Cognitive Significance and New Theories of Reference

John Perry
Nous 2: 1-18, 1988. This version is from
The Problem of the Essential Indexical, 2nd edition
Stanford: CSLI Publications, 2000.

October 22, 2011

Consider these utterances:

(1) "Pete Rose lives in Cincinnati," said by Roger Craig.

(2) "I live in Cincinnati," said by Pete Rose.

(3) "That star lives in Cincinnati," said by a fan to a child, pointing at Pete Rose.

(4) "You live in Cincinnati," said by Will Clark to Pete Rose.

Lessons learned from the works of Donnellan, Kaplan, Kripke, Putnam, Wettstein, and other New Theorists of Reference have convinced me to accept two theses with respect to (1)–(4).[1] First, the references of the singular terms do not depend on Fregean senses, or identifying descriptions in the mind of the speaker. The expressions used do not have such senses attached to them by the conventions of language. The beliefs of the speaker need not supply conditions that single out a unique individual. Even if the speaker has such beliefs, the reference is not determined by those beliefs. Second, each of these utterances expresses what David Kaplan has called a "singular proposition," a proposition that contains Pete Rose as a component or constituent, and so the same proposition is expressed by all of these utterances.[2] Each of these folks said, in their different ways, that Pete Rose lives here.

[1] I borrow the term "New Theory of Reference" from Wettstein 1986. Page numbers in parentheses refer to this article.

[2] Russell believed in propositions individuated in this way, even for entities as complex as Mt. Blanc. See Russell's letter to Frege of December 12, 1904 (Frege 1980, 169).

Wettstein argues that New Theorists cannot explain certain puzzles about the cognitive significance of language that are due to Frege, and so cannot meet certain Fregean conditions on a theory of linguistic meaning (1986). I think, in this respect, many philosophers agree with Wettstein. His article would be the classic Fregean critique of New Theories of Reference, except for one thing. Wettstein himself accepts a New Theory. From its correctness, and the inability of a semantical theory based on it to resolve Frege's puzzles, he concludes that it is not part of the business of semantics to deal with them.

The Problem of Cognitive Significance

Wettstein develops a number of theses and examples in his paper. I am going to attempt to deal with one central argument developed in the following quotes. Although Wettstein makes a number of points in the text between these quotes, I think they faithfully represent this central argument:

> Gottlob Frege motivates his famous distinction between sense and reference by formulating what amounts to a Fregean's idea in that any such account must provide an answer to a crucial question concerning the cognitive significance of language: the question of how identity sentences in which proper names flank the identity sign can both state truths and be informative (185).
>
> The new theorist holds that "Cicero was an orator" and "Tully was an orator" express the same propositions, that believing what the first sentence expresses just is believing what the second expresses. This seems plainly wrong, since the cognitive contents of the two sentences seem very different. One can understand both sentences, accept the first as expressing the truth, while not accepting the second. Similarly, the new theorist is committed to the view that "Cicero = Cicero" and "Cicero = Tully" express the same proposition. This seems wrong, however, since it is surely plausible to suppose that virtually everyone believes the first proposition, but only a select few believe the second ....

As he developed his philosophy, though, he tried to replace propositions of this sort, in his analysis of cognitive activity, with general propositions, by exploiting his theory of descriptions to show that we only had denotation where we might have thought we had reference. In criticizing Russell's theory of descriptions, Strawson developed the notion of a statement and making the same statement, where statements are individuated by the individuals to which referring expressions refer, rather than the conditions used to refer to them (1950).

> The new theorist's difficulty here ... has nothing essential to do with proper names (187–88).
>
> Imagine two utterances of "He is about to be attacked," where a single individual is being referred to, but where it is not at all obvious that this is so. Indeed, let us suppose it appears to both speaker and his auditors that two very different individuals are being referred to. No doubt the cognitive significance of these utterances is dramatically different. One who understand these utterances might take only one of them to express a truth .... The same problem arises with regard to Frege's original problem about informative identities (195).
>
> Imagine that our speaker is watching a rock singer from the hallway outside an auditorium. The singer is so outfitted and made up that one cannot tell from his right profile and from his left profile that the same person is in question. Our speaker first observes him from a small window in a door on the side of the auditorium and then walks to another doorway and sees what he takes to be an entirely different performer, performing in what he takes to be a different auditorium. We point out to him, "He (dragging our original speaker down the hall) is the same person as he is," or "That one is none other than that one." The cognitive significance of the first "he" is clearly different than that of the second (196).[3]

As I construe Wettstein's argument, it goes like this:

(1) If a person who understands the meaning of sentences S and S' of language L can accept as true an utterance u of S, while not accepting as true an utterance u' of S', then the cognitive significance of u differs from the cognitive significance of u'.[4]

(2) A person who understands both sentences could accept as true an utterance u of "Cicero was an orator," while not accepting as true an utterance of "Tully was an orator." Similarly for "Cicero = Cicero"

[3] Wettstein lists three problems, but he grants that what he calls the "Perry/Kaplan" approach can handle the first and third. The third problem, incidentally, was not a puzzle Frege posed, but one posed for both Fregean and New Theories in Essay 1, drawing on ideas and examples of Hector-Neri Castañeda's 1968 and other writings.

[4] Wettstein sometimes talks about the cognitive significance of a sentence, but when he has the general case in mind, he fairly consistently talks of the cognitive significance of an utterance.

and "Cicero = Tully." Also, a person who understands the sentence "He is about to be attacked," could accept as true an utterance u of it, while not accepting as true an utterance u' of it, even though the reference of "he" in both utterances is the same person.

(3) According to New Theories of Reference, in each of these three cases the proposition expressed by utterance u is exactly the same proposition as the proposition expressed by u'.

(4) The proposition expressed by an utterance is its cognitive significance.[5]

(5) So, either New Theories of Reference are wrong, or it is not the business of semantics to understand cognitive significance.

Semantics and Cognitive Significance

Wettstein's argument presents New Theorists with a dilemma. Wettstein takes the second horn and accepts that cognitive significance is not the semanticist's worry. Is this reasonable?

What the semanticist should worry about depends on what the semanticist is trying to do. A logician who is trying to come up with a semantic

[5] A number of people have pointed out to me that I seem to imply here that Wettstein accepts (4), which he does not. He spends a considerable amount of time, in "Has Semantics Rested on a Mistake?" and elsewhere, developing points about cognitive significance that would not make sense if (4) were true. I apologize for misleading people about Wettstein's view. What (1)–(5) are intended to represent, however, is the argument Wettstein develops in the first part of his paper, which he takes as a motivation for abandoning the attempt to give a semantic account of cognitive significance. A key step in this argument occurs in the second paragraph quoted above, where he says,

> The new theorist holds that "Cicero was an orator" and "Tully was an orator" express the same propositions, that believing what the first sentence expresses just is believing what the second sentence expresses. This seems plainly wrong, since the cognitive contents of the two sentences seem very different. One can understand both sentences, accept the first as expressing the truth, while not accepting the second.

This step of Wettstein's argument seems to turn on equating cognitive content or cognitive significance (which I took to be stylistic variants) with the proposition expressed. I don't see, without step (4), how the examples Wettstein gives constitute a problem for the new theory of reference.

This does not imply that Wettstein accepts (4). It is perfectly possible that Wettstein thought that giving up (4), and giving up the view that it is the business of semantics to understand cognitive significance, amounted to the same thing. I think this would be a natural view to take, if one accepted the new theory of reference, and thought that theories of this sort could produce no semantical property of an utterance of a sentence other than the proposition expressed to serve as its cognitive significance.

account of some logic that will enable the construction of a completeness proof should be relieved of worrying about cognitive significance. But this is not the sort of project Wettstein has in mind. By "semantic theory" he means a theory of linguistic meaning for natural languages. Wettstein is interested in how demonstratives, descriptions, and proper names work in English, not how variables, iota operators, and individual constants work in languages for quantification theory. If this is the semanticist's interest, then he has picked a subject matter that, whether he likes it or not, ties in with a number of other subject matters, including the study of cognition.

After all, our main interest in language is the way its use can communicate beliefs, inspire action, and have other effects on what we think and do. In these uses of language, it is aspects of the meaning of the language used that are crucial. A theory of linguistic meaning should help provide us with an understanding of the properties sentences have that lead us to produce them under different circumstances, and react as we do to their utterance by others.

If I were to divorce semantics from these interests, many of my reasons for adhering to the two principles Wettstein takes as definitive of being a New Theorist would be undermined. One reason we need singular propositions is to get at what we seek to preserve when we communicate with those who are in different contexts. Fregean thoughts will not do, and neither will mere truth-values. Another reason is to get at the structure of belief. Philosophers who are bothered by singular propositions often complain that individuals cannot be "inside the mind." But, of course, the properties and relations that are constituents of "general propositions" are no more in my mind than individuals are. Minds evolved in a very Strawsonian world, where the ability to reidentify individuals and to use information picked up in one encounter to guide action in a later encounter is crucial. That we can usefully describe minds by reference to the individuals they have acquired information about, and that our concepts of belief and the other attitudes embody such a way of describing minds, should not be especially perplexing. New Theories are better suited for dealing with cognition than the alternatives.

The semanticist or philosopher of language does not need to carry the whole burden of responsibility for the philosophy of mind or cognitive science. Compare the problem of the perception of color. It is by no means obvious what physical property of objects we are reacting to when we distinguish them by color. It now appears that the property in question is the relation between the wavelength of the light that hits the object, and the percentage of light that is absorbed. (See Hilbert 1987.) This property

stays constant throughout changes of lighting in the ways that colors do. It is a physical property of objects, of interest because of its effect on a certain special type of cognitive system, the visual systems of animals that can discriminate colors. Now I think it would be rather parochial or precious for physicists working on the physical properties of light and reflective properties of substances to say that locating this property was none of their business. They cannot be expected to take upon themselves the whole burden of explaining color vision, but, as physicists, they should be able to provide a theory of physical objects, within which the properties crucial for perception can be found.[6]

In the puzzle cases Wettstein has provided, the problem really comes down to explaining action. In the first version of the puzzle, we have two pairs of sentences, "Cicero was an orator" and "Tully was an orator." The New Theory holds that they both express the same proposition: "This seems plainly wrong, since the *cognitive* contents of the two sentences seem very different. One can understand both sentences, accept the first as expressing the truth, while not accepting the second." What is at issue is *accepting as true* a cognitive act. A person sees or hears a sentence uttered, and comes to believe a proposition; she hears another sentence uttered, and does not. The person is rational; her acts of acceptance and rejection were based on her beliefs and goals, and what she perceived about the sentences. It was not the spelling or the sound or the number of characters in "Tully was an orator" that she reacted negatively to. Don't New Theorists have the responsibility to find that semantic property she did note, and in virtue of which her behavior towards the two utterances differed? It seems to me that we do.

I accept, therefore, some version of Frege's conditions. Here is a formulation that seems to come close to what Wettstein has in mind.

> *If there is some aspect of meaning by which utterances u of S and u' of S' differ, so that a rational person who understood the meaning of both S and S' might accept u but not u', then a fully adequate theory of linguistic meaning should assign different propositional contents to u and u'.*

To accept this formulation, however, would be to abandon hope for New Theories. That merely shows, I think, that this formulation begs the question. The semanticist need not assign different propositional contents to the

[6]Of course, a physicist who said, "I cannot find the properties in question, so color vision must be a fiction of folk-psychology," should not be taken seriously at all.

discriminated utterances, if he can find some other aspect of their meaning that explains the differing effects on the beliefs of a rational, competent listener. The formulation I accept, then, allows a little more room for maneuver:

> *If there is some aspect of meaning, by which an utterance u of S and an utterance u' of S' differ, so that a rational person who understood both S and S' might accept u but not u', then a fully adequate theory of linguistic meaning should say what it is.*

The Cognitive Significance of Utterances

Since as New Theorists we can embrace neither horn of Wettstein's dilemma, we must avoid his conclusion. The way to avoid it is to reject step (4), by finding some other candidate for the cognitive significance of an utterance than the proposition it expresses. The first step, in doing this, is to isolate what other requirements Wettstein's argument puts on the concept of cognitive significance. As I understand his argument, there are five:

(a) The cognitive significance of an utterance S in language L is a semantic property of that utterance.

(b) It is a property that a person who understands the meaning of S in L recognizes.

(c) The cognitive significance of an utterance of S in L is a proposition.

(d) A person who understands the meaning of S in L, and accepts as true an utterance of S in L, will believe the proposition that is the cognitive significance of the utterance.

(e) A person who understands the meaning of S in L, and sincerely utters S, will believe the proposition that is the cognitive significance of his utterance.[7]

I think this analysis of "cognitive significance" fits well with Wettstein's usage, and the common philosophical usage of this term. It fits well, also, with the ordinary meaning of the terms. The cognitive significance is "significance," that is, a semantic property, having to do with meaning, reference, truth, and so on. And it is "cognitive," that is, that aspect of meaning which is cognized by those who understand the sentence.

[7] This last point actually relies on Wettstein's first puzzle.

Given this analysis of cognitive significance, the identification in step (4) is mistaken, for the proposition expressed by an utterance does not fit these criteria. I think step (4) is an instance of what Jon Barwise and I have called the "fallacy of misplaced information":

> Construing the meaning of an expression as a multiplaced relation is what lets us account for information, since information is available about any or all of the coordinates, not just about the coordinate that gives us the [proposition expressed]. The idea that all the information in an utterance must come from [the proposition it expresses] we call the fallacy of misplaced information (Barwise and Perry 1983, 38, 164–66, 264; Essay 6, passim.)

Seeing and accepting this point does not require a grasp of situation theory or situation semantics, much less acceptance of those doctrines. It does require adopting a certain perspective, one that we basically derived from Kaplan 1979, and which we called the "relational theory of meaning." Let me explain that point of view by considering an example.

Suppose Ellsworth and McDuff are standing in the lobby of the hotel talking philosophy. Ellsworth is talking passionately about reference while holding a cup of coffee in his hand, and because he is so animated, coffee is sloshing over the sides of the cup and spilling on the carpet. I notice this, and say to Ellsworth, "You are spilling coffee on the carpet." This utterance expresses a certain proposition, that Ellsworth is spilling coffee on the carpet, in virtue of the following relevant features: (i) it is the production by a speaker at a time of a certain pattern of sound, (ii) that counts as a sentence of a certain type in English, (iii) with which English conventionally associates a certain meaning, (iv) that takes place in certain circumstances, one of which is that the speaker is addressing Ellsworth.

My utterance has the propositional content it does because of the other features, (i)–(iv). If English associated with the word "you" the meaning it actually associates with the word "I," then the propositional content would have been that I was spilling coffee. But even with English fixed, the other factors affect the content. If I had been addressing McDuff, then the propositional content would be that McDuff was spilling coffee. So, the content of an utterance is a property it has in virtue of various factors. We can think of this in the following way. What language associates with sentences is a certain relation among the contextual factors and the proposition expressed. The meaning of "You are spilling coffee" is a relation between speaker, time, circumstance, and propositional content. If this relation obtains, then the

speaker, by uttering "You are spilling coffee" at the time, in the circumstances, expresses the propositional content.

Given this analysis, what our semantics should associate with the sentence "You are spilling coffee" is a a relation between the various factors:

> An utterance u of "You are spilling coffee" by an agent a at a time t in circumstances C expresses singular proposition P,
>
> iff
>
> There is an individual x such that (i) a's addressing x at t is part of C; (ii) P is the singular proposition that x is spilling coffee.

From the perspective of any theory along these lines there is a clear distinction to be made between the proposition expressed by an utterance and the proposition that the truth conditions of the utterance are satisfied. The former, in our example, is that Ellsworth is spilling coffee. This could be true if my utterance had never occurred. So the proposition I express has Ellsworth and not my utterance as a constituent. But my utterance could have been true, even if Ellsworth never spilled coffee in his life, as long as I was speaking to someone who was spilling coffee. So the proposition that the truth conditions of my utterance are satisfied has my utterance as a constituent, but not Ellsworth.

Suppose that you hear my utterance. You think I am eminently trustworthy, and so are sure that it is true. What information would you have? Just that I am speaking to someone who is spilling coffee. That is what you know, and all you know, just on the basis of being linguistically competent and accepting my utterance as true. We cannot, then, equate the proposition that the truth conditions of an utterance are satisfied with the proposition expressed by the utterance. But it seems clear that it is the former that fits the conception of the cognitive significance of an utterance that Wettstein has used in his argument. To carry out the comparison, I shall need a short term for "the proposition that the truth conditions of an utterance are satisfied." Since this proposition has the utterance itself as a constituent, its existence is contingent; it is in a sense created by the utterance. So I shall contrast the proposition expressed by an utterance with the proposition created by an utterance.

The proposition created by an utterance clearly passes criterion (a). I am willing to accept, for the sake of argument, that the proposition expressed by an utterance also passes criterion (a).[8] Surely, however, the truth conditions

[8]My skepticism on this point is based on skepticism about the whole notion of "the proposition expressed by an utterance." There are many things we do with utterances.

of the utterance are a more direct semantic property than the proposition expressed. The truth conditions of an utterance derive directly from the meaning assigned to the sentence involved, whereas which proposition is expressed depends also on the agent, time, and circumstances of utterance.

Both the proposition created and the proposition expressed meet criterion (c). The proposition expressed by my utterance is that Ellsworth is spilling coffee. The proposition created by it is that its speaker is addressing someone who is spilling coffee. Both can be regarded as singular propositions, one about Ellsworth, one about my utterance.

So far, a close issue. But when we look at criteria (b) and (d), it seems clear that we should equate the cognitive significance with the proposition created by an utterance, not the proposition the utterance expresses. To see why this is so, let me consider a different example.

Ellsworth goes to Hawaii and sends me a postcard. Unfortunately, it gets a bit wet before I receive it. The postmark, return address, and signature are all illegible. The message stays dry: "I am having a good time now."

If I am a competent speaker of English, I will understand the meaning of the sentence written on the postcard and hence the truth conditions of the utterance that produced it. It is true, if the person who wrote the postcard was having a good time at the time he or she wrote it. This is a singular proposition, with the event that produced the postcard as a constituent. If it is is true, the utterance is true, and vice versa. Moreover, Ellsworth, surely a sincere and a competent speaker of English, must have believed this too. No doubt he would not have expressed this by saying, "The current production of this postcard is being executed by someone who is having a good time at the time of said execution." But he was aware as he wrote the postcard that he was doing so, and that he was having a good time. So he and I believed the same thing. The proposition created by the utterance meets conditions (b), (d), and (e).

The proposition expressed, however, clearly does not meet conditions (b) and (d). In the example, I am linguistically competent, and take the postcard to have been sincerely produced by someone capable of telling

---

We say things, communicate things, express our belief in things, and so forth. These can be quite different. A natural thing to say about the example discussed below, in which Kaplan wants to say something about Carnap, is that what he says and what he communicates are not the same. I am inclined to think that our notion of "the proposition expressed" comes to "what is said," and that saying is a rather complex notion that needs to be explained in terms of intentions to communicate. A relational theory need not be based on the relation of context to what is said, and, in Barwise and Perry 1983, we based it instead on the relation to the information communicated.

whether or not she or he was happy. But I do not know which proposition it expresses. Ellsworth could have sent it from Hawaii. Barwise could have sent it from Missouri. My daughter could have sent it from Berkeley. Who knows? But then I do not know which proposition it expresses. The proposition expressed by an utterance is hardly a property of it that can just be read off. One needs to know the relevant contextual factors, in this case, who wrote it.

I want to emphasize that the postcard is only a somewhat dramatic example of a common phenomenon. Language is a tool for communication, and the artful speaker takes care not to rely on contextual factors that the intended listener will not be able to use. This is the reason behind the familiar points that the expressions used in speech are typically more context-sensitive than those used in writing, and friendly letters, where considerable knowledge of the writer and his circumstances may be assumed, exhibit more context-sensitivity than articles in scientific journals. The point of speech is usually thwarted, unless the listener not only understands the truth conditions of the utterance, but knows which proposition is expressed.[9]

But consider the typical cocktail party, at which a main activity is listening to speech not intended for one to hear. It is common, and frustrating, to understand the truth conditions of overheard utterances, but not grasp the propositions they express. And at such parties, where one is bound to be overheard by linguistically competent persons to whom one does not wish to communicate information, one learns to choose sentences that rely on contextual factors that will only be available to one's intended audience.

Even when one is the intended audience of a remark, however, grasping the truth conditions of the utterance without grasping the proposition expressed is all too familiar. I am sure that others have had experiences like this. One is driving along on a family vacation looking for a place to eat. As

[9] All the talk in this paper about knowing which proposition is expressed, has ultimately to be understood, on my view, in terms of ways of believing and the purposes that shape the criteria for being able to identify something that are relevant on a given occasion. For example, in a semantics class, one might give the postcard example as an exercise. If a student can say, "It expressed that the writer was having a good time," in a suitably rigorous way, the professor will say "Good, you know what proposition that expressed." Very roughly, when we communicate, we intend to get our listeners to believe propositions in certain ways, and it is doing that that counts as "knowing which proposition was expressed." Ellsworth did not plan for me simply to be able to think something like "How nice, the writer of this postcard was having a good time when he wrote it," but something like, "That old so-and-so Ellsworth is having a good time in Hawaii," where the belief I acquire is linked (see below) to other beliefs I have about Ellsworth based on past interactions.

an attentive driver, one watches the road, relying on other family members to find an appropriate spot to dine. All of a sudden there is a cacophony of "Stop there" and "That is a good place" and similar remarks. One knows the truth conditions of these utterances. There is a salient to-most-people-in-the-car eatery, and one is being told to stop at it, to turn towards it, and the like. But, as an attentive driver, one does not perceive the relevant circumstances of these remarks. Gestures in the back seat to restaurants visible out the side window just do not help. One does not know which way to turn, the opportunity passes, and an unpleasant silence ensues. An important part of the full mastery of a language is learning to use contextual cues correctly, but it is, in my experience, a skill that deserts people the minute they step in an automobile.

The reason that such cases strike us as a bit odd, however common, is that our paradigm is the case of successful communication. The speaker wants the listener to believe a certain proposition; the skillful speaker does not rely on contextual items in expressing that proposition that the listener cannot use in grasping it.

This brings us to criterion (e). I do not think the proposition expressed passes it either, but this question gets us to some interesting issues. For one must surely admit that for a speaker to sincerely and assertively utter a sentence and thereby express a proposition that they do not grasp, would be an odd thing indeed. But there is a familiar example, for which this is one interpretation. This is David Kaplan's example of giving a lecture in a hall in which a portrait of Rudolf Carnap has hung behind the podium for years. Kaplan, pointing behind himself but not looking there, utters "That man is the greatest philosopher of the twentieth century." But someone has replaced the portrait of Carnap with one of Spiro Agnew. Has Kaplan sincerely asserted that Spiro Agnew is the greatest philosopher of the twentieth century?

Wettstein gives us three possible accounts of the semantics of "that": that uses of it refer to the individual that plays a certain causal role, that they refer to the individual the speaker has in mind, and that they refer to the individual that is indicated by the cues available to the audience. The first two theories would have it that the proposition Kaplan expressed was about Carnap, the third that it was about Agnew. If we adopt the third analysis of "that," we will have a case in which one sincerely and assertively utters a sentence, without believing the proposition that one thereby expresses.

Wettstein notes that none of these candidates' rules of reference for "that" specify "the way the speaker is thinking about his referent"; this

is one consideration that leads him to suppose that semantics is pretty irrelevant to cognitive significance. But it seems to me that it simply shows that the connection may be more complicated than one might have hoped and hence more interesting than one might have thought.

Wettstein's Examples

Let us now turn to Wettstein's example about the man who is being attacked. There are two utterances in question. Both have the same speaker, employ the same sentence with the same meaning, "He is about to be attacked," and express the same proposition, for, although neither the speaker nor hearer realize it, the two uses of "he" refer to the same person. Wettstein says, "No doubt the cognitive significance of these utterances is dramatically different."

On the approach to cognitive significance sketched here, the cognitive significance of the two utterances of "He is about to be attacked" would be different. Basically, to accept the first utterance as true, the linguistically competent listener has to believe that the speaker is then referring to someone who is about to be attacked. To accept the second utterance as true, the linguistically competent listener has to believe that the speaker is referring, at the second time, to such a person. Even if the speaker is referring to the same person on both occasions, neither the linguistically competent listener nor the linguistically competent speaker need to believe that she is.

Thus Wettstein's version of Frege's puzzle need be no problem for New Theorists of Reference. We admit that the two utterances of "He is about to be attacked" express the same proposition. But the two utterances do not have the same cognitive significance. The fact that a listener accepted one and not the other can be explained by New Theorists, in terms of the difference in beliefs. The explanation is quite natural. The listener believed the speaker was right the first time she spoke, but not the second.

Cicero and Tully

When we use a context-sensitive sentence, there is a clear gap between knowledge of the language, and the proposition expressed by the utterance. So perhaps it is not too surprising that there should be a gap between cognitive significance and proposition expressed. But the same general considerations force a distinction, even when we are dealing with sentences that express exactly the same proposition from context to context.

Let us assume that the rules of English assign Cicero as the reference of

both "Cicero" and "Tully." Context-sensitivity is irrelevant. Each utterance of "Tully was a Roman orator" expresses the very same proposition as every other utterance of it, and also expresses exactly the same proposition as every utterance of "Cicero was a Roman orator."[10]

It does not follow from this that a person who has mastered English will know that one person serves as the reference of both names. To understand the name would be to know which object it was assigned to. The criteria that would normally be sufficient to establish this allow for ignorance of coreference. The "Cicero"/"Tully" example, in spite of its venerability, is not the best one to make this point, since "Tully" is not much used as a separate name for Cicero except in philosophy articles. Suppose for a moment that these were instead two names for a river, and that those who are most likely to use "Cicero" for it live along one stretch and those most likely to use "Tully" live along another. A salesman who visited both communities regularly by car might discourse intelligently using both names, be able to carry out the commands "Go to Cicero" and "Go to Tully," and so on, without having any idea that they were names for a single thing.

What does such a competent speaker come to believe, when he accepts an utterance of "Cicero = Tully" as true? He or she surely learns that "Cicero" and "Tully" stand for the same thing, for this is required for the utterance to satisfy its truth conditions. This bit of knowledge was not, we noted, required for mastery of the language. Nor does it imply mastery of the meaning of "Cicero" and "Tully." Given any nontrivial test for knowing which object the reference of a name is, a person might know that two names had the same one, without knowing which one it is. So there is a separate bit of knowledge that is part of the cognitive significance of "Cicero = Tully," but is not part of the cognitive significance of "Cicero = Cicero." So the New Theorists need not suppose that the cognitive significance of "Cicero = Cicero" is the same as that of "Cicero = Tully," simply because, on the principles of New Theories of Reference, they express the same proposition.

It is commonly thought, I believe, that Frege provided a solution to this problem (1892/1960). But as far as I can see, he does not.

Suppose—to return to the real use of "Cicero" as a name for the Roman—we explain the meaning of "Tully" to Ellsworth by saying, "that was the author of De Finibus" and explain the meaning of "Cicero" by saying "that was Rome's most famous orator." On a Millean theory, we will have assigned the same reference, and no other meanings, to the two names. Our different descriptions merely "fixed the reference" in different ways, in the way that

[10] I am ignoring problems of tense throughout this paper.

Kripke has explained. (See Kaplan 1989.) On the theory suggested in Frege 1960, we will have assigned different senses to the two names. Which theory fares better on the issue of the cognitive significance of "Cicero = Tully"? It seems to me that the Mill/Kripke theory, combined with the approach to cognitive significance sketched here, fares at least as well as a Fregean theory.

If we now tell Ellsworth, "Cicero = Tully," he will learn two things he did not know:

(1) that "Cicero" and "Tully" refer to the same person;

(2) that Rome's most famous orator was the author of De Finibus.

Both of these changes in Ellsworth's beliefs can be accounted for consistently with New Theory principles. To do so, however, we need to make a distinction between two ways that beliefs can be about the same thing. (See Essay 4.)

Let us return to an earlier example that involved driving while looking for a place to eat. Suppose two children are looking out different windows, but neither of them is paying any attention to that fact. The discussion goes something like this: "That's a Wendy's. Let's stop there," says one child, looking in one direction. "No, it's not, you idiot. Can't you see that it's a McDonald's? Who wants to eat there?" says the other, looking in the opposite direction. The first child's use of "that" and the second child's use of "it" are not coreferential—there is not some thing they both refer to. The use of "that" refers to one restaurant, the use of "it" refers to another. But to understand the internal structure of the discourse, and the emotions to which it gives rise, one must see that the various referring expressions are supposed to be about the same thing. The utterances are not "really" or, as I shall say, "externally" about the same thing. But they are "internally" about the same thing. That is, the utterances bear the relationship that is appropriate in discourse, for utterances that are really about the same thing.[11]

[11] Internal coreference is handled in logic by sameness of variable, sameness of individual constant, and the identity sign. This might make it seem like a merely syntactic matter. This point of view is promoted when we say that pronouns work like variables, and names like individual constants. But, of course, in a crucial way, they do not. Structural features of an expression like "he" often leave open the question of which referring expressions it has as an antecedent, or is anaphorically connected to, if any. Use of the same proper name does not require identity of referent; within the same sentence, use of the same proper name twice, rather than a pronoun, suggests the opposite. (A real-life example from a department meeting: "If John would quiet down, John might be able to get a word

Coreference is not a necessary condition of internal coreference, as this example shows. It is also not a sufficient condition. Two people can refer to the same thing and talk about it for some time, without realizing it. When this happens, the discourse will have a very different structure than it would if they recognized the coreference. The participants may say quite contradictory things about the same object, without correcting each other or feeling any tension. And, of course, one person can corefer to something, without realizing it. That familiar point is what our example above, about the traveling salesman, showed.[12]

In such a case, we need to make the same sort of distinction for beliefs that we make for utterances. Here I am thinking of beliefs not as propositions or meanings, but as changes that occur in minds, typically enduring for some time and then disappearing when it is most inconvenient. On my view, beliefs are of types, have meaning, and, in virtue of their meaning and the context in which they arise and are applied, have propositional content. But a belief is not a type, meaning, or proposition any more than an utterance is. In the case of the salesman, or Kripke's Pierre, or dozens of other characters from philosophical fiction and real life, we have individuals with different beliefs, formed and applied in different circumstances, that are about the same things, but do not stand in the internal relationship that is appropriate for this.

Consider a simple system for information storage such as the filing cabinet in a philosophy department office. It is easy to imagine a philosophy

in edgewise.") When we recognize the internal coreference relations in discourse, we are often not recognizing structural relations between linguistic entities, but internal coreference relations in the beliefs and intentions of the speaker. I can imagine a philosopher thinking about anaphora, and saying, "That is syntax," and a linguist agreeing, "Yes, that is syntax." This would not be a refutation of the point, but more like an instance of it. The philosopher means by syntax something like structural features that he, being trained for bigger game, cannot really spot, but is sure must be there, since that is how internal coreference is indicated in logic. The linguist includes as "syntactic" any semantic relationships that could have been explicitly required by syntactic forms, and so can be represented, in a theory, by a sentence of some other language in which they are explicitly required, the "deep structure," or "logical form," or both of the original utterance. The fact of the matter, I think, is that language provides enough structure for us to communicate beliefs, and internal coreference relations will often be clear even though greatly underdetermined by the structure of the language used, meaning here by "structure" the shape of the actual signal that can in principle be perceived independently of recognition of the speaker's intentions.

[12]See also Essay 4, where I motivate the notion of a mental file. Kaplan's theory of concepts provides a notion of internal coreference for thoughts (1979). Donnellan's account provides one for discourse (1974). Irene Heim develops a notion of internal coreference for the semantic analysis of discourse (1982).

major who, for some reason or other, ends up with two files, under different names. The entries in these files are about the same person. But they do not stand in the relation that is appropriate, given the way the filing system is designed to store and allow for the utilization of information. Entries about the same person are supposed to be in the same folder. Thus when a query comes from the registrar about this individual, only one of the files may be consulted, which shows only some of the classes taken and requirements completed, and the wrong answer is given. On the other hand, one can also imagine a department ending up with a file for a fictitious major, as a result of a prank. The entries in such a file would be about the same individual in the internal sense, although there is no individual they are both about.

It is very difficult to imagine a system that receives information about individuals outside of it, and stores that information in a way that allows its later usage in dealing with those individuals—a system, that is, fit to be helpful in a Strawsonian world—for which it would not be necessary to make this distinction.[13]

When Ellsworth learned the meanings of "Cicero" and "Tully," he acquired two different beliefs. The content of one was that Cicero was the author of De Finibus and is named "Tully" in English. The content of the other was that Cicero was Rome's most famous orator and is named "Cicero" in English. The relation of internal coreference does not obtain between these beliefs, although they are about the same person. When he hears us say "Cicero = Tully," Ellsworth links these beliefs, so internal coreference does obtain, and he comes to be in a state whose content is (2). On this account, (2) is not part of the cognitive significance of "Cicero = Tully," for someone who was taught the meanings of these words in a different way would not have learned (2).

Frege's views suggest a somewhat different account of how Ellsworth comes to believe (2). Because of the different ways Ellsworth learned the references of "Cicero" and "Tully," these words have different senses in his language. (2) is part of what gets asserted by a use of "Cicero = Tully."

But Frege's theory of sense and reference offers us no account of (1). The problem represented by (1) seems to have bothered him in the *Begriffsschrift*, for his solution there, to take the content of an identity to be about

[13]Note that the problem of making sense of what is going on here, given a reasonable theory of the structure of belief, is not the same problem as that of understanding how reports of beliefs work. A Fregean condition on such a theory might be that it can explain why two belief reports that differ only in having different terms that refer to the same thing, can differ in truth-value. I believe that New Theories can meet this condition also. Exactly how, is explained in Essay 12.

the referring expressions in it, is responsive to that problem, rather than the one represented by (2). But Frege 1892/1960 says nothing to allow us to explain how Ellsworth comes to know (1).

Basically the same explanation is open to Fregeans as we have offered to the New Theorists. The explanation does not depend on sense, but it also does not depend on absence of sense. I see no other aspect of the theory of sense and reference that allows explanation of the fact that the belief that "Cicero" and "Tully" stand for the same person is clearly one that a linguistically competent person acquires when he accepts "Cicero = Tully."

But if Frege's theory needs to appeal to the difference in the truth conditions of the utterances of "Cicero = Tully" and "Cicero = Cicero" to explain this aspect of the difference in cognitive significance, it can hardly be an advantage for Frege's theory that New Theorists need to do this.

As far as I can see, Frege's puzzles give us no reason to abandon the New Theories, and the New Theories give us no reason to regard Frege's puzzles as irrelevant to semantics.[14]

Postscript

This paper was written for the 1988 Meetings of the American Philosophical Association. I was unable to deliver it because of illness. Leora Weitzman flew to Cincinnati on short notice, read the paper, and ably defended it. I am very grateful to her. I was especially sorry to miss this occasion, because the other speakers in the symposium were Howard Wettstein and Joseph Almog. Almog and Wettstein had spent two years at Stanford in the early 1980s, and I had really been looking forward to the reunion. I learned a tremendous amount from each of them about the philosophy of language.

One thing is rather perplexing, if one reads Wettstein's paper "Has Semantics Rested on a Mistake?" (1986) and then this one. Wettstein praises the ingenuity of a view he calls the "Perry/Kaplan" view of cognitive significance, but says it does not work. I criticize Wettstein's argument, and defend an account of cognitive significance. Am I defending the Perry/Kaplan view? It depends. We might distinguish between a strong and a weak version of the view. The strong version is simply that cognitive significance is character (role, or meaning). I am not defending that view. I do not think I ever committed myself to it. If I did not, it was due more to timidity than

[14]The research for this paper was supported by a grant from the System Development Foundation to the Center for the Study of Language and Information at Stanford University. I am grateful to David Israel for helpful comments on earlier drafts.

to anticipation of the problems Wettstein sees.

The weak view is that Kaplan's character/content distinction is the key to unraveling the problems of cognitive significance. I did hold that, and still do. From that distinction, others follow, including the key distinction of the present paper, between the proposition expressed by an utterance and the proposition that the truth conditions of the utterance are satisfied. But it is this latter proposition, not the character, that I take to be the cognitive significance of the utterance. As I note in the Postscript to Essay 2, Stalnaker, and Reichenbach before him, realized that some entity like this was needed.

The term "cognitive significance" has a curious history. I am not sure any such notion as this is to be found in Frege 1892/1960. Herbert Feigl used the term in his translation. It has come to have an enormous intuitive appeal, so that some philosophers just use the term as if it were obvious what it meant. We all know what the problems of cognitive significance are, but that does not mean that we have any clear idea of what "the cognitive significance" of a sentence or an utterance is. Of course, we have an unclear idea: it is whatever solves the problems of cognitive significance.

I think one consequence of Kaplan's distinction is that no one thing will have all of the properties that are associated with this intuitively appealing concept—just as no one thing can have all of the properties associated with Frege's notion of *Sinn*. It seemed to me that the way Wettstein used the term and its close cousins like "cognitive content" in discussing his examples required that a cognitive significance be a proposition, that having one be a property of utterances, and that the cognitive significance of an utterance be something a competent speaker recognizes. Given those requirements, I think the concept I develop in this paper does pretty well. But the concept that meets these requirements will not be the right object to individuate thoughts by their psychological role. This is what character or "role" does on the Perry/Kaplan view, which is why Kaplan said that the cognitive significance of a thought is its character.

Suppose you and I both have beliefs that we express with the words "I am hungry." In Kaplan's terminology, our beliefs are dissimilar, in having different contents. But they are similar, in having the same character. It is this dimension of similarity that Kaplan calls the cognitive significance of our thoughts. This is not the same notion of cognitive significance that is appealed to in Wettstein's versions of Frege's problems. Obviously, one could believe your utterances and not believe mine. If this criteria shows that there are different cognitive significances involved, cognitive significance cannot be character. If we use "cognitive significance" to mean the proposition a

competent speaker entertains when they perceive an utterance, it will clearly not be the character of the sentence used, which is not a proposition at all. But it will be, on the account put forward in this paper, a closely related proposition, the proposition that the utterance meets the conditions the character of the sentence used establishes for its truth.

Reasonable as this all seems to me, it seems that my concept does not strike people as fitting their intuitive notion of cognitive significance. I am inclined to think it is the right concept to resolve the *problems of cognitive significance*, but that nothing should be singled out and equated and dubbed "the cognitive significance." In the later papers in this volume I do not use the term, but I do not promise to stick to that.