to hold the other two points. He might also accept the first but reject the second.[5]

I do not intend to argue for or against any of these views, nor to win anyone over to the realist position. I take it, however, that the serious discussion starts in conjunction with the second point (R2); i.e. given that the world might consist of mind- (and/or language-) independent objects, the two positions (metaphysical realism and metaphysical relativism, respectively) differ in their willingness to allow language to correctly describe them. For example, it seems difficult to subscribe to a specific theory of names if one does not allow for objects in one's ontology, i.e. claiming that objects do not exist, or that they are not mind- (or language-) independent, clearly undermines any view on, say, names that presupposes these things.

1.1.4 Epistemological Realism and Relativism

An epistemological realism is so to speak included in the account given by the three points above. However, one can be an ontological realist, but not agree on the second point; one then subscribes to epistemological relativism. This means that one takes it that there *is* an independent totality of objects, but the view that there is one true and complete description of the world is abandoned. The easiest way to give an example is this: imagine two scientific theories that both work. Both speak of the same thing, but they are inconsistent with each other. The realist would say that (at most) one is true, whereas the relativist might allow both to be true, since he has abandoned the claim that there is only *one* true description of the world. In addition, one could use reality as a 'regulative principle', i.e. even though one does not believe that there is one true description, one might 'work under that hypothesis' in order to keep theories as simple and consistent as possible.

To sum up, then, there seem to be four positions:

- *Ontological Realism*: one accepts R1 - R3 and stresses R1.
- *Ontological Relativism*: one rejects R1 - R3, especially R1.
- *Epistemological Realism*: one accepts R1 - R3, stressing especially R2.
- *Epistemological Relativism*: one accepts R1 but rejects R2 (and possibly also R3).[6]

Having these basic concepts at hand, we can continue to deal with the topics of this thesis.

[5] And perhaps also the third; see below.

[6] It seems that the epistemological relativist can take two different stands: the first is the one implying acceptance of R1, rejection of R2 and acceptance of R3, the second is acceptance of R1 and rejection of both R2 and R3.

2 Identity

I believe that on a minimal ontological assumption (as sketched above) we can claim that some principles, and what follows from them, are basic: they concern identity and properties of objects. In this section I will investigate these principles and give an account of the arguments presented in favour of them. I remind the reader that I assume the principle R1 above to be true; I thus take it that the world consists of 'a fixed totality of mind-independent objects', or to phrase it differently, a fixed domain of objects.

2.1 The necessity of self-identity

The first of these principles is the principle of the necessity of self-identity:[7]

NSI $\forall x \Box (x = x)$

This principle simply says that every object necessarily is identical to itself. I do not think that anyone would seriously challenge this claim, but it might be interesting to see what such a criticism would look like: one would have to claim that the object is *not* identical to itself. In order to do this, we have to show that not every object is identical to itself (it would be enough to find *one* object in *one* world for which it was not the case that it was identical to itself). This would mean that, for some object, it is not identical to itself, because *it could have been otherwise*, that is, *this* object could have been *another* object.[8] In order for the criticism to have any bearing, in some world in which the object exists, it would have to be the case that the object (as it is, *this particular object*) is *not* this particular object (or that it simply differs in some respects). This is to ascribe contradictory properties to one and the same object (or rather to try to establish that an object has contradictory properties), and it is simply a mistake. Trying to establish that an object is another one from what it in fact is, or that it has properties that are inconsistent (think of a ball that is both entirely blue and entirely red at the same time), depending on what interpretation you give the relation 'being different from', is, since it is not consistent, not a good argument against the principle of the necessity of self-identity.

I believe that this attempt to criticize the principle of the necessity of self-identity stems from a misunderstanding of what it is to *have been otherwise*. Identifying the object as it in fact is, on the one hand, with how it would have

[7]Everybody would agree on the weaker $\forall x(x = x)$. However, I take the principle of the necessity of self-identity to be at least as basic as this weaker version, for reasons that I shall indicate in the sequel.

[8]One might perhaps better say *different* rather than *another* object. It might be argued, and rightfully so, that being 'different from' is a very different relation from 'being another object'. However, for the purposes of criticizing the principle of the necessity of self-identity, it does not really matter what interpretation one gives the relation. What it comes down to is that an object must stand in a relation to itself that differentiates it from itself in order for the criticism to have any force. Any such relation is unintelligible.

been, had things been different on the other, is to mix up the different concepts of modality and to believe that some strange form of identity is possible (and claiming that this identity does not hold in the above mentioned principle). In short, in establishing the above identity, we look at *one world at a time*, not (all the) different worlds at the same time. However, there is not only one theory of identity, so the claims made will be investigated when I discuss some implications that the realist theory of identity has for identity between objects.

The positive argument goes like this: since every object is the very object it is, and this holds in every world in which the object exists, it is necessarily identical to itself. The only thing that, so to speak, could have been different, is that the object would not exist in some worlds, but then the question would not arise to begin with (of course the claim could also be that things could have been otherwise because the object were not identical to itself; see above). The alleged necessary identity is not cross-world identity, it is identity in one and the same world, for some object x (really for each end every object x, in each and every world, respectively). However, it is enough that the object be identical to itself in those worlds in which the object exists for the principle of self-identity to be a necessity. In short: if the object exists, it is identical to itself. Since this holds for every world in which the object exists, the identity is necessary.[9]

2.2 The necessity of distinctiveness

Another principle I take to be basic is this:

ND $\forall x \forall y (x \neq y \rightarrow \Box(x \neq y))$

This principle, analogous to the one above, says that if an object is not identical to another object, it is necessarily not identical. Again, if we speak of *this* particular object, and say that it is different from *that* particular object, for the same reasons as above, the distinctiveness is necessary. If we look in every world in which the objects are distinct, and this holds for each and every world in which the objects exist, it is necessarily so. (We are not interested in what could have been the case, rather we look at how things stand and claim that, since it is so, it is necessarily so.) Had things been different, had x and y indeed been the same object, the question whether they were distinct would not arise. If the antecedent of the principle were false, on most accounts of logic (especially classic predicate logic) anything would follow. However, what interests us here is what is the case if the antecedent is true. If this is so, by

[9] So, $\forall x \Box(x = x)$ follows from the *validity* of $\forall x(x = x)$; $\models \forall x(x = x) \Rightarrow \models \Box \forall x(x = x)$, by necessitation. The argument simply says that since every object is identical to itself in every world in which the object exists, we have $\Box \forall x(x = x)$, which is equivalent to $\forall x \Box(x = x)$. (Since we are dealing with a fixed domain, $\Box \forall x(x = x) \Leftrightarrow \forall x \Box(x = x)$. We note that this equivalence assumes that 'de re' quantification is meaningful.) Therefore, the identity is necessary.

the above reasoning, since the distinctiveness holds in each and every word in which the objects exist (and are distinct), the distinctiveness is necessary.[10]

2.3 The identity of objects

A third principle I take to be basic, is the principle of identical objects having the same properties, or the principle of indiscernibility of identicals:

II $\forall x \forall y(x = y \rightarrow (Fx \rightarrow Fy))$

This needs to be argued for. On the one hand, it seems plausible to assume that identical objects have their properties in common. This holds for extensional properties, such as being at a certain spatial location at a specific time, being of a certain height, temperature, and so forth.

For intensional properties, however, it does not seem to be this simple. Think of the following example: Beatrix is the Queen of The Netherlands, as well as the Head of the Dutch State Council. So, the referent of both 'the Queen of the Netherlands' and 'the Head of the Dutch State Council', respectively, is the same, namely Beatrix. Piet knows only of Beatrix that she is the Queen. He is called to attend a gathering where the Queen will open a ceremony. At a given sign, all are asked to rise for Beatrix. Piet now expects the Queen to enter, however he does *not* expect the Head of the State Council to enter (perhaps he would not have risen for the Head of the State Council). When asked if the Head of the State Council is in the room, Piet might reply 'No'. So, Piet draws the conclusion that the Queen is in the room and the Head of the State Council is not, something which cannot be the case, since both the Queen, and the Head of the State Council is in the room (since it is one and the same person).

There are several ways to challenge this view. One is to claim that it cannot be the case that one and the same object can be thought of as two distinct ones (here and in what follows I rely on a series of arguments that J. van Leeuwen uses in his "Individuals and sortal concepts" [vLe91, pp. 7-34]). To begin with, by the very way in which names function (rigidly, as it were), it might be argued, by establishing that two objects have the same properties but not drawing the conclusion that they are identical, you are making a mistake. If names are taken to refer directly, it seems that you cannot hold that $(a = b) \wedge \neg(Fa \rightarrow Fb)$, since, by the way names function, since $(a = b)$, and they are thus the same object, it should be the case that $(Fa \leftrightarrow Fb)$. I will leave this view on names for the time being and discuss it later in this text.

Secondly, what counts as a property can be discussed. By the above reasoning, the property of being-believed-by-Piet-to-be-Queen is a property of Beatrix,

[10] For similar reasons as with the principle of the necessity of self-identity, we have: *if* two objects are distinct, and their being two different objects holds in each and every world in which the objects exist, this expresses a necessity. That is, *if* $\forall x \forall y(x \neq y)$ (in the worlds in which the objects exist), *then* $\Box \forall x \forall y(x \neq y)$ (and, by equivalence, $\forall x \forall y \Box(x \neq y)$).

whereas being-believed-by-Piet-to-be-Head-of-the-State-Council is *not* a property of Beatrix. By this reasoning, that Piet believes something of an object is taken to be a property of that object. One might try to draw the distinction between extensional and intensional properties in virtue of whether it holds for an object that it has this and that property depending on whether someone is in a certain intensional state towards the object or not. Could it be the case, for example, that all intensional properties were to be analyzed along the lines of whether someone is in a certain intensional state toward an object (that is, we take 'intensional properties of an object' to be all properties that depend on whether someone is in a certain intensional state toward a specific object or not), and all others (spatial location, mass, colour etc.) extensional? Would that make the principle of identical objects having the same properties more plausible?

On one reading of the above principle, though, it seems very easy to make the case that the principle holds: what the principle says is that if two objects are identical, then they have the same properties. If they are *identical*, that is, not similar, but quantitatively (and not only qualitatively) identical, they do indeed have the same properties. It is true that two objects can be similar in some respects, or that different criteria of identity determine whether it is the case that two objects are identical or not, but on this strong reading, the case is made that two objects do have the same properties if they are identical, exactly in virtue of their being identical (identity might be thought of as summing up all different kinds of identity criteria). So far, it can be noted that the absolutist (with regard to identity) would willingly assert to this line of thought whereas the relativist (with regard to identity) would say that there is no way of determining when two objects are identical, at least not to the extent that Leibniz' law of indiscernibility of identical objects holds.

I shall now move on to the question whether identity between two objects is necessary, something that for example Kripke has claimed.

2.4 The necessity of identity of objects

Is it then the case that, if two objects are identical, then they are necessarily identical? That is, is it the case that

NI $\forall x \forall y(x = y \to \Box(x = y))$?

One way in which we could reach this conclusion,[11] is by the following schema:

1. $\forall x \Box(x = x)$ [Assumption (NSI)]
2. $\forall x \forall y(x = y \to (Fx \to Fy))$ [Assumption (II)]

[11]This is indeed done by Kripke in [Kri77].

3. $\forall x \forall y(x = y \rightarrow (\lambda z \Box(x = z)(x) \rightarrow \lambda z \Box(x = z)(y)))$ [from 2][12]

4. $\forall x \forall y(x = y \rightarrow (\Box(x = x) \rightarrow \Box(x = y)))$ [from 3 by λ-conversion]

5. $\forall x \forall y(x = y \rightarrow \Box(x = y))$ [Conclusion (by MP on 3, 4)]

The first and second are axioms (accepting the law of indiscernibility of identicals), the fourth is a consequence (we get it by lambda-conversion on 3, taking the F to be the property of being necessarily identical to x), and the fifth (the conclusion) is obtained by *modus ponens* on 3 and 4. It should be noted that this scheme relies on three things: principles 1 and 2, respectively, and that the lambda-conversion goes through.

As far as the first premise is concerned, I have given arguments for the view that, indeed, self-identity is necessary, in the section on the necessity of self-identity.

As for the second premise: it has to be the case that, indeed, identical objects have the same properties (not necessarily that objects who have the same properties are identical; that is the implication in the other direction).[13] The arguments for this position were given in the section on the law of indiscernibility of identicals.

And at last the third step: I can see no problems in treating necessary identity with x as a property applied to objects.

Having reached this conclusion, then, it is time to turn toward the topic of language, the tools it provides us with, and the problems they in turn pose.

[12]By substitution of $\lambda z \Box(x = z)$ for F.

[13]That is, we claim that $\forall x \forall y(x = y \rightarrow (Fx \rightarrow Fy))$; we do not interest ourselves (at least not the same extent) in whether it holds that $\forall x \forall y((Fx \rightarrow Fy) \rightarrow x = y)$.

3 Language

In this section, I will try to examine a series of notions in more detail than has been done in the previous. I will start by introducing these notions one by one and give a brief historical account of them.

3.1 Conceptual Apparatus – General Remarks

Since Frege's work is taken to be the first serious attempt toward systematizing meaning, reference and so forth, and in addition to the fact most of the work being done in the field follows his marks (either by expanding on Frege's work or in criticizing it) it seems fairly natural to start there. The first section in this part will be somewhat extensive, providing the necessary background for the following notions and principles.

3.1.1 Sense, Reference and Thoughts

A referential theory of meaning states simply that the meaning of a symbol is that to which it refers (the meaning is to be identified with its reference). No claim is being made by this theory as to the nature of the entities to which symbols refer. However, we note that an application of this kind of theory to natural language involves some kind of realism (according to what I said in the introductory section I find this a good thing). But one might want to keep the link between meaning and reality a bit weaker than what is implied by the referential theory. That is, one would like to have that meanings of symbols were a bit more independent of reality without loosing the relation between symbols and entities. Since the referential theory is set up in an extensionalist setting, it seems to be the case that terms referring to the same objects can be substituted freely preserving truth value (this is indeed the case in standard logic, which Frege takes as the tool we should use in investigating certain uses of natural language, especially those involved in mathematical reasoning).

Frege, however, also noted that this is not always the case. In the following example, where reference is made to the same object using different names, Frege claims to have found a substantial difference.

Provided that coreferential terms refer to the same object, and that the sentences containing them thus should have the same truth value, how come that the following two identity-statements (in which reference to the planet Venus is made with two different names) differ in cognitive value?

- Hesperus is Hesperus
- Hesperus is Phosphorus

Frege's answer is that, although they have the same referent, they nevertheless differ in meaning; 'Hesperus' *means* 'The heavenly body we see in the evening', whereas 'Phosphorus' *means* 'The heavenly body we see in the morning' (and they both *refer* to Venus). This explains how the two identity statements, while having the same truth-value, are not synonymous; the names make different contributions to the meanings of the sentences in which they occur (which explains the difference in cognitive value of these sentences).

Frege thus makes the following observation: meaning and reference are (relatively) independent, not the same, as the referential theory of meaning would have it. It is possible to know the meaning of an expression without knowing the reference.[14] And vice versa; we can know the referent of an expression without knowing its meaning.

Frege obviously does not agree with the doctrine that 'The meaning of a proper name depends only on (is identical with) its referent',[15] which can be traced back to J. S. Mill. Frege seems to take it that the converse is true; that meaning determines reference. On his view, a term has meaning; this is usually explicated in terms of a set of properties the object referred to by the term is supposed to have (in the case of 'Hesperus' it is 'being the heavenly body we see in the evening') that in turn determines the reference (the object Hesperus is *the heavenly body such that we see it in the evening*). So meaning determines reference, but the converse need not hold (and according to Frege indeed does not hold).

The denoting relation is thus not a direct relation between name and object, but it goes via meaning (using a description). Names are on Frege's view descriptional.

So, now Frege's theory can be stated in some detail: Reference explains the *function* of sense: expressions have a sense only in virtue of their also having a reference, the sense is the 'way in which the reference is presented'.[16] In this way sense determines reference. Two expressions with the same sense also have the same reference, but the converse need not hold.[17]

So, sense is the 'mode of presentation', it is a criterion by means of which reference is determined under various circumstances.[18]

According to Frege, an expression can have a sense without automatically having a reference. This is the case with such descriptions as 'The biggest prime', 'The smallest convergent series', 'The first man on the moon' (most people would

[14] In the above example this is indeed the case, since in order to understand the sentence 'Hesperus is Hesperus' one need only understand the use of '=' in order to understand what is being said (and even to understand that it is true); that an identity statement is being made.

[15] Another formulation is 'Reference determines meaning'.

[16] We can have, for example, two or more names of the same object; in the case of Hesperus, it is given by the description 'The heavenly body we see in the evening', but can also be given by the description 'The heavenly body seen at such-and-such a place at such-and-such a time of day'.

[17] As is seen from the fact that someone may not know that 'Phosphorus' refers to the same object as the description 'The heavenly body we see in the morning'.

[18] And these are the circumstances that will later give rise to a different treatment of meaning (but will then be called 'contexts').

in the 1950's understand what this meant, without there being a referent to the expression) and so on. By this last example we see that the reference of a name can vary from situation to situation (in 1950 it had no reference, now it has a referent, namely Neil Armstrong). We might well imagine that according to a different line of history, one where Buzz Aldrin were the first man on the moon in 1969, *he* and not Armstrong would be the referent of the name[19] 'The first man on the moon'.[20]

One criticism against this thesis will be Kripke's view of names as *rigid designators*, terms that refer to the same object in all possible situations.

Sentences have, according to Frege, both a sense and a reference (just like names do). Every sentence corresponds to a thought (i.e. expresses a thought or a proposition). The thought expressed is to be understood as something objective, however; one should not understand it in subjective terms. Frege exemplifies this by saying that two different people, in understanding the meaning of the sentence '$2 + 2 = 4$', have *grasped the same thought.*

So is it the case that sentences have as their references the propositions they express? No, according to Frege, as can be seen from the following example:

- Buzz Aldrin is a man
- The second man on the moon is a man

These sentences express different propositions. But if it is true that the reference of a complex expression is a function of the references of its composite parts,[21] the reference cannot be the proposition the sentence expresses, since Buzz Aldrin and 'The second man on the moon' do have the same referent. Therefore, Frege concludes, the sense is the proposition expressed, the reference is its *truth value.* A sentence is true, just in case the proposition it expresses holds. The sense of a sentence *determines* what has to be the case if the sentence is to be true.[22] According to the principle of compositionality, a *sentence* containing a name that lacks a referent lacks a referent as a whole (i.e. it has no truth value).[23]

Frege also noted what would come to be one of the motivations behind the possible world framework, that the principle of compositionality of reference does not hold in intensional contexts:

- John says that Hesperus is Phosphorus
- John says that Phosphorus is Phosphorus

[19]Remember that also definite descriptions according to Frege are names.
[20]This idea is elaborated on in the development of possible worlds semantics.
[21]More on this in the next section.
[22]In the same way the meaning of a name determines its reference.
[23]Something which Russell's theory claims is not the case, as we will see later.

Since the referent of a sentence is its truth value, it is clear why the two sentences above do not have the same referent: one might well be false, while the other is true.

To avoid these kinds of problems, Frege claims that expressions in intensional contexts do not have their normal references; instead they refer to their senses.[24] In these cases the reference is what is normally the *sense*.

After this brief account of Frege's theory, I turn to different principles of reference and meaning.

3.1.2 COMPOSITIONALITY

The principle of compositionality says that the meaning of an expression depends on the meaning of its parts; the meaning of a complex expression is a function of the meanings of its direct parts. That is to say that if we substitute terms that have the same meaning for each other, the sentence in which the terms occur has the same meaning after the substitution as it did before.

We note that the principle of compositionality by itself does not answer the question of whether it holds for two coreferential terms that they can be substituted for each other without change in meaning. In addition we need to look at the theory of meaning. If we have a theory of meaning that claims that two coreferential terms may nevertheless differ in meaning (Frege, for example), at most we can hold that two terms that have the same *meaning* can be substituted for each other with no change in truth value (since, as it were, if two terms have the same meaning, i.e. if they are synonyms, they are also coreferential. The converse does not always hold, however). So, for example, on this account, the following two sentences have the same meaning:

- Phosphorus is beautiful.
- The morning star is beautiful.

since, it is claimed, 'Phosphorus' and 'The morning star' are synonyms. Since 'Phosphorus' and 'The morning star' on Frege's account have the same referent, this is in accordance with Frege's principle concerning reference: 'The reference of a composite expression is a function of the references of its component parts'.

On the other hand, the following two sentences do, on this account, *not* have the same meaning:

- Phosphorus is beautiful.
- Hesperus is beautiful.

since the two names 'Phosphorus' and 'Hesperus', respectively, are not synonyms (they do not have the same meaning), even though they refer to the same

[24] Frege says that expressions in this kind of context refer 'indirectly.'

object. This is in accordance with Frege's principle concerning sense: 'The sense of a composite expression is a function of the senses of its component parts'.

If we have a theory of meaning that does *not* allow for two terms to be coreferential and have different meaning, the principle of compositionality would lead us to say that two sentences containing *coreferential* terms also have the same meaning, since on this theory coreferential terms have the same meaning. On this account, 'Phosphorus is beautiful' indeed has the same meaning as 'Hesperus is beautiful', since there can be no two names that refer to the same object but differ in meaning.

The two above mentioned principles can also be formulated as substitution principles:[25]

- It two expressions have the same reference, then substitution of one for the other in a third expression does not change its reference.
- If two expressions have the same sense, then substitution of one for the other in a third expression does not change its sense.

It is clear that Frege would hold that both are true.[26] Had we a different account on meaning, however, like the one sketched above (concerning coreferential terms also having the same meaning), we could rewrite it:

- If two expressions have the same referents, the substitution of one for the other in a third expression would not change its *meaning*.

which is something Frege would certainly object to, considering his view that reference does *not* determine sense.

3.1.3 Possible worlds framework

Considering that there were many motivations for abandoning a strictly Fregean account of sense and reference,[27] but also to include more features of language

[25]For non-intensional contexts.

[26]Especially the first; On Frege's account, in intensional contexts, such as 'John says that Hesperus is Phosphorus', he takes it that the sentence does not have its ordinary reference, that is its truth value; rather, he claims, the reference of the identity statement in this context is its *sense*. So the sense of the identity statement would be that John says that the heavenly body we see in the evening is the heavenly body we see in the morning.

Keeping these contexts aside, we note that one reason for accepting the first principle is that it bears resemblance to another one: synonyms are intersubstitutable without change in meaning. One reason for accepting the principle of substitutivity of synonyms, is that it is in accordance with Leibniz' law, since it is of the form $A = B \rightarrow [A/x]C = [B/x]C$.

[27]Especially the fact that extensional semantics seemed unsuitable for intensional constructions, but also the fact that standard logic is restricted to propositions that are not context-dependent. In addition, there was an expressed urge to clearly distinguish singular from general propositions (see [Kap79a, p. 388]). Also, intuitionistic logic and Kripke semantics for modal logic motivated this step.

that a proper account of it should cover, possible worlds semantics was developed. It deviates from classical logic on both a syntactical and a semantical level and gives a richer account of the subject.

In traditional logic, there is no such thing as a context that provides the background for a sentence like 'I am now riding a bike here'. It seems that this context is crucial to an evaluation of such a sentence.[28]

Intensional semantics is derived from the distinction between *intension* and *extension*. The intension of an expression is something like its conceptual content, whereas the extension is what exemplifies that conceptual content.[29]. The idea is that expressions might have different references in different contexts. Intension is, according to the logical system that the possible worlds framework is based on, the 'phenomenon of *multiple reference*.' It is a function which, depending on context under consideration, gives the reference of an expression. The intension of the expression *The Queen of the Netherlands* is according to this, the function which assigns to each time the person who is, at that time, Queen of the Netherlands. A function like this is also called an *individual concept*.

The intension of a predicate (that can also change its reference from context to context) is that function which assigns to any given context the set of individuals that are the referents of the predicate in that context. Such a function is also called a *property*. Similarly, n-ary relations are taken to be the intensions of n-ary predicates.

The intension of a sentence is a function which assigns to a context the truth value of the sentence in that context. This is called a *proposition*.

In what follows I will state brief account of the framework and the semantics.[30] The extensional character of the previous system gets lost and is substituted by something different. However, this is the very point of introducing the new system, since the older one came short of giving a satisfactory treatment of intensional aspects.

As was said above, the notion of *context* is a key notion to sense and reference. The sense (and reference) of a name or sentence obviously varies depending on the context in which it is used (the most clear cases of terms having this feature are the ones involving demonstratives or indexicals). Ordinary predicates are also obvious examples of expressions displaying this feature. So one obvious way to go about is to allow for the language of the system but also the semantics to take contexts into account when determining truth value, reference, sense and so forth.

[28] One could write 'DD. is now riding a bike in Amsterdam on the 8th of June, 1997, at 22.14.' But the 'in Amsterdam' and the 'here' requires more scrutiny: Where exactly? And at what *exact* time? It is obvious that such a re-writing has many weaknesses.

[29] An example by Gamut is the expression *digit*: the intension of the word is the concept 'single symbol referring to a whole number', and its extension is the set of symbols {0, 1, 2, 3, 4, 5, 6, 7, 8, 9}.

[30] The reader interested in a detailed account of the technical aspects and/or a historical account, should consult [Gam91b]. What follows above is a brief account based on the treatment in that book.

By adding some operator (denoted by **O**), we get new expressions like **O**p, **O**p $\rightarrow$ **O**q, **O**(**O**p $\rightarrow$ **O**q) and so on. The idea is that **O** stand for some intensional construction like 'I know that', 'I believe that', 'It is necessary that', 'It is possible that', and the like. We can see clearly how the system does not exhibit the same extensionality as for example standard propositional logic; it can quite clearly be the case that $p \leftrightarrow q$ is true, but that **O**p $\leftrightarrow$ **O**q is not (I might for example not *know* that two propositions express the same truth).

The notion of context is now taken into account. What aspects of it are relevant depends on the interpretation given to the operator **O**. Truth values are now viewed as relative to the contexts in which their truth is evaluated, not absolute. Formally, one replaces the simple semantics of propositional logic with a system in which valuation functions assign truth values relative to some context k (taken from a set K of such contexts). This set comes into the picture when we start evaluating sentences of the form $\mathbf{O}\phi$ in a given context k. The truth of this formula depends on the truth of ϕ, not only in the same context k, but also in other contexts k' in K. This is what makes the system intensional.[31]

In order to determine what contexts are relevant to evaluating a formula, then, we need to know the interpretation of the operator, but also some characteristics of the context itself. The contexts k' that are said to be relevant in evaluating within a context k are said to be *accessible from k*. So the truth value of $\mathbf{O}\phi$ depends on the truth value that ϕ has in the contexts k' that are accessible from k. Each interpretation of **O** gives rise to some condition on the truth values of the formulas to be evaluated in accessible contexts which must be satisfied if $\mathbf{O}\phi$ is to be true.[32]

In a modal semantics, the contexts above are called *possible worlds*. The idea behind possible worlds is exactly that expressed in the preceding footnote, that the truth of $\Box\phi$ and $\diamond\phi$, respectively, depends on the truth of ϕ in other possible worlds.[33]

So a *model* **M** consists of:

(i) a nonempty set W of possible worlds w

(ii) a binary relation R on W, the accessibility relation

(iii) a valuation function V which assigns a truth value $V_w(\mathrm{p})$ to every proposition letter in p in each world $w \in W$.[34]

[31] We see this if we give the operator above the interpretation *it is necessary that*, for example; then in order to evaluate $\mathbf{O}\phi$ we need to have that ϕ is true in all contexts.

[32] The simplest case is that ϕ must be true in *all* contexts accessible from the context in which evaluation takes place for it to be *necessary*, as where for it to be *possible*, it is enough that it be true in *one* accessible world.

[33] Historically, the notion can be traced back to Leibniz who held it that *factual* truths hold only in the world we inhabit (possibility), whereas *rational* truths supposedly hold in all worlds that might have been created (necessity).

[34] A similar system covering also properties is given an account for in [Gam91b].

Some methodological considerations arise concerning that use of a possible worlds framework. They are both philosophical and empirical in nature; I will limit this account to the philosophical ones alone. These focus mainly on the status and nature of *possible worlds* and *possible individuals*. There are some claims that these notions are taken to be primitive, even though (it would turn out after close scrutiny) they are unintelligible (this is what, for example, Lewis would claim).

On a realist account with regard to possible worlds[35] (as held by Lewis), possible worlds are real, just as the world we inhabit. There are other individuals in other possible worlds that closely resemble the individuals in this world. However, since no *quantitative* identity can arise (since two different objects cannot be the same object, see discussion in section on Identity), we can only speak of 'qualitative' identity, or a *resemblance relation*. This relation Lewis calls the *counterpart relation*. Two individuals can on this view resemble each other to the degree that they are each others' counterparts in their respective worlds.

This suggestion stems in part from the problems Lewis sees with cross-world identity. It is dealt with by Kripke in a fundamentally different way (also Stalnaker has expressed similar views). On Kripke's account, we should not view possible worlds as *real*, we should rather think of them as epistemological notions, we should think of them as introduced or *stipulated*. According to this view, we can imagine what a different world would be like.[36] Possible worlds understood this way are epistemological terms, determined by the descriptive terms we associate with them (among these we have counterfactuals). So, the fact that we cannot perform the task of establishing that identity holds *between* worlds does not really matter, since the trans-world identity problem is not a genuine one; the only worlds we ever deal with are the ones which we have introduced as containing individuals from this world (as in the case with the counterfactuals) or in another possible world already introduced. The individuals can be quite different in these possible worlds, but we need not, according to Kripke, care much about their identities. With these remarks I must leave the subject.

3.1.4 'Sense' in a possible worlds framework

Sense has in this model a functional character (which it had also on Frege's account). The sense of a sentence is the assignment to a possible world and a time of the truth value of a sentence, which is its intension. The sense is something which every linguistically competent speaker can 'grasp', in analogy to what Frege took to be the *Sinn* (On Frege's account, the Sinn was that which was the 'thought' expressed by a sentence).

[35] See [Lew73].

[36] Characteristically, Kripke uses this analogy: "[...] possible worlds need not be given purely qualitatively, as if we were looking at them through a telescope." [Kri80, pp. 49 – 50].

What does not get captured by this way of explicating sense however, is Frege's notion of Sinn as an entity. A weak point the two systems have in common is that the *content* is not context-dependent, whereas the *reference* is (Kaplan elaborates on this, as we will see).

Intension is on the possible world model a function which, depending on context under consideration, gives *the reference* of an expression. Frege, on the other hand, claims that expressions in intensional contexts do not have their normal referents; instead they refer to their senses, i.e. *their meanings.*

Another potential difference is this: in intensional semantics it holds that if A and B are logically equivalent, then their intensions are the same.[37] In Frege's framework this *need not hold* (that is what makes this difference potential); two logically equivalent expressions may yet differ in sense.

3.1.5 Different notions of sense

Salmon gives[38] the following three-fold distinction with regard to sense:

- $Sense_1$: the conceptual representation of an object which a fully competent speaker associates in a particular way with his or her use of the term. $Sense_1$ is a psychological or conceptual notion. The $sense_1$ of a term is something that a subject 'grasps'. It includes only purely qualitative properties [...]; external things cannot 'occur as constituents' of $sense_1$. Instead there are only conceptual representations thereof.

- $Sense_2$: The mechanism by which the reference of the term (with respect to a possible world and a time) is secured and *semantically determined.* $Sense_2$ is a semantical notion. (My italics; DD.)

- $Sense_3$: The information value of the term: the contribution made by the term to the information content of sentences containing the term. $Sense_3$ is a cognitive or epistemic notion. The $sense_3$ of a term forms a part of any belief expressed by means of the term, and is relevant to the epistemological status (*a priori, a posteriori*, trivial, informative) of sentences containing the term.

It is only $sense_2$ that plays a role in the theory of direct reference (of names), which will be discussed below. Given this three-fold distinction, it is clear why a Fregean account is implausible; it is very difficult to find any term that equates $sense_1$ with $sense_2$ with $sense_3$. On the causal account of direct reference, the only sense that is allowed into the picture is $sense_2$. It is a semantical notion that enables reference and determines it. This is not to say that the causal theorists in any way deny that sense (on any understanding of 'sense') might evoke a 'conceptual representation of an object which a fully competent speaker

[37] $\models A = B \Rightarrow \models \Box(A = B)$, i.e. $\Rightarrow I(A) = I(B)$. ($I(A)$ is the *intension* of A).

[38] cf. [Sal82, p. 12]

associates in a particular way with his or her use of the term', or that a term does not have $sense_3$, i.e. that it does not have information value. The claim is, rather, that there cannot be an equation of $sense_1$ with $sense_2$ with $sense_3$, i.e. no 'sense' can do all three jobs.

3.1.6 Designation and Reference

A term coined by Kripke, that of 'rigid designation' should be explained: there seem to be three ways of an expression's designating rigidly:[39]

- *Rigid Designation*: An expression is a rigid designator if it designates the same thing with respect to every possible world in which that thing exists.
- *Persistent Designation*: An expression that designates the same thing with respect to every possible world in which that thing exists, and which designates nothing with respect to possible worlds in which that thing does not exist.
- *Obstinate Designation*: An expression that refers to the same thing in every possible world. (These designators designate the same thing with respect to every possible world, regardless of whether that thing exists there or not.)

Kripke seems to be using the second of these (he calls this use *rigid*, though), however, the other two figure in related issues, as will be explained below.

In addition, there are three ways of reference:

- *Rigid reference*: A term refers rigidly if it refers to the same object in every world in which the object exists (rigid designation). (Proper names refer in this way. Perhaps this plays a role for descriptive content.)
- *Direct reference*: Demonstrations are of this kind. This kind of reference always uniquely identifies an object by means of use of indexicals or ostensive acts. (Plays no role for descriptive content.)
- *Indirect reference*: Descriptive reference, i.e. reference by means of a descriptive content.[40]

[39] cf. [Sal82, pp. 33-34]

[40] In order to distinguish between the second and third kind of reference, we need to use a distinction made by Kaplan, that of character-content. According to Kaplan, the content is a function from circumstances to extensions. A content is *fixed*, or *stable*, if it is a constant function; names for example, have a stable content (more on this below). The content might be called the *intension*. Character, on the other hand, is the function that determines the content in different contexts of utterance. See [Kap79b, p. 403].

3.1.7 A brief sketch of Identifiers

Informally, we may characterize the different linguistic tools we have at our disposal.

- *Names* seem to refer to individuals uniquely, i.e. they refer to *one* individual. There are questions as to what the meaning (if there is one) of a name is, how a name gets its referent, and to what degree names can be informative.

- *Definite descriptions* also refer to one object, but there are problems with

  (i) different uses of definite descriptions; on some accounts the claim is made that one can use a definite description to convey to whom one intends to refer, even though strictly speaking the person intended to be the referent might not actually be the referent of the definite description.

  (ii) in addition, given the fact that definite descriptions have *descriptive content*; there is not always a determinable truth value. This is a difference between Frege's analysis and that of Russell's.

  (iii) it seems we can also use definite descriptions to convey *beliefs* about who we believe is the referent of a definite description.

- *Indexicals* refer directly; terms such as 'I', 'here' and 'now' always refer in *the same way*, although to *different objects* depending on time and place of utterance (and depending on who utters it, of course; 'I' refers to me when I utter it, and to you when you utter it). We will look into if they can function as identifiers.

- *Demonstratives* refer directly, it seems, but in order to refer using a demonstration, one needs to use non-linguistic tools, e.g. an act of ostension (pointing). We will look into if they can function as identifiers.

As far as names go, it might be the case that they are as simple as the causal theorists want to make us believe. What is not as simple, is the way in which descriptions and demonstratives function. Donellan has stressed, especially in discussion with Kripke, the difference between what a name can be taken to refer to, on the one hand, and what the speakers that utter the name actually intend to refer to, on the other. The same goes for descriptions; in the same way we (as speakers) can use names to refer to a specific individual, we can use descriptions toward the same end. However, in the very same way that a name may or may not serve to denote its (actual) referent, the same goes for descriptions. We may use a description such as 'the man over there drinking champagne', manage to point our hearer's attention toward the very man, but actually not describe him correctly in using a description that is simply false of the man (he is actually drinking mineral water). Anyhow, we have managed to use a description in order to pin down a referent, albeit falsely as it were. More attention will be paid to each of these problems as we go along.

After this brief sketch, let us turn to each of these notions, see what properties they share, and on what points they differ.

3.2 Names

The classical account on sense and reference must be Frege's.[41] He asks us to make a distinction between a name's *sense* on the one hand, and its *reference* on the other. Thus, the referent of both 'Hesperus' and 'Phosphorus' is the same, namely the planet Venus, but their *meaning* differs in that the former *means* 'the heavenly body we see in the evening' whereas the latter *means* 'the heavenly body we see in the morning'. Frege also takes meaning to be an entity in its own right, a view few would subscribe to today (since it introduces the idea of 'the third realm', where meanings reside; the strong Platonic implications of this idea scare most people off). The great advantage of Frege's work, however, is his view of compositionality, i.e. that the meaning of a whole sentence depends on the meaning of its parts.

Also Russell takes a similar view (w.r.t. compositionality); in his 'On Denoting' ([Rus56]) he gives an account on how names (which Russell claims are really descriptions) can be taken to denote. On his view all objects (except for sense-data) can be referred to by means of definite descriptions.

A more drastic approach is taken by the people often grouped under the heading 'Causal Reference Theorists'. Among these people are Kripke ([Kri80]). Here the viewpoint is changed: names are no longer viewed as meaningful, they are rather taken to be meaningless linguistic tools by which we keep track of different objects. Names, it is argued, have no meaning at all, they serve only as 'book-keeping devices', devices that enable us to keep track of what we speak of. However, there are some questions about this theory, questions that among others Evans tries to deal with ([Eva77]).

3.2.1 The Fregean account

Frege's views on names cover also definite descriptions. I will not restate his theory, but only note some characteristics of it:

1. There are things to which expressions can refer.
2. There is a meaning attached to every referring expression.
3. Meanings *exist*.

[41] See for example [Fre52a], [Fre52b], [Fre52d], and [Fre77b].

4. Two referring expression can, even though they refer to the same object, differ in meaning.

5. An expression refers in virtue of there being a unique object that fulfills certain requirements, namely it must be *the* object that has the properties that make up the expression's meaning. (Meaning determines Reference).

3.2.2 Drawbacks of the Fregean account

I do not intend to criticise the first of these theses. The second however seems problematic. The third is the famous doctrine of 'Frege's third realm' and can be argued against with ontological arguments (since a claim is made that something exists). The fourth and fifth are the points that the people subscribing to the Causal Reference Theory of Names attack, and will be dealt with in what follows.

I shall only spell out an argument against one of the above here, and the rest in different sections (although I might give an outline of them here).[42] The argument is against Frege's 'third realm' and is an ontological argument; we can apply Occam's razor: if one can give a different account of meaning, one that doesn't presuppose the existence of meanings, then that is preferable to an account that does. There are, however, different reactions to this. One is that it might not be a bad assumption and that it might have a purpose. If so, maintaing this principle (perhaps one could so to speak afford a very rich ontology) seems possible.

3.2.3 The Description Theory of Names

Names in natural language, and also indexical singular terms are, according to Russell, disguised definite descriptions. Russell's theory shares this descriptive character with Frege's. Russell, however, analyzes names away, that is, a name can, according to him, be written on the following form:

$$\text{`}a\text{ is a name of an object }c\text{'}$$
$$\textit{is equivalent to}$$
$$\exists x(P_1(x)\wedge P_2(x)\wedge\cdots\wedge P_n(x)\wedge\forall y((P_1(y)\wedge P_2(y)\wedge\cdots\wedge P_n(y))\rightarrow y=x)\wedge x=c)$$

where the $P_1, P_2, \ldots, P_n$ are the (n) properties which the name a ascribes to the object c. So, the Description Theory holds that a name 'NN.' denotes c just

[42] As far as the second principle goes, it is claimed that even though there may be meaning, it is not attached to an expression in a strong sense. Against the fifth it is claimed that 'meaning' (whatever that is), and especially if it is that which enables us to determine the referent of the expression having this specific meaning, simply does not work this way. Against the fourth it is claimed that, since it is not the case that meaning determines reference, but rather the other way around, it cannot be the case that coreferential expressions differ in meaning. Especially, it is argued, the very notion of a set of properties, the fulfilling of which enables reference to a unique object, is simply wrong.

in case c is *the* object that *uniquely* satisfies all or most (more on this below) of the descriptions $P_1, P_2, \ldots, P_n$ above.[43]

On Russell's view a definite description may denote an entity: "if 'C' is a denoting phrase, it may happen that there is one entity x (there cannot be more than one) for which the proposition 'x is identical with C' is true [...] We may say then that the entity x is the denotation of the phrase 'C'."[44] In other words, a definite description denotes an entity if that entity fits the description uniquely.

If one were to ask which object a name refers to, one would get a description like the above (but hopefully in natural language) as an answer. The answer would be: the object such that so-and-so. If one gives an example, it could be the name 'Aristotle'. Aristotle (the person to which the name 'Aristotle' refers), it might be claimed, was the teacher of Alexander the Great, he was born in Stageira, he was a pupil of Plato, he walked in the philosopher's stoa in Athens, he wrote 'The Metaphysics', he wrote on biology, he wrote about being drunk[45] and so on. In short, one would get a list of properties that the object to which the name refers supposedly has. Also, it is claimed that no other object meets *all* these requirements, since names are supposed to refer uniquely. Of course, it is not claimed that one need to know *all* the object's properties in order to be able to refer to it, only a sufficient set of them ('sufficient' is to be understood as: sufficient in order to be able to uniquely refer to the object).

Here we might note some similarities and differences between Frege and Russell, respectively. The similarities are the following: both take the principle of substitutionality to hold, both claim that a name's meaning can be given by a definite description (for Russell a name even *is* a definite description) in virtue of its having a certain descriptive content (there seems to be a difference of 'level', however, for Frege the meaning is readily available, for Russell we have to write the name down in the above form. It is a difference similar to that between object- and metalevel of language.)

Among the differences are the following: when an sentence (on Frege's analysis) has sense but no referent (for example 'the biggest prime') and hence a sentence containing the term has meaning but lacks a truth value, on Russell's view a sentence containing the term is false (since there is no description that can be true of an object that does not exist). In this way, Russell's theory can avoid the ontological weaknesses of Frege's approach; Russell does not presuppose the existence of meanings.

This is the way in which names are passed on according to this theory: one learns that Aristotle is the person such that so-and-so, and that whatever

[43]Hopefully it is obvious that I do not intend to treat the Description Theory as a theory of *speakers*; that is, not a speech act theory.

[44]cf. [Rus56, p. 51].

[45]The book is published under the name $\Pi\epsilon\rho\iota\ M\epsilon\theta\eta\varsigma$, 'Peri Metes'. It contains fragments that are said to have been written by Aristotle. This claim is made by Diogenes Laertius and other historians of the time.

objects fulfills the so-and-so is the only object that is the referent of the name 'Aristotle'. Or so it seems.

3.2.4 Drawbacks of a Descriptional Theory of Names

One obvious way to challenge the view that names are definite descriptions is the following:[46] According to the above, two people who use the name 'Aristotle' must, if the theory is to be a correct account, both have the same properties in mind. In short, they must both know 'the list' of properties attached to a name to be able to use the name correctly. So, it seems as if people who do not know the relevant properties of the object can't use the name. This is outright false, as our practice tells us. Clearly, most people *can* talk of Aristotle, even though they do not know a set of properties that uniquely identify him. Most people are able to talk of Aristotle, and actually refer to Aristotle, without having all those properties in mind (i.e. without a sufficient number of properties).

Moreover, it seems that two different speakers can refer to one object with different lists of properties. The theory does not discriminate between two lists of properties, as long as they uniquely identify the referent. So, if two people use different lists, but still manage to refer to the same object by using a name, the theory has it that, were it to turn out that one of them actually has been using a list that does *not* single out a particular individual, that the person who has been using the 'correct' list of properties has been using the name correctly, and therefore managed to refer to the object, whereas the second person is claimed not to have referred to anyone (in case the list he uses is not uniquely identifying), or to someone else (if another person is the single individual to fulfill being the referent of the list of properties).

This criticism has led some philosophers (notably Searle, see for example [Sea83]) to the following conclusion: it is not really required that someone who uses the name 'Aristotle' know *all* the properties that uniquely identify him; it is enough that he know *enough* of them, i.e. *a satisfactory subset* of the totality of properties Aristotle is claimed to have. The question now becomes how many properties form such a subset, or simply how many properties are enough. No satisfactory answer has been given to this question.[47]

[46]It is coined by Salmon ([Sal82, p. 27]) 'The Epistemological Argument in favour of the theory of singular direct reference' (the Causal Theory, I take it). I suppose the argument might as well be coined 'The Epistemological Argument against the Theory of Names as Definite Descriptions'.

[47]The defender of the description theory might say something like: OK, it is not the case that an object must satisfy *all* properties in 'the list', i.e. it is not necessary to have a *conjunction* $P_1(x) \wedge P_2(x) \wedge \cdots \wedge P_n(x)$. Instead, we might say that the object should satisfy $P_1(x) \vee P_2(x) \vee \cdots \vee P_n(x)$. But still, it is surely so that the person that we indeed *do* refer to by the name might not have done *any* of the things attributed to him (this might seem implausible, but is by no means impossible). Thus, weakening the constraints doesn't seem to do that much for the description theorist. Of course, it should be noted that this point is philosophical rather than empirical; I do no think anyone would get seriously offended by it. However, it is a theoretical point worth pointing out.

A second argument against the view that names are definite descriptions is also related to 'the list of properties'. Imagine that the list of properties an object has to satisfy in order to be the referent of the name 'Aristotle' is the following: 'Aristotle was such that:'

- He was the Teacher of Alexander the Great;
- He was born in Stageira of Macedonia, Hellas;
- He was a pupil of Plato;
- He sometimes walked in the philosopher's stoa in Athens, followed by his students;
- He wrote 'The Metaphysics';
- He wrote on biology, and
- He wrote about being drunk.

Now, we can easily imagine the following situation: Aristotle, the man to whom we actually refer by the name 'Aristotle' might have chosen to go into business instead of philosophy. On a possible worlds setting, this is what he *could* have done (in another possible world). That is, the very man we *actually* refer to by this name, *could* have gone into doing something completely different from that for which he became famous. So, there does not seem to be any properties an object must *necessarily* have in order to have been the referent of a name, or at least (and this makes no real difference to the argument) any list we might come up with will contain properties that the referent need not necessarily have had in order to be the referent of the name. For example, what would happen if further historical investigations showed that Aristotle did not write at all about being drunk, but that actually one of his less famous students did? Would we then say that we, from now on, since it has been established that one of our criteria for applying the name Aristotle has been shown not to be true, cease to refer to Aristotle by that name? Obviously not, we would rather say that the man to whom we refer by the name actually did not write about being drunk at all.

A third argument is this:[48] Suppose that one man gets known for having said one thing, say Thales and his thesis that 'All is water'. This is passed on to us by historians. However, say that they falsely attributed this property to him, that in fact it was a different (and unknown) Greek who held this (and that in addition we are in no way historically related to this second Greek). Actually, by using the name 'Thales', we are, on the classical account, referring

[48] cf. [Don70, p. 353].

to this less known Greek and not to Thales.[49] This however seems absurd. We might re-evaluate our use of the name, but in no case are we forced to start referring (and actually having been referring) to an altogether different Greek, just because he happens to be *the* person who satisfies the requirement.

The first of these three arguments is an argument against $Sense_1$ as described above. The second argument is an argument against $Sense_3$ and the third against $Sense_2$. The first argument states that different speakers can, according to the Description Theory of names, have different 'conceptual representations of an object' which seems strange if a term is to have a unique meaning. The second argument also contains a notion of 'sense' similar to that of $Sense_2$ above; it mentions sense as the semantically determining notion it is (on that account).

With this, I take it that the arguments against the second, fourth and fifth elements of Frege's theory (and also Russell's main thesis) have been given. I proceed to investigate the positive arguments that the Causal Theorists have to offer.

3.2.5 The Causal Theory of Names

It is these consequences and weaknesses of the classical Fregean theory that led Kripke and Donellan (among others) to take an altogether different view on names. Instead of viewing names as meaningful terms, we are invited to look at them as labeling tools; names are, it is argued, not referring *and* meaningful, they merely serve as labels of objects. In order to determine what is the referent of a name, we do not have to go through a list of properties to see if there is indeed an object that uniquely satisfies them. Kripke proposes that the denoting relation be more direct. He wants to give an analysis of names that makes them entirely non-descriptional.

This view, put forward by Kripke in 'Naming and Necessity' ([Kri80]) has the following outline: In an initial act of baptism, as Kripke calls it, the name is linked to an object. In this sense, intention determines reference. The passing on of a name is this reference-preserving link. Subsequently, one correctly uses a name if one uses it in accordance with other people's use (and here the other people are also thought of as intending to refer to the same object). So, quite simply, one does merely *refer* to an object by using a name, not *mean* anything in addition to this.

It could be 'formally' put as follows:[50] A speaker, using a name 'NN.' on a particular occasion will denote some item x if there is a causal chain of *reference-preserving links* leading back from his use on that occasion ultimately to the item x itself being involved in a name-acquiring transaction such as an explicit

[49] A somewhat different, but related, point is this: if we find out that actually no-one held that all is water, the description theorist would want us to conclude that the name 'Thales' refers to no-one.

[50] cf. Evans [Eva77, p 197].

dubbing or the more gradual process whereby nicknames stick. A speaker S_1's transmission of a name 'NN.' to a speaker S_2 constitutes a reference-preserving link only if S_2 intends to be using the name with the same denotation as the one from who he in turn learned the name (S_1, that is).

The causality involved here is this: at whatever point (in the chain consisting of reference-preserving links) one uses the name, one's use is linked to a certain initial act of baptism; one uses the name in accordance with a general intention to use it to refer to the object the name was first used to refer to. It is causally linked because any use, and any learning of the name, is linked to a previous use, and so on, back to the initial act of baptism.

Of course, intention *does* determine extension (reference). But there is no such thing as a name's *meaning*. On Kripke's view, in order for a name to begin being a name of something, clearly the person who dubs the so-and-so by this name, has an intention to do so. So, in this sense, an individual's intention might be said to be basic to the Causal Theory. We *fix* the reference.[51] The big difference, however, is that names have no *meaning*. Names do not describe some object, they are more like book-keeping devices, enabling us to know what we speak about when we use a name.

This claim, together with Kripke's claim that identity between objects is necessary, has the following consequence: If names are referential and do not have meaning, the idea of viewing names as rigid designators seems plausible. Given some ontological presuppositions (see discussion in previous section) and this view, we can have $\Box(a = b)$[52] for a and b names of objects (since names refer rigidly to one and the same object in every world in which the object exists); we can show that identity statements between objects are necessary. Of course we will have problems when we do not know that a and b refer to the same object, as we will see in what follows.

3.2.6 Drawbacks of the Causal Theory of Names

The theory of direct reference does solve some of the more grave problems of the theory of descriptions. It allows us to give an intuitive account of how names come to start referring, it also gives an account of how names function. However, it has problems of is own. When it comes to passing on a name, or teaching someone who is the bearer of a name, this has to be done by means of a definite description or an ostension. One has to say that 'The bearer of the name 'NN.' is the person such that...'. The difference is, of course, that no-one claims that the name *means* whatever the description states. In addition, to pass on a name, the one who learns the name must have the same (general)

[51] This is what Kripke means in the following passage: "Frege should be criticized for using the term 'sense' in two senses. For he takes the sense of a designator to be its meaning; and he also takes it to be *the way its reference is determined*" (my italics; DD.) [Kri80, p. 59]. Kripke agrees only on the second use.

[52] What we have, really, is $\models a = b \rightarrow \Box(a = b)$; $\Box(a = b)$ follows from the validity of $a = b$.

intentions as the one he learns it from.

However, if we take the Causal Theory to be an alternative to the Description Theory, we need to see exactly what elements of the latter the former deals with.

As I noted earlier, I do not intend to deal with the Description Theory as a theory of *speakers*. Even so, the arguments presented by Kripke, especially, against the Description Theory need to be understood given the following distinction as a background: there seem to be *two* different Description Theories.[53]

- The Description Theory of *speaker's denotation* holds that a name 'NN.' denotes x upon a particular occasion of its use by a speaker S just in case x is uniquely that which satisfies all or most of the descriptions ϕ such that S would assent to 'NN. is ϕ' (or '*That* NN. is ϕ').

- The Description Theory of *what a name denotes* holds that, associated with each name as used by a group of speakers who believe and intend that they are using the name with the same denotation, is a description or a set of descriptions cullable from the beliefs an item has to satisfy to be the bearer of the name.

It must be understood that even though one might defend the Causal Theory, the Description Theory has to be specified and what elements of it that are under investigation should be made explicit. This seems to be what Evans has in mind:

> The strong thesis (that the Description Theorist's conditions are sufficient [the second above; DD.]) is outrageous. [...] It is the weaker thesis –that some *descriptive identification* is necessary for a speaker to denote something– that is important to understand (my italics; DD.).[54]

So, there is some weaker claim made that Evans obviously wants to defend (this claim is that some 'descriptive identification' is necessary for a speaker do denote something). This, he claims, would deal with the weaknesses of the Causal Theory.

Evans does present a series of arguments against the Causal Theory. His first argument is that the Causal Theory (on Kripke's account) takes the notion of context (in name-acquisition) far less serious than it should:

> The Causal Theory [...] ignores the importance of surrounding context, and regards the capacity to denote something as a magic trick

[53] cf. [Eva77, p. 193]. The second of these has some relevance on what Kripke says on descriptions. This topic will be dealt with later in the text.

Another point I will mention here, but not deal with explicitly in the text is that the substitution principle of coreferential names, given the Causal Theory of Names, fails for *some* intensional contexts, notably belief-contexts.

[54] ibid. p. 195.

> which has somehow been passed on, and once passed on cannot be lost.[55]

Evans would claim that, simply, in order to denote at all, one has to rely on a body of information concerning the object one wishes to denote (that, he would claim, is the way in which a *speaker* denotes). It is interesting to note that this argument does not deal with the way in which a name gets its reference fixed (since, it is claimed, the Causal Theory supplies us with the means to use dubbing to lay down a reference). It has, however, to do with how a name gets passed on to other speakers. Now, in order for speaker to use a name, one has to do several things: according to Kripke, one has to keep close to a general intention to indeed refer to the object that the name is used to refer to by those from which one learns the name. This by itself, however, does not rule out that one relies on a misunderstanding of intentions involved, so that the causal chain might turn out to be not so straightforward after all. So, according to Evans, it seems that one must rely on speaker's body of information in the sense that a speaker must intend to refer to an object.[56]

However, I cannot but see that all it takes to actually denote an individual (on Kripke's account) is that one keeps with the general intention of referring to that specific individual. How one does that is a different question; the important thing to note is that in order to denote one specific individual, it is enough to keep in line with the intentions of the one one learns the name from. I cannot see that one would have to keep the context in mind as well. Of course, the context may well serve a great function, but I am not sure whether Kripke could not deal with this. If, for example, context is taken to be the fact that one tries to keep one's use 'in accordance' with other peoples' use, there seems to be no problem for Kripke. According to Evans, however, the problem is that there is some descriptive element involved in a speaker's denoting something, and this element is, it is claimed, necessary.

The main problem Evans sees with Kripke's theory is the strength the latter seems to ascribe to the causal chain:

> [...] he [Kripke; DD.] has mislocated the causal relation; the important causal relation lies between that item's states and doings and the *speaker's body of information* – not between the item's being dubbed with a name and the speaker's contemporary use of it (my italics; DD.).[57]

And the intention to refer to an object x, Evans claims, is depending on the speaker's body of information about x (in the sense that Evans takes some descriptive identification to be necessary for a speaker to denote something). In

[55] ibid. p. 199.
[56] This is what Evans claims to have shown in his 'Louis'-example, [Eva77, pp. 198 – 199].
[57] ibid. p. 204.

this way, Evans so to speak puts the notion of 'causation' to work at another place than Kripke does. Since Kripke allows for (what he calls) a *general* intention, and the nature of this intention is (according to Evans) such that it clearly undermines the (allegedly) non-descriptional character of Kripke's theory, we are presented with an argument against Kripke's (according to himself) non-descriptional theory. According to Kripke, the element of causality involved is such that it makes a big difference between his theory and the Description Theory. Since Evans points out that also Kripke's theory depends on speaker's body of information, which, as it were, is descriptional, Kripke's claim that he proposes an entirely non-descriptional theory is weakened. So, Kripke's theory is 'causal' but in a slightly different way than he intended.

> It is clear that the Causal Theory unamended is not adequate. It looks as though [...] the *intentions of the speakers to use the name to refer to something* must be allowed to count in determination of what it denotes (my italics; DD.).[58]

So in this way, Evans supplies the Causal Theory with what he claims it was short of; an explanation of how intentions matter, and a strengthening of the explanatory powers of the Causal Theory. Also, he supplies the Causal Theory with more explicit explanations of the social character of the Causal Theory (several speakers having the same intentions). On the whole, Evans produces no conclusive arguments against the Causal Theory and in favor of the Description Theory (or some other theory); mainly he polishes the Causal Theory. On this reading, I'd say that he *qualifies* the already existing Causal Theory of Names, rather than offering conclusive arguments against it.[59]

A bit more spelled out, it seems that Evans has found a way in which speaker's denotation is descriptional, and that the claim made by the Causal Theory is undermined:

> We must allow then that the denotation of a name in the community will depend in a complicated way upon what those who use the term intend to refer to, but we will so understand 'intended referent' that typically a *necessary* (but not sufficient) condition for x's being the intended referent of S's use of a name is that x should be the source of causal origin of the body of information that S has associated with that name.[60]

So, instead of S's use of a name being causally linked to an initial act of baptism, it turns out that S's use is causally linked to a body of information that S has about an object. This is still a *Causal* theory.[61]

[58] ibid. p. 202.

[59] If asked, Evans might have said that he indeed offers conclusive arguments against the Causal Theory. I cannot see that he has, however.

[60] ibid. pp. 204–205.

[61] Also Kripke claims that we (may) pass on a name by giving a definite description (see for

3.2.7 Intentions, Reference and Names

In an article by McIntyre on Husserl and the possibility of modeling his theory of perception and intention using something that closely resembles the Description Theory of names,[62] we find an argument that Husserl in some passages claimed that there is a directness about referring that does not rest on particular identifying descriptions.[63]

In order to set the nomenclature: Husserl's noematic Sinn closely resembles Frege's Sense.[64] It is, according to Husserl, the noema of an act of consciousness that accounts for the act's being directed toward a certain object in a particular way. For Frege, as was explained above, it is via a sense that an expression is related to its meaning; for Husserl, it is via a meaning (act-meaning, noematic Sinn) that an act is related to the object it intends. As noted above, the conclusion drawn in the article as to whether a Fregean account can be given as a model of Husserl's theory of intending is answered negatively; it is however interesting to note that Husserl anticipated the Causal Theory by claiming that names refer rigidly (without having the possible world model at hand). The reason for the negative answer was that Husserl encountered the same problems with the connection between Sinn and object as the description theorists between description and object (failure of uniqueness; the fact that we may not know that the description as we use it may refer to another object than the one we intend to refer to; and so on.)

Husserl discriminates between the descriptive 'content' of a Sinn and another component: he calls it the 'determinable X' in the Sinn.[65] Husserl characterizes the X-component by stating that it correlates with the object itself directly rather than via the content of the Sinn. Husserl provides no more explanations on the X-component; however, he discusses a kind of linguistic sense which he takes to be similarly non-descriptive. According to him, the senses expressed by *demonstrative expressions* and *proper names* relate these expressions to their referents 'directly': "not attributively, as the bearer of these or those properties, but without such 'conceptual' meditation, as what [the object] *itself* is, just as perception might set it before our eyes."[66]

Husserl also claims that the reference of names and demonstratives is direct for the reason that a speaker uses these expressions to refer to an object with

example [Kri80, pp. 94 – 95]). So I cannot see that Evans' observations *seriously* undermine Kripke's theory after all. For a related, but somewhat different argument for the position that one can refer without having a body of identifying descriptions in mind, see the following section.

[62]The author concludes that that is actually not possible, [McI87, p. 226].

[63]This is the argument I anticipated in an earlier footnote.

[64]This is claimed by Føllesdal, in "Husserl's notion of Noema", In H. L. Dreyfus, editor, *Husserl, Intentionality and Cognitive science*, pp. 73 – 80, MIT Press, 1987. For reasons of clarity and coherence with the rest of the work, I will in the following take *Sense* to be Frege's Sinn and *Sinn* simpliciter to be Husserl's noematic Sinn.

[65]cf. [McI87, pp. 226 – 227].

[66]ibid. p. 227.

which he is immediately presented in (what he calls) an act of 'intuition,' and it is this immediate intuitional relation to the object, *–rather than the speaker's conception* of the object *or the descriptions he is prepared to give–* that determines which object is being referred to.

> The meaning of both types of directly naming expressions originates in intuition, by which the direction of the naming intentions is first oriented toward an individual object... A person unaquainted with the city Madrid 'itself' [lacks] the meaning peculiar to the word 'Madrid.' Instead of the direct reference, which only an intuition of the city could arouse, he must make do with an indirect indication of this reference, mediated by ideas of characteristic properties and the concept of being called such and such.[67]

So an object directly referred to is simply that object the speaker is now seeing, regardless of any *conception* he may have of it. The object of intention will be referred to, it seems, not only by the phenomenological content of an act (by a Sinn that belongs to the 'internal' character of the act itself), but also by the 'external' fact that a certain object, rather than another, happens to be present in the subject's immediate environment.

The above passages an Husserl's views may be regarded, I think, as a way for Kripke to strengthen his position against the criticism that Evans directs towards it. I do not think they serve as counter-arguments to Evans, but by weakening Evans' claims, I believe Kripke's theory suffers less damage that Evans might have thought.

3.2.8 Some concluding remarks

I think it is clear that the Description Theory of names is weaker and less good as a theory than the Causal theory. As we saw in the previous sections, the arguments against the Description Theory are conclusive. They indeed show that there is no such thing as sense that can cover conceptual representation ($sense_1$), fix the reference ($sense_2$) and be information value ($sense_3$) *at the same time.*

Also, I do not think that Evans' arguments against Kripke are conclusive, at most Kripke might be forced to spell out exactly at what level his theory is causal. However, I do not think that Evans has managed to show that the Causal Theory is not adequate as it stands.

Especially considering the notion of intention involved, I think Kripke does have a reason to maintain his Causal Theory (see section on Speaker Reference and Semantic Reference below).

Finally, as to whether names can be used as identifiers, i.e. to establish identity, my answer will be negative. We can use names to refer, directly as it were

[67]ibid. p. 228.

(names *designate persistently* and *refer directly* in Salmon's terminology introduced above), but not to *establish* that this object is identical to that. Rather, identity between the objects is presupposed in order for names to function the way sketched above.

3.3 Descriptions

Descriptions share with names their denoting function; we use descriptions to denote. However, one can draw distinctions between different uses of definite descriptions: on the one hand we can use descriptions to convey what we believe (rather what we believe the description to refer to), on the other to refer to objects in virtue of their fulfilling certain requirements (this difference will be made clear in the section on Donellan and definite descriptions).

Moreover, the *demonstratum* of a description varies (according to Kripke) with what the speaker who uses the description intends to refer to and believes that he can refer to using the description.

In order to illustrate what Donellan takes to be the way in which descriptions enter the picture in determining reference, he asks us to imagine the following situation:[68] a person gives a set of descriptions and some other persons try to find the object in a room that best satisfies them (this is what Donellan takes to be the rôle of descriptions in the Description Theory of names, since objects are the unique referents of expressions by fit). In another situation, the first person picks up an object, describes it, and only *then* do the rest try to find the object. This allegedly lies closer to the way in which descriptions enter into the determining of reference, if at all; this lies much closer to the way in which we determine reference of a name, and then pass it on by means of a description (given the Causal Theory of names).

3.3.1 Referential and Attributive use of definite descriptions

In his paper "Reference and Definite Descriptions" Donellan makes the following distinction. He charges Russell with not having noticed that definite descriptions can be used in two ways: this he calls the distinction between *referential* and *attributive* use of definite descriptions[69] (according to Donellan, Russell's analysis applies only to the attributive use).

It might prove worthwhile to point out in advance the distinction Donellan makes between attributive and referential use of a definite description in terms of this imagined situation: the first, where people try to find an object that fits a description is the attributive one, whereas the second, where the person describes an object he has in mind, and only then do the others look for it, is the referential use.

[68] cf. [Don70, p. 356].
[69] cf. [Don66, p. 285].

In the *attributive* use of a definite description, the speaker uses the description *essentially*, i.e. he states something about whoever or whatever satisfies the description (and here Donellan agrees with the Russellian definition of there being one unique object which satisfies the description). An example would be 'Smith's murderer is surely insane!' said by someone who is appalled by the bestiality of the murder. The person who utters this, however, need not know who murdered Smith, it is enough that someone did, and judging from the nature of the crime, the speaker concludes that the murderer is insane. Anyone who heard this might (or might not) agree, without knowing who actually *did* murder Smith.

In the *referential* use on the other hand, the description is used as a tool, i.e. the description is only used by the speaker to enable his audience to pick out the unique individual that is the one of which the speaker predicates something. An example would be 'That guy, who murdered Smith, is insane!' said by someone in the courtroom, pointing toward the murderer (or at least the person of whom the speaker believes that he is the murderer, or of whom the speaker believes that his audience believes that he is the murderer). Here, the description is used in a way that enables the audience to pick out one specific individual (that actually might or might not meet the requirements as laid down by the description). In this case it is indeed not difficult to imagine that the guy pointed toward did not commit the crime, but he is nevertheless singled out as the referent of the description in virtue of being the one of which the description supposedly is true.

According to Donellan, the fact that the two uses are, indeed, very different can be shown by thinking of the consequences of there being *no* unique individual who satisfies the description:[70] in the attributive use, if there is no person who is Smith's murderer, the description indeed refers to no-one (the description would identify someone only if Smith indeed *was* murdered.) In the other case, where the description is used referentially, and is thus only a means of "identifying the person we want to talk about, it is quite possible for the correct identification to be made even though no-one fits the description [...] used".[71] Had we said 'That guy, who murdered Smith, is insane!' and managed to point our hearers' attention to a person who did not, as a matter of fact, murder Smith, we could still identify the (allegedly) insane person even though he (strictly speaking) did not meet the requirements of the description (since he did not kill Smith).

Donellan goes on to say that there seem to be two uses of the sentences of the form 'The ϕ is ψ'.[72] In the first case, if nothing is the ϕ then nothing has been said to be ψ (attributive use), whereas in the second, the fact that nothing is the ϕ does not have the consequence that nothing has been said to be the ψ (as in the case where the person who turns out not to have murdered

[70]ibid. p. 286.
[71]ibid. p. 286.
[72]ibid. p. 287.

Smith still can be said to be insane).[73] As he says, "In the referential use of a definite description we may succeed in picking out a person or thing to ask a question about even though he or it does not really fit the description; but in the attributive use if nothing fits the description, no straightforward answer to the question can be given."[74]

So, the referential use of a definite description seems to be in need of clarification; there seems to be room of using a description that actually does not apply to an object just in virtue of picking out that very object as the referent and ascribing properties to it that are not met. Especially, it is interesting to try to establish the degree to which speaker's intentions matter in determining what is the referent of a definite description in referential use. Also, it is interesting to investigate speaker's beliefs (1st order beliefs) and his beliefs about others' beliefs (2nd order beliefs; think of the beliefs of the speaker and hearers involved in referring to an individual that strictly speaking does not meet the requirements of the description used, as in the referential use).

Donellan stresses that only the speaker's intentions are relevant in determining whether the description is used attributively or referentially. If the speaker intends, that is, to merely point his audience's attention toward a specific object, that is all there is to it:

> [...] the referential/attributive distinction and the presence or absence of speaker reference should be thought of as based on such speaker intentions toward his audience or the lack of them – not on whether the speaker believes or not about someone or something that he or it fits the description.[75]
> Let us say that a definite description is uttered in a 'referential context' when speaker reference exists relative to it. So far, all this will mean is that the speaker intends to refer to something and intends his audience to recognize his reference in part through having used that definite description (which seems to be a *partial* account of how beliefs determine the referent of a referentially used definite description; DD.). [...] Similarly, a definite description will be uttered in an attributive context when speaker reference relative to it is absent.[76]

He does not pay the same amount of attention to if and to what degree other considerations have influence on determining what use is being made; e.g. whether or not the speaker believes that an individual object *actually satisfies* the semantic requirements of a description has no bearing on determining which

[73]Here it might also briefly be noted that the attributive use of a definite description can be written on the following form: $\psi(\iota x\phi(x))$ (since the object has to be uniquely singled out and have this-and-that property).

[74]cf. [Don66, p. 287].

[75]cf. [Don79, p. 30].

[76]ibid. p. 32.

use is being made (this is quite clear from the first quotation). Kripke, on the other hand, pays some more attention to this.

3.3.2 'Speaker's Reference' and 'Semantic Reference'

As a reaction to the above errors (as he takes them to be), Kripke in his paper "Speaker's reference and Semantic reference" ([Kri79]) makes yet another distinction; that between *speaker's reference* and *semantic reference*. These distinctions carry on what Grice means by the difference between *the meaning of the words a speaker uses* and *what the speaker means in using those words*.

Semantic reference is what the semantical conventions of a certain idiolect assign as the referent to a specific expression. (We might, in order to illustrate, think of what object the referent of some name is.)

Speaker's reference is taken to be that which the speaker intends the description to be used to refer to (it should be noted that Kripke wants the distinction to apply to names too, not only descriptions).[77] The speaker's reference of a referring expression is that which the speaker *wants to refer to* (i.e. intends) by using the expression and of which the speaker in addition *believes* fulfills the requirements of being the semantic referent of the expression. (The speaker's referent may not be the semantic referent since the speaker's belief that the designator he uses is the semantic referent might well be false; i.e. he might have a false belief concerning what actually fulfills the *semantic* conditions. Also, it is important to note that the notion of speaker's reference is understood in terms of semantic referent not only in that the speaker's referent is what he intends to refer to by using the semantic referent, but also that he believes this to be the case.)

According to Kripke, "[...] in a given idiolect, the semantic referent of a designator (without indexicals) is given by a *general* intention of the speaker to refer to a certain object whenever the designator is used. The speaker's referent is given by a *specific* intention, on a given occasion, to refer to a certain object."[78] Moreover, Kripke's idea is that his distinction between *specific* and *general* intention should substitute the distinction Donellan makes between attributive and referential uses of a definite description (following the qualification Donellan makes in [Don79], we have that the referential use of a definite description is the one where speaker's intentions are present, and the attributive when they are not. Along these lines it seems we could speak of speaker's reference, when speaker's intentions exist, and semantic referent (only) when they do not).[79]

Also, having a different view on the speaker's intention, Kripke does not accept Donellan's claim that all there is for a speaker to refer is to *intend* to

[77] cf. [Kri79, p. 15].

[78] It should be noted that this is in accordance with what Kripke calls 'the general intention' involved in using a name.

[79] Thus we read that "...Donellan's 'attributive' use is nothing but the 'simple' case, specialized to definite descriptions, and [...] the 'referential' use is, similarly, the 'complex' case."([Kri79, p. 15]).

refer to a specific object; he must also *believe* that the object actually is the referent of the expression he uses to refer to it.

It should also be noted that we can see here a way for Kripke to avoid some of the impact of Evans' arguments: since he takes the above distinctions (between speaker's and semantic referent) to hold also with regard to names, in the 'simple case' as he calls it (the case in which a speaker wishes to refer to the semantic referent of a name using that name) the speaker's intention *coincides with* the general intention (whatever the name refers to in a certain idiolect); so *if* there is a way in which names generally refer, a speaker's having an intention that coincides with the general intention (to refer to the object that is the semantic referent of a name) is enough to guarantee that he uses the name correctly. In short, he uses a name, say 'Jones', to refer to Jones.

In the complex case, the speaker has an intention which is different from the general one, but he believes that his intention actually determines the same object as the one determined by the general intention (Kripke's example is that the speaker wants to refer to the man 'over there' and he believes that he *is* Jones). So in this case, speaker's reference and semantic reference are distinct.

This sheds some light on the question that was still left open about Donellan's referential use of a definite description; Kripke's distinction explains the difference between what the speaker believes to be the object that satisfies the description (the speaker believes that the object he has in mind is the semantic referent of the description in his idiolect), and the object that actually satisfies the semantic reference. Merely intending does not do the job.

There is a question as to how a speaker can intend to refer to an object he is not familiar with; for example if someone uses a name for the first time, it seems he cannot but intend to refer to whatever the general intention gives as the referent. So, in this case, speaker's reference does not seem to apply to begin with; if speaker's reference is allowed into the picture, it seems to be parasitic (on this instance) on semantic reference. This is in accordance with what Kripke wants (the examples he gives seem to be presupposing that speakers have already used names and therefore know the semantic referent of an expression; however, in these 'primary' cases, I think what I say above would be in accordance with what Kripke would say on the topic.)

However, some problems remain. There are other cases, where it seems that speaker's reference *does* determine semantic reference. Donellan gives us some examples: it seems that a speaker can use indeterminate descriptions followed by definite descriptions. Without wanting to go into too much detail, we have a case of anaphorical links; an object is introduced by an indefinite description, such as 'A man walked into my office' followed by a definite description, such as 'The man (or he) tried to sell me an encyclopedia' where, it seems, the audience can keep track of who is being talked about in the second sentence. However, whoever is the referent of the second description depends only on who is the referent of the first; and since we are dealing with an indefinite, it is only the intentions of the speaker to speak of a specific individual that matter in determining who is being talked about. In order to do this, we must allow for speaker's reference to determine semantic reference (the indefinite *and* definite descriptions taken together).

These later cases constitute an argument against Kripke's claim that speaker's reference does not determine semantic reference, since in these cases the dependency seems rather to be the other way around.

3.3.3 Some concluding remarks

It does seem that Donellan's analysis is not exhaustive in itself. Indeed, the referential use of a definite description needs to be clarified. If we consider Donellan's claims that we should basically look for speaker's intentions, and if they exist we would have a 'referential context' and if not we would (presumably) have an attributive context, and note that Kripke's arguments are mainly against Donellan's referential use, I think the following conclusions can be drawn:

- Kripke's distinction between speaker's reference and semantic reference can not substitute Donellan's between attributive and referential. Rather, Kripke's distinction could be applied to Donellan's referential use alone. So, we are left with attributive use of definite descriptions, referential use with speaker's reference and referential use with semantic reference, respectively.
- A better account of the rôle of belief is given by Kripke, both speaker's beliefs and speaker's beliefs about his hearer's beliefs.

It should be noted that Kripke can argue against Evans using his account of the simple-complex case case of speaker's intention. In the case where a speaker wishes to refer to an object by using a name, his intention to do so coincides with the general intention (to refer to the object that is the semantical referent of the name.)

Considering the question which one of speaker's and semantic reference determines the other, I do not think we can say that it is either one way or the other. There seem to be cases in which speaker's reference determines semantic reference, and other cases in which the opposite holds. This seems to be a very interesting topic for future research.

Finally, as to whether we can establish identity using definite descriptions, I think we can answer positively. Identity statements can, even though necessary (names are rigid designators), still be informative. Consider the following statement:

Phosphorus is Hesperus

Even though names are rigid designators and the above expresses a necessity, the statement is informative. Descriptions, although contingent, are also informative. Consider:

The inventor of bifocals is the first Postmaster General of the USA[80]

On Kripke's view, these two descriptions uniquely identify one individual, namely Franklin. It might well have been the case that Franklin was not the inventor of bifocals or the first Postmaster General (this accounts for the contingency of the statement); still, the statement is informative.

3.4 Indexicals

Indexicals are expressions like 'I', 'you', 'here', 'now', 'today' and so forth. They call for a special treatment in semantics.

3.4.1 Frege on Indexicals

The first systematic treatment of indexicals was given by Frege. In "Thoughts"[81] he observes that sentences containing indexicals expressions (like 'now', whose referent changes with the occasion of utterance), in order to express the same (unchanging) thought, must be thought of in these terms: first, such a sentence does not express a 'complete thought', i.e. it needs a specification of time of utterance to determine its truth value (an incomplete thought is not a thought at all, it is neither true nor false), therefore the time of speaking is also part of the expression of the thought. So, for Frege, an indexical sentence completed with an indication of time and other important aspects is enough to determine a thought and hence a truth value. In addition, Frege claims that an indexical sentence, if supplemented with indication of time of utterance and thus expresses a complete thought, has an unchanging truth value. Sentences may contain indexical terms, but thoughts never do.

The analysis is not complete, however; what we need for an expression containing a temporal indexical would be that the unchanging meaning of the indexical term be a function that carries us from context of utterance to a point in time. This, however, is not a Fregean sense and cannot complete the thought. Senses carry us directly to references, not from contexts to references, as we would want for indexicals. In addition, the referent of a temporal indexical, i.e. a point in time, cannot complete the sense of a sentence containing it; for as we have seen, according to Frege, an indefinite number of senses correspond to each referent; there is no way back from a referent to a sense.

3.4.2 Kaplan's theory of direct reference

The major treatment of indexicals is that of Kaplan.[82] The most important aspect of his theory is that indexicals are, as he say, *directly referential*; that is,

[80] cf. [Kri80, p. 98].
[81] See [Fre77b].
[82] See [APW89].

they function in a way that provides us in each context of utterance a referent without the mediation of a Fregean sense.

The notion *direct reference* needs to be explained:[83] By this, Kaplan does not mean that directly referential expressions do not have meaning or descriptive content. The conventional meaning of '*I*' gives us the speaker for every context, but its extension is not something to be settled by the circumstances of evaluation,[84] rather in a certain context used, a directly referential term will have its content determined by that context, whatever the circumstances (rigidity, according to Salmon's terminology).

Second, that a term is directly referential does not mean that the referent is part of the linguistic meaning, only that the object referred to determines what the proposition expressed is, rather than the other way around. Against Frege he thus claims that there is, indeed, a way back from reference to sense.

Kaplan distinguishes between two aspects of meaning for indexicals: *character* and *content*. Content is a function from circumstances of evaluation to extensions. A content is *fixed* or *stable* if it is a constant function; names, for example, have a stable content. Character is the function that determines the content in different contexts of utterance, it captures what may be called the 'meaning' of indexicals. So we have that the meaning of 'I' is a function, whose value is a for contexts of utterance in which a is the speaker (character) and the *content* of 'I am sitting' in such contexts is a function whose value is the singular proposition that a is sitting for such contexts.

Nonindexical terms have, according to Kaplan, a stable character, but their content may vary, whereas indexicals have a non-stable character, but a stable content. *Given* a context of use, indexicals refer to the same individual regardless of circumstance.

Kaplan distinguishes *pure indexicals* (like the expressions discussed above), expressions whose referents are determined by linguistic rules, from *demonstratives*, expressions that require a –usually non-linguistic– demonstration, like pointing, in order to determine the referent or demonstratum.[85]

Following Kaplan[86] we can see how we can give an account of sense in a possible worlds framework: "I will call the function which assigns to a time and a possible world the truth value of a given [...] sentence at that time in that world the *meaning* of the given sentence. The meaning of a sentence is what a person who is linguistically competent grasps, it is common to all utterances of the sentence, and it is one of the components which goes into determining the *content* of any particular utterance of the sentence. The *content* of an utterance

[83]cf. [Lee94, p. 1650].

[84]An example to illustrate this: the sentence 'One day you will be greatful for what I do now' is true at time t_0 if *you are grateful for what I do now* is true at some later time t_1. But *now* should refer, not to t_1, the circumstance of evaluation, but to t_0, the context of the utterance. [Lee94, p. 1649].

[85]And for this reason I treat indexicals first and demonstratives second.

[86]cf. [Kap79a, p. 393].

is that function which assigns to each possible world the truth value which the utterance would take if it were evaluated with respect to that world." We see here that Kaplan's notion of 'meaning' strongly resembles Frege's notion of 'thought', in that Kaplan's 'meaning' is what a linguistically competent person *grasps*, just as we *grasp* Fregean thoughts.

The analysis Kaplan gives is very powerful, however Perry is not entirely satisfied with the account given of the content of an utterance.

3.4.3 Perry on Indexicals

There are two different forms an answer to the question 'Why does term t designate object a?' may take (Perry here considers languages that do not contain indexicals):[87]

- (i) The meaning of t associates it with a certain mode of presentation C, and (ii) a is the object that satisfies C, or
- The meaning of t associates it directly with a.

Perry calls the first of these *denoting* and the second *naming*.[88] In addition, regarding the content of a statement, there seem to be two different accounts; if we think of the two sentences below

- Jim was born in Lincoln.
- The manager of Kinko's was born in the capital of Nebraska.

We see that the proposition expressed by the first is a singular proposition about Jim,[89] as it were, whereas what is expressed in the second is a general proposition[90] about being the manager of Kinko's and being the capital of Nebraska (and we can easily imagine the two sentences being true in different words). So, Perry takes it that the first way of denoting is *referring* (which holds for the way names denote) and the second is *describing* (which holds for descriptions).[91] If we look at only definite descriptions and names, the two distinctions coincide. Definite descriptions *denote and describe*, whereas names

[87] cf. [Per94, pp. 6 – 7, electronically available version].

[88] Note the similarity of the first to a Fregean Sinn and the similarity of the second to Kripkean rigidity of names.

[89] It is a proposition about Jim himself and about Lincoln itself, rather that any descriptions or attributes of them. It may well of course be that Jim is named Jack and Lincoln is named Arkansas, but as long as Jim was born in Lincoln in a possible world, then the proposition is true in that world.

[90] Since the second expression states something about the manager of Kinko's, whoever that may be (it varies from possible world to possible world) and the capital of Nebraska, that may likewise have been any city, not necessarily Lincoln.

[91] ibid. p. 8. With this terminology, we can also say that names, on Frege's and Russell's accounts, denote and describe, rather than name and refer (remember that names according to Frege and Russell were something like hidden definite descriptions).

name and refer. But, Perry claims, if we think of indexicals, the distinction is needed. His claim is that indexicals are like descriptions in that they denote, but like names in that they refer.

Perry sees a problem with what he claims is an over-simplified account given by Kaplan for the content of an utterance:[92]

> A problem that underlies the simple picture of meaning and content is now going to come to the surface. The problem is that the concept of 'truth-conditions of an utterance' is a *relative concept*, although it is often treated as if it were absolute. Instead of thinking in terms of *the* truth-conditions of an utterance, we should think of the truth-conditions of an utterance *given* various facts about it. And when we do this we are led to see that talking about *the* content of an utterance is an oversimplification.[93]

And he carries on to give an account of three different kinds of content in the account of indexicals, that correspond to three different kinds of facts one might take as fixed in assessing truth-conditions:[94]

- The $content_M$ of an utterance corresponds to the truth-conditions of the utterance given the facts that fix the language of the utterance, the words involved, their syntax and their meaning.[95]
- The $content_C$ of an utterance corresponds to the truth-conditions given all these factors, plus the facts about the *context* of the utterance that are needed to fix the designation of indexicals.
- The $content_D$ of an utterance corresponds to the truth-conditions given all of these factors, plus the additional facts that are needed to fix the *designation* of the terms that remain (definite descriptions in particular, but also possessives etc.).

In order to understand where exactly the different notions of content play a rôle, Perry claims that $content_M$ is a *cognitively relevant content* (this links it with $sense_1$ discussed above). As we saw earlier, the meaning of an indexical (or a sentence containing indexicals) provides a condition on utterances. According to this, we move from this condition to the $content_M$ of an utterance by filling the parameter of that condition with the utterance itself. So these propositions are propositions about utterances. The $content_M$ is *not* the 'official' content of a sentence, but it is very important in order to understand what a speaker means

[92]Assume the model outlined in the account of Kaplan's theory.

[93]ibid. pp. 22 – 23.

[94]ibid. p. 25.

[95]Given the assumption that names *name* rather than refer (in Perry's terminology), we see that the designata of names are fixed at this level.

when he utters a sentence.[96] According to Perry, it is a *cognitively relevant* content.

As regards $content_C$, we note that the $content_C$ of an utterance like 'I want to shake your hand' is the same as 'DD. wants to shake your hand', since they express the same singular proposition. But if I were to express the second and not the first to someone whose hand I indeed wanted to shake, he might ask me 'Oh really? Where is he?'. The difference between those two sentences, then, according to Perry, come out at the level of $content_M$.

Perry produces two arguments to show that $content_M$ is *not* the 'official' content of an expressions. The first (Perry calls it the 'samesaying argument') is this: as outlined above, $content_M$ is a proposition *about* sentences, so the $content_M$ of 'You are a philosopher', said to me by my Mother, is the same $content_M$ as that of 'DD. is a philosopher', said by my Mother to someone else. But, surely, the two sentences express quite different contents: the $content_M$ of the first is a proposition about the sentence itself, whereas the $content_M$ is a singular proposition about me (since names name, rather than denote, their designation is fixed by their meaning). So it seems that it is the *individual designated* by the sub-utterance 'you' (in this case, me) that makes the $content_M$ the 'official' content of the first sentence, and not the condition of being the addressee of the sub-utterance 'you' in the first sentence.

The second argument Perry calls the 'counterfactual circumstances argument'. In order to understand this, we are asked to keep in mind what Kaplan stresses is the difference between *what is said by the utterance* and *the conditions under which an utterance is true*.[97] Suppose that my Mother, when she uttered 'You are a philosopher' was not talking to me, because I had walked out of the room, but to my Sister, who had just walked in. In this circumstance, her utterance would have been false, since my Sister is a dentist. But what she *actually* would have said is true, since she was talking to *me*. The proposition expressed by her utterance then would have been true, even if, when my Mother uttered it, she was talking to my Sister.

And as a consequence of these arguments, we see that the official content of the utterance 'You are a philosopher' uttered under those circumstances is a singular proposition about me. As a proposition it would, according to Perry, be true even if uttered toward someone else than me, who is not a philosopher.

So which corresponds to 'official' content, $content_C$ or $content_D$? Remember that $content_C$ corresponds to truth-conditions with the *contextual facts fixed*, whereas $content_D$ corresponds to truth-conditions with *all* the facts that de-

[96] We should note that Perry re-introduces the notion of reflexivity in the analysis of indexicals, a notion Kaplan claimed that Russell and Reichenbach wrongly used. For example, on Perry's account, the condition of designation for the indexical 'I' (used in an utterance u) is 'u designates x iff x is the speaker of u'; the designation of 'now' is, likewise, 'u designates t iff $\exists x$(x is the speaker of u & x directs u at t during part of t)' [Per94, p. 20].

[97] cf. [Kap89].

termine designation of terms fixed.[98] The answer to this question depends, according to Perry, on whether we think of definite descriptions as referring or describing.[99] If they refer, then they contribute the objects they designate to official content; *content*$_D$ is then the right answer. If they describe, then *content*$_C$ is the right answer. Considering that Perry takes definite descriptions to have only the function Donellan calls 'referential', he claims that the correct answer is in fact the first, that *content*$_C$. However, since I have reached no conclusion on whether Donellan's distinction should be maintained (I do find it plausible that it should, with some qualifications), I leave the subject here noting that in order to reach a conclusion, one would have to look into what changes on Perry's theory would be called for keeping the distinction in mind.

3.5 Demonstratives and Demonstrations

Kaplan, starting with noting that Frege claimed that we can view pointing as a form of describing, and wanting to do the opposite; namely viewing describing as a form of pointing, wants to supply Donellan's analysis of definite descriptions with yet another element he claims it is short of: we can use descriptions *demonstratively*, i.e. according to him, since descriptions have a non-constant *content*,[100] if used in a descriptive way, behave like demonstratives, that do have a constant content. In this light, demonstratives provide the proposition of which they form part with an object instead of an intension (the description's content) as Donellan's analysis would have it.

Also, to be able to uphold a strict distinction between general and singular terms, Kaplan wishes to change the classical view for a more refined one: "[...] some or all of the denoting phrases used in an utterance should not be considered part of the content of what is said but should rather be thought of as contextual factors which help us interpret the physical utterance as having a certain content."[101] This accounts for the motivation behind his character-content distinction.

On Kaplan's analysis, the (for Donellan 'primitive') notion of *intended demonstratum* (what Kripke calls the speaker's referent) should be further analyzed; I may use a definite description referentially and there can still be a question as to whether I have managed to convey anything about my intended referent. Donel-

[98] So the *content*$_C$ of the definite description 'The person born in such-and such a place at such-and-such a time is male' is not a singular proposition about whoever happens to fit the description; the *content*$_D$ of the same description *is* a singular proposition about that person.

[99] cf. [Per94, p. 29, electronically available version]. Perry, however, does not keep Donellan's distinction between referential and attributive use of a definite description in mind. As he says, "I have accepted the traditional account of definite descriptions as describing". It is an interesting area for future research to investigate into what consequences maintaining Donellan's distinction (or an elaboration on it) would have for Perry's theory.

[100] See the sections 'Possible world framework', "Sense' in a possible world framework' and 'Perry on Indexicals', respectively, for a discussion of 'content'.

[101] cf. [Kap79a, p. 389].

lan's analysis rests with claiming that a referential use of a definite description always involves speaker's intention, however, as an example of Kaplan's shows, this is not always so (see below).[102]

Donellan takes it that the demonstratum should be the intended demonstratum. However, Kaplan points out that we may fail to refer to an object we intend to refer to through no *linguistic* error; if we use his 'dthat' operator, an operator which he defines as the *demonstrative use of 'that'*[103] we do not make this mistake.[104] On Donellan's account (where the demonstratum is to be taken to be the *intended demonstratum*), it is fully possible to point to an object I intend to point to, but it may well have been switched to another object. For example, I might say '*dthat* is a picture of one of the greatest philosophers of all times' pointing to a painting behind me, where, usually, the face of Frege is depicted, but now someone has put another picture, of, say, Superman, in its place.[105]

Kaplan uses this operator to extend, as he says, Frege's insights: he notices that if we were to incorporate all linguistic phenomena that require demonstrations, such as 'this' and 'that', into a Fregean analysis with a sense and a denotation, some important features of them would get lost.

So, in order to be able to capture these features, we should use some kind of demonstrative operator. Pointing towards an object is, according to Frege, describing it. Kaplan now claims that describing it is pointing it out. If this is so, we can use the sense of a proposition to fix the denotation:

> [...] our demonstrative analysis of demonstrations need not, indeed should not, deny or even ignore the fact that demonstrations have both a sense and a demonstratum. It is just that according to the demonstrative analysis the sense of the demonstration does not appear in the proposition. Instead the sense is used only to fix the demonstratum which itself appears directly in the proposition. I propose now to do the same for descriptions. Instead of taking the sense of the description as subject of the proposition, we use the sense only to *fix the denotation which we then take directly as subject component of the proposition* (my italics; DD.).[106]

As noted above, Kaplan makes a distinction between what he calls *pure*

[102]ibid pp. 395 – 396.

[103]ibid. pp. 390 – 391. So a transcription of Donellan's sentence (in the referential use) 'Smith's murderer is insane!' would be, using the *dthat*-operator, 'dthat[pointing at the person of whom the speaker believes he is Smith's murderer] is insane!'. This turns the sentence into a *singular proposition* about the alleged murderer.

[104]This is made explicit in the following passage: "I will speak of a *demonstrative* use of a singular denoting phrase when the speaker intends that the object for which the phrase stands be designated by an associated demonstration." (ibid. p. 389).

[105]ibid. p. 396.

[106]ibid. p. 392. We note that this is in accordance with the thought that only $sense_2$ (as described in the section 'Different notions of sense') is used in a referential theory of names.

indexicals and demonstratives, that require an *act* of –usually non-linguistic– demonstration, like pointing, in order to determine their referents. Since, according to Frege, an object can be demonstrated in different manners (giving different descriptions, as it were), a demonstration may be seen as *a manner of presenting a demonstratum.*[107]

To sum up: following Donellan's analysis of referential and attributive uses of definite descriptions, Kaplan recognizes an additional *demonstrative* use of definite descriptions. He introduces the operator '*dthat*' to capture this use. This operator turns a description (or an arbitrary singular term) into a directly referring expression. The singular term then functions as the demonstration of the demonstrative *dthat*, so the demonstratum is the denotation of that singular term in that context.[108] This has the following effects:

- $a = dthat[a]$ is logically true for any singular term a. The identity statement simply says that the object is the object pointed towards.
- Necessarily ($a = dthat[a]$) is not true, however; in a given context, descriptive terms may under different circumstances refer to different objects, while the referent of $dthat[a]$ remains the same.
- Logical truth (truth in all contexts of utterance, a matter of *character*) can be distinguished from *necessary truth* (truth in all circumstances, thus a matter of *content*). What's more, Kaplan identifies content with the object of thought (Frege's 'thought expressed') and character with cognitive significance. So, identity statements such as $dthat[a] = dthat[a]$ and $dthat[a] = dthat[b]$ may express the same thought, while differing in cognitive significance.[109]

3.6 Indexicals and Demonstratives – Concluding Remarks

In the above section, we have seen an account of how the treatment of indexicals can be included in a possible worlds semantics, and also how we, drawing on Donellan's distinctions, can use demonstratives to, indeed, refer directly using a definite description (with the help of a non-linguistic activity of pointing).

[107]See the section 'Sense, Reference and Thoughts' for an account on what Frege means by this.

[108]We can think of $dthat[a]$ for a an object as an intensional operator that rigidifies any singular term, or as an incomplete demonstrative, whose associated demonstration is not itself part of the content ([Lee94, p. 1650]).

[109]We can illustrate this by means of the following: '*dthat*[pointing at the morning star] is identical with *dthat*[pointing at the evening star]'. This expresses a true content on some possible occasions of use, and a false one on others (true if you indeed point to the same heavenly body, false otherwise). But it is not contingent (it is *necessarily* true or *necessarily* false), so here we have an example of necessary identity-utterances being informative.

This section is concluded with the observation that Kaplan's treatment needs an expansion, which is what Perry does with his three different accounts of *content*; $content_M$, $content_C$and $content_D$, respectively. Also, we note that indexicals simpliciter (not demonstratives) *are not* fit to establish identity, since they refer to different objects depending on context, but demonstratives *are*, as can be seen from the following examples:

- '*dthat*[pointing to Hesperus] is beautiful' is a singular proposition about Hesperus; it is clear what object is being talked about.
- '*dthat*[pointing to Phosphorus] *is identical to dthat*[pointing to Hesperus]' is informative, although a necessity (since identity-statements are necessary).
- $dthat[a] = dthat[b]$ expresses the *same thought*, but it differs in cognitive significance.

4 Conclusions

As the reader has surely noticed, phrases like 'is', 'is the', 'is the same as', 'is equivalent to', 'refers to the same as', 'means the same as' and so forth, have been extensively used throughout the present work. It has been my ambition to state things as clearly as possible with the goal as spelled out in the introduction, that of establishing the (degree of) powers of identifiers, kept in mind at all times. After a brief summary of the work, I shall proceed to characterize the different linguistic tools I have examined, and then state the answer to the question I set out to investigate.

4.1 Brief Summary

As was initially noted, any outcome of this work depends to a high degree on what ontological presuppositions one makes. After having argued that realism (on a minimal account, incorporating only the principle R1) has certain consequences for the theory of identity and for identity statements more generally, I proceed to investigate four different categories of linguistic tools: names, definite descriptions, indexicals and finally demonstratives.

As far as names go, it is my view that the Causal Theory states a good account of how they function. The theory can meet most of the criticism directed towards it. In addition, it serves as a good example of a theory opposed to the Description Theory of Names, which I claim can not meet the arguments that the Causal Theory directs towards it.

Definite descriptions have, on Donellan's account two uses; the referential and the attributive. However, as Kripke argues, the referential use can be further analyzed along the lines of speaker's beliefs and intentions. He proposes that the distinction he makes between speaker's reference and semantic reference respectively, should substitute Donellan's distinction. This does not hold, however; what is rather called for is a division of definite descriptions into Donellan's attributive use and the two referential uses; one involving speaker's reference, the other semantic reference. It seems we are left with *three* uses of definite descriptions.

Indexicals are the prime example of why the intensional systems developed using a possible worlds semantics are stronger than the preceding accounts. Kaplan gives an account of indexicals that is improved by Perry. However, because of the way the function, they cannot be used to establish identity

Demonstratives are a special case of indexicals; used together with an ostensive act, they seem to be neatly fit for establishing identity.

So, in short, the conclusion of this thesis is that definite descriptions and demonstratives can be used to establish identity, whereas names and indexicals cannot.

4.2 Open Questions

No work of this limited scope can purport to be extensive. However, I hope that I have answered a satisfactory number of questions. For those problems I have not dealt with extensively, I will, after having said something more about them, propose directions that the interested might go in and also, for each of these, suggest some reading included in the bibliography.

There are some questions merely touched upon in the previous. It would be very interesting to see what other, different ontological presuppositions would render as plausible of what has been said. Also, as far as the distinction between speaker's reference and semantic reference (concerning definite descriptions), and which determines which is concerned, an account that would take speaker's beliefs into account formally would be of interest. Finally, what effects taking these different distinctions into account while treating indexicals (Perry treats descriptions as quite simple and straightforward) would have also needs to be looked into. All of these topics are, unless there has been some work done that I do not know of, left for future research.

For a formal treatment of the ideas in Donellan's "Speaker reference, descriptions and anaphora" (especially the idea on anaphora) one might look at "Dynamic Predicate Logic" by Groenendijk & Stokhof ([GS91]) and for an elaboration on these ideas "Predicate Logic with Anaphora" by Dekker ([Dek94]). For an intensional system incorporating coreference and modality, the interested might look at "Coreference & Modality", by Groenendijk, Stokhof & Veltman ([GSV96b] and also [GSV]). For an account of contextually restricted quantification within such a system, look at "Coreference and contextually restricted quantification" ([GSV96a]).

For the topics not covered in this thesis: for some formal treatment on presupposition (as Donellan notes in [Don66, p. 285], "[...] the use of a definite description does carry a presupposition or implication that something fits the description"), look at "Presupposition" by Beaver ([Bea96b]). For some ideas on the problems raised in *identification and context*, look at "Context and Identity" by Dekker ([Dek]).

Finally, for an introduction to and overview of the topics discussed in this thesis and much more, look at "Logic, Language and Meaning", both volumes ([Gam91a], [Gam91b]).[110]

[110] I wish to thank my supervisor, Martin Stokhof, for his help, patience and for having showed me a healthy and admirable attitude toward philosophy. In addition, I want to thank the following people (for various reasons): David Beaver, Paul Dekker, Johannes Flieger, Sara Gras, Jeroen Groenendijk, Michiel Leezenberg, Gianluca Storto, and (PG Club).

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