

A REPLY TO T.M. SIMPSON

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In his (1) T.M. Simpson criticises the nominalistic analysis of non-extensional contents that I gave in my (2). This analysis was originally written for the first edition of (2) over twelve years ago, and since then so much work has been done (and published) on the subject that I should obviously have to reformulate my treatment very considerably in order to come to terms with later developments. And I shall mention below two points where some reformulation is in any case necessary. However, these are not the points to which Simpson has directed his attention, and none of *his* criticisms suggest any serious difficulties in my analysis.

Simpson correctly remarks that in (2) I presented two different levels of analysis for non-extensional contents. At the first level all non-extensionality was taken to arise from the implicit or explicit occurrence of certain statement-forming operators on sayings: at the second, and more formal, level statements containing these operators were replaced by statements that were, in part, predications about tokens of sayings. So at the first level, for example

- (i) The Morning Star is necessarily the Morning Star becomes
- (ii) It is necessarily true that the Morning Star is the Morning Star

Then at the second level (ii) becomes

- (iii) There is a token x such that (x is necessarily-true) and (x is a-token-of-the-statement-that-the-Morning-Star-is-the-Morning-Star) and (x is true if and only if the-Morning-Star is the-Morning-Star)

where hyphenation connotes representation by a single term in the formal predicate-calculus analysans. I discussed this analytic strategy at considerable length in (1) and applied it to a variety of problems. And the rather bold claim I advanced on its behalf was that it had certain advantages over a Fregean analysis. First, it enables one to do greater justice to the wide variety of restrictions on substitutivity that occur in ordinary discourse. Secondly, it does not multiply types of sense and reference as a Fregean analysis does. Thirdly, it ends up with a formal analysans that is fully extensional and contains terms that have precisely the same reference as the terms in the original analysandum. But Simpson has, substantially, four reasons for rejecting my analysis in favour of the Fregean one.

Simpson's first main point in (1), pp. 492-3, is that a certain type of formula that I propose becomes vacuously true if there is no utterance-token in the universe. This is the formula

$$(iv) \quad (\exists F) ((w) (Fw \equiv Sw) ((x) (Fx \supset Bxy) \sim (\exists x) (FxBxz)))$$

where 'S' stands for 'is a certain single statement' and 'B' for 'believes'. I had specified that 'a property exists if and only if an instance of it exists' and intended this to rule out vacuity in (iv). But Simpson construes this specification as requiring that '(\exists F)' should be taken as an abbreviation for '(\exists x)Fx', where 'F' is uninterpreted and unbound, and he then has no difficulty in showing (iv) to be unsuited to its purpose. However, I in fact intended the specification in quite a different sense, which needs to be expanded as follows. We affirm that squareness exists, if and only if there is at least one square thing; we affirm that elasticity exists, if and only if there is at least one elastic thing; and so on: *ergo*, of any property, we affirm that it exists, if and only if it has an instance. In other words to affirm that a property F exists, which has the characteristic of being \emptyset , is to affirm that there is a predicate which is truly predicable of at least one thing and which makes the sentence-schema ' $\emptyset(F)$ ' come out true when it replaces 'F' in this schema. So Simpson's objection to (iv) does not stand.

The real trouble with (iv) seems to me to be the curious interpretation that I offered in (2) for 'S'. What is needed instead, I suspect, is to replace '(w) ($Fw \equiv Sw$)' in (iv) by ' $\emptyset(F)$ ', where ' $\emptyset(\dots)$ ' is a 2nd-order predicable with the sense of 'the property of being ... is a statement-specifying property'. An analogously substitutional interpretation would then have to be given for quantification over 2nd-order predicates, as for quantification over 1st-order ones.

Simpson's second criticism in (1), p. 497, is that I do not give any explanation why the law of extensionality does not hold for statements like (i) and (ii). But in fact one purpose of the second-level analysis, as in (iii), is to give such an explanation. As I say in (2), p. 211,

Once we grant that every statement containing a statement-forming operator on sayings has an equivalent which predicates something of some or all of a saying's tokens, we can easily see why there are so many different kinds and degrees of non-extensionality in informal discourse. Different predicates apply to sayings in virtue of different kinds of feature in them, just as 'hot', 'cold', etc., apply to an object in virtue of its temperature and 'red', 'yellow', etc., in virtue of its colour.

Change an object's temperature beyond a certain point and it may no longer be truly described as hot: change a sentence's wording in any other than trivial respects and it may no longer be described as the saying

that has this or that property.

Simpson's third criticism in (1), p. 499, is that the statement-specifying predicates introduced at my second level of analysis, like 'a-token-of-the-statement-that-the-Morning-Star-is-the-Morning-Star' are non-analysable units. Other sentences can be broken up in various ways, he says, so why cannot sentences containing these predicates? But another purpose of the second-level analysis (i.e. a purpose additional to the purpose mentioned in the preceding paragraph) is to achieve

ve a formal representation for sentences like (i). So we have to think of these predicates as syntactically atomic predicates in a formal language. Their complexity is purely semantic and is articulated in the clause of an analysans like (iii) that begins 'x is true if and only if ...' Thus the problem about the ordinary-language analysandum, like (i), is clarified in a second-level analysans, like (iii), by a distinction's being drawn between that aspect of the subordinate clause in the first-level analysans, like (ii), in virtue of which the subordinate clause ought to be treated as a unitary whole (e.g. the clause's actual wording), and that aspect (e.g. its truth-conditions) in virtue of which this subordinate clause admits of articulation into its component elements.

The real difficulty with these statement-specifying predicates is whether they can reasonably be claimed to belong to a learnable language. For if there has to be at least one such predicate for every declarative sentence of English, it is arguable that there must be infinitely many such statement-specifying predicates; and an artificial language that has infinitely many syntactically atomic predicables — like a natural language with infinitely many morphemes — looks like being unlearnable by finite beings. And if my second-level analysis has to formulate its analysans in an unlearnable language it is hardly worth taking seriously. In order to meet the objection, however, all I need to do is to be able to describe a way in which an appropriate artificial language could conceivably be learned in a finite period of time, and such a description can in fact be given. If we have a recursive enumeration of English declarative sentences, we may also recursively enumerate the statement-specifying predicates of our analytical language as the hyphenated versions of the declarative sentences of English, prefixed in each case by the hyphenated phrase 'a -token-of-the-statement-that-', where from any well-formed declarative English sentence we form its hyphenated version by concatenating each of its component words with hyphens. Then the meanings of all these predicates may be taught to an English-speaker at one swoop by saying that, for any English declarative sentence S, 'a-token-of-the-state-

ment-that ...', where the hyphenated version of S fills the blank, is to be assigned the same meaning as the English phrase 'a token of the statement that ...', where S itself fills the blank. Of course, since the subordinate clause in the latter phrase is essentially non-extensional it might now be objected that the analysis is essentially circular. But it was always an integral feature of the analysis that it assumed a prior grasp of the identity-conditions for sayings or statements, which were discussed informally at an earlier stage of (2), on pp. 161-172. (Actually, for the purposes of the analysis, we should only need to learn the meanings of those predicates that correspond to non-indexical declarative English sentences.)

Simpson's fourth criticism in (1), p. 500, is that at my second level of analysis the ordinary references of the putatively referring terms in a statement like (i) are wholly lost because such a statement is to be replaced by a statement about a saying — or rather about a token or tokens of a saying. But this is just a trivial misinterpretation. It is perfectly clear from pp. 233-234 of (2) — if these pages are read as a whole and individual passages are not taken out of context — that the original references are retained in the analysans, as in (iii). Such an analysans is not only a statement about (a token of) the statement or saying 'The Morning Star is the Morning Star': it is also, in virtue of the clause 'x is true if and only if ...', a statement about the Morning Star.

The above is my reply to Simpson's criticisms in (1). But it may be worth noting here that my second-level analysis has also been criticised by A.N. Prior in his (3), though I think that these criticisms were adequately answered in my (4). Finally, in his (5) M.J. Cresswell claimed to have proved the universal applicability of this method of analysis, with one or two qualifications, and I discussed this claim in my (6).

REFERENCES

- (1) Thomas M. SIMPSON, 'On a Nominalistic Analysis of Non-Extensional Contexts', *Logique et Analyse* 59-60 (Sep.-Dec. 1972) pp. 489-501.
- (2) L. JONATHAN COHEN, *The Diversity of Meaning*. London: Methuen. 2nd ed., 1966.
- (3) A.N. PRIOR, *Objects of Thought*. Oxford: Clarendon, 1971.
- (4) L. JONATHAN COHEN, Critical Notice of (3) in *Mind* lxxxii, no. 325, Jan. 1973, pp. 127-142.
- (5) M.J. CRESSWELL, 'Functions of Propositions', *Journal of Symbolic Logic* xxxi, 4, Dec. 1966, pp. 545-560.
- (6) L. JONATHAN COHEN, 'Geach's Problem about Intentional Identity', *Journal of Philosophy*, xlv, no. 11, May 30, 1968, pp. 329-336.