IDENTITY AND THE NECESSITY OPERATOR

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If Cicero is identical with Tully, does it follow that necessarily Cicero is identical with Tully ? It is not easy to say.

On the one hand, we surely wish to say that everything is identical with itself and that necessarily everything is identical with itself. But, on the other hand,

(1) Cicero = Tully

employs distinct names and so it does not appear to fall directly under the informal axiom: necessarily everything is identical with itself. Would

(2) Cicero = Cicero

do ? Well, certainly, 'Cicero' is the same name instanced in two tokens. But (2) is not true unless each token designates the same thing, say, the man Cicero. That is, the *only* way in which (2) may be taken as true is that both tokens of 'Cicero' denote one and the same man. On that (entirely plausible) reading, (2) is true and

(3) Necessarily Cicero = Cicero

is true. But as a proper name, 'Cicero' has no sense or connotation — whatever the conditions on which it may have been asigned to Cicero;[1] it is a linguistic counter used to refer or denote only and, in this case, to denote the man Cicero. If any *sentence* may be said to capture the sense of our axiom, (3) does; or, more perspicuously,

(3') Because Cicero = Cicero, necessarily Cicero = Cicero

does. It is perhaps possible to say that (2) is true but that (3) is not true or at least that there are no sufficient grounds for holding that (3) is true, since if 'Cicero' is a proper name — hence, having no sense in the sense in which descriptive expressions have sense — then (2) is not properly characterized as *analytic*. If it were analytic, then (3) would be true; but putative identities that employ only proper names may be said to be *degenerate* sentences — not, defective — since they have truth values but their terms lack connotation in virtue of which, on whatever theory of meaning to which we may provisionally subscribe, they can be straightforwardly judged to be either analytic or synthetic.

Still, if

(4) Whatever is round is round

is true, one might suppose that

(5) Necessarily whatever is round is round

is also true. But if (2) is open to equivocation, so is (4) The interesting point is that the equivocation will be of two different sorts. For, on the hypothesis, (2) may equivocate only on reference or denotation, and (4) may equivocate only on sense: 'round' need not have the same meaning in its two token instances (if we concede that a word may have plural meanings). But once we concede a univocal meaning to 'round', (4) is not only true but analytic; and *therefore*, (5) is true. The justification for this is sketched by Quine in the following way:

> The general idea of strict modalities is based on the putative notion of *analyticity* as follows: a statement of the form 'Necessarily . . .' is true if and only if the component statement which 'necessarily' governs is analytic . . . (2)

Difficulties about fixing analyticity do not concern us here. (2), if it is not analytic, is the closest analogue possible em-

ploying only proper names for terms. Hence, given that the referent of both tokens is the same, (2) is true; *and, on the condition that it is a sentence about a putative identity,* it is, because it is true, necessarily true. If we allow this conclusion to stand, we shall, at one and the same time, have provided an instance — the most plausible instance if there are any at all — of our informal axiom and have provided an instance of a necessarily true sentence *that is not analytic.*

Now, (3), if we allow it to stand as true, we must suppose to have employed 'necessarily' in the sense of logical necessity. As Hughes and Cresswell have it,

> when we say that a certain proposition is necessary, we do not mean that, things being as they are, or the world being as it is, it cannot fail to be true; but rather that it could not fail to be true *no matter how* things were, or no matter what the world turned out to be like. ([3])

Speaking of necessity *de dicto* and *de re,* they find no need to link these modalities to analyticity or to confine either to the boundaries of analyticity.([4]) (3), on their view, would exhibit necessity because 'Cicero' occurs as an individual constant within the scope of the operator. Nevertheless, its necessity can only be construed — precisely because it is an identity employing only proper names as terms — in terms of our axiom. Any departure from this view entails that the necessity of (3) cannot be that of logical necessity or else that (3) itself is false — on the curious thesis that it is only contingently or factually true that Cicero happens to be Cicero. Sentences in accord with our axiom, we must suppose, employ 'necessarily' in the sense of logical necessity.

What of

(6) Necessarily Cicero = Tully ?

By parity of reasoning, (6) must be true, simply because (1) is true. That is, if a putative identity is true, then since neces-

sarily everything is self-identical, every identity (that is, every sentence expressing a true identity) conforms with our axiom and is necessarily true. Since (1), like (2), employs only proper names as terms, *that* (1) is true can only be supported on the grounds that the two names denote the same man. But if they do so and if necessarily everything is self-identical and if sentences like (2) are necessarily true (as being in accord with our axiom), then there is no convincing basis for deying that (6) is true. It may be contingent that a certain man bore the names 'Cicero' and 'Tully' but it is necessarily true that that man is identical with himself — however identified.

Quine mentions a theorem of Fitch's, namely,

(T) $(a = b) \supset$ [necessarily $(a = b)$]

but he asks "whether 'a' and 'b' are to be conceived as bindable variables or merely as schematic letters for available names". ([5]) Here, we may consider a rough strategy for neutralizing the difference between *de dicto* and *de re* modalities applied to identities — that is, where questions of analyticity do not, as we have noted, felicitously arise. If we suppose that

(T') $(\forall a)(\forall b)\ \{(a = b) \supset$ [necessarily $(a = b)]\}$

formalizes our axiom, then we can take it that *de re* necessity applied to identities (T) is merely a convenient way of conveying identities for selected individual variables, when it is known that our axiom (T') is global, applies *de dicto*. It is the truth of (T') that supports (T) as well as particular identities, like (3) and (6), employing individual constants.

But if the foregoing be admitted, then won't we be bound to our view when we replace proper names by definite descriptions ? What of

(7) Scott = the author of *Waverly* ?

If (7) is true, as an identity distinct from

(7') Scott authored *Waverly*

which is admittedly contingent, then

(8) Necessarily Scott = the author of *Waverly*?

is true, though

(8') Necessarily Scott authored *Waverly*

is false. The only explanation, since once again analyticity is not pertinent, has to do with instantiating (T') and the use of Modus Ponens. And if this is so, then it ought to hold as well for sentences like

(9) Necessarily the man who lives next door = the mayor

on the assumption that

(10) The man who lives next door = the mayor

is true. That is, where definite descriptions are alone employed but where analyticity cannot be claimed even on the basis of associated indefinite descriptions, necessity can only be ascribed on the strength of (T'). Here, I can only admiringly concur with Hughes and Cresswell's account of (10):

> [(10)] it may be said, ... is contingent, for it is logically possible that the man who lives next door might not have been the mayor ... Now it is contingent that the man who is in fact the man who lives next door is the man who lives next door, for he might have lived somewhere else; that is, *living next door* is a property which belongs contingently, not necessarily, to the man to whom it does belong. And similarly, it is contingent that the man who is in fact the mayor is the mayor; for someone else might have been elected instead. But if we understand [(10): originally, 'The man who lives next door is the mayor'] to mean that the object which (as a matter of contingent fact) possesses the property of being the man who lives next door is identical with the object which (as a matter of contingent fact) possesses the property of being the

> mayor, then we are understanding it to assert that a certain object (variously described) is identical with itself, and this we need have no qualms about regarding as a necessary truth. ([6])

Construing our sentences in this spirit, it is easy to provide a solution to a well-known puzzle set by Quine, who claims that the necessity operator is opaque in modal contexts. Quine offers the pair of sentences

(11) Necessarily $9 > 4$

and

(12) Necessarily the number of major planets > 4.

Of these, Quine says,

> surely, on any plausible interpretation, [(11)] is true and [(12)] is false. Since 9 = the number of major planets, we can conclude that the position of '9' in [(11)] is not purely referential and hence that the necessity operator is opaque. ([7])

But the sign '>' ought to behave extensionally and a theorem corresponding to (T) and (T') ought to be formulable for relevant contexts. ([8]) By parity of reasoning, we may simply suppose that, althought it is contingently true that the number 9 numbers the major planets, it is necessarily true that *that* number (the number that numbers the major planets) > 4. The denial entails a contradiction.

There are, then, no contingent identities, though it is contingent that where different names or different definite descriptions are employed it is one and the same thing that bears those names and has the properties ascribed. Furthermore, on the argument, the necessity operator need not, in itself, be construed as producing referential opacity merely by prefacing sentences that do not themselves already exhibit opacity. In the light of the oddity of treating identities as contin-

gently true or of not providing a plausible ground for restricting necessarily true sentences expressing identity to substitution instances of the form 'a = a' or of not resisting contradictions, the advantages of the reading proposed are considerable.

FOOTNOTES

(1) Cf. Joseph MARGOLIS, "On Names: Sense and Reference", *American Philosophical Quarterly*, V (1968), 206-211.

(2) W. V. QUINE, "Reference and Modality", in his *From a Logical Point of View* (Cambridge: Harvard University Press, 1953), p. 143.

(3) G. E. HUGHES and M. J. CRESSWELL, *An Introduction to Modal Logic* (London: Methuen, 1968), p. 22f.

(4) HUGHES and CRESSWELL, *op. cit.*, pp. 183-184.

(5) QUINE, *op. cit.*, p. 154. Hughes and Cresswell cite corresponding views in Prior and Barcan, *op. cit.*, p. 190.

(6) HUGHES and CRESSWELL, *op. cit.*, p. 191.

(7) W. V. QUINE, *Word and Object* (Cambridge: MIT Press, 1960), § 41.

(8) I have explored Quine's cases in more detail in an as yet unpublished paper, "The Planets are Nine in Number".