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OPAQUE CONTEXT

Quine makes a distinction between purely referential occurrence of a singular term and the not-purely referential occurrence of it, almost on the lines of Fregean distinction between direct and indirect (or oblique) reference. Quine calls the not-purely referential occurrence of singular term an 'opaque' context taking hint from Russell who calls referential occurrence of a singular term a 'transperent' occurrence. The purpose of this paper is to understand Quine's distinction in the first place, comparing it, wherever necessary and useful, with Frege's distinction and secondly to understand Quine's reasons or grounds in favour of such a distinction. Why, in other words, was Quine led to accept such a distinction. The paper, in short, tries to understand the problem that Quine wants to tackle with the help of this distinction and the measure of success that he achieves from it.

I

In 'Reference and Modality' [1] Quine says, "One of the fundamental principles governing identity is that of *Substitutivity* — or, as it might well be called, that of *indiscernibility of identicals.* It provides that, *given a true statement of identity, one of its two terms may be substituted for the other in any true statement and the result will be true.*"[2] However, this substitutivity test fails in some cases in which the basis of the principle of substitutivity appears quite solid thus giving rise to paradoxes. Consider, for example, the statements :

(1) Cicero = Tully

and (2) 'Cicero' contains six letters.

Both these statements are true, but replacement of the first name by the second turns (2) false. Yet the basis of the principle of substitutivity appears quite solid, since whatever can be said about the person Cicero should be equally true of the person Tully, this being the same person. How to resolve this paradox in which the *basis* for substitutivity exists but the principle of substitutivity when *applied* to it fails.

Quine maintains, however, that this paradox resolves itself immediately, if we bear in mind that (2) is not a statement about the person Cicero, but simply about the word 'Cicero'. *The principle of substitutivity should not be extended to contexts in which the name to be supplanted occurs without referring simply to the object.* "Failure of substitutivity", says Quine, "reveals merely that the occurrence to be supplanted is *not purely referential*, that is, that the statement depends not only on the object but on the form of the name. For it is clear that whatever can be affirmed about the object remains true when we refer to the object by any other name."[3]

Thus, the occurrence of the personal name within the context of quotes in (2) is not referential, not subject to substitutivity principle. To make a substitution upon a personal name, within such a context, would be no more justifiable than to make a substitution upon the term 'cat' within the context 'cattle', or upon 'mary' in 'summary' or upon 'can' in 'canary'. The point that Quine is making here about quotation is not that it *must* destroy referential occurrence, but that it *can* (and ordinarily does) destroy referential occurrence. It is for this reason that Quine calls quotation as "one referentially opaque context" — others being 'propositional attitudes' such as 'believes that', 'doubts that' etc., and 'modal operators', such as 'necessarily' 'possibly' etc. Incidentally Quine deals with these latter in greater details in 'Quantifiers and propositional attitudes' and 'Grades of modal involvement' respectively. Here we are concerned with 'quotations' only, leaving others for another occasion.

It should be noted at this stage that the substitutivity of identity criterion is applicable to singular terms only. The context of quotation is referentially opaque because it fails the substitutivity test. Besides this test Quine recommends another test — in connection with variables of quantification. He says, "If to a referentially opaque context of a variable we apply a quantifier, with the intention that it govern that variable from outside the referentially opaque context, then what we end up with is unintended sense or nonsense."[4] The justification which Quine gives for this second test is this : singular terms are eliminable by paraphrase. (Cf. 'Russell's theory of descriptions). Ultimately the objects referred to in a theory are to be accounted not as the things named

by the singular terms, but as the values of the variables of quantification, "So" says Quine, "if referential opacity is an infirmity worth worrying about, it must show symptoms in connection with quantification as well as in connection with singular terms."[5]

The idea behind existential generalization is that whatever is true of the object named by a given singular term is true of something; and clearly the inference loses its justification when the singuler term in question does not happen to name. From :

There is no such thing as Pegasus, for example, we do not infer

(∃ x) (There is no such thing as x),

that is, 'There is something which there is no such thing as' or 'There is something which there is not'. Similarly, in case of irreferential occurrence of any substantive such an inference is unwarranted.

Thus, from

Mahanadi was so-called because of its size

existential generalization would lead to

(∃ x) (x was so-called because of its size),

that is, 'something was so-called because of its size'. This is clearly meaningless, there being no longer any suitable antecedent for 'so-called'. However, in contrast, the existential generalization with respect to purely referential occurrence in,

Mahanadi was called 'Mahanadi' because of its size, yields the sound conclusion :

(∃ x) (x was called 'Mahanadi' because of its Size), that is, 'something was called 'Mahanadi' because of its size'.

II

In order to uderstand clearly the nature of these *two tests*, viz, *the substitutivity-test* and the *existential generalization test*, let us consider the following different ways in which the expression 'nine' can occur.

(1) Nine is greater than five.

(2) Canines are larger than felines.

(3) 'Nine is greater than five ' is a truth of Arithmetic.

(4) It is necessary that nine is greater thar five.

(5) Hegel believed that nine is greater thar five.

(4) and (5) will not concern us here since their consideration, as pointed out earlier, lies beyond the scope of this paper, they being respectively, about modal operator and propositional attitude. We will thus be concerned with (1) (2) and (3) only.

Of these three it is obvious that nine in (1) has a direct reference and refers to the number nine. It has, in other words, purely referential occurrence and hence it satisfies the substitutivity test and the existential generalization test. The occurrence of nine in (2) is, says Quine, "an orthographic accident" and so even if it fails both the test it is of no importance philosophically. The occurrence of nine in (3) is in single quotes, and according to Quine, as this expression fails both the tests, it occurs in opaque context. It is, therefore, (3) that interests us here. The point at issue is : whether (3) is similar to (1) or to (2)? Can (3), in other words, be assimilated to (1) or to (2)?

Frege would call (1) 'direct' and (3) 'indirect' or obligue reference. David Kaplan[6] prefers to call the kind of occurrence illustrated in (1) a *vulgar* occurrence, that in (2) an *accidental* occurrence and that in (3) *intermediate* occurrence and its context *intermediate context*. And the problem in Kaplan's terminology would be : whether the intermediate occurrences can be assimilated to the accidental occurrences or to the vulgar occurrences?

Quine's view can be identified with that viz. the intermediate occurrences are to be thought of like the accidental ones, while Frege's view with that viz., the intermediate occurrences are to be thought of like the vulgar ones. Let us follow Frege and Quine in greater details in that order.

III

In 'On Sense and Reference' Frege says, "If words are used in the ordinary way, what one intends to speak of is their reference. It can also happen, however, that one wishes to talk about the words

themselves or their sense. This happens, for instance, when the words of another are quoted. One's own words then first designate words of the other speaker, and only the latter have their usual reference, we then have signs of signs. In writing, the words are in this case enclosed in quotation marks. Accordingly, a word standing betweer quotation marks must not be taken as having its ordinary reference.

In order to speak of the sense of an expression 'a' one may simply use the phrase 'the sense of the expression "A" '. In reported speech one talks about the sense, e.g. of another person's remarks. It is quite clear that in this way of speaking words do not have their customary reference but designate what is usually their sense. In order to have a short expression we will say : In reported speech, words are used *indirectly* or have their *indirect* reference. We distinguish accordingly the *customery* from the *indirect* reference of a word; and its *customary* sense from its *indirect* sense. The indirect reference of a word is accordingly its customary sense."[7]

Accepting the substitutivity test Frege shows that the truth value of a sentence remains unchanged when an expression is replaced by anotner having the same reference. But what about the case in which the expression to be replaced is itself a sentence? If the substitutivity criterion is correct then the truth value of a sentence containing another as part must remain unchanged when the part is replaced by another sentence having the same truth value. To this test however, there are exceptions in the form of direct or indirect quotations for in such cases the words do not have their customary reference. In direct quotation, a sentence designates another sentence and in indirect quotation a thought.

Such sentences Frege calls subordinate clauses or sentences, which occur as parts of a sentence complex which is, from a logical stand point, likewise a sentence—a main sentence. After considering different types of subordinate clauses such as the noun clause, adjective clause, adverbial clause etc., Frege concludes, "The subordinate clause usually has for its sense not a thought, but only a part of one, and consequently no truth value as reference. The reason for this is eitner that the words in the subordinate clause have indirect reference, so that the reference, not the sense, of the subordinate clause is a thought; or else that, on account of the

presence of an indefinite indicator, the subordinate clause is incomplete and expresses a thought only when combined with the main clause. *It may happen, however, that the sense of the subsidiary clause is a complete thought, in which case it can be replaced by another of the same truth value without harm to the truth of the whole* — provided there are no grammatical obstacles.[8]

However, in some cases it may be doubtful whether the subsidiary thought belongs to the sense of the sentence or only accompanies it. This may be important for the question whether an assertion is a lie, or an oath a perjury.[9] The sentence, Napoleon, who recognised the danger to his right flank, himself led his guards against the enemy position, expresses not only the two thoughts shown above, but also the thought that the knowledge of the danger was the reason why he led the guards against the enemy position. One may in fact doubt whether this thought is merely slightly suggested or really expressed. Would the sentence be false if Napoleon's decision had already been made before he recognized the danger? *If the sentence would be true inspite of this, the subsidiary thought should not be understood as part of the sense.* The alternative would make for a quite complicated situation. If the sentence, Napoleon recognized the danger to his right flank, were now to be replaced by another having the same truth value Napoleon was already more than 45 years old, not only would our first thought be changed, but also our third one. Hence the truth value of the latter might change—viz., if his age was not the reason for the decision to lead the guards against the enemy."This shows," 'concludes Frege,' why clauses of equal truth value cannot always be substituted for one another in such cases."[10]

IV

The view that the occurrence of 'nine' in 'Nine is greater than five' is a truth of Arithmetic' is accidental may be elaborated folowing Quine, by contrasting it with (6). Nine is such that the result of writing it followed by "is greater than five' is a theorem in Arithmetic, in which we put 'nine' into purely referential position. Quine would still term the occurence of 'five' as non-referential. Here we attribute a property to a certain number. The correctness of this attribution, however, is independent of the

manner in which we refer to the number. Thus (6) is to be understood in such a way that the result of replacing the occurrence of 'nine' by any other expression denoting that number would not affect the truth-value of the sentence. This includes replacement by a variable, thus validating existential generalization. In this respect (6) do indeed resemble (1).

But (3) which is to be understood in the natural way, is such that the result of substituting 'the number of planets' for the occurrence of 'nine' would lead from truth to falsehood. Thus, for Quine, these contexts are opaque and the result of replacing the occurrence of 'nine' by the variable 'x' and prefixing '∃x' would lead from truth to formulas of questionable import. In fact Quine deems such quantification into an opaque context flatly 'improper'. (Cf. 'Three grades of modal involvement'). In this respect (3) resembles (2).

V

This contrast in itself, however, does not interest Kaplan since he feels that Quine and others have made "familiarity with this contrast a part of conventional wisdom of our philosophical times."[11]

Kaplan says, "what we have done, or rather what we have sketched, is this : a skeletal language structure has been given—so of course an English reading is at once available, and then certain logical transformations have been pronounced valid." Such a logic, however, may not satisfy the true philosophical temperament. "Thus", he says "it just is not enough to describe the form (6) and say that the predicate expresses a property of numbers so that both Leibnitz's law and existential generalization apply. What property of numbers is this? It makes no sense to talk of the result of writing a number. We can write numerals and various other names of numbers but *such talk as* (6), *in the absence of a theory of standard names is surely based on confusion of mention and use*", and adds further, — "much of what has served most engaging and at the same time most fruitless in logical theory might have been avoided had the 25 years of this century not seen a lapse from Frege's standards of mention and use. It would be unwary of us to suppose that we have now caught all such ambiguities. Thus we should not leap to conclusions of opacity."[12] (p. 118).

A standard name, for Kaplan, is one whose denotation is fixed on logical, or perhaps linguistic grounds alone. Numerals and quotation names are prominant among the standard names. Such names are so intimately connected with what they name, viz., their denotation, that they could not but name it. Kaplan says that such a name *necessarily denotes* its object. Thus, numbers and expressions, like every other kind of entity, can be named by names which are such that empirical investigation is required to determine their denotations. 'The number of planets' and 'I' happen to denote the same number. The former might, under other circumstances or at some other time, denote a different number, but so long as we hold constant our conventions of language 'I' will denote the same number under all possible circumstances. As Kaplan puts it, 'To wonder what number is named by the German 'Die Zahl der Planeten' may betray astronomical ignorance, but to wonder what number is named by the German 'Neun' can indicates only linguistic incompetence.'[13]

There are, however, limitations, holds Kaplan, on the resort to standrads names. *Only abstract objects can have standard names*, since only they (and all of them) lack that element of contingency which makes the rest of us liable to failures of existence. Numerals, thus, are reliable; they always pick out the same number. But to suppose a standard name for Quine would presuppose a solution to the more puzzling problem of what features to take into account in determining that an individial of one possible world is "the same person" as that of another. Thus, the difference between Quine and Nine is that he represents a very real problem of transworld identification while it does not." Thus the device of using standard names" says Kaplan, "which accounts nicely for my own intuitions regarding the essential properties of numbers, appears to break down when set to discriminating essential properties of persons".[14]

Such standard names can be used as values of the variables in opaque contexts. But it then leads us to, and not away from, essentialism which Quine is contesting.

VI

The phenomenon of referential opacity, thus, can be explained, following Quine, (1) by appeal to the behaviour of singular terms

and (2) by considering quantification. In connection with singular terms, as seen above, it obstructs substitutivity of identity and in connection with quantification it interupts quantification : "*quantifiers outside a referentially opaque construction are irrelevant to variables inside the construction* as in :

($\exists$x) ('Six' contains 'x')

The singular terms, however, are eliminable by paraphrase. And so ultimately the objects referred to in a theory are to be accounted not as the things named by the singular terms, but as the value of the variables of quantification.

Although the root of the trouble, according to Quine, was the referential opacity of modal contexts, he also felt that referential opacity depends in part on the ontology accepted, that is, on what objects are admitted as possible objects of reference. As he says, "Unristricted quantification into modal sentences has been bought at the price of adopting an ontology of exclusively intensional or idealistic type."[15]

What Quine is suggesting in the above remark is that the difficulty of quantifying into opaque contexts cold be met by limiting the universe to intensional objects, that is, limitting the range of the variables of quantification to individual concepts and attributes and kindred intensional entities. However, limiting one's ontology to intensional entities can be taken as a sufficient condition for admissibility of quantification into opaque contexts; but it cannot be said to be a necessary condition. 'You can', says Quine, 'keep your quantified modalities *and* your non-intensional objects if you keep them apart, thus quantifying into modal contexts only when the variable *there* quantified is restricted to intensional objects. It is this last that constitutes the *necessary ontological restraint* on quantifying into modal contexts : do not quantify into a modal context from outside, unless the variable of that quantification admits only intensional values.'[16]

Thus, the main result has been that to allow unrestricted use of quantifiers into opaque contexts is to rule out extensional objects, such as individuals and classes as values of the variables. 'Intensional and extensional ontologies', observes Quine, are like oil and water. Admission of attributes and propositions, along

with free use of quantification and other basic idioms, rules out individuals and classes. Both sorts of entities can be accommodated in the same logic only with the help of restrictions which serve to keep them from mixing; and this is very nearly a matter of two seperate logics with a universe for each.'[17]

Dept. of Philosophy,
Nagpur University,
Nagpur

S. W. BAKHALE

NOTES

1. Quine : *From a Logical point of view.* pp. 139-59.
2. Ibid. p. 139.
3. Ibid. p. 140.
4. Ibid. p. 148.
5. Ibid. p. 145.
6. David Kaplan : ' Quantifying in ' *Words and Objections* pp. 178-79.
7. Black and Geach : *Translations from the writings of G. Frege* pp. 58-59.
8. Ibid. p. 74-75.
9. Ibid. Foot note. p. 75.
10. Ibid. p. 76.
11. David Kaplan : ' Quantifying in ' — *Words and Objections* p. 115.
12. Ibid. p. 118.
13. Ibid. p. 129.
14. Ibid. p. 131.
15. Quine : *Form a Logical Point of View.* p. 153.
16. Ibid. p. 154-55.
17. Ibid. p. 157.