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## ATTRIBUTIVENESS AND REFERENTIAL OPACITY

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The paper which I am about to present does not constitute a complete work in itself. Rather, it is a preface to the study of a number of related problems in the theory of reference. In this short paper I try to provide a framework for the explanation of a linguistic and logical phenomenon referred to by Quine (1953) as referential opacity. The point of view adopted differs considerably from that of Quine. In fact, it would be quite justified to call it neo-Fregian.

In recent years both linguists and philosophers of language have found the semantics of singular terms (proper names and definite descriptions) to be of considerable interest. One of the more puzzling problems in the study of singular terms is referential opacity. A singular term is said to be opaque when Leibniz's Law of the Indiscernability of Identicals fails.<sup>1</sup>

Leibniz's Law, as used here, is taken to be the principle that extensionally equivalent terms are freely substitutable *salva veritate*.<sup>2</sup> For instance, given (1),

- (1) the morning star=the evening star

on the basis of Leibniz's Law, if (2) is true, (3) must be true as well.

- (2) The morning star is a planet.  
(3) The evening star is a planet.

Contexts like (2) and (3), where extensional equivalents are freely substitutable, are, following Quine's *Word and Object* (1960), termed 'referentially transparent.' The substitution of extensional equivalents, however, does not always leave the truth value of a sentence unaffected. The purpose of this paper is to examine why in some cases substitution is blocked. In an earlier paper (Cole 1975), I suggested, without providing any rationale for my suggestion, that the sole source of opacity had to do with attributiveness. I proposed that only attributive descriptions (in the sense of Donnellan 1966) within the scope of verbs of propositional attitude, like *believe* and *know*, are not freely substitutable. In the present paper I attempt to provide a rationale for those somewhat bold claims.

I would like to begin by giving some examples of attributive and referential uses of descriptions. The italicized description in (4) invites an attributive interpretation.

- (4) *The best doctor* spares no efforts to save a patient.

When used attributively, the speaker of (4) need not know who the best doctor is. The speaker is claiming that whatever the identity of the best doctor may be--and this may vary from time to time<sup>3</sup>--the doctor describable as best spares no efforts to save his patients. Notice that if, at the time (4) is uttered, Dr. Frank Adams is the best doctor, (4), on the attributive interpretation, is not to be understood as a statement about Frank Adams. Rather, the statement is about the best doctor qua best doctor, not qua Frank Adams, nor qua whoever might be the best doctor at a particular time. To take another example, given that Oedipus wanted to marry Jocasta, and that Jocasta is Oedipus's mother, we still cannot say, on the attributive reading, that Oedipus wanted to marry his mother. To summarize, I interpret Donnellan to mean by 'attributive' that the description in question is a non-rigid designator in the sense of Kripke (1972). The description is essential to the proposition expressed, and may select different referents in different possible worlds.<sup>4</sup>

The attributive use is to be contrasted with referential use of descriptions. The italicized description in (5) is most naturally interpreted referentially.<sup>5</sup>

- (5) *The restaurant on Broadway between Grant and Stockton* serves great dim sum.

On the referential interpretation, the serving of great dim sum is not claimed by the speaker to be characteristic of whatever restaurant may be at that location. (There are in fact several.) Rather, the location is used in lieu of the name to indicate the identity of the restaurant under discussion. Sentence (5) is intended as a statement about a particular restaurant. That is, referential descriptions are assumed to function as rigid designators in the sense of Kripke (1972). They have the same referent in all possible worlds. Referential descriptions are in effect substituted for the proper names of the objects to which they refer.

To return to the matter of opacity, I propose that opacity results when a sentence containing an attributive description is embedded beneath a verb of propositional attitude. For instance, the truth of (6) and (7) does not insure the truth of (8). (The descriptions in (6) are intended attributively.)

- (6) the best doctor=the shortest basketball player
- (7) Tom believes that *the best doctor* spares no effort to save a patient.
- (8) Tom believes that *the shortest basketball player* spares no effort to save a patient.

Tom's belief about the ideally qualified physician does not extend to the ideally short basketball player--even when the world is such that they happen to be the same individual. Hence, (7) might be true and (8) false.

The substitution of equivalent referential descriptions in the scope of verbs like *believe* does not affect the truth value of the sentence. The truth of (9) and (10) guarantees the truth of (11). (The descriptions in (9) are intended referentially.)

- (9) the restaurant on Broadway between Grant and Stockton=the restaurant where Carol got poisoned last year
- (10) Tom believes that *the restaurant on Broadway between Grant and Stockton* serves great dim sum.
- (11) Tom believes that *the restaurant where Carol got poisoned last year* serves great dim sum.

If (9) and (10) are true, so is (11), although perhaps Tom wouldn't put it that way.

To digress for a moment, I would like to note that (10) and (11) do not seem to me to be ambiguous between an understanding in which the italicized descriptions are the speaker's descriptions and an understanding in which they are Tom's descriptions. Rather, I claim that responsibility for referential descriptions must always be attributed to the speaker. Tom may happen to agree with one or both of the descriptions, but this does not affect the truth of the sentences. At a later date I hope to have the opportunity to argue at length for this point.

I have given examples which show that referential descriptions under *believe* are referentially transparent and attributive descriptions are referentially opaque. The reason for this is that two sentences with extensionally equivalent referential descriptions express the same proposition, but two sentences with extensionally equivalent attributive descriptions do not. For example, (5) and (12) both express the same proposition:

- (5) *The restaurant on Broadway between Grant and Stockton* serves great dim sum.
- (12) *The restaurant where Carol got poisoned last year* serves great dim sum.

In both (5) and (12) the definite description has the function of picking out a single referent *r*. The varying descriptions simply identify *r* in different ways. Both sentences express the proposition (13).

(13) *r* serves great dim sum.<sup>6</sup>

If (13) is represented by *P*, both (10) and (11) may be represented as (14).

(14) Tom believes that *P*.

Sentences (10) and (11) express the same proposition and, therefore, have the same truth value.

But sentences containing extensionally equivalent attributive descriptions do not express the same proposition. This is because the description is an essential part of the proposition, and is not merely a device used to identify a referent, as is true of referential descriptions. Thus (4) and (15),

(4) *The best doctor* spares no efforts to save a patient.

(15) *The shortest basketball player* spares no effort to save a patient.

on the attributive reading, cannot be collapsed to a single proposition as (5) and (12) were. It follows that sentences (7) and (8) cannot be represented as (16),

(7) Tom believes that the best doctor spares no effort to save a patient.

(8) Tom believes that the shortest basketball player spares no efforts to save a patient.

(16) Tom believes that *Q*.

but, rather, as (17) and (18).<sup>7</sup>

(17) Tom believes that *R*.

(18) Tom believes that *S*.

Because (7) and (8) express different propositions, their truth values are independent.

To summarize my argument, I have suggested that the complements of verbs of propositional attitude are propositions, not sentences. When extensionally equivalent referential definite descriptions in the complement of such verbs are substituted for each other, this does not result in a change in the proposition expressed by the complement. Thus, there is no effect on the truth value of the matrix clause. But when extensionally

equivalent attributive definite descriptions are substituted for each other, the effect is quite different. The substitution alters the proposition expressed by the complement. It is this alteration that may affect the truth value of the matrix clause.

Viewed from a slightly different perspective, my analysis does not so much explain referential opacity as deny that opacity exists. Such a denial is far from revolutionary. It is, in fact, well within the Fregean tradition. Indeed, if the objects of verbs of propositional attitude are propositions, then the nonsynonymy which results from the substitution of distinct propositions would not seem to violate the spirit of Leibniz's Law. But it would require a reformulation of that law. The extensional formulation of that logical principle would, in the context of propositional attitude predicates, have to be replaced by an intensional formulation. Perhaps (19) would be reasonably general for all contexts:

- (19) Appropriately equivalent terms are freely substitutable *salva veritate*.

If (19) is not to be vacuous, it is necessary to define 'appropriately.' The definition for one class of terms, objects of verbs of propositional attitudes, would have to be intensional. The appropriate equivalent would be an equivalent proposition. This would not deter me from adopting such a stand, but there are those who find intensions so pernicious that the analysis I have proposed would hold no attraction for them.

I would like to close by mentioning some of the myriad questions raised by my proposal. Note, first of all, that the referential-attributive distinction is a binary one. Several widely accepted analyses of transparency-opacity like McCawley's "Where Do Noun Phrases Come from?" (1971) and Keenan's "On Semantically Based Grammar" (1972)--to mention only two which follow in the footsteps of Quine (1956)--treat the ambiguity in question as an ambiguity of scope. But a relative scope analysis predicts that each level of embedding will add an additional reading to the description. According to the relative scope analysis, (20) should be two ways ambiguous and (21) three ways ambiguous.<sup>8</sup>

- (20) Carol believes that *the man who killed Kennedy* wore size twelve galoshes.  
 (21) John thinks that Carol believes that *the man who killed Kennedy* wore size twelve galoshes.

Which is found, a binary or an n-ary ambiguity? I believe that the ambiguity is binary, and that the scope analysis is wrong, but there are data that would seem to support the n-ary position, and these data must be examined, a task which I must reserve for another time.

Another unresolved issue is that of pragmatics versus semantics. Are the definite descriptions that I have described as ambiguous between a referential and an attributive use semantically ambiguous, or merely semantically indeterminate and pragmatically ambiguous? If the ambiguity is pragmatic, what principles determine how a description is understood, referentially or attributively? These are questions that I have only had space to raise in this paper, but I hope to attempt to answer at least some of them in a more extensive work.

#### FOOTNOTES

<sup>1</sup>Or when it appears to fail. See below.

<sup>2</sup>An intensional version of Leibniz's Law is suggested below to be appropriate in certain contexts.

<sup>3</sup>That is, the identity of the best doctor is not the same in all states of affairs (possible worlds). The description determines its referent anew in each state of affairs. See below. Cf. Kripke (1972) and Reinhart (1975).

<sup>4</sup>It should be noted that Kripke has suggested in some rather oblique comments that he has misgivings regarding Donnellan's analysis. This need not deter me from making use of notions proposed by Kripke in order to bring out Donnellan's point.

<sup>5</sup>Both referential and attributive interpretations are possible for nearly all definite descriptions.

<sup>6</sup>My analysis of the logical form of referential definite descriptions follows Kaplan (1974).

<sup>7</sup>R and S are taken to represent distinct propositions.

<sup>8</sup>Certain versions of the relative scope analysis, such as the version that I advocated in Cole (1975), would predict (20) to be three ways ambiguous and (21) four ways ambiguous.

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