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FREGE ON DEMONSTRATIVES¹

John Perry

IN "The Thought," Frege briefly discusses sentences containing such demonstratives as "today," "here," and "yesterday," and then turns to certain questions that he says are raised by the occurrence of "I" in sentences (T, 24-26). He is led to say that, when one thinks about oneself, one grasps thoughts that others cannot grasp, that cannot be communicated. Nothing could be more out of the spirit of Frege's account of sense and thought than an incommunicable, private thought. Demonstratives seem to have posed a severe difficulty for Frege's philosophy of language, to which his doctrine of incommunicable senses was a reaction.

In the first part of the paper, I explain the problem demonstratives pose for Frege, and explore three ways he might have dealt with it. I argue that none of these ways provides Frege with a solution to his problem consistent with his philosophy of language. The first two are plausible as solutions, but contradict his identification of the sense expressed by a sentence with a thought. The third preserves the identification, but is implausible. In the second part, I suggest that Frege was led to his doctrine of incommunicable senses as a result of some appreciation of the difficulties his account of demonstratives faces, for these come quickly to the surface when we think about "I." I argue that incommunicable senses won't help. I end by trying to identify the central problem with Frege's approach, and sketching an alternative.

¹The following abbreviations are used for works cited in the text. 'T' for Gottlob Frege "The Thought: A Logical Inquiry," reprinted in P. F. Strawson *Philosophical Logic* (Oxford, 1967), 17-38. This translation, by A. M. and Marcelle Quinton, appeared originally in *Mind*, Vol. 65 (1956), pp. 289-311. The original, "Der Gedanke. Eine logische Untersuchung," appeared in *Beiträge zur Philosophie des deutschen Idealismus*, I (1918), 58-77. 'SR' for Frege "On Sense and Reference," in Max Black and Peter Geach (eds.), *Translations from the Philosophical Writings of Gottlob Frege* (Oxford, 1960). Translated by Max Black. The original, "Über Sinn und Bedeutung," appeared in *Zeitschrift für Philosophie und philosophische Kritik*, L (1892), 25-50. 'CT' for "Compound Thoughts," in E. D. Klemke (ed.), *Essays on Frege*. Translated by R. H. Stoothoff. The original, "Gedankenfuge," appeared in *Beiträge zur*

I

Before explaining the problem posed by demonstratives, certain points about Frege's philosophy of languages need to be made.

In "On Sense and Reference," Frege introduces the notion of sense, in terms of the cognitive value of sentences. He then goes on to make two key identifications. First, he identifies the sense of a sentence with the thought it expresses. Then, he identifies the thought expressed by a sentence, and so the sense it has, with the indirect reference of the sentence in the scope of a cognitive verb.

The phrases "the sense of a sentence," "the thought expressed by a sentence," and "the indirect reference of a sentence," are not mere synonyms. They have different senses, though, if Frege's account is correct, they have the same reference. In particular, each is associated, as Frege introduces it, with a separate criterion of difference.

Sense. In the beginning of "On Sense and Reference," Frege introduces the notion of sense as a way of accounting for the difference in cognitive value of the senses of " $a = a$ " and " $a = b$," even when both are true, and so made up of coreferential expressions. (SR, 56–58) So a criterion of difference for sense is,

If S and S' have differing cognitive value, then S and S' have different senses Dummett's explanation of sense will help us to convert this to something more helpful. He emphasizes that sense is linked to understanding and truth. The sense of an expression is "what we know when we understand it," and what we know when we understand it is something like an ideal procedure for determining its reference. (F, 293, 589ff.) In the case of a sentence, whose reference is a truth value, the sense is that we know when, roughly, we know what would have to be done—whether or not this is humanly possible—to determine whether or not it is true.

What Frege seems to have in mind at the beginning of "On Sense and Reference," then, is a situation in which some person A who understands both " $a = a$ " and " $a = b$," accepts the first while rejecting, or being unsure about, the second. The assumption seems to be, that if A associated just the same ideal procedures with both sentences, he would accept the second if he

Philosophie des deutschen Idealismus, III (1923), 36–51. 'F' for Michael Dummett, *Frege* (London, 1973).

accepted the first. So he must not associate the same ideal procedures with both sentences, and so, since he understands them, their senses differ. So we have:

If A understands S and S', and accepts S as true while not accepting S', then S and S' have different senses.

This criterion of difference allows that sentences might have different senses, though provably or necessarily equivalent. A complex true mathematical equation might be provably equivalent to "2 + 3 = 5," and yet a perfectly competent speaker might accept the latter and reject the former, having made an error in calculation. To know an ideal procedure for determining reference, is not necessarily to have carried it out, or even to be able to.

Thought. "Thought" is not just a term introduced by Frege as another way of saying, "sense of a sentence." The notion derived from Frege's untangling of the jumbled notion of a judgment, into act, thought, and truth value. The thought is, first and foremost, "that for which the question of truth arises." (T, 20-22) This is clearly intended to be a criterion of difference for thoughts:

If S is true and S' is not, S and S' express different thoughts.

Indirect Reference. Consider a report of a belief: "Copernicus believed that the planetary orbits are circles." On Frege's analysis, this is relational. "Believed that" stands for a relation, which is asserted to hold between Copernicus and whatever it is that "the planetary orbits are circles" refers to as it occurs in this sentence. Standing alone, "the planetary orbits are circles" would refer to the False, but here it clearly does not have that ordinary reference. If it did, the substitution of any false sentence at all should preserve truth of the whole report (SR, 66-67). The notion of the indirect reference of "the planetary orbits are circles," is just whatever it is, that this sentence has as reference here. (The phrase is first used in connection with indirect discourse [SR, 59].) Now if "*a R b*" is true, and "*a R c*" is not, *b* is not *c*. So we have a clear criterion of difference:

If 'A believes S' is true, and 'A believes S'' is not, then S and S' do not have the same indirect reference.

So we have three separable criterion of difference. But Frege, as noted, identifies the sense of *S* the thought expressed by *S*, and the indirect reference of *S*. So we are led to a further principle:

S and *S'* have different senses, if and only if they express different thoughts, and if and only if they have different indirect references.

Sense Completers. Frege takes the structure of language as a suggestive guide to the structure of senses and objects. Just as he views the sentence,

two plus two equals four

as the result of combining the complete

two

with the incomplete

() plus two equals four,

so he sees the sense of "two plus two equals four" as determined by the sense of "two" and the sense of "() plus two equals four." The sense of the latter is incomplete; the sense of the former completes it, to yield the complete sense of "two plus two equals four."

"() plus two equals four" could also be made into a sentence by writing "something" in the blank; similarly the sense of "() plus two equals four" can be completed with the sense of "something." The sense of "something," however, unlike the sense of "two," is itself also incomplete. Where "two" refers to an object, "something" refers to a concept. Two appropriately related incomplete senses can combine to form a complete sense; two complete senses cannot combine at all (CT, 538).

Thus the class of *sense completers* for a given incomplete sense is hybrid, containing both complete and incomplete senses. But the term will be useful in what follows.

Sense had and Sense expressed. The structure of language is not always a sure guide to the structure of senses. Not everything we count as a sentence has a complete sense. Consider (1),

(1) Russia and Canada quarrelled when Nemtsanov defected.

"Russia and Canada quarrelled," as it occurs as a clause in (1), does not have a complete sense. (SR, 71; T, 37) It refers to a concept of times and thus must have an incomplete sense. "When Nemtsanov defected" refers to a time; the sentence is true if the time referred to falls under the concept referred to. Thus the sense of "when Nemtsanov defected" is a sense completer for the sense of "Russia and Canada quarrelled."

So the sense of the sentence "Russia and Canada quarrelled"

is not a thought. Not any sentence, but only a sentence "complete in every respect" expresses a thought. T, 37)

Now "Russia and Canada quarrelled" could be used, without a dependent clause, to express a thought. If it appeared alone, we might take it to express, *on that occasion*, the sense of

At some time or other, Russia and Canada quarrelled.

In another setting, for example after the question, "What happened when Nemtsanov defected?", the sentence would express the sense of (1). So we must, even before considering demonstratives, distinguish between the sense a sentence *has* on each occasion of use and the senses it *expresses* on various occasions of use. For an "eternal" sentence, one that really is "complete in every respect," the two will be the same; for a sentence like "Russia and Canada quarrelled," the sense *had* is incomplete; the sense *expressed* on a given occasion will be the result of completing that sense, with some sense completer available from the context of utterance. It is clearly only the sense expressed on such occasions, that Frege wants to identify with a thought.

The Problem Posed by Demonstratives. We are now in a position to see why demonstratives pose a problem for Frege.

I begin by quoting the passage in "The Thought" in which Frege discusses demonstratives in general.

often . . . the mere wording, which can be grasped by writing or the gramophone, does not suffice for the expression of the thought . . . If a time indication is needed by the present tense [as opposed to cases in which it is used to express timelessness, as in the statement of mathematical laws] one must know when the sentence was uttered to apprehend the thought correctly. Therefore, the time of utterance is part of the expression of the thought. If someone wants to say the same today as he expressed yesterday using the word 'today', he must replace this word with 'yesterday'. Although the thought is the same its verbal expression must be different so that the sense, which would otherwise be affected by the differing times of utterance, is readjusted. The case is the same with words like 'here' and 'there'. In all such cases the mere wording, as it is given in writing, is not the complete expression of the thought, but the knowledge of certain accompanying conditions of utterance, which are used as means of expressing the thought, are needed for its correct apprehension. The pointing of fingers, hand movements, glances may belong here too. The same utterance containing the word 'I' will express different thoughts in the mouths of different men, of which some may be true, others false [T., 24].

Consider (2),

(2) Russia and Canada quarrelled today.

The sentence "Russia and Canada quarrelled" has in (2), as

in (1), only an incomplete sense. So presumably "today" in (2) must somehow do what "when Nemtsanov defected" does in (1), and supply us with a completing sense. But it does not seem to do this at all.

If I uttered (2) on August 1, I expressed something true, on August 2, something false. If "today" had the same sense on August 1 as on August 2, then (2) in its entirety must have had the same sense on both occasions. If so, the sense of (2) must be incomplete, for if it were complete, its truth value could not change.

So, if "today" provides a completing sense on both days, its sense must change just at midnight. But what we know when we understand how to use "today" doesn't seem to change from day to day.

When we understand a word like "today," what we seem to know is a rule taking us from an occasion of utterance to a certain object. "Today" takes us to the very day of utterance, "yesterday" to the day before the day of utterance, "I" to the speaker, and so forth. I shall call this the *role* of the demonstrative. I take a context to be a set of features of an actual utterance, certainly including time, place, and speaker, but probably also more. Just what a context must include is a difficult question, to be answered only after detailed study of various demonstratives. The object a demonstrative takes us to in a given context, I shall call its value in that context or on that occasion of use. Clearly, we must grant "today" a role, the same on both occasions of use. And we must, as clearly, give it different values on the two occasions.

Any reasonable account has to recognize that demonstratives have roles. The role of a demonstrative does not seem reducible to other notions available from Frege's philosophy. Senses do not carry us from context to references, but directly to references, the same on each occasion of use. One might suppose that "yesterday" could be thought to have just the sense of "the day before." But,

(3) Russia and Canada quarrelled the day before
does not have the same sense as (4).

(4) Russia and Canada quarrelled yesterday.

If I ask on August 5, "Did Russia and Canada quarrel August 2?," (3) would imply that they quarrelled on August 1, (4) that they

quarrelled on August 4. If (3) were uttered when no day had already been mentioned, it would not express anything complete, but simply give rise to the question, "before what?" An utterance of (4) would still be fully in order.

Frege recognizes that demonstratives have roles, or at least that the context of utterance is crucial when dealing with demonstratives. He does not talk about the sense of "today" or "I" so he also seems to have recognized that the role of a demonstrative is not just a sense, as he has explained senses.

But Frege clearly thinks that, given knowledge of the accompanying conditions of utterance, we can get from an utterance of a sentence like (2) or (4) to a thought. He must have thought, then, that the demonstrative provides us not simply with an object—its value on the occasion of utterance—but with a *completing sense*. This is puzzling. Neither the unchanging role of "today," or its changing value, provides us with a completing sense. A day is not a sense, but a reference corresponding to indefinitely many senses. (SR, 71) There is no route back from reference to sense. So how do we get from the incomplete sense of "Russia and Canada quarrelled," the demonstrative "today," and the context to a thought? This is the problem demonstratives pose for Frege.

I shall first describe two options Frege might have taken, which would have excused him from the necessity of finding a completing sense. I shall argue that Frege did not take these options, and could not, given his identification of sense expressed and thought.

Sense as Roles? Let $S(d)$ be a sentence containing a demonstrative d . Without the demonstrative, we have something, $S(\)$, that has an incomplete sense, and so refers to a concept. This may actually still be a sentence, as when we remove "today" from (2), or it may look more like it should, as when we remove the "I" from "I am wounded."

The following scheme gives us a rule for getting from a particular context, to a truth value, for any such sentence $S(d)$.

$S(d)$ is true when uttered in context c , if and only if the value of d in c falls under the concept referred to by $S(\)$.²

²Here and elsewhere I assume, for the sake of simplicity of exposition, that we are considering sentences containing no more than one demonstrative. Given the notion of a sequence of objects, there would be no difficulties

Such a rule is the *role of S(d)*. It is just an extension of the notion of the role of a demonstrative. Roles take us from contexts to objects. In the case of a sentence, the object is a truth value.

Thus (4) is true as uttered on August 2, if and only if August 1 is a day that falls under the concept referred to by "Russia and Canada quarrelled." "I am ill" as uttered by Lauben is true if and only if Lauben falls under the concept referred to by "() is ill."

The role of a sentence containing a demonstrative is clearly analogous in many ways to the sense of a sentence not containing a demonstrative. The role is a procedure for determining truth value, just as the sense is. The difference is that the role is a procedure which starts from a context.

This analogy suggests an option, which Frege might have taken. He might have identified the sense expressed by a sentence containing a demonstrative with its role. This would amount to a generalization of the notion of sense. On this view, an incomplete sense like that of "Russia and Canada quarrelled," could be completed in two ways. A sense completer, such as the sense of "when Nemtsanov defected," gives us a complete sense of the old sort. A demonstrative, like "today," yields a sense of the new sort, a role. No complete sense of the old sort is involved at all in the utterance of a sentence containing a demonstrative, so no completing sense need be found.

But this cannot have been Frege's view. For it is clear that he thinks a thought has been expressed in the utterance of a sentence containing a demonstrative. The role of the sentence cannot be identified with the thought, for a sentence could express the same role on different occasions while having different truth-values. So by the criteria of difference for thoughts, roles are not thoughts. By the identification of the sense expressed by a sentence and the thought expressed, roles are not the senses expressed by a sentence.

Thoughts as Information? We can put the problem this way. (2), as uttered on August 1st, with the role of "today" fully mastered, seems to yield just this information:

in extending various suggestions and options for the general case. In some of the examples I use, additional demonstratives are really needed. 'Lauben is wounded', for example, still needs a time indication.

(i) an incomplete sense, that of "Russia and Canada quarrelled;"

(ii) an object, the day August 1st, 1976.

(i) and (ii) do not uniquely determine a thought, but only an equivalence class of thoughts. Belonging to this equivalence class will be just those thoughts obtainable by completing the sense of "Russia and Canada quarrelled" with a sense completer which determines, as reference, August 1st, 1976. I shall call thoughts related in this manner *informationally equivalent*.³

The second option I shall discuss, is introducing a new notion of a thought, corresponding to such a class of informationally equivalent thoughts. Since the information in (i) and (ii) is sufficient to identify such a class, without identifying any one of its members, this would explain how we can get from (i) and (ii) to a thought, without needing a completing sense.

On this view, an utterance of $S(d)$ in context c , and $S'(d')$ in context c' , will express the same thought if the (incomplete) senses of $S()$ and $S'()$ are the same, and if the value of d in c is the same as the value of d' in c' . Thus (2), uttered on August 1, and (4), uttered on August 2, would express the same thought. Dummett interprets Frege in this way. (F, 384) Frege's remark,

If someone wants to say the same today as he expressed yesterday using the word 'today', he must replace this with 'yesterday'. Although the thought is the same its verbal expression must be different. . . .

But this cannot have been Frege's view. This criterion actually introduces a new kind of thought, corresponding to informationally equivalent classes of thoughts of the old kind. The thought expressed by Lauben when he says "I am wounded" to Leo Peter, cannot be identified with the thought expressed by any nondemonstrative completion of the same incomplete sense in which the singular term refers to Lauben, such as

The man born on the thirteenth of September, 1875, in N.N. is wounded.

The only doctor who lives in the house next door to Rudolf Lingens is wounded.

³This notion is taken from A. W. Burks, "Icon, Index, and Symbol," *Philosophy and Phenomenological Research*, Vol. IX, (1949), p. 685. In this pioneering and illuminating work on demonstratives, Burks emphasizes the ineliminability of demonstratives.

These express different thoughts, so the thought Lauben expresses with "I am wounded" cannot be identified with *the* thought they both express; there just isn't any such thought. There is no more reason to identify it with the one than with the other, or with any other such thought. Nor can thoughts of this new type be identified with classes of thoughts of the old, for in different possible circumstances the pair, Dr. Lauben and the incomplete sense of "() am ill," would correspond to different sets of Fregean thoughts. If Lauben had moved, the two Fregean thoughts in question would not be informationally equivalent. We have here a radically new kind of thought, of which Frege would not have approved, even if he had seen its necessity. We have in effect made the value of the demonstrative a part of the thought. But Frege insists that only senses can be parts of senses.

Dummett remarks,

It is, of course, quite unnecessary to suppose that a thought expressible by the utterance on a particular occasion of a sentence containing a token reflexive expression can also be expressed by some 'eternal' sentence containing no such expressions. [F, 384]

But it is not only unnecessary, but impossible, on this account, that the thought should be expressed by an eternal sentence. It is not the right kind of thought for an eternal sentence to express.

Second, and closely related, this notion of a thought would violate the criteria of difference.

Suppose I am viewing the harbor from downtown Oakland; the bow and stern of the aircraft carrier *Enterprise* are visible, though its middle is obscured by a large building. The name "*Enterprise*" is clearly visible on the bow, so when I tell a visitor, "This is the *Enterprise*," pointing towards the bow, this is readily accepted. When I say, pointing to the stern clearly several city blocks from the bow, "That is the *Enterprise*," however, she refuses to believe me. By the criterion of difference, a different sense was expressed the first time than the second. On the present suggested criterion of identity for thoughts, the same thought was expressed; the incomplete sense was the same in both cases, and the value of the demonstratives was the *Enterprise* in both cases. To adopt this notion of a thought, Frege would have to give up the identification of sense expressed and thought expressed.

This is, of course, simply a variation on Frege's own Morning Star example. Suppose I point to Venus in the morning, and again in the evening, saying "That's the Morning Star." My listener may accept what I say the first time, and continue to think I was right, while rejecting what I say the second time. Here the *same* sentence has a different cognitive value at different times—for my listener has not changed her mind. The sentence does not have different cognitive values because the words have undergone a change of meaning, but because the sentence alone does not express the complete sense. Some supplementation is needed; here the gestures toward Venus provide it. But just what supplementation do they provide? If the supplementation were merely taken to be Venus, itself,—which is what the present proposal amounts to—then the sense of the sentence would have been supplemented in the same way on both occasions. But then we would have the same sense expressed in both occasions, in violation of the criterion of difference for senses.

Frege does not explicitly mention the demonstratives "this" and "that." So it is worth pointing out that examples can be constructed using demonstratives he does mention. For example, I might accept what you say at 11:50 p.m. when you utter "Russia and Canada quarrelled today," but disbelieve you at 12:15 a.m. when you utter "Russia and Canada quarrelled yesterday," having lost track of time.

Of course, Frege may have meant to introduce such a new notion of a thought at this point. That he does not explain it, counts against this interpretation. And what he goes on to say, in the next paragraphs, seems to make it totally implausible. There he discusses proper names, and arrives at a point where he has all the materials for this notion of a thought in his hand, so to speak, and yet passes up the opportunity to mold them into the new notion. He describes a situation in which two men express different thoughts with the sentence "Gustav Lauben has been wounded," one knowing him as the unique man born a certain day, the other as the unique doctor living in a certain house. He recognizes that these different thoughts are systematically equivalent:

The different thoughts which thus result from the same sentence correspond in their truth-value, of course; that is to say, if one is true then all are true, and if one is false then all are false.

But he insists,

Nevertheless their distinctness must be recognized.

His reason here is clearly a complex example he has just constructed, in which sentences expressing such informationally equivalent thoughts have different cognitive value:

It is possible that Herbert Garner takes the sense of the sentence 'Dr. Lauben has been wounded' to be true while, misled by false information, taking the sense of 'Gustav Lauben has been wounded' to be false. Under the assumptions given these thoughts are therefore different. [T, 25]

If demonstratives had driven Frege, three paragraphs before this, to the introduction of a class of thoughts, corresponding to a class of informationally equivalent thoughts of the old sort, I think he would have employed it, or at least mentioned it, here.

Senses, considered to be roles, cannot be thoughts. Thoughts, considered as information, cannot be senses. If Frege is to keep his identification of sense expressed by a sentence, with thought expressed by a sentence, he must find, somewhere, a completing sense.

Demonstratives as Providing A Completing Sense. How can we extract from a demonstrative, an appropriate completing sense? Such a sense, it seems, would have to be intimately related to, the sense of a unique description of the value of the demonstrative in the context of utterance. But where does such a description come from? "Today" seems to get us only to a day. And a day does not provide a particular description of itself.

In the case of proper names, Frege supposes that different persons attach different senses to the same proper name. To find the sense a person identifies with a given proper name, we presumably look at his beliefs. If he associates the sense of description *D* with Gustav Lauben, he should believe,

Gustav Lauben is *D*.

Perhaps, with demonstratives too, Frege supposes that speakers and listeners, in grasping the thought, provide the demonstrative with an appropriate sense. To understand a demonstrative, is to be able to supply a sense for it on each occasion, which determines as reference the value the demonstrative has on that occasion.⁴ This is, I think, as near as we are likely to come to what Frege had in mind.

⁴This interpretation was suggested to me by Dagfinn Føllesdal.

There is a problem here, with no analog in the case of proper names. One can attach the same sense to a proper name, once and for all. But, since the demonstrative takes a different value on different occasions, different senses must be supplied. So the demonstrative could not be regarded as an abbreviation, or something like an abbreviation, for some appropriate description.

But still, can we not say that for each person, the sense of the demonstrative "today" for that person on a given day, is just the sense of one of the descriptions *D* (or some combination of all the descriptions) such that on that day he believes,

Today is *D*.

One objection to this, is that we seem to be explaining the senses of sentences containing demonstratives in terms of beliefs whose natural expressions contain demonstratives. But there are three more serious problems.

The first problem might be called the *irrelevancy of belief*.⁵ The sense I associate with my use of a demonstrative, do not determine the thought expressed by a sentence containing that demonstrative.

Suppose I believe that today is the fourteenth of October, 1976. From that it does not follow that, when I utter

Today is sunny and bright

I express the thought

The fourteenth of October is sunny and bright.

For suppose today is really the fifteenth, cloudy, and dull. Then what I have said is wrong, whatever the weather was like on the fourteenth.

The second problem, we might call the *non-necessity of belief*. I can express a thought with "Today is sunny and bright"—that is, say something for which the question of truth arises—whether or not I associate any correct sense at all with "today." I may have no idea at all what day it is, and not be able, without

⁵In the three problems that follow, and the balance of the paper, I am much in debt to a series of very illuminating papers by Hector-Neri Castañeda. The fullest statement of his view is in "Indicators and Quasi-Indicators," *American Philosophical Quarterly*, Vol. 4 (1967): 85-100. See also "He": A Study in the Logic of Self-Consciousness," *Ratio*, VIII (1966): 130-157, and "On the Logic of Attributions of Self-Knowledge to Others," *Journal of Philosophy*, LXV (1968): 439-456. All the examples of what I later call "self locating knowledge" are adaptations from Castañeda, and the difficulties they raise for Frege's account are related to points Castañeda has made.

recourse to "today" or other demonstratives, to say anything about today at all, that does not describe dozens of other days equally well.

Both of these problems are illustrated by Rip Van Winkle. When he awakes on October 20, 1823, and says with conviction,

Today is October 20, 1803

the fact that he is sure he is right doesn't make him right, as it would if the thought expressed were determined by the sense he associated with "today." And, what is really the same point from a different angle, he doesn't fail to be wrong, as would be the case if "today" had to be associated with a completing sense which determined the value of "today" as reference, before the question of truth arose for sentences in which it occurs.

To state my third objection, the *nonsufficiency of belief*, I shall shift to an example using the demonstrative "I." I do so because the objection is clearest with respect to this demonstrative, and because some awareness of this problem might help explain how consideration of "I" led Frege to incommunicable senses.

Let us imagine David Hume, alone in his study, on a particular afternoon in 1775, thinking to himself, "I wrote the *Treatise*." Can anyone *else* apprehend the thought he apprehended by thinking this? First note that what he thinks is true. So no one could apprehend the same thought, unless they apprehended a true thought. Now suppose Heimson is a bit crazy, and thinks himself to be David Hume. Alone in his study, he says to himself, "I wrote the *Treatise*." However much his inner life may, at that moment, resemble Hume's on that afternoon in 1775, the fact remains: Hume was right, Heimson is wrong. Heimson cannot think the very thought to himself that Hume thought to himself, by using the very same sentence.

Now suppose Frege's general account of demonstratives is right. Then it seems that, by using the very same sense that Hume supplied for "I," Heimson should be able to think the same thought, without using "I," that Hume did using "I." He will just have to find a true sentence, which expresses the very thought Hume was thinking, when he thought to himself, "I wrote the *Treatise*." But there just does not seem to be such a thought.

Suppose Heimson thinks to himself, "The author of the *Inquiries* wrote the *Treatise*." This is true, for the sense used to

complete the sense of "() wrote the *Treatise*" determines Hume not Heimson as reference. But it seems clear that Hume could acknowledge "I wrote the *Treatise*" as true, while rejecting, "The author of the *Inquiries* wrote the *Treatise*." He might have forgotten that he wrote the *Inquiries*; perhaps Hume had episodes of forgetfulness in 1775. But then the thought Heimson thinks, and the one Hume apprehended, are not the same after all, by the identification of thoughts with senses, and the criterion of difference for senses.

One might suppose that, while there is no particular sentence of this sort that must have had, for Hume, the same cognitive value as "I wrote the *Treatise*," there must be some such sentence or other that would have had the same cognitive value for him.

But I see no reason to suppose this is so. For now we have reached just the point where the first objection takes hold. There is no reason to believe we are on each occasion each equipped with some nondemonstrative equivalent of the demonstratives we use and understand. This goes for "I" as well as "today." After all, as I am imagining Heimson, he does not have any correct demonstrative free description of himself at hand. Every correct demonstrative free description he is willing to apply to himself refers to Hume instead. I'm not at all sure that I have one for myself.

To keep the identification between thought and sense intact, Frege must provide us with a completing sense. But then his account of demonstratives becomes impausible.

II

Frege follows his general discussion of demonstratives by saying that "I" gives rise to certain questions. He then makes the point, with the examples concerning Dr. Lauben discussed above, that various persons might associate various senses with the same proper name, if the person were presented to them in various ways. This discussion seems intended to prepare the way for the startling claim about thoughts about ourselves,

Now everyone is presented to himself in a particular and primitive way, in which he is presented to no-one else. So, when Dr. Lauben thinks that he has been wounded, he will probably take as a basis this primitive way in which he is presented to himself. And only Dr. Lauben himself can grasp thoughts

determined in this way. But now he may want to communicate with others. He cannot communicate a thought which he alone can grasp. Therefore, if he now says 'I have been wounded', he must use the 'I' in a sense which can be grasped by others, perhaps in the sense of 'he is speaking to you at this moment', by doing which he makes the associated conditions of his utterance serve for the expression of his thought. [T, 25-26]

Frege's doctrine appears to be this. When I use "I" to communicate, it works like other demonstratives, and perhaps could even be replaced by some phrase which included only other demonstratives. The sense would be completed in whatever way is appropriate for sentences containing these demonstratives. When I use "I" to think about myself, however, it has an incommunicable sense.

This is not quite right, for Frege would not have thought it necessary, in order to think about myself, to use language at all. It is at this point that Frege makes his famous remark, about how the battle with language makes his task difficult, in that he can only give his readers the thought he wants them to examine dressed up in linguistic form.

Nevertheless, it seems clear that Frege thinks there are senses, for each of us, that determine us as reference, which are incommunicable, and which would be the natural sense to associate with "I" if it did happen to be used, not merely to communicate with others, but think about oneself.

I suggest this doctrine about "I" is a reaction to the problems just mentioned, the third in particular. I am not at all certain that this is so. Philosophers have come to hold somewhat similar views about the self, beliefs about oneself, and "I," without thinking as rigorously as Frege did about these matters. Perhaps Frege had adopted some such view independently of his thinking about demonstratives, and simply wished to show he could accommodate it. It seems to me more likely, however, that Frege was led to this view by his own philosophical work, in particular by some realization of the problems I have discussed for his general account, as they apply particularly to "I." All three problems turned on the failure to find a suitable description for the value of the demonstrative, whose sense would complete the sense of the sentence in just the right way. If the sense we are looking for is private and incommunicable, it is no wonder the search was in vain.

But the appeal to private and incommunicable senses cannot, I think, be a satisfactory resolution of the problem.

In the first place, I see no reason to believe that "everyone is presented to himself in a particular and primitive way." Or at least, no reason to accept this, with such a reading that it leads to incommunicable senses.

Suppose M is the private and incommunicable sense, which is to serve as the sense of "I" when I think about myself. M cannot be a complex sense, resulting from the compounding of simpler, generally accessible senses. For it seems clear that it is sufficient, to grasp the result of such compounding, that one grasp the senses compounded. So M will have to be, as Frege says, primitive.

A sense corresponds to an aspect or mode of presentation. (SR, 57, 58) There are, I hope, ways in which I am presented to myself, that I am presented to no one else, and aspects of me that I am aware of, that no one else is aware of. But this is not sufficient for Frege's purposes.

Suppose that only I am aware of the scratchiness of a certain fountain pen. Still, "thing which is scratchy" does not uniquely pick out this pen; this pen may not be the only one which falls under the concept this phrase stands for, though perhaps the only one of which I am aware. Similarly, just because there is some aspect, such that only I am aware that I have it, and M is the sense corresponding to that aspect, it does not follow that M determines as reference a concept that only I fall under, or that *the M*, (by which I mean the result of combining the sense of "the" with M), is a sense which determines just me as reference, and can appropriately be associated with my utterances of "I."

What is needed is a primitive aspect of me, which is not simply one that only I am aware of myself as having, but that I alone have. While there are doubtless complex aspects that only I have, and primitive aspects, that only I am aware of myself as having, I see no reason to believe there are primitive aspects, that only I have. Even if there were, if they were incommunicable, I should have no way of knowing there were, since I hardly ask others if they happened to have *mine*. So I shouldn't know that *the M* determined me as reference. But I do know that I am thinking about me, when I use the word "I" in thinking to myself.

My second point in opposition to incommunicable senses, is

that the third objection does not merely apply to "I," but to at least one other demonstrative, "now." However one may feel about one's private and unique aspects, Frege's doctrine must appear less plausible when it is seen that it must be extended to other demonstratives.

Suppose the department meeting is scheduled for noon, September 15, 1976. Then only at that time could we say something true with (5).

(5) The meeting starts now.

Now consider any of the informationally equivalent thoughts we might have had the day before, for example (6).

(6) The meeting starts at noon, September 15, 1976.

It seems that one could accept this day before, and continue to accept it right through the meeting, without ever accepting (5), and even rejecting it firmly precisely at noon, simply by completely losing track of time. So (5) and (6) express different senses, and so different thoughts. And it seems this would be true, no matter what nondemonstrative informational equivalent we came up with instead of (6). So with "now," as with "I," it is not sufficient, to grasp the thought expressed with a demonstrative, to grasp an informational equivalent with a complete sense. Frege will have to have, for each time, a primitive and particular way in which it is presented to us at that time, which gives rise to thoughts accessible only at that time, and expressible, at it, with "now." This strikes me as very implausible. An appeal to incommunicable senses won't serve to patch up Frege's treatment.

I will conclude by sketching an alternative treatment of these problems. I try to show just how these recent examples motivate a break between sense and thought, and how, once that break is made, senses can be treated as roles, thoughts as information, and the other examples we have discussed handled.

III

Consider some of the things Hume might have thought to himself,

I am David Hume
This is Edinburgh
It is now 1775.

We would say of Hume, when he thought such things, that he knew *who* he was, *where* he was, and *when* it was. I shall call these self locating beliefs. The objections, posed in the last section to Frege's account of demonstratives, may be put in the following way: Having a self locating belief does not consist in believing a Fregean thought.

We can see that having such beliefs *could* not consist *wholly* in believing Fregean thoughts. Consider Frege's timeless realm of generally accessible thoughts. If Hume's knowing he was Hume, consisted in his believing certain true thoughts in this realm, then it would seem that anyone else could know that *he* was Hume, just by believing those same thoughts. But only Hume can know, or even truly believe, that he is Hume. Analogous remarks apply to his knowing where he was, and when it was.

Either there are some thoughts only Hume can apprehend, and his believing he is Hume consists in believing those thoughts, or self locating knowledge does not consist wholly in believing some true subset of the Fregean thoughts. Frege chose the first option; let's see what happens when we choose the second.

We accept that there is no thought only Hume can apprehend. Yet only he can know he is Hume. It must not just be the thought that he thinks, but the way that he thinks it, that sets him apart from the rest of us. Only Hume can think a true thought, by saying to himself,

I am Hume.

Self locating knowledge, then requires not just the grasping of certain thoughts, but the grasping of them via the senses of certain sentences containing demonstratives.

To firmly embed in our minds the importance that thinking a thought via one sense rather than another can have, let us consider another example. An amnesiac, Rudolf Lingens, is lost in the Stanford library. He reads a number of things in the library, including a biography of himself, and a detailed account of the library in which he is lost. He believes any Fregean thought you think might help him. He still won't know who he is, and where he is, no matter how much knowledge he piles up, until that moment when he is ready to say,

This place is aisle five, floor six, of Main Library, Stanford.

I am Rudolf Lingens.

If self locating knowledge consists not merely in believing

certain thoughts, but believing them by apprehending certain senses, then senses cannot be thoughts. Otherwise it would make no sense to say that Hume and Heimson can apprehend all the same thoughts, but Hume can do so by apprehending different senses.

Let us then see how things begin to resolve themselves when this identification is given up. Let us speak of *entertaining* a sense, and apprehending a thought. So different thoughts may be apprehended, in different contexts, by entertaining the same sense (without supposing that it is an incomplete sense, somehow supplemented by a sense completer in the context), and the same thought, by entertaining different senses.

By breaking the connection between senses and thoughts, we give up any reason not to take the options closed to Frege. We can take the sense of a sentence containing a demonstrative to be a role, rather than a Fregean complete sense, and thoughts to be the new sort, individuated by object and incomplete sense, rather than Fregean thoughts. Though senses considered as roles, and thoughts considered as information, cannot be identified, each does its job in a way that meshes with the other. To have a thought we need an object and an incomplete sense. The demonstrative in context gives us the one, the rest of the sentence the other. The role of the entire sentence will lead us to Truth by leading us to a true thought, that is just in case the object falls under the concept determined as reference by the incomplete sense.⁶

Let us see how some of the examples we have discussed are handled.

We must suppose that both Hume and Heimson can entertain the same senses, and think the same thoughts. The difference between them is that they do not apprehend the same thoughts when they entertain the same senses. When Heimson entertains

⁶The notions of the role of a sentence, and of a thought as information, are similar to the concepts of *character* and *context* in David Kaplan's "On the logic of Demonstratives," xeroxed, UCLA Department of Philosophy. This is no accident, as my approach to these matters was formed, basically, as a result of trying to extract from this work of Kaplan's, and Kaplan himself, answers to questions posed by Castañeda's work. One should not assume that Kaplan would agree with my criticisms of Frege, my treatment of self locating knowledge, or the philosophical motivation I develop for distinguishing between sense and thought.

the sense of "I am the author of the *Treatise*" he apprehends the thought consisting of Heimson and the sense of "() is the author of the *Treatise*." This thought is false. When Hume entertains the same sense, he apprehends the thought consisting of Hume and the sense of "() is the author of the *Treatise*," which is true. Hume is right, Heimson is crazy.

Similarly, only at twelve noon can someone think the thought consisting of noon and the sense of "The meeting starts at ()" by entertaining the sense of "the meeting starts now."

Why should we have a special category of self locating knowledge? Why should we care how someone apprehends a thought, so long as he does? I can only sketch the barest suggestion of an answer here. We use senses to individuate psychological states, in explaining and predicting action. It is the sense entertained, and not the thought apprehended, that is tied to human action. When you and I entertain the sense of "A bear is about to attack me," we behave similarly. We both roll up in a ball and try to be as still as possible. Different thoughts apprehended, same sense entertained, same behavior. When you and I both apprehend the thought that I am about to be attacked by a bear, we behave differently. I roll up in a ball, you run to get help. Same thought apprehended, different sense entertained, different behavior. Again, when you believe that the meeting begins on a given day at noon by entertaining, the day before, the sense of "the meeting begins tomorrow at noon," you are idle. Apprehending the same thought the next day, by entertaining the sense of "the meeting begins now," you jump up from your chair and run down the hall.

What of the indirect reference? Is the indirect reference of a sentence containing a demonstrative in the scope of such a cognitive verb, the sense or the thought?

It seems, a priori, that the "believes that" construction (to pick a particular verb) could work either way. That is,

A believes that *S*

might be designed to tell us the sense *A* entertains, or the thought *A* apprehends. The first seems a little more efficient. If we know the sense entertained, we can compute the thought apprehended, given the believer's context.

Nevertheless, it is surely the thought apprehended that is the

indirect reference of a sentence containing a demonstrative in the scope of "believes." Consider (7), (8), and (9),

- (7) I believe that Russia and Canada quarrelled today.
- (8) Mary believed that Russia and Canada quarrelled today.
- (9) Mary believed that Russia and Canada quarrelled yesterday.

Suppose Mary utters (7) on August 1, and I want to report the next day on what she believed. If I want to report the sense entertained, I should use (8). But this gives the wrong result. Clearly I would use (9). To get from the sentence embedded in (9), to the thought Mary apprehended, we take the value of the demonstrative in the context of the belief reporter, not in the context of the believer.

It has been suggested that we try to use the sense entertained by the believer in reporting his belief, whenever possible. What we have just said does not conflict with this. The point is simply that the function of thought identification dominates the function of sense identification, and when we use demonstratives, there is almost always a conflict.

There will be no conflict, when one is dealing with eternal sentences, or when one is reporting one's own current beliefs. The need for distinguishing sense from thought will not be forced to our attention, so long as we concentrate on such cases.

Let us now consider the Morning Star example.

Mary says "I believe that is the Morning Star" in the morning while pointing at Venus, and "I believe that is not the Morning Star" at night while pointing at Venus. It seems that Mary, though believing falsely, has not changed her mind, and does not believe a contradiction.

As long as we think of thoughts as senses, it will seem that anyone who understands the relevant sentences, will not believe both a thought and its negation. So long as we think of senses as thoughts, we shall think that anyone who accepts a sense at one time, and its negation at another, must have changed her mind. The correct principle is simply that no thoughtful person will accept a sense and its negation in the same context, since just by understanding the language, she should realize that she would thereby believe both a thought and its negation.

We should take "believing a contradiction," in the sense in which thoughtful people don't do it, to mean accepting senses of the forms *S* and not-*S*, relative to the same context of utterance. Mary doesn't do this; she accepts *S* in the morning, not-*S* in the evening. Has she then changed her mind? This must mean coming to disbelieve a thought once believed. We shouldn't take it to mean coming to reject a sense once accepted. I can reject "Today is sunny and bright" today, though I accepted it yesterday, without changing my mind about anything. So Mary hasn't changed her mind, either.

What she does do, is believe a thought and its negation. (Here we take the negation of a thought consisting of a certain object and incomplete sense, to be the thought consisting of the same object, and the negation of the incomplete sense.) I am inclined to think that only the habit of identifying sense and thought makes this seem implausible.

I have tried to suggest how, using the concepts of sense, thought, and indirect reference in a way compatible with the way Frege introduced them, but incompatible with his identifications, sentences containing demonstratives can be handled. I do not mean to imply that Frege could have simply made these alterations, while leaving the rest of his system intact. The idea of individuating thoughts by objects, or sequences of objects, would be particularly out of place in his system. The identification of thought with complete sense was not impulsive, but the result of pressure from many directions. I do not claim to have traced the problems that come to surface with demonstratives back to their ultimate origins in Frege's system.

IV

I have argued that Frege's identification of senses of sentences with thoughts leads to grave problems when sentences containing demonstratives are considered. The utterance of such a sentence in a context seems to yield only an incomplete sense and an object, not a complete sense of the sort a Fregean thought is supposed to be. He probably supposed that context supplies not just an object, but somehow a completing sense. There seems no place for such a sense to be found, save in the mind

of the person who apprehends the thought expressed by the sentence. But to understand such a sentence, it is neither necessary nor sufficient to have grasped, and associated with the value of the demonstrative, any such sense. Frege's appeal to incommunicable senses in the case of "I," is probably an implausible attempt to deal with these problems. What is needed is to give up the identification of sense expressed with thought expressed. This would allow us to see the sense as a procedure for determining reference from a context, and the thought as identified by the incomplete sense and the value of the demonstrative. The identification of the thought, with the indirect reference of the sentence is the scope of a cognitive verb, need not be given up.⁷

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