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Sense, Reference, and Truth-Value Links*

How do my saying ‘It will be sunny tomorrow’ on the 31st of August and my saying ‘It is sunny today’ on the 1st of September hang together? That there obtains a close link between the two seems obvious. If the first statement is true, then so will be the second, which is why this connection has traditionally been captured in terms of the notion of a *truth-value link*.¹ Truth-value links play a vital part in our temporal reasoning. Our grasp of the meaning of past- or future-tensed statements seems to depend on our grasp of their connections with possible present-tensed statements made at the time they refer to.² However, it also seems that talk of truth-value links can’t be integrated into a traditional Fregean taxonomy of sense and reference.

It seems generally acknowledged that truth-value linked statements share the same reference, while they differ in sense. At the same time, it seems that what is characteristic about the connection between such statements can’t be captured in terms of the mere fact that they have the same reference in common. The explanation of the link between them must therefore lie in a correspondence not accounted for by the Fregean model. In what follows, I shall consider this argument in more detail. My suggestion will be that the existence of truth-value links does not force us to discard the Fregean picture, because a plausible account of truth-value links can be given in terms of the statements’ having the same sense.

Frege’s notion of a *thought* will be central to my account. Gareth Evans illustrates the basic idea behind this notion as follows:

“The sense of a sentence [...] is (in Frege’s terminology) a thought; and the single constraint Frege imposed upon his notion of thought was that it should conform to what we might call ‘the Intuitive Criterion of Difference’,

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¹ As far as I know, the term was first introduced in Dummett 1978, 363. In this paper, it will be used exclusively to pick out the systematic relations between co-referential indexical judgements made in different contexts. The naming of the phenomenon is somewhat unfortunate, since, as I will suggest, it is primarily the *cognitive* value of the judgements (i. e. their sense) which links them in the characteristic way.

² For a debate on this question see McDowell 1978 and Wright 1980.

namely, that the thought associated with one sentence S as its sense must be different from the thought associated with another sentence S' as *its* sense, if it is possible for someone to understand both sentences at a given time while coherently taking different attitudes towards them, i. e. accepting (rejecting) one while rejecting (accepting), or being agnostic about, the other" (Evans 1982, 18).

As Evans himself points out,³ the Intuitive Criterion of Difference, as it stands, does not provide us with the means to assess the identity or difference in sense of two sentences uttered at different times. Suppose we want to determine whether two statements made at different times t_1 and t_2 have the same sense or differ in sense. In order to apply Frege's criterion we would have to have a means of assessing both of them at the same time. That means, we would have to know what it would mean to utter at t_2 a sentence with the same sense as the one uttered at t_1 . However, this would presuppose that we already have an answer to our initial question, namely what it means for two sentences uttered at different times to have the same sense.

A particular problem with assessing indexical or demonstrative statements⁴ made at different times is that, whereas it is plausible to say that uttering the same type of *nonindexical* sentence usually means expressing the same thought, these two aspects obviously come apart where indexicals are involved. Following David Kaplan, I will use the notion of a *character* in order to denote that which statements expressed by the same words in different contexts have in common.⁵ The two statements 'It will be sunny tomorrow' and 'It is sunny today', made on the 31st of August and the 1st of September respectively, differ in character whereas the two statements effected by uttering 'It is sunny today' both on the 31st of August and the 1st of September agree in character. No matter how we will specify the sense of indexical statements in detail, we can already see at this point that they don't show the same connection between sameness of character and sameness of sense expressed as nonindexical statements.

But characters seem to enter into the specification of indexical statements in another way. There are good reasons for saying that genuine grasp of a statement containing a temporal indexical incurs an obligation on the speaker to assent to statements made at other times with which it is truth-value linked. We would not credit someone with a proper grasp of the concept 'today', for instance, were she not prepared to adjust her way of expressing herself to the

³ Cf. *ibid.*, 21; or Evans 1985, 308.

⁴ In the context of this paper, I will use these two terms more or less synonymously.

⁵ Cf. Kaplan 1989, 523f.

passing of time and to produce the corresponding statements containing ‘yesterday’ on the following day.⁶ Thus, a systematic variation can be observed in the characters of statements a subject uses to express her beliefs at different times. For this variation Kaplan has coined the term *cognitive dynamics*,⁷ and it is this phenomenon of cognitive dynamics which an account of indexical thought has to elucidate. In a different terminology, Michael Dummett summarizes the point as follows:

“The purpose [of the notion of a thought] is to do more than secure the absoluteness of the predicates ‘is true’ and ‘is false’: [It] is to subserve an account of the connection between ascription of truth-value to different utterances; that is, a semantic theory of token-reflexive expressions which will explain how the ascription of a particular truth-value to one utterance will entail the ascription of the same truth-value to another utterance” (Dummett 1981, 384).

The explanation of truth-value links is thus integral to an account of indexical thought, and the question is whether Frege’s theory of thoughts can supply such an explanation.

Consider the case discussed by John Perry, in which someone who has heard about a department meeting taking place at noon judges ‘The meeting will begin in ten minutes’ at 11:50 a.m., and judges ‘The meeting begins now’ at noon. According to Perry, these two judgements correspond to two different thoughts. He points out that there is an important connection between indexical thought and action and then observes that different actions are adequate in response to the two judgements.

“As time passes, I go from the state corresponding to ‘The meeting will begin’ to the one corresponding to ‘The meeting is beginning’ and finally to ‘The meeting has begun’. All along I believe of noon that it is when the meeting begins. But I believe it in different ways. And to these different ways of believing the same thing, different actions are appropriate: preparation, movement, apology” (Perry 1979, 19).

Perry sees himself as offering an extension to the Intuitive Criterion of Difference which is applicable to indexical thoughts entertained at different times. At the heart of this suggestion lies Perry’s insistence on there being a close connection between indexical thought and action which is absent in the case of nonindexical thought.⁸ The suggestion is that indexical thoughts must be individuated in terms of the actions they give rise to. This idea as it stands, how-

⁶ Frege (1984, 358) is often cited as textual evidence for this view in Frege.

⁷ Cf. Kaplan 1989, 537.

⁸ Cf. Pruitt forthcoming, sec. III.

ever, does not support the conclusion that truth-value linked statements differ in sense, because it leaves underdetermined the question as to precisely which actions we have to concentrate on when it comes to individuating indexical beliefs.

We must distinguish between two ways in which sentences involving indexicals can be said to capture the attitudes in virtue of which a subject's actions can be explained. I think both of the following principles are ultimately correct, but only one of them provides us with a criterion for individuating indexical thoughts:

- (1) Two sentences of the same character, S_1 and S_2 , uttered at t_1 and t_2 respectively, have associated with them as their senses thoughts which explain actions of the same type performed at t_1 and t_2 .
- (2) Two truth-value linked sentences, S_1 and S_2 , uttered at t_1 and t_2 respectively, have associated with them as their sense a thought which explains an action performed at the particular time t_x referred to by their indexical constituent.⁹

The first principle can be illustrated by saying that, if I believe 'The meeting will begin in ten minutes' both at 11:50 and at noon, this will typically explain why I display the same type of behaviour at 11:50 and at noon. Conversely, it typically makes a difference to what type of behaviour I display at 11:50 whether at 11:50 I believe 'The meeting will begin in ten minutes' or 'The meeting begins now'. However, two constraints are in operation here: In order for the belief 'The meeting begins in ten minutes' held at 11:50 to make me do anything at all at 11:50, other attitudes must be present which together with the belief in question yield an intention for me to act at 11:50, *and* in that intention 11:50 must be presented indexically. The attitudes 'The meeting will begin in ten minutes' and 'I should collect my papers ten minutes before the meeting' can only combine to yield a full explanation of an action performed ten minutes before the meeting starts, because 'The meeting will begin in ten minutes' implicitly contains an attitude of the type 'It is *now* ten minutes before the meeting'.

⁹ Several clarifications are in order here: A thought 'explains' an action in the sense used here if the subject holds a set of background beliefs and desires which are not sufficient to explain her acting, but which, together with the subject's endorsing the thought in question yield a full explanation of her acting. It is further assumed that the set of background beliefs and desires the subject holds is the same at t_1 , t_2 and t_x , i. e. the subject doesn't change her mind. Finally, two actions are of the same type if they are intentional under the same description, provided that this description does not contain a nonindexical temporal specification.

In general, the link between indexical thought and action can only be exploited for an account of the individuation of indexical thoughts if we can show the sense in which an appeal to indexical thoughts is ‘indispensable’ in the explanation of an action.¹⁰ And the first principle is misleading in this respect.¹¹ What allows us to explain an action performed at 11:50 in virtue of an attitude of the type ‘The meeting will begin in ten minutes’ entertained at that time is not so much the *character* of this attitude (as the first principle would suggest), but the fact that this attitude implicitly contains a demonstrative mode of presentation *of the time of action*.

But saying this does not interfere with our second principle. Rather, it can be seen as highlighting an instance of it. We have seen that the first principle can cover attitudes held under a non-present-tensed character only in so far as those attitudes also implicitly refer to the time when they are entertained under a present-tensed character. But it is not evident why the range of psychological explanations should be restricted to explanations of actions in terms of attitudes held simultaneously with them. We often form intentions long before we act upon them, and the second principle allows us to describe this more general case. It connects an action performed at one particular time with statements expressing the subject’s intention at various times which all contain a demonstrative mode of presentation of the time of action (employing different characters depending on context). But far from establishing a *difference* in sense between these truth-value linked statements this supports the view that in fact they express *one and the same thought*.

If someone thinks ‘I want to go swimming tomorrow’ on the 31st of August and ‘I want to go swimming today’ on the 1st of September, she can be seen as entertaining on two occasions one thought which is defined by its role in bringing about one particular action: her swimming on the 1st of September. Each of the different ways of describing this thought can figure in an explanation of this action, without this resulting in an explanatory overdetermination. Each of the individual descriptions has its explanatory value only derivatively, only in virtue of characterizing the same thought as the other. It is this thought which is indispensable for the action to occur. Similarly, we can say that for the subject the individual modes of expressing this thought have their cognitive value only derivatively, only in virtue of being modes of express-

¹⁰ Cf. Peacocke’s ‘Indispensability Thesis’: “No set of attitudes gives a satisfactory psychological explanation of a person’s acting on a given object unless the content of those attitudes includes a demonstrative mode of presentation *of that object*” (Peacocke 1981, 206; my emphasis).

¹¹ Note that the notion of a ‘character’ as it is introduced above can be extended to nonindexical statements, and that the first principle also applies to such statements.

ing this thought. In effect, we have arrived at a principle which explains the phenomenon of truth-value links in terms of there being one thought which each of a dynamic succession of truth-value linked utterances is an expression of.

References

- CAMPBELL, JOHN: Is Sense Transparent? *Proceedings of the Aristotelian Society* 88 (1987).
- DUMMETT, MICHAEL: The Reality of the Past. In: *Truth and Other Enigmas*, London 1978.
- DUMMETT, MICHAEL: *Frege. Philosophy of Language*, Second Edition, London 1981.
- EVANS, GARETH: *The Varieties of Reference*, ed. John McDowell, Oxford 1982.
- EVANS, GARETH: Understanding Demonstratives. In: *Collected Papers*, ed. Antonia Phillips, Oxford 1985.
- FREGE, GOTTLIB: *Collected Papers on Mathematics, Logic and Philosophy*, ed. Brian McGuinness, transl. Max Black et al., Oxford 1984.
- KAPLAN, DAVID: Demonstratives & Afterthoughts. In: *Themes from Kaplan*, ed. J. Almog/J. Perry/H. Wettstein, Oxford 1989.
- MCDOWELL, JOHN: On 'The Reality of the Past'. In: *Action and Interpretation. Studies in the Philosophy of the Social Sciences*, ed. C. Hookway/P. Pettit, Cambridge 1978.
- MCDOWELL, JOHN: De re Senses. *The Philosophical Quarterly* 34 (1984).
- PEACOCKE, CHRISTOPHER: Demonstrative Thought and Psychological Explanation. *Synthese* 49 (1981).
- PERRY, JOHN: Frege on Demonstratives. *The Philosophical Review* 86 (1977).
- PERRY, JOHN: The Problem of the Essential Indexical. *Noûs* 13 (1979).
- PRUIM, PETER E.: Elusive Thoughts. *Philosophical Studies* (forthcoming).
- WRIGHT, CRISPIN: Realism, Truth-Value Links, Other Minds and the Past. *Ratio* 22 (1980).