

THOUGHTS ON DEMONSTRATIVES

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Logic

In this chapter, I propose to outline briefly a few results of my investigations into the theory of demonstratives: words and phrases whose intension is determined by the contexts of their use. Familiar examples of demonstratives are the nouns 'I', 'you', 'here', 'now', 'that', and the adjectives 'actual' and 'present'. It is, of course, clear that the extension of 'I' is determined by the context—if you and I both say 'I' we refer to different persons. But I would now claim that the intension is also so determined. The intension of an 'eternal' term (like 'The Queen of England in 1973') has generally been taken to be represented by a function which assigns to each possible world the Queen of England in 1973 of that world. Such functions would have been called *individual concepts* by Carnap. It has been thought by some—myself among others—that by analogy, the intension of 'I' could be represented by a function from speakers to individuals (in fact, the identity function). And similarly, that the intensions of 'here' and 'now' would be represented by (identity) functions on places and times. The role of contextual factors in determining the extension (with respect to such factors) of a demonstrative was thought of as analogous to that of a possible world in determining the extension of 'The Queen of England in 1973' (with respect to that possible world). Thus an enlarged view of an intension was derived. The intension of an expression was to be represented by a function from certain factors to the extension of the expression (with respect to those factors). Originally such factors were simply possible worlds, but as it was noticed that the so-called tense operators exhibited a

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structure highly analogous to that of the modal operators, the factors with respect to which an extension was to be determined were enlarged to include moments of time. When it was noticed that contextual factors were required to determine the extension of sentences containing demonstratives, a still more general notion was developed and called an 'index'. The extension of an expression was to be determined with respect to an index. The intension of an expression was that function which assigned to every index, the extension at that index. Here is a typical passage.

The above example supplies us with a statement whose truth-value is not constant but varies as a function of $i \in I$. This situation is easily appreciated in the context of time-dependent statements; that is, in the case where I represents the instants of time. Obviously the same statement can be true at one moment and false at another. For more general situations one must not think of the $i \in I$ as anything as simple as instants of time or even possible worlds. In general we will have

$$i = (w, t, p, a, \dots)$$

where the index i has many co-ordinates: for example, w is a *world*, t is a *time*, $p = (x, y, z)$ is a three-dimensional *position* in the world, a is an *agent*, etc. All these co-ordinates can be varied, possibly independently, and thus affect the truth-values of statements which have indirect reference to these coordinates. From the Advice of a prominent logician.)

A sentence ϕ was taken to be logically true if true at every index (in every 'structure'), and $\Box\phi$ was taken to be true at a given index (in a given structure) just in case ϕ was true at every index (in that structure). Thus the familiar principle of modal generalization: if $\models\phi$, then $\models\Box\phi$, is validated.

This view, in its treatment of demonstratives, now seems to me to have been technically wrong (though perhaps correctable by minor modification) and, more importantly, conceptually misguided.

Consider the sentence

(1) I am here now.

It is obvious that for many choices of index—i.e. for many quadruples (w, x, p, t) where w is a possible world, x is a person, p is a place, and t is a time—(1) will be false. In fact, (1) is true only with respect to those indices $\langle w, x, p, t \rangle$ which are such that in the world w , x is located at p at the time t . Thus (1) fares about on a par with

(2) David Kaplan is in Los Angeles on 21 April 1973.

(2) is contingent, and so is (1).

But here we have missed something essential to our understanding of

demonstratives. Intuitively, (1) is deeply, and in some sense universally, true. One need only understand the meaning of (1) to know that it cannot be uttered falsely. No such guarantees apply to (2). A *Logic of Demonstratives* which does not reflect this intuitive difference between (1) and (2) has bypassed something essential to the logic of demonstratives.

Here is a proposed correction. Let the class of indices be narrowed to include only the *proper* ones—namely, those $\langle w, x, p, t \rangle$ such that in the world w , x is located at p at the time t . Such a move may have been intended originally since improper indices are like impossible worlds; no such contexts *could* exist and thus there is no interest in evaluating the extensions of expressions with respect to them. Our reform has the consequence that (1) comes out, correctly, to be logically true. Now consider

(3) \square I am here now.

Since the contained sentence (namely (1)) is true at every proper index, (3) also is true at every proper index and thus also is logically true. (As would be expected by the aforementioned principle of modal generalization.)

But (3) should not be *logically* true, since it is false. It is certainly *not* necessary that I be here now. But for several contingencies, I would be working in my garden now, or even writing this in a location outside of Los Angeles.

Perhaps enough has now been said to indicate that there are difficulties in the attempt to assimilate the role of a *context* in a logic of demonstratives to that of a *possible world* in the familiar modal logics or a *moment of time* in the familiar tense logics.

I believe that the source of the difficulty lies in a conceptual confusion between two kinds of meaning. Ramifying Frege's distinction between sense and denotation, I would add two varieties of sense: content and character. The content of an expression is always taken *with respect to* a given context of use. Thus when I say

(4) I was insulted yesterday.

a specific content—*what I said*—is expressed. Your utterance of the same sentence, or mine on another day, would not express the same content. What is important to note is that it is not just the truth-value that may change; what is said is itself different. Speaking today, my utterance of (4) will have a content roughly equivalent to that which

(5) David Kaplan is insulted on 20 April 1973.

would have been spoken by you or anyone at any time. Since (5) contains no demonstratives, its content is the same with respect to all contexts. This content is what Carnap called an 'intension' and what, I believe, has been referred to as a 'proposition'. So my theory is that different contexts for (4) produce not just different truth-values, but different propositions.

Turning now to character, I call that component of the sense of an expression which determines how the content is determined by the context, the 'character' of an expression. Just as contents (or intensions) can be represented by functions from possible worlds to extensions, so characters can be represented by functions from contexts to contents. The character of 'I' would then be represented by *the function (or rule, if you prefer) which assigns to each context that content which is represented by the constant function from possible worlds to the agent of the context*. The latter function has been called an 'individual concept'. Note that the character of 'I' is represented by a function from contexts to individual concepts, not from contexts to individuals. It was the idea that a function from contexts to individuals could represent the intension of 'I' which led to the difficulties discussed earlier.

Now what is it that a competent speaker of English knows about the word 'I'? Is it the content with respect to some particular occasion of use? No. It is the character of 'I': the rule italicized above. Competent speakers recognize that the proper use of 'I' is—loosely speaking—to refer to the speaker. Thus, that component of sense which I call 'character' is best identified with what might naturally be called 'meaning'.

To return, for a moment, to (1). The character (meaning) of (1) determines each of the following:

- (a) In different contexts, an utterance of (1) expresses different contents (propositions).
- (b) In most (if not all) contexts, an utterance of (1) expresses a contingent proposition.
- (c) In all contexts, an utterance of (1) expresses a true proposition (i.e. a proposition which is true at the world of the context).

On the basis of (c), we might claim that (1) is analytic (i.e. it is true solely in virtue of its meaning). Although as we see from (b), (1) rarely or never expresses a necessary proposition. This separation of analyticity and necessity is made possible—even, I hope, plausible—by distinguishing the kinds of entities of which 'is analytic' and 'is necessary' are properly predicated: characters (meanings) are analytic, contents (propositions) are necessary.

The distinction between character and content was unlikely to be

noticed before demonstratives came under consideration, because demonstrative-free expressions have a constant character, i.e. they express the same content in every context. Thus, character becomes an uninteresting complication in the theory.

Though I have spoken above of contents of utterance, my primary theoretical notion of *content with respect to a context* does not require that the agent of the context utter the expression in question. I believe that there are good reasons for taking this more general notion as fundamental.

I believe that my distinction between character and content can be used to throw light on Kripke's distinction between the a priori and the necessary. Although my distinction lies more purely within logic and semantics, and Kripke's distinction is of a more general epistemic metaphysical character¹, both seem to me to be of the same *structure*. (I leave this remark in a rather cryptic state.)

The distinction between content and character and the related analysis of demonstratives have certainly been foreshadowed in the literature (though they are original-with-me, in the sense that I did not consciously extract them from prior sources). But to my knowledge they have not previously been cultivated to meet the standards for logical and semantical theories which currently prevail. In particular, Strawson's distinction between the significance (meaningfulness) of a sentence and the statement (proposition) which is expressed in a given use is clearly related.² Strawson recognizes that such sentences as 'The *present* King of France is *now* bald' may express different propositions in different utterances, and he identifies the meaningfulness of the sentence with its potential for expressing a true or false proposition in some possible utterance. Though he does not explicitly discuss *the* meaning of the sentence, it is clear that he would not identify such a meaning with any of the propositions expressed by particular utterances. Unfortunately Strawson seems to regard the fact that sentences containing demonstratives can be used to express different propositions as immunizing such sentences against treatment by 'the logician'.

In order to convince myself that it is possible to carry out a consistent analysis of the semantics of demonstratives along the above lines, I have attempted to carry through the programme for a version of first order predicate logic. If my views are correct, the introduction of demonstratives into intensional logics will require more extensive reformulation than was thought to be the case.

¹ S. Kripke, 'Naming and Necessity', in Donald Davidson and Gilbert Harman (eds.), *Semantics of Natural Language* (Dordrecht: Reidel, 1972), 253-355; Addenda, pp. 763-9.

² P. Strawson, *Introduction to Logical Theory* (New York: John Wiley & Sons, 1952).

Epistemology

How do content and character serve as objects of thought?³ Let us state Frege's problem

(FP) How can (an occurrence of) $[\alpha = \beta]$ (in a given context), if true, differ in cognitive significance from (an occurrence of) $[\alpha = \alpha]$ (in the same context)?

In (FP) α, β are arbitrary singular terms. (In future formulations, I will omit the parentheticals as understood.) When α and β are demonstrative free, Frege explained the difference in terms of his notion of sense. A notion which, his writings generally suggest, should be identified with our *content*. But it is clear that Frege's problem can be reinstated in a form in which resort to contents will not explain differences in 'cognitive significance'. We need only ask,

(FPD) How can $[\text{dthat}[\alpha] = \text{dthat}[\beta]]$ if true, differ in cognitive significance from $[\text{dthat}[\alpha] = \text{dthat}[\alpha]]$?

Since, as we shall show, for any term γ ,

$[\gamma = \text{dthat}[\gamma]]$ is analytic

the sentence pair in (FP) will differ in cognitive significance if and only if the sentence pair in (FPD) differ similarly. [There are a few assumptions built in here, but they are O.K.] Note, however, that the *content* of $[\text{dthat}[\alpha]]$ and the *content* of $[\text{dthat}[\beta]]$ are the same whenever $[\alpha = \beta]$ is true. Thus the difference in cognitive significance between the sentence pair in (FPD) cannot be accounted for in terms of content.

If Frege's solution to (FP) was correct, then α and β have different contents. From this it follows that $[\text{dthat}[\alpha]]$ and $[\text{dthat}[\beta]]$ have different characters. [It doesn't really, because of the identification of contents with intensions, but let it pass.] Is character, then, the object of thought?

If you and I both say to ourselves,

(B) 'I am getting bored'

have we thought the same thing? We could not have, because what you thought was true while what I thought was false.

What we must do is disentangle two epistemological notions: *the objects of thought* (what Frege called 'Thoughts') and the *cognitive significance of*

³ This section has benefited from the opportunity to read, and discuss with him, John Perry's paper 'Frege on Demonstratives', which first appeared in *Philosophical Review*, 86 (Oct. 1977), 474-97, and appears now as ch. 3 in this volume.

an object of thought. As has been noted above, a character may be likened to a manner of presentation of a content. This suggests that we identify objects of thought with contents and the cognitive significance of such objects with characters.

Principle I: Objects of thought (Thoughts) = Contents

Principle II: Cognitive significance of a Thought = Character

According to this view, the thoughts associated with $[dthat[\alpha] = dthat[\beta]]$ and $[dthat[\alpha] = dthat[\alpha]]$ are the same, but the thought (not the denotation, mind you, but the *thought*) is *presented* differently.

It is important to see that we have not *simply* generalized Frege's theory, providing a higher order Fregean sense for each name of a regular Fregean sense.⁴ In Frege's theory, a given manner of presentation presents the same object to all mankind.⁵ But for us, a given manner of presentation—a character—what we both said to ourselves when we both said (B)—will, in general, present different objects (of thought) to different persons (and even different Thoughts to the same person at different times).

How then can we claim that we have captured the idea of cognitive significance? To break the link between cognitive significance and universal Fregean senses and at the same time forge the link between cognitive significance and character we must come to see the *context-sensitivity* (dare I call it ego-orientation?) of cognitive states.

Let us try a Putnam-like experiment. We raise two identical twins, Castor and Pollux, under qualitatively identical conditions, qualitatively identical stimuli, etc. If necessary, we may monitor their brain states and make small corrections in their brain structures if they begin drifting apart. They respond to all cognitive stimuli in identical fashion.⁶ Have we not been successful in achieving the same cognitive (i.e. psychological) state? Of course we have, what more could one ask! But wait, they believe different things. Each sincerely says,

⁴ According to Church, such higher order Fregean senses are already called for by Frege's theory.

⁵ See his remarks in 'On Sense and Nominatum' regarding the 'common treasure of thoughts which is transmitted from generation to generation' and remarks there and in 'The Thought' in connection with tensed sentences, that 'Only a sentence supplemented by a time-indication and complete in every respect expresses a thought.'

⁶ Perhaps it should be mentioned here, to forestall an objection, that neither uses a proper name for the other or for himself—only 'my brother' and 'I'—and that raising them required a lot of environmental work to maintain the necessary symmetries, or, alternatively, a lot of work with the brain state machine. If proper names are present, and each uses a different name for himself (or, for the other), they will never achieve the same *total* cognitive state since one will sincerely say, 'I am Castor' and the other will not. They may still achieve the same cognitive state in its relevant part.

My brother was born before I was

and the beliefs they thereby express conflict. In this, Castor speaks the truth, while Pollux speaks falsely. This does not reflect on the identity of their cognitive states, for, as Putnam has emphasized, circumstances alone do not determine extension (here, the truth-value) from cognitive state. In so far as distinct persons can be in the same cognitive state, Castor and Pollux are.

Corollary I: It is an almost inevitable consequence of the fact that two persons are in the same cognitive state, that they will disagree in their attitudes towards some object of thought.

The corollary applies equally well to the same person at different times, and to the same person at the same time in different circumstances.⁷ In general, the corollary applies to any individuals x , y , in different contexts.

My aim was to argue that the cognitive significance of a word or phrase was to be identified with its character, the way the content is presented to us. In discussing the twins, I tried to show that persons could be in the same total cognitive state and still, as we would say, believe different things. This doesn't prove that the cognitive content of, say, a single sentence or even a word is to be identified with its character, but it strongly suggests it.

Let me try a different line of argument. We agree that a given content may be presented under various characters and that consequently we may hold a propositional attitude towards a given *content* under one character but not under another. (For example, on 27 March of this year, having lost track of the date, I may continue to hope to be finished by this 26 March, without hoping to be finished by yesterday.) Now instead of arguing that character is what we would ordinarily call cognitive significance, let me just ask why we should be interested in the character under which we hold our various attitudes. Why should we be interested in that special kind of significance that is sensitive to the use of indexicals; 'I', 'here', 'now', 'that', and the like? John Perry, in his stimulating and insightful paper 'Frege on Demonstratives' asks and answers this question. [Perry uses 'thought' where I would use 'object of thought' or 'content', he uses 'apprehend' for 'believe' but *note that other psychological verbs would yield analogous cases*. I have taken a few liberties in substituting my own terminology for Perry's and have added the emphasis.]

⁷ The corollary would also apply to the same person at the same time in the same circumstances but in different places, if such could be.

Why should we care under what character someone apprehends a thought, so long as he does? I can only sketch the barest suggestion of an answer here. *We use the manner of presentation, the character, to individuate psychological states, in explaining and predicting action.* It is the manner of presentation, the character and not the thought apprehended, that is tied to human action. When you and I have beliefs under the common character 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 character, same behavior. When you and I both apprehend 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 characters, different behaviors.⁸

Perry's examples can be easily multiplied. My hope to be finished by a certain time is sensitive to how the content corresponding to the time is presented, as 'yesterday' or as 'this 26 March'. If I see, reflected in a window, the image of a man whose pants appear to be on fire, my behaviour is sensitive to whether I think, 'His pants are on fire', or 'My pants are on fire', though the object of thought may be the same.

So long as Frege confined his attention to indexical free expressions, and given his theory of proper names, it is not surprising that he did not distinguish objects of thought (content) from cognitive significance (character), for that is the realm of *fixed* character and thus, as already remarked, there is a natural identification of character with content. Frege does, however, discuss indexicals in two places. The first passage, in which he discusses 'yesterday' and 'today' I have already discussed. Everything he says there is essentially correct. (He does not go far enough.) The second passage has provoked few endorsements and much scepticism. It too, I believe, is susceptible of an interpretation which makes it essentially correct. I quote it in full.

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 that can be grasped by others, perhaps in the sense of 'he who 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.⁹

What is the particular and primitive way in which Dr Lauben is presented to himself? What cognitive content presents Dr Lauben to himself, but presents him to nobody else? Thoughts determined this way can be grasped by Dr Lauben, but no one else can grasp *that* thought

⁸ Perry, 'Frege on Demonstratives', p. 494.

⁹ G. Frege, 'The Thought: A Logical Inquiry', *Mind*, 65 (1956), p. 298.

determined in *that* way. The answer, I believe, is, simply, that Dr Lauben is presented to himself under the character of 'I'.

A sloppy thinker might succumb to the temptation to slide from an acknowledgement of the privileged *perspective* we each have on ourselves—only I can refer to me as 'I'—to the conclusions: first, that this perspective necessarily yields a privileged *picture* of what is seen (referred to), and second, that this picture is what is intended when one makes use of the privileged perspective (by saying 'I'). These conclusions, even if correct, are not forced upon us. The character of 'I' provides the acknowledged privileged perspective, whereas the analysis of the content of particular occurrences of 'I' provides for (and needs) no privileged pictures. There may be metaphysical, epistemological, or ethical reasons why I (so conceived) am especially *important* to myself. (Compare: why *now* is an especially important time to me. It too is presented in a particular and primitive way, and this moment cannot be presented at any other time in the same way.)¹⁰ But the phenomenon noted by Frege—that everyone is presented to himself in a particular and primitive way—can be fully accounted for using only our semantical theory.

Furthermore, regarding the first conclusion, I sincerely doubt that there is, for each of us on each occasion of the use of 'I', a particular, primitive, and incommunicable Fregean self-concept which we tacitly express to ourselves. And regarding the second conclusion: even if Castor were sufficiently narcissistic to associate such self-concepts with his every use of 'I', his twin Pollux, whose mental life is qualitatively identical with Castor's, would associate the *same* self-concept with *his* every (matching) use of 'I'.¹¹ The second conclusion would lead to the absurd result that when Castor and Pollux each say 'I', they do not thereby distinguish themselves from one another. (An even more astonishing result is possible. Suppose that due to a bit of self-deception the self-concept held in common by Castor and Pollux fits neither of them. The second conclusion then leads irresistibly to the possibility that when Castor and Pollux each say 'I' they each refer to a third party!)

The perceptive reader will have noticed that the conclusions of the sloppy thinker regarding the pure indexical 'I' are not unlike those of the Fregean regarding true demonstratives. The sloppy thinker has adopted a *demonstrative theory of indexicals*: 'I' is synonymous with 'this person'

¹⁰ At other times, earlier and later, we can know it only externally, by description as it were. But now we are directly acquainted with it. (I believe I owe this point to John Perry.)

¹¹ Unless, of course, the self-concept involved a bit of direct reference. In which case (when direct reference is admitted) there seems no need for the whole theory of Fregean self-concepts. Unless, of course, direct reference is limited to items of direct acquaintance, of which more below.

[along with an appropriate *subjective* demonstration], 'now' with 'this time', 'here' with 'this place' [each associated with some demonstration], etc. Like the Fregean, the sloppy thinker errs in believing that the sense of the demonstration is the sense of the indexical, but the sloppy thinker commits an additional error in believing that such senses are in any way necessarily associated with uses of pure indexicals. The slide from privileged perspective to privileged picture is the sloppy thinker's original sin. Only one who is located in the exact centre of the Sahara Desert is entitled to refer to that place as 'here', but aside from that, the place may present no distinguishing features.¹²

The sloppy thinker's conclusions may have another source. Failure to distinguish between the cognitive significance of a thought and the thought itself seems to have led some to believe that the elements of an object of thought must each be directly accessible to the mind. From this it follows that if a singular proposition is an object of thought, the thinker must somehow be immediately acquainted with each of the individuals involved. But, as we have seen, the situation is rather different from this. Singular propositions may be presented to us under characters which neither imply nor presuppose any special form of acquaintance with the individuals of the singular propositions. The psychological states, perhaps even the epistemological situations, of Castor and Pollux are alike, yet they assert distinct singular propositions when they each say 'My brother was born before me'. Had they lived at different times they might still have been situated alike epistemologically while asserting distinct singular propositions in saying 'It is quiet here now'. A kidnapped heiress, locked

¹² So far, we have limited our attention to the 3 sentences of the quotation from Frege. How are we to account for the second part of Frege's remarks?

Suppose Dr Lauben wants to communicate his thought without disturbing its cognitive content. (Think of trying to tell a colour-blind person that the green light should be replaced. You would have to find another way of communicating what you wanted to get across.) He can't communicate *that* thought with *that* significance, so, he himself would have to attach a non-standard significance to 'I'. Here is a suggestion. He points at his auditor and uses the demonstrative 'you'. If we neglect fine differences in perspective, the demonstration will have the same character for all present and it certainly will have the same demonstratum for all present, therefore the demonstrative will have the same *character and content* for all present. The indexical 'now' will have the same character and content for all present. Thus 'the person who is speaking to you [points] now' will have a common character and content for all those present. Unfortunately the content is not that of 'I' as Dr Lauben standardly uses it. He needs a demonstrative like 'dthat' to convert the description to a term with a fixed content. He chooses the demonstrative 'he', with a relative clause construction to make clear his intention. Now, if Dr Lauben uses 'I' with the non-standard meaning usually attached to 'he who is speaking to you [points] now' he will have found a way to communicate his original thought in a form whose cognitive significance is common to all. Very clever. Dr Lauben.

[Perhaps it is poor pedagogy to join this fanciful interpretation of the second part of the passage with the serious interpretation of the first part.]

in the trunk of a car, knowing neither the time nor where she is, may think 'It is quiet here now' and the indexicals will remain directly referential.¹³

Corollary II: Ignorance of the referent does not defeat the directly referential character of indexicals.

From this it follows that a special form of knowledge of an object is neither required nor presupposed in order that a person may entertain as object of thought a singular proposition involving that object.

There is nothing inaccessible to the mind about the semantics of direct reference, even when the reference is to that which we know only by description. What allows us to take various propositional attitudes towards singular propositions is not the form of our acquaintance with the objects but is rather our ability to manipulate the conceptual apparatus of direct reference.¹⁴

The foregoing remarks are aimed at refuting *Direct Acquaintance Theories of direct reference*. According to such theories, the question whether an utterance expresses a singular proposition turns, in the first instance, on the speaker's *knowledge of the referent* rather than on the *form of the reference*. If the speaker lacks the appropriate form of acquaintance with the referent, the utterance cannot express a singular proposition, and any apparently directly referring expressions used must be abbreviations or disguises for something like Fregean descriptions. Perhaps the Direct Acquaintance theorist thought that only a theory like his could permit singular propositions while still providing a solution for Frege's problem. If we could *directly* refer to a given object in non-equivalent ways (e.g., as 'dthat[Hes]' and 'dthat[Phos]'), we could not—so he thought—explain the difference in cognitive significance between the appropriate instances of $[\alpha = \alpha]$ and $[\alpha = \beta]$. Hence, the objects susceptible to direct reference must not permit such reference in inequivalent ways. These objects must, in a certain sense, be wholly local and completely given so that for any two *directly* coreferential terms α and β , $[\alpha = \beta]$ will be uninformative to anyone appropriately situated, epistemologically, to be able to use these terms.¹⁵ I hope that my discussion of the two kinds of meaning—content and character—will have

¹³ Can the heiress plead that she could not have believed a singular proposition involving the place p since when thinking 'here' she didn't *know* she was at p , that she was, in fact, unacquainted with the place p ? No! Ignorance of the referent is no excuse.

¹⁴ This makes it sound as if an exact and conscious mastery of semantics is prerequisite to having a singular proposition as object of thought. I will try to find a better way to express the point in a succeeding draft.

¹⁵ For some consequences of this view with regard to the interpretation of demonstratives see 'Bob and Carol and Ted and Alice,' appendix VII in J. Hintikka *et al.* (eds.), *Approaches to Natural Language* (Dordrecht: Reidel, 1973), 490–518.

shown the Direct Acquaintance theorist that his views are not the inevitable consequence of the admission of directly referential terms. From the point of view of a lover of direct reference this is good, since the Direct Acquaintance theorist admits direct reference in a portion of language so narrow that it is used only by philosophers.¹⁶

I have said nothing to dispute the epistemology of the Direct Acquaintance theorist, nothing to deny that there exists his special kind of object with which one can have his special kind of acquaintance. I have only denied the relevance of these epistemological claims to the semantics of direct reference. If we sweep aside metaphysical and epistemological pseudo-explanations of what are essentially semantical phenomena, the result can only be healthy for all three disciplines.

Before going on to further examples of the tendency to confuse metaphysical and epistemological matters with phenomena of the semantics of direct reference, I want to raise briefly the problem of *cognitive dynamics*. Suppose that yesterday you said, and believed it, 'It is a nice day today.' What does it mean to say, today, that you have retained *that* belief? It seems unsatisfactory just to believe the same content under any old character—where is the *retention*?¹⁷ You *can't* believe that content under the same character. Is there some obvious standard adjustment to make to the character, for example, replacing *today* with *yesterday*? If so, then a person like Rip van Winkle, who loses track of time, can't retain any such beliefs. This seems strange. Can we only *retain*

¹⁶ There is an obvious connection between the fix in which the Direct Acquaintance theorist finds himself, and *Kripke's problem*: how can $[\alpha = \beta]$ be informative if α and β differ in neither denotation nor sense (nor, as I shall suggest is the case for proper names, character)?

¹⁷ The sort of case I have in mind is this. I first think, 'His pants are on fire.' I later realize, 'I am he' and thus come to think 'My pants are on fire.' Still later, I decide that I was wrong in thinking 'I am he' and conclude 'His pants were on fire.' If, in fact, I *am* he, have I *retained* my belief that my pants are on fire simply because I believe the same content, though under a different character? (I also deny that content under the former, but for change of tense, character.) When I first thought 'My pants are on fire', a certain singular proposition, call it 'Eek', was the object of thought. At the later stage, both Eek and its negation are believed by me. In this sense, I still believe what I believed before, namely Eek. But this does not capture my sense of *retaining a belief*: a sense that I associate with saying that some people have a very rigid cognitive structure whereas others are very flexible. It is tempting to say that cognitive dynamics is concerned not with retention and change in what is believed, but with retention and change in the characters under which our beliefs are held. I think that this is basically correct. But it is not obvious to me what relation between a character under which a belief is held at one time and the set of characters under which beliefs are held at a later time would constitute retaining the original belief. Where indexicals are involved, for the reasons given below, we cannot simply require that the very same character still appear at the later time. Thus the problem of cognitive dynamics can be put like this: what does it mean to say of an individual who at one time sincerely asserted a sentence containing indexicals that at some later time he has (or has not) *changed his mind* with respect to his assertion? What sentence or sentences must he be willing to assert at the later time?

beliefs presented under a fixed character? This issue has obvious and important connections with Lauben's problem in trying to communicate the thought he *expresses* with 'I have been wounded.' Under what character must his auditor believe Lauben's thought in order for Lauben's communication to have been successful? It is important to note that if Lauben said 'I am wounded' in the usual meaning of 'I', there is no one else who can report what he said, using *indirect* discourse, and convey the cognitive significance (to Lauben) of what he said. This has interesting consequences for the inevitability of so-called *de re* constructions in indirect discourse languages which contain indexicals. (I use 'indirect discourse' as a general term for the analogous form of all psychological verbs.)

A prime example of the confusion of direct reference phenomena with metaphysical and epistemological ideas was first vigorously called to our attention by Saul Kripke in *Naming and Necessity*. I wish to parallel his remarks disconnecting the a priori and the necessary.

The form of a prioricity that I will discuss is that of logical truth (in the logic of demonstratives). We saw very early that a truth of the logic of demonstratives, like 'I am here now', need not be necessary. There are many such cases of logical truths which are not necessary. If α is any singular term, then

$$\alpha = \text{dthat}[\alpha]$$

is a logical truth. But

$$\square (\alpha = \text{dthat}[\alpha])$$

is generally false. We can, of course, also easily produce the opposite effect.

$$\square (\text{dthat}[\alpha] = \text{dthat}[\beta])$$

may be true, although

$$\text{dthat}[\alpha] = \text{dthat}[\beta]$$

is not logically true, and is even logically equivalent to the contingency,

$$\alpha = \beta.$$

(I call ϕ and ψ logically equivalent when $[\phi \leftrightarrow \psi]$ is logically true.) These cases are reminiscent of Kripke's case of the terms, 'one meter' and 'the length of bar x '. But where Kripke focuses on the special epistemological situation of one who is present at the dubbing, the

descriptive meaning associated with our directly referential term d that $[a]$ is carried in the semantics of the language.¹⁸

How can something be both logically true, and thus *certain*, and *contingent* at the same time? In the case of indexicals the answer is easy to see.

E. Corollary III: The bearers of logical truth and of contingency are different entities. It is the character (or, the sentence, if you prefer) that is logically true, producing a true content in every context. But it is the content (the proposition, if you will) that is contingent or necessary.

As can readily be seen, the modal logic of demonstratives is a rich and interesting thing.

It is easy to be taken in by the effortless (but fallacious) move from certainty (logical truth) to necessity. In his important article 'Three Grades of Modal Involvement',¹⁹ Quine expresses his scepticism of the first grade of modal involvement: the sentence predicate and all it stands for, and his distaste for the second grade of modal involvement: disguising the predicate as an operator 'It is necessary that'. But he suggests that no new metaphysical undesirables are admitted until the third grade of modal involvement: quantification across the necessity operator into an open sentence.

I must protest. That first step let in some metaphysical undesirables, falsehoods. All logical truths are analytic, but they can go false when you back them up to ' \Box '.

One other notorious example of a logical truth which is not necessary,
I exist.

One can quickly verify that, in every context, this character yields a true proposition—but rarely a necessary one. It seems likely to me that it was a

¹⁸ A case of a seemingly different kind is that of the logical equivalence between an arbitrary sentence ϕ and the result of prefixing either or both of the indexical operators, 'it is actually the case that' (symbolized ' A ') and 'it is now the case that' (symbolized ' N '). The biconditional $\{(\phi \leftrightarrow AN\phi)\}$ is logically true, but prefixing either ' \Box ' or its temporal counterpart can lead to falsehood. It is interesting to note, in this case, that the parallel between modal and temporal modifications of sentences carries over to indexicals. The foregoing claims are verified by the formal system. Note that the formal system is constructed in accordance with Carnap's proposal that the intension of an expression be that function which assigns to each circumstance, the extension of the expression with respect to that circumstance. This has commonly been thought to insure that logically equivalent expressions have the same intension (Church's Alternative 2 among principles of individuation for the notion of sense) and that logically true sentences express the (unique) necessary proposition. Homework Problem: What went wrong here?

¹⁹ *Proceedings of the XI International Congress of Philosophy*, 14 (Brussels, 1953) 65–81; repr. in W. V. Quine, *The Ways of Paradox* (New York, 1966).

conflict between the feelings of contingency and of certainty associated with this sentence that has led to such painstaking examination of its 'proofs'. It is just a truth of logic!

Dana Scott has remedied one lacuna in this analysis. What of the premiss

I think

and the connective

Therefore ?

His discovery was that the premiss is incomplete, and that the last five words

up the logic of demonstratives

has been lost in an early manuscript version.²⁰

²⁰ Again, it is probably a pedagogical mistake to mix this playful paragraph with the preceding serious one.