Identity and Definite Descriptions

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Quine in Word and Object gives a criterion of *purely referential position* namely that it must be subject to the *substitutivity of identity*.[1] He gives the example of the sentences:

(1) The commissioner is looking for the chairman of the hospital board.

(2) The commissioner is looking for the dean.

And that we may be willing to affirm (1) and deny (2) because recently it became true, unknown to the commissioner that:

(3) The dean = the chairman of the hospital board.

To Quine this indicates that the descriptions to the right of "looking for" in (1) and (2) are not in purely referential position because of this. But I think the problem is that the sentence (3) has not been analyzed. It isn't a simple identity statement. Let

(4) the dean = $(\iota x)fx$

(5) the chairman of the hospital board = $(\iota x)gx$

then by (3) we have

(6) $(\iota x)fx = (\iota x)gx$

by Principia Mathematica following *14.03 this is analyzed to mean

(7) $((\exists b)(fx \Leftrightarrow_x x = b) \,\&\, ((\exists c)(gx \Leftrightarrow_x x = c) \,\&\, b = c))$

So (3)(when analyzed) isn't of the form of an identity statement and the substitutivity of identity does not apply.

Similar situations occur in Quine's other examples of opacity, especially if names are taken as hidden definite descriptions, as both Russell and Quine[2] did. For example he gives similar examples of modal

contexts[3]:

(1) Necessarily 9 > 4.

(2) The number of major planets = 9

(3) Thus: Necessarily the number of major planets > 4.

But the analysis of (9) is:

(11) (∃b)((there are x major planets $\Leftrightarrow_x$ x = b) & b = 9)

and it follows from (8) & (11):

(12) (∃b)((there are x major planets $\Leftrightarrow_x$ x = b) & Necessarily b > 4).

Rather than

(13) Necessarily (∃b)((there are x major planets $\Leftrightarrow_x$ x = b) & b > 4)

At least some of Quine's problems with is that he thought they were opaque by similar arguments. Thus someone can believe (1) and not (2) for example. But using Russell's definition of definite descriptions this is no longer an argument for opacity. The proposition:

Harry believes "The commissioner is looking for the chairman of the hospital board"

still involves "The commissioner is looking for the chairman of the hospital board" non truth-functionally so it is still intensional. Or so one would think but see

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Russell, in fact, created his theory of descriptions partly for this purpose. See his Autobiography, Volume 1, pp. 269-270.

Notes:

1 Willard Van Orman Quine, Word and Object, p. 142.

2 Ibid., p. 178.

3 Ibid.,pp. 196-197.

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