Indexicals and Belief Reports

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In accordance with Regulation 8 of the General Reulations for the M.Phil. Degree (one-year course) I declare that this thesis is substantially my own work. Where reference is made to the works of others the extent to which that work has been used is indicated and duly acknowledged in the text and bibliography.

Signed .....
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Abstract

Problems with the semantics of belief reports, typified by Frege's Puzzle, are the source of the most serious objections to the theory of Direct Reference. Kaplan's work on indexicals hints at a reply to these objections based on his notion that belief is mediated by the characters of linguistic expressions. However his account is only successful in explaining belief reports which involve indexicals – it fails to explain a large class of puzzling reports which contain proper names. In this dissertaion, I argue that there are good reasons for supposing that names are indexicals and show that using this thesis, we can extend Kaplan's solution to Frege's Puzzle to many more belief reports.

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Contents

ALICE: One can't believe impossible things.

THE QUEEN: I daresay you haven't had much practice. When I was your age, I always did it for half-an-hour a day. Why, sometimes I've believed as many as six impossible things before breakfast.

–Lewis Carol, *Alice in Wonderland*

Chapter 1

Frege's Puzzle and Direct Reference

While proponents of theories based on Direct Reference have given strong arguments in support of their thesis that the semantic contents of names and many other referring expressions are just the objects which they denote, Frege's Puzzle about belief reports still constitutes a serious objection. This dissertation examines the problems posed by Frege's Puzzle to theories of Direct Reference and the various attempts which have been made by its proponents to answer these challenges. After showing that none of these accounts offers a complete solution to Frege's Puzzle, I then suggest a new account, based on the thesis that ordinary proper names are indexicals. My account provides a satisfactory semantic theory for names and belief reports.

Why Names?

That this rather technical semantic project – making sense of belief reports containing names and other referring terms – is relevant to the History and Philosophy of Science is not immediately obvious. There are three important ways that a semantic account of names and belief reports can impact both branches of this field. First, historians often have to make sense of and accurately interpret both names and belief reports in their sources. What does a name in the context of a thirteenth century source refer to? How should a historian report the beliefs and other propositional attitudes of a person who lived in a context where a name had a different referent than it does now? How can she accurately

convey information about such beliefs in different contexts? All of these questions hinge on a semantic account of names. Second, we need a theory of names to understand scientific practice. Kripke's example of the noun 'metre' referring to a bar in Paris (Kripke 2001) illustrates how a theory of names affects science. Before 1963 – the year when the metre was fixed to an abstract descriptive value given by the distance travelled by a photon in a vacuum in a particular time interval – the term 'metre' literally referred to the length of a particular hunk of metal *not* to some abstract length. Though scientists may not have thought of the metre in this way before 1963, on closer inspection they would have had to admit that to say that a certain distance was x metres was to say that it was equivalent to certain number of metre bars. The accepted scientific unit for mass, the kilogram, is currently defined as the mass of another hunk of metal in Paris. Like the metre bar, which varied with temperature, the piece of metal whose mass is one kilogram has changed with time. Recently, its mass has measurably decayed compared to other standard masses; a development which has major implications for a wide range of scientific practices. Not only is the kilogram a shifting quantity but other standard units (*e.g.* that for force) are defined in terms of it so a change in the kilogram has a huge impact on many kinds of measurement in science (Pohl 2003). From these examples, it should be clear that the semantic mechanisms of naming and names have direct implications on the precision of scientific results and more broadly, on the epistemology of scientific knowledge. Third, though this point will not be discussed much more in this dissertation, a semantic account of names is often used as a foundation for handling a more complex class of terms: natural kinds. Like the terms 'metre' and 'kilogram', natural kind terms such as 'water' and 'gold' play a key role in the sciences.

Some Terms

The terms 'semantics', 'proposition', and 'indexical' used above may not be clear. A *semantic account* is a theory which assigns propositions to natural language sentences, where a *proposition* is an entity which has a truth value with respect to a possible world.[1] Seman-

[1]This loose functional definition of propositions lends itself to many different instantiations; we could take them to be, quite literally, sets of metaphysically real possible worlds. Or, we might characterise them more abstractly, as structures which are true in a formal system with respect to a certain abstract description of the state of affairs. I will not assume or rely on a particular metaphysical definition of a proposition beyond claiming that they have the role implied by the above description.

tics is to be distinguished from *pragmatics*, a field whose goal is to characterise a broader class of meaning beyond the literal. A *possible world* is a complete description of a state of affairs.[2] Taking these definitions together, we see that the task of a semantic account is to characterise complete expressions as being literally true or false, with respect to a possible world. Such an account is most useful when it is *compositional*; that is, when the semantic content of a complete sentence – a proposition – is composed of the semantic contents of the sub-components of the sentence. A standard way to accomplish this is to treat semantic contents in the following way. The content of a sentence is a proposition. The contents of other terms (*e.g.*, names and descriptions) are either the objects they denote or properties which with respect to a particular possible world determine a referent. Still other terms, for instance attitude verbs such as 'believe', have contents that denote relations between other kinds of content.

An *indexical* is a referring term whose referent varies with context. Standard examples of indexicals are 'I', 'here', and 'now' (Kaplan 1989b). Referents for these indexicals are determined by linguistic rules which determine the entity that they denote in each context. For example, 'I' refers to the speaker or the agent of the context. Similarly 'here' refers to the spatial location of the context. A special class of indexicals are *demonstratives* – terms whose use requires a completing 'demonstration' in order to determine a referent. Characteristic demonstratives include 'that' and 'he'. A use of 'that' is usually accompanied by a pointing gesture or other indication of the object that the agent of the context wishes to pick out and similarly for 'he' (in order to indicate the male person in the context that the agent wishes to refer to). Thus, demonstratives are indexicals whose referents are determined by a special contextual feature – either the intentions of the agents who uses them or by some indicators like pointing gestures.

Frege's Puzzle

Frege noticed that the same object can be represented linguistically by many types of terms. For example, the same person can be denoted by several different names, and a potentially infinite number of definite descriptions. One might think that the meaning of a name is just the object that it denotes. But this view of names leads to counterintuitive results when we apply it to belief reports.

[2] As with propositions, I take no position on their metaphysical status.

As an example, consider Ahmed Aldo Faisal. Born in Germany, AAF[3] is known to his friends in Germany by the name 'Ahmed'. When he came to Cambridge to do a PhD in Zoology he, for no particular reason, decided to tell people that his name was 'Aldo'. AAF's Cambridge friends deny the sentences

(1) Ahmed is a member of Emmanuel College

(2) Ahmed lives in Room 13, Park Lodge

but believe the veracity of

(3) Aldo is a member of Emmanuel College

(4) Aldo lives in Room 13, Park Lodge

and more pointedly, will assent to both

(5) Ahmed is Ahmed

(6) Aldo is Aldo

but will deny that

(7) Ahmed is Aldo.

Meanwhile AAF's German friends assent to the sentences that the Cambridge friends deny while denying the sentences that the latter assent to.

The problem that Frege discovered stems from the fact that that if the meaning of a name is just the object that it denotes, then the sentence pairs (1) and (3), (2) and (4), as well as the triple (5), (6) and (7) all semantically express the same propositions:

(8) $\langle \text{AAF}, \text{is a member of Emmanuel College} \rangle$

(9) $\langle \text{AAF}, \text{lives in Room 13, Park Lodge} \rangle$

(10) $\langle \text{AAF}, \text{AAF}, = \rangle$

respectively. Consider belief reports containing sentence pairs such as (1) and (3):

[3] I will use 'AAF' to refer to Ahmed/Aldo when I mean to refer to him *directly* without implying anything about the various name that a particular person calls him by.

(11) Christoforos believes that Ahmed is a member of Emmanuel College

(12) Christoforos believes that Aldo is a member of Emmanuel College.

These two belief reports relate the same person (Christoforos) under the same relation (believing) with the same proposition (8). From this it follows[4] that they express the same proposition:

(13) ⟨Christoforos, ⟨AAF, is a member of Emmanuel College⟩, belief⟩.

Yet Christoforos, who only met AAF in Cambridge, believes (3) but disbelieves (or withholds belief from) (1). He would say that, (12) is true but (11) is false. The problem is that both belief reports express Christoforos's belief of the same proposition and so on the view that the content of a name is its referent, the content of both belief reports is just (13). Either our intuitions are wrong and the sentences (11) and (12) express the same proposition with the same truth value, or else the intuitions are correct and Christoforos is in the position of both believing and disbelieving the same proposition. Both options are problematic; the first because we have strong evidence that our intuitions about the belief reports are correct. Christoforos would assent an utterance of (3) and would assertively utter it. From this it seems highly likely that he believes it, implying that (12) is true. Similarly, Christoforos does not believe (because he would not assent to nor assertively utter it, etc.) (1), so (11) is false. Our intuitions about the belief reports involving Christoforos are strong so we must grapple with the second option – that Christoforos both believes and disbelieves the same proposition. If belief is a simple relation between agents and propositions, then this too seems to be a serious problem. How could Christoforos be rational, yet be in a state of believing both that AAF is a member of Emmanuel College and that he is not?

Frege's solution to the puzzle is to deny the premise that the content of a name is just the object that it refers to. Instead, he suggests that the meaning of a name is given by its *sense* which, according to Frege, is 'wherein the mode of presentation is contained' (Frege 1948, p. 212). This view is motivated by the following observation. AAF can be represented by several different proper names as well as by many descriptions. Moreover, these descriptions, whose semantic content is a property, are *intensional* entities. That is,

[4] I am assuming a näive interpretation of belief as a two-place relation between agents and propositions for now.

their meaning is not exhausted by the objects which fall under them. For example, the descriptions

$$D_1 \stackrel{\text{def}}{=} \text{the } x : x \text{ is the only son of Farhad}$$
$$D_2 \stackrel{\text{def}}{=} \text{the } x : x \text{ is the current resident of Room 13, Park Lodge}$$

happen to pick out the same object, AAF, in the actual world but differ in extension in various other possible worlds.[5] Descriptions thus include not only a mechanism for determining a referent but also a mode of presentation which distinguishes the meaning of two distinct though co-referential descriptions. Frege thought that by equating the meanings of names with senses, equivalent to descriptions or classes of descriptions, he could provide a solution to his puzzle about belief.

In order to see how Frege's solution works, consider the following sentence

(14) Christoforos believes that the only son of Farhad is a member of Emmanuel College.

This sentence contains an embedded clause which relates the only son of Farhad and Emmanuel College in the membership relation. However, unlike the above examples containing the names 'Ahmed' (12) and 'Aldo' (11), we have no problem seeing why Christoforos could be rational and simultaneously believe (12) and disbelieve (14). The difference is that while we might think that (11) and (12) express the same proposition, clearly (14) expresses a different one; namely:

(15) $\langle$Christoforos, $\langle D_1$, is a member of Emmanuel College$\rangle$, belief$\rangle$.

Frege thought that this technique could be used to explain seemingly puzzling belief reports like (11) and (12). Rather than taking the meaning of the names 'Ahmed' and 'Aldo' to be the person they denote, AAF, Frege claimed that the meaning of a name (*i.e.*, its semantic content, or what it contributes to the propositions expressed by sentences containing it) is its sense. Senses can be identified with descriptions such as D_1 and D_2; distinct names often have different senses. From this claim, it follows that the belief reports (11) and (12) should be analysed, not as expressing the proposition (13) but as expressing two distinct propositions:

[5] For example, they differ in a possible world exactly like this one except that AAF lives in Room 12 instead of 13. A similar example is used in my (Foster 2002).

$\langle S_{\text{Christoforos}}, \langle S_{\text{Ahmed}}, \text{is a member of Emmanuel College}\rangle, \text{believes}\rangle$

$\langle S_{\text{Christoforos}}, \langle S_{\text{Aldo}}, \text{is a member of Emmanuel College}\rangle, \text{believes}\rangle$

where for each name n, the S_n is its sense.

Direct Reference

For much of the twentieth century, Frege's solution was widely accepted as a plausible answer to belief puzzles. Alas, the arguments of Barcan Marcus (1961), Kripke (2001), and Kaplan (1989b) have offered strong evidence that the Fregean solution is wrong. Instead, they claim that the contents of names, and other similar referring terms are just the objects themselves. This evidence is most clearly formulated by Kripke and Kaplan. Kripke's modal argument claims that treating names as synonymous with descriptions results in propositions whose truth values do not square with our intuitions about modal concepts like necessity. Rather than focusing on what names contribute to the propositions expressed by sentences containing them, Kaplan's arguments focus on the mechanisms of reference and thus, how the contents of names are injected into the propositions (Marti 2001, pp. 163-164).

Kripke: Rigid Designation

Kripke's argument against descriptivist semantic accounts of names focuses on the modal truth conditions that they give for the propositions expressed by sentences containing names. For example, suppose that the sense of 'Aldo' were equivalent to the definite description

(16) The x such that ... and x is the only son of Farhad ... and x is a member of Emmanuel College and ...

Then the sentence

(17) Aldo is a member of Emmanuel College

expresses a necessary truth. If we replace the occurrence of 'Aldo' with the definite description, (16), then we obtain

(18) The x such that ... and x is the only son of Farhad ... and x is a member of Emmanuel College and ... is a member of Emmanuel College.

But any expression of the form

(19) The x such that $D_1 \wedge$ ... $\wedge D_i \wedge$ ... $\wedge D_n$ is D_i

is necessarily true. From this, it follows that

(20) $\Box$ (Aldo is a member of Emmanuel College)

is true. But surely it is a contingent fact that Aldo matriculated at Emmanuel and not at some other college, or indeed that he came to Cambridge at all! Thus, following Kripke's argument, allowing the property of being a member of Emmanuel College to be a part of the meaning of the name 'Aldo' results in propositions with absurd modal truth conditions. This modal argument can be replayed on any non-essential property of the object denoted. Kripke concludes that the meaning of a proper name cannot contain any descriptive property; instead, names are *rigid designators*. That is, they are terms which denote the same object in any possible world where the object exists (Kripke 2001, p. 275).

Further support for Kripke's claim that names are rigid designators is given by the 'story' that he offers about how names refer. According to his causal account, a name first gains its reference in an 'initial baptism' or 'dubbing ceremony' when sign and object are associated with each other, possibly using a definite description in order to identify the object. The name is then 'spread from link to link as if by a chain' as it is transmitted and learned by various language users (Kripke 2001, p. 281). Thus, for each competent user of a name, there is a causal chain going back to the object itself.

Importantly, though the person who performs the initial baptism, or a person who acquires the use of the name somewhere further down the chain may associate various descriptive properties with the object denoted, these descriptions are not part of the semantic content of the name.[6] Speakers can use the name to refer to the object even in possible worlds where the object does not have any of the descriptive properties commonly associated with it by certain speakers. This causal story further illustrates the mechanisms by which name and object bind together 'rigidly' and adds further weight to Kripke's argument against descriptivism.

[6]They are at most pragmatic implicatures. This point will be elaborated when the accounts of Salmon and Soames are described in Chapter 2.

Kaplan: Direct Reference

Kaplan's arguments against a Fregean theory of names takes a different tack. Rather than solely examining the contents that names contribute to propositions, Kaplan focuses on the *mechanisms* by which names and indexicals refer. According to Kaplan, a term is *directly referential* if 'the relation between the linguistic expression and the referent is not mediated by the corresponding propositional component' (Kaplan 1989a, p. 568). Note that Frege's senses are decidedly *not* directly referential – if the meaning of a name is given by its sense, equivalent to some description, then in order to determine the object denoted one must examine the proposition first, and find the object which satisfies the description. The object itself does not appear as a member of the proposition. A directly referential term has the opposite behaviour: rather than first going through a sense to obtain a referent, devices of direct reference are 'loaded into the proposition ... before the proposition begins its round-the-words journey' (Kaplan 1989a, p. 569). That is to say, that names and other directly referential terms contribute only their referents to the propositions expressed by sentences containing them.

The intuitions which motivate this view are easiest grasped by considering indexicals. Kaplan offers two arguments in support of the claim that indexicals are devices of direct reference. The first is similar to Kripke's modal argument against descriptivism. Suppose that we identified the meanings of indexicals with their Fregean senses (again, equivalent to some description). Then, Kaplan claims, the propositions that our semantic account would give for sentences containing indexicals would have incorrect truth conditions. For example, the descriptive sense of the indexical 'I' would have to be something like the description

(21) The x : x is the speaker or agent of the context.

Now consider the sentence

(22) I do not exist.

Replacing the occurrence of 'I' with its descriptive sense, we obtain

(23) The speaker or agent of the context does not exist.

If this sentence had the same propositional content as (22), then the proposition expressed would

> be true in a circumstance of evaluation if and only if the speaker (assuming there is one) of the circumstance does not exist in the circumstance. Nonsense! If *that* were the correct analysis, then what I said could not be true (Kaplan 1989b, p. 498).

There is a sense in which all uses of (22) are false. But that is not to say that the proposition *semantically expressed* by (22) is necessarily false. If, for example, my parents had not met, then it might be true that I would not exist; hence, my existence is a contingent fact. Clearly, taking indexicals such as 'I' to be equivalent to a descriptive sense results in propositions with incorrect truth conditions in many situations.

The second and more fundamental intuition behind Kaplan's claim that indexicals are directly referential results from considering the mechanisms of reference for indexical terms. Consider the attitude report

(24) Max wishes that John were here by now.

Our intuitions suggest that the referents of the terms 'here' and 'now' refer to the context of utterance of (24) and not to Max's location and time in the context where he has certain desires about John's location. For example, if (24) were uttered by Rohit, in a context where he has just spoken to Max via the telephone, then Rohit's utterance is meant to assert that Max wishes that John were at Rohit's current location, not Max's location. Kaplan claims that examples like these show that the referents of indexicals are determined with respect to their context, not as mediated by the truth values of propositions at various alternate possible worlds. In this respect, indexicals are like free variables, which have no descriptive or other content within a proposition other than the objects that they are bound to under an assignment (Kaplan 1989a, pp. 571-573).

Regarding proper names, Kaplan agrees with Kripke's claim that they are rigid designators. However his account goes beyond Kripke's insofar as he shows *why* proper names are rigid. Names, for Kaplan, are just devices of direct reference whose reference is fixed for all contexts. That they are rigid designators is merely a semantic property which holds in virtue of their being directly referential (Kaplan 1989b, p. 493). A directly referential term, such as a proper name, is a rigid designator (in that it denotes the same object in every possible world) because it injects the object itself into the proposition. At any possible world where it is evaluated, the proposition contains the same object (Kaplan 1989b, p. 497). The interesting semantic property for Kaplan is not merely that they refer to

the same object in every possible world, but rather why the semantic mechanisms which govern their reference make it so.

The Residue of Frege's Puzzle

The common theme which emerges from the theories of Kripke, Kaplan and others is that names and indexicals refer without first going through a Fregean sense; instead, the terms are directly referential or rigid designators. It follows that the semantic content of a name (or indexical) is just the object that it denotes and that the proposition expressed by a sentence containing a name (or indexical) is true with respect to a particular possible world if and only if the sentence expresses a property or relation which holds for the object at that world. From this claim, it is easy to see that any two sentences which differ only in an occurrence of a co-referential name will express the same proposition because each name contributes the same object. Returning to our example with AAF, on the theory of Direct Reference, the sentences (1) and (3) both express the proposition (8). Thus, Frege's Puzzle remains a serious problem for accounts based on Direct Reference. As Soames writes: 'If it weren't for propositional attitudes, direct reference would probably be uncontroversial' (Soames 1989, p. 393).

By denying that the meaning of names (and indexicals) is given by a Fregean sense, the proponent of Direct Reference resurrects Frege's Puzzle. The standard objection to Direct Reference goes as follows (this formulation is based on Braun's, see *e.g.*, (1998, p. 561)):

(25) The semantic content of a name or indexical is just the object that it denotes.

(26) Sentences such as (1) and (3) (that Ahmed/Aldo is a member of Emmanuel College) differ only in the occurrence of a co-referential name; from (25), it follows that they express the same proposition:

$$(8)\langle \text{AAF, is a member of Emmanuel College} \rangle$$

(27) Sentences such as (11) and (12) express Christoforos's belief in the propositions expressed by (1) and (3); from (26) these sentences the same proposition. It follows that the (11) and (12) express Christoforos's belief in the same proposition.

(28) Christoforos is a reflective, rational agent who, being at least minimally rational would not believe of the same proposition P that it is both true and false.

(29) The belief report (11) is false while (12) is true. From (27), these reports express Christoforos's belief in the same proposition. It follows that there is a proposition, (8), such that Christoforos believes that it is both true and false.

The contradiction – that Christoforos is rational, yet fails the minimal condition of rationality – shows that that semantic accounts based on direct reference fail to give accurate truth conditions for sentences which express attitudes such as belief of agents towards the propositional content of other sentences.

Looking Ahead

Frege's Puzzle remains an open problem for theories based on Direct Reference. In Chapter 2, I examine the various attempts that have been made by proponents of direct reference to explain where the above objection based on Frege's Puzzle goes wrong. In Chapter 3, I describe a new solution to this puzzle which starts with the thesis that ordinary proper names are indexicals. Finally in Chapter 4, I anticipate some objections to my account and describe some ideas for future investigations.

Chapter 2

Attempts at a Solution

Many attempts have been made to repair the basic theory of Direct Reference so that it gives a satisfactory account of belief reports. In this chapter, I briefly describe three of these attempts and hint at some of the problems with each. In what follows, I will use the following sentences to describe and evaluate these accounts:

(1) Ahmed is a member of Emmanuel College.

(2) Aldo is a member of Emmanuel College.

(3) Christoforos believes that Ahmed is a member of Emmanuel College.

(4) Christoforos believes that Aldo is a member of Emmanuel College.

As in Chapter 1, assume that Ahmed/Aldo is known to Christoforos only by the name 'Aldo'. The challenge to direct reference theories is to explain how (1) and (2) could express the same proposition while the belief reports (3) and (4) differ in truth value. More specifically, if Christoforos is a rational, reflective agent, the theories must explain why accepting the semantics of direct reference seems to imply that he would both believe and not believe the same proposition.

The Pragmatic Solution

The first account I will describe is that of Salmon and Soames (Salmon 1986; Soames 2002). Their approach is to deny that the propositions expressed by (3) and (4) differ in truth value. Rather, Salmon and Soames hold that the two belief reports semantically express the same proposition: one relating Christoforos and

(5) ⟨AAF, is a member of Emmanuel College⟩

under the belief relation. Instead of trying to identify a semantic fact which distinguishes the two belief reports, Salmon and Soames resolve the puzzle at the pragmatic level. In what follows, I will use Soames's more recent work to explicate their account while highlighting the differences with Salmon when they arise.

Soames's explanation of puzzling belief reports is based on a distinction between the semantic content of a linguistic expression and the pragmatic information which is conveyed by it.[1] *Semantic content*, for Soames, is the literal meaning of an expression. He identifies content as the information that a competent speaker would intend to convey with an utterance of the expression (in all contexts where all ambiguous names and indexicals have the same referents as in the context of utterance) (Soames 2002, pp. 105-106). In many situations, a speaker who utters a sentence S will express and assert more than the mere semantic content of S. This richer meaning Soames identifies as the pragmatic *information conveyed* by S. To make these notions of semantic content and information conveyed more concrete, consider the following conversation:

John: Is Johanna coming to dinner?

Scott: She hasn't finished her exams yet.

John [to Matt]: Scott said that Johanna was not coming to dinner tonight.

The semantic content of Scott's utterance is a proposition which asserts that Johanna has not yet finished her exams. Pragmatically, however, it conveys something much richer: namely that Johnanna is not coming to dinner tonight because she is busy studying for her exams. John's report to Matt of what Scott said is correct in that it conveys the information

[1] A similar description of this distinction appears in my (Foster 2003).

that Scott meant to convey with his utterance even though it is literally false in that it claims that Scott said something that he did not.

Soames claims that our intuitions about belief reports often stem from pragmatic and not from semantic considerations. By carefully distinguishing between semantic content and information conveyed, Soames provides an explanation as to why the objection outlined at the end of Chapter 1, and briefly reviewed at the start of this chapter, seems puzzling. The semantic contents of (3) and (4) are identical because they only differ in an occurrence of a co-referential name. Therefore, they are true at exactly the same possible worlds. It is incorrect to say that Christoforos's belief report (3) is false if (4) is true – they express the same proposition which is either true or false with respect to a possible world. The confusion over these cases, Soames argues, stems from the fact that one of the belief reports pragmatically conveys much more than its content.

Salmon and Soames offer three possible types of pragmatic information that might be a part of this stronger proposition conveyed. First, Soames claims that speakers often associate descriptive information with certain names, even though those descriptions are not a part of the contents of the names (Soames 2002, pp. 210-222). For example, we might say that the belief report

(6) Hammurabi believes that Phosphorus is visible in the evening

is literally true because Venus is visible in the evening but that it conveys something misleading because it implies that Phosphorus, commonly described as the heavenly body visible in the morning, is visible in the evening. Many speakers would associate this additional description with the name 'Phosphorus'; thus, the belief report implies that Hammurabi believed of Phosphorus that it satisfied the property of being visible in the morning and of being visible in the evening. This stronger report is false and is only pragmatically conveyed by the belief report. Similarly, an utterance of (3) might imply that Christoforos believes of Ahmed that he satisfies some additional description, and that he is a member of Emmanuel College.

A second type of pragmatic data that could be used to explain why some belief reports are misleading is based on the fact that the metalinguistic implicatures of belief reports imply stronger propositions than their mere contents (see *e.g.*, Salmon (1986, p. 118) and (1998, p. 564)). For example, the belief report (3), though literally true implies something stronger. That is, that Christoforos believes that there is someone called 'Ahmed' who is

a member of Emmanuel College. Christoforos does not know anyone named 'Ahmed', hence he disbelieves this stronger metalinguistic proposition.

The third and most general type of pragmatic data that Salmon and Soames suggest is based on the notion that belief is not just a two-place relation between believer and proposition believed. Instead, belief is mediated by a way of grasping a proposition. On this view, simple belief reports such as (3) should be analysed as

(7) $\exists w.\mathsf{BEL}(\text{Christoforos}, \langle \text{AAF, is a member of Emmanuel College} \rangle, w)$

where w stands for a way that an agent can come to believe a proposition such as (5). The explanation which follows from this modification to the naïve view of the belief relation is that utterances of belief reports often pragmatically imply stronger propositions which include information about w, the way that the proposition is grasped by the believer. The information about the ways that an agent believes a proposition which are implied pragmatically could be almost anything: a Fregean sense, a descriptive bit of information, or a metalinguistic datum.

Problems with the Pragmatic Solution

I will briefly describe one objection to the Pragmatic Solution, due to Pelczar and Rainsbury (1998). Consider the sentences

(8) I know that I am here now

and

(9) I know that I am in Cambridge at 5.49PM.

If the semantic content of (8) is the same as that of (9), then the proposition that they express – relating me and being in the knowledge relation with a certain proposition about my location and the current time – is true in the same set of possible worlds. But there are clearly many possible worlds where I know that I am here now but where I am unaware of the exact time and my exact location. For example, if instead of being at a known location in my room with a clear view of the clock, I had been kidnapped and were currently sitting blindfolded in my room, then I could know that I am here now but not that I am in Cambridge at 5.49PM, even though both express something true. As Pelczar and Rainsbury write, if the Pragmatic Solution is correct,

> to have knowledge of the current time, one would simply have to bear in mind that the current time is always "now". This would appear to deprive watch-makers of a livelihood (1998, p. 303).

Obviously the semantic content of (8) could not be the same as that of (9) because to insist, as Salmon and Soames do, that they are the same admits accept absurd truth conditions for sentences which express knowledge claims.

My own intuition is that the pragmatic reply, while perhaps consistent, answers the challenge posed by Frege's Puzzle by changing the rules of the game. If it is a genuine puzzle about semantics then we should seek a semantic solution. What Salmon and Soames have discovered at the pragmatic level is perhaps merely a reflection of the underlying semantic machinery which determines the contents of belief reports. If we are successful in finding an account which resolves the tension between Direct Reference and Frege's Puzzle on purely semantic grounds, then we should prefer it over the Pragmatic Solution.

Mediated Belief

Many of the attempts aimed at rescuing theories based on Direct Reference from the problems posed by Frege's Puzzle treat belief as a mediated relation. On this view, agents do not interact with propositions directly; rather, they do so via certain ways of *grasping* propositions. Hence, sentences $\ulcorner X$ believes that $S\urcorner$ and others containing the attitude verb 'believe' should be mapped onto a three-place relation[2]

$$\mathsf{BEL}(x, p, w)$$

which relates x (the referent of X), p (the semantic content of S) and w (a way that x interacts with, and comes to believe p) under BEL (the relation of believing). The strategy for solving Frege's Puzzle which follows from this framework identifies ways of grasping propositions such that sentences such as (3) and (4) are mapped onto instantiations of BEL with the same x and p but with distinct ws. This idea appears to go back at least as far as Schiffer (1981, pp. 50-55).

[2]Or even a four-place relation if time is taken into account; I will ignore it in this work.

Schiffer's Hidden Indexical Framework

According to Schiffer's more recent work, the most promising formal framework for solving Frege's Puzzle appeals to the three-place belief relation and the existence of a 'hidden indexical' condition on the ways of believing (Schiffer 1992, p. 500-503). This view is more readily grasped formally. Hidden indexical accounts map belief reports such as (3) onto propositions in this way:

(10) $\exists w.[\phi(w) \wedge \mathsf{BEL}(\text{Christoforos}, \langle \text{Aldo, is a member of Emmanuel College} \rangle, w)]$

In plain English, (10) is true if and only if there exists a way of believing w such that w satisfies the condition ϕ and the BEL relation holds between Christoforos, the proposition

$$\langle \text{Aldo, is a member of Emmanuel College} \rangle$$

and w. The key term in this formula is ϕ – the hidden indexical. It is hidden, because ϕ, the condition on the way of grasping the proposition believed is not explicitly mentioned in the belief report; it is indexical because the conditions that a ways of grasping w must satisfy vary from context to context. An example of a ϕ might be that Christoforos thinks of Ahmed in a certain specified way. In Fregean terminology, this would be under a certain mode of presentation; for example, ϕ could be the metalinguistic condition that Christoforos is acquainted with the person that his belief is about under a name he knows him by – a condition which AAF, under the name 'Ahmed' fails to satisfy.

Schiffer's hidden-indexical framework is a useful formal device for understanding many of different ways that proponents of Direct Reference have tried to adapt their accounts to handle Frege's Puzzle. In what follows, I will use it as a conceptual tool in order to explain the remaining accounts.

Linguistically Enhanced Propositions

As a first attempt at finding a suitable way of believing, w, to fit in the third slot of Schiffer's BEL relation, one might claim that propositions are believed under their linguistic representations. On this view, the truth values of belief reports involving sentences such as (1) or (2), depend on the words of the sentence itself, not just their propositional content. On this view, the reason that Christoforos believes the second sentence but not the first

is that the sentences differ. Christoforos's beliefs are mediated and differentiated by the different linguistic representations of the single propositional content.

Soames gives a series of strong arguments against the view that linguistically enhanced propositions can provide a solution to Frege's Puzzle.[3] Rather than restate Soames's arguments here, I will quickly present some of the main criticisms with reference to his longer critiques. First, Soames notes that a semantics which assigns linguistically enhanced propositions to sentences fails 'to have accomplished the fundamental task of giving interpretive truth conditions for object language sentence' (2002, p. 151). That is to say, a semantics which assigns propositions to belief reports which includes conditions on the representation of the original sentence believed requires another level of interpretation in order to make sense of the linguistic information embedded with the proposition. A second critique is that these accounts fail to explain instantiations of Frege's Puzzle where the two belief reports do not differ in the linguistic expression believed. Kripke's example involving Peter's two beliefs that Padrewski (his next door neighbour) is a talented musician and that Padrewski (the prime minister) is not a talented musician is such an example. If the same man is Peter's neighbour and the prime minister then we cannot use the words of the sentence to distinguish Peter's contradicting beliefs that 'Padrewski is a musician' is both true and false (Kripke 1988). Third, accounts which embed linguistic expressions within the propositions expressed by them can run into difficulties when expressions in different languages are considered. For example, the sentence in French

La neige est blanche

and English

Snow is white

express the same proposition relating neige/snow and blancheur/whiteness. If linguistic expressions are a part of the propositions expressed by belief reports, then belief reports in different languages express different proposition which may lead to counterintuitive results (Soames 2002, pp. 156-159, 165-166). From these critiques, it seems that mediating belief by including linguistic expressions themselves in the contents of belief reports is not a good solution to Frege's Puzzle.

[3]The actual views he critiques suppose that the propositions believed are enhanced with linguistic expressions, not that the contents of belief are ordinary singular propositions mediated by distinct ways of believing w. But this view is an equivalent presentation of the same concept. For simplicity, I will stick with Schiffer's framework.

Kaplan's Character

Kaplan's work on indexicals provides a novel approach to solving Frege's Puzzle. Our entry point to his work is through sentences containing indexicals. Consider the following sentences, as utterered by Karl as he sits in the college chapel:

(11) I am here now

(12) Karl is in the chapel at 8.47PM.

Kaplan claims that these sentences have two different kinds of meaning. The first, their *content* is just the proposition that they express in their context of use. Two sentences (or expressions) have the same content if and only if they have the same truth values (or extensions) at the same possible worlds. The content of indexical-free sentences is as expected: the content of (12) is a proposition relating Karl, the chapel, and the time 8.47PM under the relation of 'being spatially located at'. Sentences containing indexicals have contents that vary with respect to context. For example, any utterance of (11) has the content relating the agent of the context, the spatial location of the context, and the temporal instant of the context under the relation of being spatially located at. In a context where Karl is sitting in the college chapel at 8.47PM, both sentences have the same content because the referents of the terms in (11) are identical to those in (12). Content, according to Kaplan, can be modelled as a function from possible worlds to extensions (Kaplan 1989b, pp. 500-505).

Indexicals also have a second kind of meaning, their *character*. An indexical such as 'I' picks out a different person in different contexts of use. Similarly, a sentence containing an indexicals such as (11) has a different content when used in different contexts. The character of a linguistic expression is an amalgamation of all of the different contents that an expression can have. As content is modelled as a function from possible worlds to extensions; similarly, character can be modelled as a function from contexts of use to contents. The role that character plays in the semantic account is in explaining both competence and the cognitive significance of expressions. First, competent speakers know the character of the expressions that they use. For example, a competent speaker of English will know that 'I' refers to the speaker or agent of the context. Following from this, the significance to a competent speaker of a linguistic expression is given by the way that it is presented, its character. The significance of (11) is different than the significance of (12) because they

differ in character.

The distinction between content and character can be used to solve Frege's Puzzle by treating character as a sort of mode of presentation (Frege) or way of believing (Schiffer) propositional content. Consider Karl's utterances of (11) and (12). There is a sense in which these sentences are true or false; in the actual world, they are both true because in the actual world of their context of use, Karl is located in the chapel at 8.47PM. For the sentence containing indexicals, the meaning which determines its truth value is its content not its character. In order to determine if it were true empirically, we would not examine its character; rather, we would go to the chapel and see if we found Karl there at the appointed time. That is, we would check if its content is true in the actual world. From examples like this, Kaplan concludes that the objects of our beliefs and other propositional attitudes are contents. When we form attitudes to the propositions expressed by certain sentences, the sense in which these attitudes are to entities which are true or false is explained in terms of their contents.[4] However, the significance of our attitudes towards linguistic expressions is captured by character (Kaplan 1989b, pp. 529-540). For instance, the significance of (11) is different from (12) because the first expresses a true content in any context whereas the second, being indexical free[5] has the same content in any context and so has a completely trivial character – a function which for any context, has the same content.

One variation of Frege's Puzzle is as follows. Karl has been kidnapped, blindfolded, and placed in the college chapel. At precisely 8.47PM, he utters the following two sentences:

(13) I believe that I am here now

(14) I believe that Karl is in the chapel at 8.47PM.

In this context, Karl believes (11), and so (13) is true and yet disbelieves (12) and so (14) is false. Therefore, Karl both believes and disbelieves the content:

(15) $\langle$Karl, is in the chapel at 8.47PM$\rangle$.

[4]In this formulation, I implicitly take for granted that cognitive content is propositional. This claim is far from accepted; on the contrary, there is a rich literature on the nature of cognitive content. However, as I have taken no particular stance towards the metaphysical status of propositions, other than to use their associated terminology as a conceptual tool in my project, I hope that this assumption will not be especially problematic.

[5]On Kaplan's account, this sentence is indexical-free. As I will argue, the proper name 'Karl' may be construed as an indexical; hence, this sentence would have a non-trivial character.

The familiar objection is that Karl is a rational being, hence he would not be in the position of both believing and disbelieving the same proposition. Alas, Kaplan's account says that he is in the same relation to both contents, therefore the account must be false. The answer which Kaplan offers to this objection is that belief is a mediated relation; in particular because the minimal condition for competence in a language is that the agent know the character of expressions, an agent can be competent without knowing the content of an expression in some contexts. Even though in some contexts the content of (11) and (12) are the same, Karl can believe that content under the character of one sentence but not the other. For example, if he is a competent speaker, then he knows that the character of 'I' is such that it always denotes the agent of the context, 'here' the location of the context, and 'now' the instant of the context. Solely by knowing the character of (11) and without any contextual information, Karl can infer that it is true. In contrast, the character of (12) is a constant function – for any context it presents the same content. When he is blindfolded, Karl is not in possession of the knowledge about the world that he would need in order to determine if the proposition is true. Thus, he is in no position to have an attitude regarding the veracity of it and so he withholds belief from it. In this way, Kaplan's notion of belief under a character can solve some instantiations of Frege's Puzzle involving indexicals by explaining how an agent can come to believe and disbelieve the same proposition when it is presented under different characters.

Kaplan's Solution in Schiffer's Framework

Formulating Kaplan's solution within Schiffer's hidden-indexical framework is straightforward. Kaplan's character plays the role of the way of believing a proposition, w. The indexical condition on w, ϕ, is just the property of being the character of the expression used in the context.

Problems With Kaplan's Account

Kaplan's account provides a reasonable solution to instantiations of Frege's Puzzle when indexicals are a part of the belief reports. It is unable, however, to handle the simple cases where the reports include ordinary proper names. Kaplan claims that for proper names character, content, and referent 'collapse' (1989b, p. 562). If the character of a proper name collapses to a single constant function which always presents the same content

(which itself for any possible world is just the object denoted), then character cannot play the role of distinguishing between true and false belief reports as in (3) and (4). According to Kaplan, the names 'Ahmed' and 'Aldo' have the same character and the same content; it follows that the character of the sentences (1) and (2) is the same and so, the belief reports express the same proposition. The next chapter explains this limitation to Kaplan's solution in more detail and suggests a new solution based on the thesis that proper names are indexicals.

Chapter 3

A Solution to Frege's Puzzle

The most promising approach to solving Frege's Puzzle within a broader semantic account based on Direct Reference is Kaplan's notion that belief in the semantic content of an expression is mediated or presented by its character. But while Kaplan's account seems capable of solving Frege's Puzzle when indexicals are involved, for belief reports which contain proper names, it fails to explain where the objection based on Frege's Puzzle goes wrong. As in previous chapters, in what follows, I will make use of the following sentences:

(1) Ahmed is a member of Emmanuel College.

(2) Aldo is a member of Emmanuel College.

(3) Christoforos believes that Ahmed is a member of Emmanuel College.

(4) Christoforos believes that Aldo is a member of Emmanuel College.

The problem with extending the notion of belief under a character to reports involving proper names, such as (3) and (4) is that according to Kaplan, for proper names character, content, and referent 'collapse' to just the object denoted (Kaplan 1989b, p. 562). On his account, both (3) and (4) express the same relation of Christoforos with the proposition

(5) ⟨AAF, is a member of Emmanuel College⟩

because the two belief reports only differ in an occurrence of a co-referential name. The contribution of both 'Ahmed' and 'Aldo' to the content of the sentence believed in the belief report is just the object denoted, AAF. The character of the two names is no help either – Kaplan's 'collapse' means that it is the same trivial function which when applied to any context is AAF.

The motivation behind my claim that names are indexicals should be clear. If instead of supposing that for names character, content, and referent 'collapse' we instead treat them as indexicals, whose referent varies from context to context, we can extend Kaplan's notion of belief under a character to belief reports involving proper names. In this chapter, I first argue that names are not merely ambiguous or context-sensitive expressions – they are genuine indexicals. Second, I describe in more detail the way that belief is mediated by the character of the expression believed, in a context. Third, I apply this account to a number of classic instantiations of Frege's Puzzle. Finally, I show how my account differs from a recent account also based on the idea that names are indexicals (Pelczar and Rainsbury 1998).

Names as Indexicals

The starting point for treating names as indexicals is uncontroversial; anyone will accept that proper names are ambiguous. In some contexts the names 'Aldo' and 'Ahmed' denote AAF; however, in many other contexts, they denote people other than AAF. A common trick which simplifies the semantics of ambiguous terms such as names or words like 'bank'[1] is to assume that before semantic analysis begins, the ambiguous terms have been individuated. For example, a sentence like

Xiao deposited his cheque in the bank

is analysed into

Xiao deposited his cheque in the bank_1

whereas in

Rohit pushed Max off the bank and into the Cam

[1] The term 'bank', of course, can refer to either a monetary institution or the edge of a river.

the occurrence of 'bank' is analysed as a different token, '$bank_2$'. This lexical sleight-of-hand is a fine semantic idealisation, but in a complete account, it cannot be retained; we cannot simply stipulate that ambiguous terms are disambiguated before semantic analysis begins without some clue as to how this happens. For proper names at least, a good solution which eliminates this idealisation is to treat them as indexicals.

Kaplan's position that names are not indexical rests upon a subtle but crucial distinction between terms that are indexical and ones that are merely context dependent. The key difference is that unlike ambiguous terms, reference for genuine indexicals is determined by a simple, coherent linguistic rule. Also, indexicals have a coherent meaning which is the basis for competence and understanding the significance of the idexical. Consider the indexical 'I'; the rule which explains its use is that 'I' refers to the speaker or agent of the context. Related to this rule, it also has a coherent meaning across all contexts in that it always denotes the speaker of the context. When speakers utter an expression containing 'I', they know that their listeners will know the rule for determining its referent and will comprehend its character when they attempt to understand what was said. Contrast this with an utterance containing the ambiguous expression 'bank'. Unlike 'I', 'bank' has no simple rule which determines in each context whether a financial institution or the edge of a river is meant with its use and no coherent meaning which is comprehended by competent speakers and used when they try to understand utterances containing it. Though in many situations, the meaning of 'bank' which is intended will be clear, in general there is no semantic rule which can be followed in order to determine its referent. For example, in the sentence

I am just going to the bank

it is unclear whether the speaker is on her way to a financial institution or to the edge of a river. Contrast the difficulty in determining the referent of the occurrence of 'bank' with how easy it is to explain what the occurrence of 'I' refers to. Without knowing anything else about the context, we can say with certainty that the latter refers to whoever uttered the sentence sentence. The only way to determine the referent of an expression like 'bank' is to compare it within a much wider context[2] in which it is used. That is, if it follows an utterance

Are you going to deposit your cheque?

[2]Context here is used colloquially; it is not the more technical notion of a context of use from Kaplan.

then it has a different meaning than if it follows

Are you going to go swimming?

But unlike an isolated occurrence of the term 'I', where a speaker can clearly state its meaning (knowing nothing about the facts which hold in a particular contexts) ordinary competent language speakers have no rule for determining the referent or stating the meaning of an isolated occurrence of 'bank'.[3] To summarise the distinction, an indexical differs from a merely ambiguous term in that where an ambiguous term is characterised by having several disjoint contents whose common meaning is not used by speakers, an indexical has a coherent linguistic meaning, stemming from the rule which governs its reference, which is understood and used by competent speakers.

The question at hand is whether names behave semantically as indexicals or whether, like 'bank', they are merely ambiguous. There are several convincing pieces of evidence in support of my claim that names are indexicals. First, unlike 'bank' and like 'I' there are easily identifiable linguistic rules and coherent meanings for name which exactly coincide with their content as told by the causal story about names. Kripke's story says that there are two ways that a competent user can acquire the use of a name. The person who first dubs a particular object with a name does so by means of an initial baptism. Other users, not participant in the dubbing ceremony, learn the name when it is passed 'from link to link' along a causal historical chain. Users who learn the name in this way must also intend 'to use it with the same reference as the man from whom he heard it' (Kripke 2001, p. 282). In an expression involving an ambiguous name, such as 'Ahmed', the speaker has certain mental intentions about the object that they wish to pick out with their use of the expression. These intentions are either to refer to an object which they dubbed with the name 'Ahmed' or to refer in accordance with the referential intentions of someone else's use of the name 'Ahmed'. Hence, in any context, the intention of the agent referring along a causal chain back to a historical event – a dubbing – is what determines the referent of a name. This is precisely the linguistic rule which governs the referent for a name and which gives its coherent meaning across contexts. That we can identify such a rule strongly

[3] In a very weak sense, every term can be said to have a simple rule which governs its use. That is, every term is in some ways name-like – initially baptised to stand for an object or property, etc. and then passed on to other users within a linguistic community. But most people would agree that the two disjoint meanings of the term 'bank' go beyond the weak name-like meaning of 'bank'. To put it another way, unlike proper names the term 'bank' has disjoint descriptive senses which exceed its meaning if we describe it only in terms of the causal story about names.

suggests that names can be treated as indexicals. What makes a name different from a word like 'bank' is that there is a coherent rule which determines its referent in a context and coincides with its linguistic meaning.

The second argument in support of the claim that names are indexicals concerns the competence conditions for proper names. Kaplan claims that in order to be a competent user of a linguistic expression, one must understand its character. In particular, an agent can understand a term just by understanding its character even though, in any particular context they are ignorant of its content in that context. For example, in a context where I am blindfolded, if I hear someone utter 'I', we do not say that I am an incompetent speaker of English even though I may not know who is talking. Kaplan admits that the 'collapse' of character, content, and referent contradicts his claim that competent speakers know the character of expressions. For if the character of a proper name is constant with respect to all contexts, then it is puzzling how a user could be a competent user of a name without realising that its referent is a certain object in some contexts. For example, if Christoforos is competent in using the names 'Ahmed' and 'Aldo', then how is it that he could he fail to realise that Ahmed is Aldo? He writes,

> I claimed that a competent speaker knows the character of words. This suggests ... that if two proper names have the same character, the competent speaker knows that. But he doesn't. (1989b, pp. 562-563)[4]

Treating names as indexicals allows us to square the competence conditions suggested by the causal story of Kripke with Kaplan's claim that competent speakers know the character of expressions.

The third argument that names are indexicals stems from an analogy with demonstratives. Demonstratives like 'this', 'that', and 'he' require a completing demonstration to fix their reference. Some demonstrations, such as pointing gestures, are completely external to the agent. However for some expressions, external cues are not enough to determine the referent of a demonstrative even though the occurrence of the demonstrative clearly refers. For example, in a context where the agent utters 'that is green' while pointing in the general direction of two green objects, the gesture may not be enough to uniquely determine a referent. In this case, Kaplan argues that the feature which determines the referent is

[4]Kaplan goes on to suggest the possibility of 'a general semantical and epistemological scheme comprehending both indexicals and proper names' but writes that it is beyond the scope of his paper.

the internal referential intention of the agent. The advantage of using speaker's intentions to determine the referents of demonstratives is that they help make sense of cases where a mere external cue is not enough to determine a referent (Braun 2002). They also explain why in some cases, utterances of demonstratives are complete even though no external demonstration is performed. The indexical theory of names fits in with this picture nicely. The analogy I would like to draw is that names function like very specific demonstratives which pick out an individual with the property of having been dubbed with a certain name; and that the demonstration which completes the name qua demonstrative in any context is the intention of the agent. Notice that there are different classes of demonstratives. The most general, terms, 'this', 'that', and Kaplan's 'dthat', can be used to pick out almost any object – thus, their reference is determined solely by the cues or intentions of the agent. More specific terms, such as 'he', 'she', you and the Japanese series '*kono*'-'*sono*'-'*ano*'[5] are only used to refer to objects which have a certain property: 'he' always refers to a male, 'she' to a female, 'you' to an addressee of the context, '*kono*' to something which is a small distance from the agent, '*sono*' to an object which is a medium distance away from the agent, and '*ano*' to an object which is a large distance away from the agent. Hence, the referents of these demonstratives are determined both by having a particular property and by the referential intentions of the agent. Names are like these demonstratives in that their referents always have the property of having been dubbed with that name and that, in any context, the internal intentions of an agent determine which object with that name is meant with its use. Thus, our observation of the similar semantic behaviour of names and demonstratives is a compelling analogy which suggests that names are genuine indexicals, not just ambiguous terms.

The fourth piece of evidence, due to Pelczar and Rainsbury, is that considering names as indexicals allows the causal theory of names to reply to an important objection. Evans noticed that the causal theory fails to account for situations where the referent of a name changes after some time t (Evans 2001, pp. 302-304). For example, in Marco Polo's time, 'Madagascar' referred to a large chunk of eastern Africa. In current usage, however, it refers to the large island off the eastern coast of Africa (Pelczar and Rainsbury 1998, pp. 296-297). The ordinary causal theory does not account for the fact that the name 'Madagascar' came to stand for something else than what it was initially dubbed as (Pelczar 2001, pp. 137-138). Treating names as indexicals explains for these situations perfectly: an

[5] Roughly translated as this, that, and that (way over there).

occurrence of a name refers to whatever the salient dubbing (what Pelczar and Rainsbury call the 'dubbing in force') is for the agent in that context.

The fifth piece of evidence, also due to Pelczar and Rainsbury, is based on an observation of the way that names refer when embedded under intensional operators. Consider the following sentence:

(6) Marco Polo believed that there were elephants on Madagascar.

Does the token 'Madagascar' refer to the large chunk of eastern Africa or to the island? Pelczar and Rainsbury claim that intuitively, an ordinary speaker would take it as referring to the island and write that treating names as indexicals captures this intuition:

> it is a distinctive feature of indexicals that within the scope of an attitude verb, its content is determined not with respect to the circumstances of evaluation ... but with respect to the context of its utterance (Pelczar and Rainsbury 1998, p. 299).

This echoes Kaplan's observation that indexicals 'cling rigidly' to their referents in a context, even when embedded under attitude verbs like 'believe' (1989b, p. 499).

These arguments constitute good grounds for supposing that names are not merely ambiguous terms but are genuine indexicals. Next we turn to showing, more fully, how the character of an expression can be used to distinguish true belief reports such as (4) from false ones like (3). The view which I support, treats names as indexicals whose referent is determined with respect to a context of use where the object denoted is the one that the agent intends to refer to in accordance with the intentions of other users along a causal chain going back to an initial baptism.

A Solution to Frege's Puzzle

As was described in Chapter 2, Kaplan's notion of character can be used to explain the difference between sentences which report conflicting beliefs of rational agents in the same proposition. Yet Kaplan fails to give a satisfactory account when no indexicals are involved in the original belief report. I have argued that there are good reasons for supposing that proper names are indexicals, whose referent is determined according to the referential intentions of the agent in each context to refer to a particular object that has that name

according to the causal theory of names. From this claim it follows that proper names have a non-trivial character because the referent of a proper name can vary from context to context. Moreover, they have a coherent linguistic meaning (generated from the above rule) which governs the competence conditions for using a name. The next step is to show how this non-trivial character can be used to make sense of belief reports

A tenet of Kaplan's theory of indexicals which I have emphasised is that 'a competent speaker knows the character of words' (Kaplan 1989a, p. 562). In the specific case where the word considered in as indexical, this means that a rational, competent agent knows the character of a word by knowing the linguistic rule which determines its referent in each context. That is, they know how in principle, if given the necessary contextual facts, to determine the referent of an indexical in any context. If, however, they are not in possession of the necessary contextual facts in order to apply the rule, then the user may be unable to determine the content of an indexical in some contexts. However, because of Kaplan's equation of competence with character, it does not follow that they are incompetent, or even that they do not understand the sentence. This notion – that a competent speaker can be ignorant of content in certain contexts because she does not have possession of the relevant contextual facts – is at the centre of my solution to Frege's Puzzle. The specific rule for evaluating belief reports which I favour is as follows:

(BR) A belief report $\ulcorner X$ believes that $S\urcorner$ is true, in a context c and with respect to a possible world w if and only if x (the referent of X in c) believes p (the content of S in c) under the character m of S at w where to believe a proposition under a character is to hold either (a) or (b)

(a) That the content, as computed by x from the character m using supporting beliefs about the context c, is true.

(b) That every possible content, as computed by x from the character m using incomplete supporting beliefs about the context c, is true.

Next I will show how this rule explains several examples of Frege's Puzzle.

Examples and Solutions

First consider the example from Chapter 2 involving Karl and the college chapel. Recall that Karl utters both

(7) I am here now

(8) Karl is in the chapel at 8.47PM.

when he is blindfolded and has no idea of where he is, or what time it is. By a strange coincidence, Karl is actually in the chapel and it is exactly 8.47PM. Thus, in this context, the content of both utterances is the same proposition relating Karl, the chapel, and 8.47PM. But Karl, who has no idea of where he is, or what time it is, believes (7) but disbelieves (8). The objection which follows is that Karl could not be rational while simultaneously believing the content and not believing it. The solution is that Karl can indeed be rational because in the context, he believes the proposition under the character of (7) but not under the character of (8). Our principle (BR) captures this: a report of Karl's belief of (7) is true because the content and character satisfy (b) – every content which is presented under by the character of (7) is true even if Karl doesn't have *any* supporting beliefs about the context. To see this, notice that the character of (7) is a function which for every context, gives a proposition which is true at the world of the context. Karl realises this fact, so he believes (7). However Karl does not believe (8) because he does not hold that the content of that sentence, presented under its character is true. In particular, Karl knows what the content is because he is aware of the referents of all of the terms in the sentence: 'Karl', 'chapel', and '8.47PM'. But he does not know if they are related under being located-in at the actual world of the context so he disbelieves it. This explanation disarms the objection based on Frege's Puzzle because it explains why Karl both believes and disbelieves the same proposition: he does so in sufficiently different ways, under different characters.

Now consider another common instantiation of Frege's Puzzle. Lois Lane is acquainted with both Clark Kent and Superman but she does not know that they are the same person. Hence, the belief report

(9) Lois Lane believes that Superman can fly,

is true while

(10) Lois Lane believes that Clark Kent can fly

is false. Thus, as in the other instantiations of Frege's Puzzle, Lois both believes and disbelieves the same proposition:

$\langle$CK/SM, is able to fly$\rangle$.

The solution which results from treating the names 'Clark Kent' and 'Superman' as indexicals is based on the claim that Lois could be competent in her use of those names while being unaware of the precise content that her beliefs are about. One way of viewing Kaplanian characters (this adapted from Perry's treatment of Fregean senses from "Frege on Demonstratives" (Perry 1977)) is as decision procedures for determining a referent given certain facts about context. In the context where her beliefs are reported, Lois would be in possession of several supporting beliefs about the context, namely that when the agent uses the name 'Clark Kent' he does so with the intention to refer, along a causal chain, to a person who was named 'Clark Kent' in a dubbing ceremony, and similarly for 'Superman'. The belief report (9) is true because, according to (BR(a)), Lois, given these supporting beliefs about the referential intentions of the agent of the context, would hold that the referent of the indexical 'Superman' can fly. Under the character of that which is reported in (10), she does not. Here, the content which she computes, given her supporting belief about the agent's intentions in referring to a person using the name 'Clark Kent' are such that she does not believe of it that he can fly. Lois is rational because she believes and disbelieves the proposition under suitably different modes of presentations – their characters in the context of use.

A third, more difficult instantiation of Frege's Puzzle involves the demonstrative 'he', and is due to Braun (Braun 2002). Consider a context where Fred sees Barney directly in his line of sight and indirectly, via a mirror. The half of Barney that is visible to Fred by a direct line-of-sight is clothed in a business suit. The other half, only visible in the mirror, is dressed in a bathing suit. Fred assertively utters:

(11) He[demonstrating Barney with an intention and a pointing gesture to the business suit-clad Barney] is wearing a business suit

and

(12) He[demonstrating Barney with an intention and a pointing gesture to the bathing suit-clad Barney] is not wearing a business suit.

As in the previous examples of Frege's Puzzle, Fred is in the position of believing and disbelieving the same proposition:

⟨Barney, is wearing a business suit⟩

which contradicts Fred's supposed rationality. This example is similar in many ways to the Clark Kent/Superman example above. However it differs in that the same object (Barney) is presented with the same expression ('he'). The simpler explanation which worked in the previous examples and only appealed to the simple notion of belief under a character does not apply here because each occurrence of 'he' has the same character! Instead of thinking of belief as being mediated by character alone, we must think of belief as being mediated by character in a context. In this case, the two occurrences of the demonstrative 'he' are completed by distinct demonstrations. With one demonstration, Fred intends to refer to Barney in one way, with the other demonstration he also refers to Barney but in a completely different fashion (*i.e.*, his internal intentions and external gestures are different). Fred believes (3) when it is expressed under the character of 'he', when 'he' is completed with a certain demonstration.[6] Similarly, Fred disbelieves (3) when it is expressed under the character 'he', when in a slight different context, 'he' is completed with a different demonstration. Hence, Fred believes of the same proposition that it is true and false, but he does so in sufficiently different ways – via belief under different characters in contexts where the occurrences of 'he' are completed with different demonstrations.

The previous example involving Fred and Barney can be used to solve a number of similar examples of Frege's Puzzle. Hammurabi's belief that 'that[demonstrating Hesperus] is visible in the evening but that 'that[demonstrating Phosphorus] is not visible in the evening' can be explained in roughly the same manner, employing the notion of belief under a character in a context. In this case, Hammurabi has supporting beliefs about the demonstration that completes 'that' which differ when Hesperus and Phosphorus is demonstrated. With these examples in mind, consider Kripke's Peter/Padrewski puzzle, first mentioned in Chapter 2. In that example, Peter believes of Padrewski that he is a good musician and that he is not a good musician. Like the Fred/Barney case where the character of 'he' alone was no help in explaining the belief report and the case with Hesperus/Phosphorus above, here the character of 'Padrewski' in isolation does not explain how Peter could have different beliefs about the same content both of Peter's contradictory beliefs fall under its character. Recall the analogy drawn between proper names and demonstratives at the beginning of this chapter. There, we noted that names are like

[6] I prefer to think of the demonstrations which complete a demonstrative as being contextual features, what Kaplan calls 'the Indexical theory of demonstratives' but this is not the only option – we could instead use his 'Corrected Fregean theory of demonstrations' in which a demonstration is just a particular mode of presentation for an object (Kaplan 1989b, pp. 525-529).

demonstratives in that they have a general sortal – for a demonstrative like'he' the property is that of being male; for a name the property is having been dubbed with that name – and a demonstration which is determined by the internal referential intentions of the agent, though sometimes externalised in pointing cues or other gestures. Thus, we can provide an explanation for Kripke's Puzzle using similar techniques as were employed in the cases involving the demonstratives 'he' and 'that'. As in those cases, Peter believes that Padrewski is a good musician when Padrewski is presented under the character 'Padrewski', when completed in a context where the agent has certain referential intentions to refer to his next door neighbour; he disbelieves the same proposition when Padrewski is presented under the character 'Padrewski' in a context where the intention of the agent is to refer to the prime minister. Understood slightly differently, Peter's uses of 'Padrewski' refer to different causal chains going back to Padrewski's initial baptism. Again, the notion of belief mediated by character in a context provides the explanation as to why an agent could rationally believe a proposition and its negation. Thus, it provides a simple and robust solution to Frege's Puzzle.

Schiffer's Framework

My account, which treats names as indexicals and solves examples of Frege's Puzzle using the principle, (BR), of belief under a character in a context, can be modelled formally, using Schiffer's hidden-indexical framework. Recall that Schiffer claims that the most promising way of rescuing theories of Direct Reference from the problems posed by Frege's Puzzle is to treat belief reports as being mapped onto the formula:

$$\exists w.[\phi(w) \wedge \mathsf{BEL}(x, p, w)]$$

where w is a way of believing a proposition, ϕ is a hidden-indexical which acts as a condition on w, x is the person whose belief is being reported, and p is the content of their belief. Further, because belief reports depend on character *in a context*, we must treat the BEL relation as being indexical – that is in different contexts, it denotes different relations between objects.

Compositionality, Character, and Context

Up until this point, my exposition of a solution to Frege's Puzzle, based on the claim that ordinary proper names are indexicals is similar to that of Pelczar and Rainsbury. There are two major distinctions between our accounts. First, they suppose that the dubbings which are 'in force' in a given context are what determine the referent of an indexical proper name. While this is on the right path, it does not go far enough to explain many situations involving indexical names. For example, when my grandfather, my father, and myself, are all present in the same context, three dubbings are 'in force' for the name 'John Foster'. The referent of that name in those contexts cannot be resolved using purely external historical facts about the dubbings which are relevant. Instead, as I have argued, an intention to refer to a particular person is what ultimately determines the referent of an indexical name.

Second, while both accounts rely on the claim that names are indexicals in our solutions, where I claim that context and character can be used to explain how a rational agent could believe of a single proposition that it is both true and false, they claim that it could not play such a direct role. Their argument goes like this. Either character makes the difference for the truth conditions in a compositional semantics of belief reports or it does not. If it does not, then treating names as indexicals does nothing to help explain Frege's Puzzle. If it does, then certain belief reports have absurd truth conditions. For example, consider the following conversation involving Cristie, who is tall, and Lucy, who is short:

Lucy [to Cristie]: You are tall.

Cristie [to Johanna]: Lucy believes that I am tall.

According to Pelczar and Rainsbury, Cristie's true report of Lucy's belief that

(13) ⟨Cristie, is tall⟩

can not be explained by the fact that it is believed under the character of 'I am tall'. If the character of a belief report plays a role in the semantics of that report, then in this situation, Lucy would have to believe 'something'[7] with the character of 'I am tall' and the content of 'I am tall' (as uttered in the context by Cristie). They claim that this is impossible because if Lucy believes something with the character of 'I am tall', then what she believes has the content

[7] Pelczar's term (Pelczar 2003).

(14) ⟨Lucy, is tall⟩.

In any context where Lucy believes something with the character 'I am tall', Lucy is the agent of the context, and so her belief has (14) as its content. To put another way, if Lucy believes something with the content (13) – as she must, if Cristie's belief report is true – then she doesn't believe something with the character 'I am tall' because in any context where she believes something with that character, she does not believe the content (13). Hence, they conclude, character could not explain Frege's Puzzle in a compositional semantics. I will argue that their objection can be explained on my account based on the notion belief under a character in a context by showing how the objection stems from a confusion of terminology and a neglect of context.

First, if Kaplan is correct and the objects of belief are propositions, then we can answer the objection directly by exhibiting a single proposition, presented in different contexts under characters that has the character and content of 'I am tall'. The confusion over terminology is that Lucy is supposed to believe something that has the character of 'I am tall'. But a single proposition can be presented by many different characters; hence, it is somewhat strange to think of a proposition 'having a character'. Rather, the usual notion is as a character presenting a certain content in a particular context. The most natural approach to understanding a proposition 'having a character' is to make sense of it within a context. We say that a proposition has a certain character if and only if that character presents the content in that context. For example, in the above situation, we say that (13) has the character 'you am tall' in the context where Lucy is speaking but has the character 'I am tall' in the context where Cristie is speaking. From this it follows that the proposition (13) has the necessary content and character in order to make Cristie's belief report true.

Second, as well as giving a direct counterexample to their claim, we can address one of the premises directly. The objection asks how something could be believed by Lucy and have the character 'I am tall' and the content of 'Cristie is tall'. They claim that in every context where Lucy 'gets involved' with something with the character of 'I am tall', she is the agent of the context and so the referent of 'I' is Lucy, not Cristie (Pelczar 2003). This an assumption about belief acquisition is plainly false. Suppose that Cristie utters

(15) I was born on January 15th

and that prior to this utterance, Lucy had no beliefs about Cristie's birthday. She also knows that Cristie does not, in general, assert things which are false and that she has been

reliable in all of her previous assertions. On this basis, Lucy assimilates a proposition into her collection of beliefs. Clearly what is believed by Lucy is something about Cristie, not Lucy because Lucy was not born on January 15th. Further, Cristie's utterance of (15) plainly has a character which includes the character of 'I'. Thus, Lucy has gotten involved with something which includes the character of 'I', even though she is not the agent of the context. Hence in the example involving (13), we see that Lucy could believe with something which has that content and the character of 'I am tall' even when she is not the agent of the context. The lesson to be drawn from these replies to Pelczar and Rainsbury's objection is that context must not be neglected when considering the difference that content and character can make to the semantics of belief reports.

Chapter 4

Discussion

The direct motivation for the thesis that names are indexicals is to provide a solution to the objection to Direct Reference based on Frege's Puzzle. That it succeeds in solving the Puzzle may be reason enough to accept it; however if we do accept it, we must be willing to accept all of its consequences as well. This chapter examines two potential critiques of the central claim of this dissertation and gives brief replies. I conclude by suggesting directions for future investigation.

Names as Indexicals and Fregean Intuitions

On the face of it, it seems that if any kinds of terms are *not* indexicals, proper names are among them. As Barcan Marcus puts it, a name is 'just a tag'. How can we square this simple view of a name as 'tag' with the claim that names are much more complex: they vary with respect to context and that competent speakers can know a name without knowing what the tag refers to? Despite our intuitions that it is perhaps strange to think of names as indexicals, as I have argued there are strong reasons for supposing that they are. Treating names as merely ambiguous non-indexical terms requires lexical magic in order to disambiguate the same name into distinct 'tags' when it is used with different referents. Treating them as indexicals gives a semantic explanation for their ambiguous behaviour as well as to how the referent of a name can change over time and why names refer as they

do when bound under intensional operators.[1] These results, which explain the meaning of scientific terms like 'metre' and in historical examples such as belief reports involving Marco Polo and Madagascar are perhaps as important to the History and Philosophy of Science as the result that treating names as indexicals leads to a natural solution to Frege's Puzzle.

What of the objection that by introducing character into the semantics of belief report, I have strayed too far from a pure theory of Direct Reference? While I have appealed to some Fregean intuitions such as of character as a mode of presentation for content, I have not claimed that the contents of names are Fregean senses or descriptions into my account. My theory claims that while the referent of a name is determined by a descriptive rule – the object denoted is the one intended by the agent of the context which has the property of having been dubbed with that name – I have not claimed that names are *synonymous* with these descriptions. Instead, as with indexicals like 'I', the descriptive rule which determines a referent does not appear in the content; rather, the object denoted is injected directly into the content of the sentence in which it is contained. If I have claimed that names are equivalent to any descriptions, it is only as a completion of Kaplan's directly referential 'dthat' operator. The demonstrative 'dthat[D]' where D is a description denotes the object satisfying D; however, the truth conditions for 'dthat' are stipulated so that terms described using it refer directly. Thus, if we think of a name n as being synonymous with

> dthat[the object intended by the agent of the context which has the property of having been dubbed as n],

then even though the description is used to fix the referent of the name, ultimately the name does not contribute descriptive information into the propositions expressed by sentences containing n. Even diehard proponents of Direct Reference like Soames admit that this kind of weak descriptivism is immune to Kripke's modal argument.[2]

What of the claim that the semantic content of belief reports includes a mode of presentation – the character of the sentence expressing the belief reported? Again we note that the truth conditions for the BEL relation do not depend on the mode of presentation alone. Rather, they are partially governed by the content where the referents of names

[1] That is, they bind to the context of use.

[2] Although he notes that by using 'dthat', all descriptive information which may have been useful for solving Frege's Puzzle is lost – only the object denoted is included in the content of the expression (Soames 2002, p. 49)

and indexicals are determined solely with respect to context. Hence, the content does not include anything like a Fregean sense or other description and is distinct from any mode of presentation. That Fregean notions such as a mode of presentation should play a role in a satisfactory account of belief reports should not be completely surprising. After all, in the domain of belief reports they were long successful where many previous theories based on Direct Reference failed.

To summarise, I have shown how treating names as indexicals leads to a natural account of belief reports which answers the most important objection to theories of Direct Reference. The next natural projects which follow from this investigation are examinations of how our arguments for supposing that names as indexicals fit in with broader issues in the philosophy of language. On particularly pressing concern, which is unfortunately beyond the scope of this dissertation, is to examine how my thesis impacts a treatment of natural kind terms. Given that many theories for natural kind terms, such as Kripke's causal theory, stem from analogies with proper names, it seems natural to want to investigate whether the same arguments that support my claim that names should be treated as indexicals hold when they are applied to natural kinds. If so, this result must then be squared with our perhaps stronger intuitions about the non-indexicality of natural kind terms.

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