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QUANTIFYING IN[1]

I

Expressions are used in a variety of ways. Two radically different ways in which the expression 'nine' can occur are illustrated by the paradigms:

(1) Nine is greater than five,
(2) Canines are larger than felines.

Let us call the kind of occurrence illustrated in (1) a *vulgar* occurrence, and that in (2) an *accidental* occurrence (or, following Quine, an orthographic accident). For present purposes we need not try to define either of these notions; but presumably there are no serious logical or semantical problems connected with occurrences of either kind. The first denotes, is open to substitution and existential generalization, and contributes to the meaning of the sentence which contains it. To the second, all such concerns are inappropriate.

There are other occurrences of the word 'nine', illustrated in

(3) 'Nine is greater than five' is a truth of Arithmetic,
(4) It is necessary that nine is greater than five,
(5) Hegel believed that nine is greater than five.

These diverge from the paradigm of vulgar occurrence (they fail the substitution test, the existential generalization test, and probably others as well), but they are not, at least to the untutored mind, clearly orthographic accidents either: for in them, the meaning of 'nine' seems, somehow, relevant. Let us call them *intermediate occurrences* and their contexts *intermediate contexts*.

These intermediate occurrences have come in for considerable discussion lately. Two kinds of analyses which have been proposed can be conveniently characterized as: (a) assimilating the intermediate occurrences to the accidental occurrences, and (b) assimilating the intermediate occurrences to the vulgar occurrences.

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The former view, that the intermediate occurrences are to be thought of like accidental ones, I identify with Quine. Such a charge is slightly inaccurate; I make it chiefly for the sake of dramatic impact. My evidence, carefully selected, is that he has proposed in a few places that quotation contexts, as in (3), be thought of as single words and that 'believes that nine is greater than five' be thought of as a simple predicate. And that after introducing a dichotomous classification of occurrences of names into those which he terms 'purely referential' (our vulgar – his criterion is substitutivity) and those which he terms 'non-referential' (our intermediate and accidental) he writes, "We are not unaccustomed to passing over occurrences that somehow 'do not count' – 'mary' in 'summary', 'can' in 'canary'; and we can allow similarly for all non-referential occurrences of terms, once we know what to look out for." Further, his very terminology: 'opaque' for a context in which names occur non-referentially, seems to suggest an indissoluble whole, unarticulated by semantically relevant components.[2] But be that as it may, I shall put forward this analysis – the assimilation of intermediate occurrence to accidental ones – primarily in order to contrast its defeatist character with the sanguine view of Frege (and his followers) that we can assimilate the intermediate occurrences to vulgar ones.

II

The view that the occurrences of 'nine' in (3), (4), and (5) are accidental may be elaborated, as Quine has done, by contrasting (3), (4), and (5) with:

(6) Nine is such that the result of writing it followed by 'is greater than five' is a theorem of Arithmetic,

(7) Nine is such that necessarily it is greater than five,

(8) Nine is such that Hegel believed it to be greater than five,

in which we put, or attempt to put, 'nine' into purely referential position. Quine would still term the occurrences of 'five' as non-referential; thus, the 'necessarily it is greater than five' in (7) might be thought of as an atomic predicate expressing some property of the number of baseball positions (assuming (7) to be true). And similarly for (6) and (8). I am not trying to say how we would "ordinarily" understand (6)–(8). I merely use these forms, in which the occurrence of 'nine' does not stand within the

so-called opaque construction, as a kind of canonical form to express what must be carefully explained, namely that here we attribute a property to a certain number, and that the correctness of this attribution is independent of the manner in which we refer to the number. Thus (6), (7), and (8) are 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 these respects (6)–(8) do indeed resemble (1).

But (3)–(5), which are to be understood in the natural way, are such that the result of substituting 'the number of planets' for the occurrences of 'nine' would lead from truth to falsehood (didn't Hegel "prove" that the number of planets = 5?). Thus, for Quine, these contexts are opaque, and the result of replacing the occurrences of 'nine' by the variable 'x' and prefixing '$\exists x$' would lead from truth to formulas of, at best, questionable import. In fact, Quine deems such quantification into an opaque context flatly 'improper'.[3] In these respects (3)–(5) resemble (2). Although the impropriety of substituting or quantifying on the occurrence of 'nine' in (2) is gross compared with that involved in applying the corresponding operations to (3)–(5), the view I am here characterizing would make this difference a matter of degree rather than of kind.

I will not expatiate on the contrast between (3)–(5) and (6)–(8), since Quine and others have made familiarity with this contrast a part of the conventional wisdom of our philosophical times. But note that (6)–(8) are not introduced as defined forms whose non-logical apparatus is simply that of (3)–(5), in the way in which

Exactly one thing is greater than five

can be defined in terms of the non-logical apparatus of (1). Instead (6)–(8) are introduced as new primitive forms.

Earlier I said that (3)–(5) should be understood in the natural way, whereas careful explanation was required for (6)–(8). But will careful explanation suffice? Will anything suffice? What we have done, or rather what we have sketched, is this: a certain skeletal language structure has been given, here using fragments of English, so of course an English reading is at once available, and then certain logical transformations have been pronounced valid. Predicate logic was conducted in this way before

Gödel and Tarski, and modal logic was so conducted before Carnap and others began to supply semantical foundations. The earlier method, especially as applied to modal logic (we might call it the run-it-up-the-axiom-list-and-see-if-anyone-deduces-a-contradiction method), seems to me to have been stimulated more by a compulsive permutations-and-combinations mentality than by the true philosophical temperament.

Thus, it just is not enough to describe the form (6) and say that the predicate expresses a property of numbers so that both Leibniz' 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.[4] One is tempted to make the same remark about (7), but in this case an alternative explanation is possible in a metaphysical tradition connected with so-called "Aristotelian essentialism". It is claimed that among the properties of a thing, e.g. being greater than 5, and numbering the planets, some hold of it necessarily, others only contingently. Quine has ably expounded the inevitability of this view of (7).[5]

In contrast to (6) and (7), we can put a strong prima facie case for the sensicalness of (8) by way of illustrative examples which indicate important uses of the form exemplified in (8) as compared with that of the form exemplified in (5). Russell mentions, in a slightly different context, the man who remarked to an acquaintance "I thought that your yacht was longer than it is". The correct rendering here is clearly in the style of (8), viz:

> The length of your yacht is such that I thought that your yacht was longer than that.

not in the style of (5);

> I thought that your yacht was longer than the length of your yacht.

In 'Quantifiers and Propositional Attitudes', Quine supports the use of (8) as against (5) by an ingenious use of existential quantification. He contrasts:

(9) Ralph believes that someone is a spy,

in which the quantifier occurs within the opaque construction, as does the term in (5), with:

(10) Someone is such that Ralph believes that he is a spy,

which is an existential generalization of a formula of the form (8). After pointing out that (9) may be rephrased as:

Ralph believes that there are spies,

Quine remarks, "The difference is vast; indeed, if Ralph is like most of us, [(9)] is true and [(10)] is false." In this connection recall that according to Quine's theory of referential opacity, (10) can not be obtained by existential generalization directly from a formula of the form (5) say,

Ralph believes that Ortcutt is a spy,

since the occurrence of the term to be generalized on is here assimilated to that of the orthographic accident and thus is not immediately open to such a move.

Let me sum up what I have called Quine's elaboration of the view that intermediate occurrences are to be assimilated to accidental ones. For those cases in which it is desired to make connections between what occurs within the opaque construction and what occurs without, a special new primitive form is introduced, parallel to the original, but containing one (or more than one) of the crucial terms in a purely referential position. Quine refers to the new form as expressing the *relational* sense of belief. The possibility of introducing such forms always exists and the style of their introduction seems uniform, but since they are primitive each such introduction must be supplied with an ad hoc justification (to the effect that the predicate or operator being introduced makes sense).

III

Let me turn now to the Fregean view that assimilates intermediate occurrences to vulgar ones. The brilliant simplicity of Frege's leading idea in the treatment of intermediate occurrences has often been obscured by a failure to separate that idea from various turgid details involved in carrying the program through in particular interesting cases. But theory must be served.

Frege's main idea, as I understand it, was just this. There are no *real* intermediate occurrences; the appearance of intermediacy created by apparent failures of substitutivity and the like is due to confusion about what is denoted by the given occurrence. Frege here calls our attention to an implicit assumption made in testing for substitutivity and the like. Namely, that a denoting expression must *always* have its usual denotation, and, *a fortiori*, that two expressions must have the same denotation in a given context if they usually (i.e. in most contexts) have the same denotation.

But we are all familiar with many counter-examples to the assumption that a name always has its usual denotation. Consider:

(11) Although F.D.R. ran for office many times, F.D.R. ran on television only once.

The natural analysis of (11) involves pointing out that the name 'F.D.R.' is ambiguous, and that in the second clause it denotes a television show rather than a man. Substitutions or any other logical operations based on the assumption that the name has here its usual denotation are pointless and demonstrate nothing. But transformations based on a *correct* analysis of the name's denotation *in this context* will reveal the occurrence to be vulgar. I call this the natural analysis, but it is of course possible for a fanatical mono-denotationalist to insist that his transformations have shown the context:

... ran on television only once

to be opaque, and so to conclude that the second occurrence of 'F.D.R.' in (11) is not purely referential. This view may be expressed moderately, resulting only in an insistence that (11) is improper unless the second clause is rewritten as:

the television show named 'F.D.R.' ran on television only once.

Often when there is a serious possibility of confusion, we conform to the practice (even if not the theory) of the fanatical mono-denotationalist and do introduce a new word, add a subscript, or put the original in bold face, italics, or quotation marks. It is often good practice to continue

to so mark the different uses of an expression, even when there is little possibility of confusion. Discovering and marking such ambiguities plays a considerable and useful role in philosophy (some, not I, would say it is the essence of philosophy), and much of what has proved most engaging and at the same time most fruitless in logical theory might have been avoided had the first 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.

I indicated in the case of the fanatical mono-denotationalist how it is possible to trade a finding of opacity for one of ambiguity. Frege attempts his assimilation of intermediate occurrences to vulgar ones by indicating (some would say, postulating) ambiguities where others have seen only opacity. It is not denied that the ambiguities involved in the Fregean analysis are far more subtle than that noted in (11), but on his analysis the difference is seen as a matter of degree rather than of kind.

Frege referred to intermediate occurrences as *ungerade* (indirect, oblique). And the terminology is a natural one, for on his conception such an occurrence does not refer directly to its usual denotation but only, at best, indirectly by way of some intermediate *entity* such as a sense or an expression. I will return to this subject later. For now just notice that occurrences which Quine would call purely referential, Frege might call standardly referential; and those in contexts Quine would call referentially opaque, Frege might call non-standardly referential, but in either case for Frege the occurrences are fully referential. So we require no special non-extensional logic, no restrictions on Leibniz' law, on existential generalization, etc., except those attendant upon consideration of a language containing ambiguous expressions. And even these can be avoided if we follow the practice of the fanatical mono-denotationalist and require linguistic reform so that distinct uses of expressions are marked by some distinction in the expressions themselves. This feature of a development of Frege's doctrine has been especially emphasized by Church.[6]

This then is Frege's treatment of intermediate contexts – obliquity indicates ambiguity. This doctrine accounts in a very natural way for the well-known logical peculiarities of intermediate contexts, such as the failure of substitutivity, existential generalization, etc.

IV

The difficulties in Frege's treatment appear in attempting to work out the details – details of the sort: exactly what *does* 'nine' denote in (3)–(5)? Frege's treatment of oblique contexts is often described as one according to which expressions in such contexts denote their ordinary sense or meaning or intension (I here use these terms interchangeably). But this is a bad way of putting the matter for three reasons. (1) It is, I believe, historically inaccurate. It ignores Frege's remarks about quotation marks (see below) and other special contexts. (2) It conflates two separate principles: (a) expressions in oblique contexts don't have their ordinary denotation (which is true), and (b) expressions in oblique contexts denote their ordinary sense (which is not, in general, true). And (3) in focussing attention too rapidly on the special and separate problems of intensional logic, we lose sight of the beauty and power of Frege's general method of treating oblique contexts. We may thus lose the motivation that that general theory might provide for an attack on the problems of the special theory. My own view is that Frege's explanation, by way of ambiguity, of what appears to be the logically deviant behavior of terms in intermediate contexts is so theoretically satisfying that if we have not yet discovered or satisfactorily grasped the peculiar intermediate objects in question, then we should simply continue looking.

There is, however, a method which may assist in the search. Look for something denoted by a compound, say, a sentence, in the oblique context. (In ordinary contexts sentences are taken to denote their own truth values and to be intersubstitutable on that basis.) And then using the fundamental principle: the denotation of the compound is a function of the denotation of the parts, look for something denoted by the parts. It was the use of this principle which, I believe, led to Carnap's discovery of individual concepts[7], and also led Frege to the view that quotation marks produce an oblique context within which each component expression denotes itself[8] (it is clear in quotation contexts what the whole compound denotes).

Frege's view of quotation contexts would allow for quantification into such contexts, but of course we would have to quantify over expressions (since it is expressions that are denoted in such contexts), and we would have to make some provision to distinguish when a given symbol in such

a context is being used as a variable and when it is being used as a constant, i.e. to denote itself. This might be done by taking some distinctive class of symbols to serve as variables.

Let us symbolize Frege's understanding of quotation marks by using forward and backward capital F's. (Typographical limitations have forced elimination of the center horizontal bar of the capital F's.) Then, using Greek letters for variables ranging over expressions we can express such truths as:

(12) $\exists\alpha[\ulcorner\alpha$ is greater than five$\urcorner$ is a truth of arithmetic].[9]

Such is Frege's treatment of quotation marks: it seems to me more interesting and certainly much more fruitful (for the development of any theory in which quotation contexts are at all common) than the usual orthographic accident treatment according to which the quotation marks seal off the context, which is treated as a single indissoluble word. And it is well known that for serious theoretical purposes, quotation marks (under the conventional treatment) are of little use.

The ontological status of meanings or senses is less well settled than that of expressions. But we can again illustrate the principle involved in searching for the intermediate entities, and perhaps even engender an illusion of understanding, by introducing some symbolic devices. First, in analogy to the conventional use of quotation marks, I introduce meaning marks. Their use is illustrated in the following:

(13) The meaning of 'brother' = $^{\mathrm{m}}$male sibling$^{\mathrm{m}}$.

Now we can adapt the idea used in producing (12) to meaning marks, so as to produce a Fregean interpretation of them. The context produced by the meaning marks will then not be thought of as referentially opaque but rather such that each expression in such a context will denote its own meaning. Quantification in is permitted, but restricted of course to quantification over meanings. Following the earlier pattern, let us symbolize the new meaning marks with forward and backward capital M's. Using italic letters for variables ranging over meanings, we can express such truths as:

(14) $\exists a\exists b[^{\mathrm{M}}a$ kicked $b^{\mathrm{M}} = {}^{\mathrm{M}}b$ was kicked by $a^{\mathrm{M}}]$

I leave to the reader the problem of making sense of (12)–(14).

This comparison of meaning marks with quotation marks also allows

me to make another point relevant to Quine's 'Quantifiers and Propositional Attitudes'. In his section IV, Quine suggests that by a harmless shift in idiom we can replace talk of meanings by talk of expressions, thus achieving ontological security. I agree, but the parallel can be exploited in either direction: as suggested by the introduction of meaning marks, we might also try to replace talk of expressions by talk of meanings, thus achieving ontological insight. These structural parallels are most helpful in constructing a logic of intensions.[10]

V

We have finished comparing the treatments of (3)–(5) with respect to the two main analyses of intermediate occurrences: assimilation to orthographic accident versus assimilation to vulgar occurrence. The forms involved in (6)–(8) were introduced in connection with what I called Quine's elaboration of the first line. Now what can be done in this direction following Frege's line? The purpose of the new forms in (6)–(8) is to get an expression out from an accidental position to a vulgar one; or, in Quine's terminology, to move a term from an opaque context to a purely referential position. There should be no problem here on Frege's theory, because what is opaque for Quine is already fully referential for Frege. Thus the term is in a fully referential position in the first place. But this will not quite satisfy the demands of (6)–(8), because the term in question does not denote the right thing.

At this point it will be useful to reformulate (3)–(8) (or at least (4), (5), (7), and (8)) so as to make explicit what the objects of belief and necessity are. In so doing we take a step along Frege's path, for the non-substitutability of one true sentence for another in such contexts would indicate to Frege an ambiguity in both of them: the sentences lack their usual denotation, a truth value, and instead denote some other entity. Before saying what, note that the necessity symbol will stand for a property – of something or other – and the belief symbol will stand for a two-place relation – between a person and something or other. (This in contrast to treating the necessity symbol simply as a 1-place referentially opaque sentential connective and similarly for belief.) Quine takes the step in Frege's direction in the article under discussion and favors it in the sister article 'Three Grades of Modal Involvement'. So I take it here.

Now what shall the sentences denote? For my present purposes it will suffice to take the ontologically secure position and let them denote expressions, in particular, themselves.[11] Making this explicit, we rewrite (4) and (5) as:

(15) **N** 'nine is greater than five'

(16) Hegel **B** 'nine is greater than five'

On the usual reading of quotation marks, (15) and (16) still basically formulate the non-Fregean view, with the referential opacity now charged against the quotes. Keeping in mind that the shift to (7) and (8) was for the purpose of moving 'nine' to a purely referential position, we can rewrite (7) and (8) as:

(17) **Nec** ('**x** is greater than five', nine)

(which may be read: '**x** is greater than 5' is necessarily true of nine), and

(18) Hegel **Bel** ('**x** is greater than five', nine).

Here the symbol for necessity becomes a two-place predicate and that for belief a three-place predicate. '**x** is greater than five' stands for a compound predicate, with the bold face letter '**x**' used only as a *place holder* to indicate subject position. The opacity of quotation marks deny such place holders a referential position in any **Nec** or **Bel** context. '**Nec**' and '**Bel**' are intended to express Quine's relational sense of necessity and belief.[12]

Frege would reformulate (15) and (16) as:

(19) **N** ⌜nine is greater than five⌝.

(20) Hegel **B** ⌜nine is greater than five⌝.

Notice that we can use the same predicates as in (15) and (16) since

⌜nine is greater than five⌝ = 'nine is greater than five'

just as

$$(3 \times 10^2) + (6 \times 10^1) + (8 \times 10^0) = 368.$$

It should now be clear that although the occurrences of 'nine' in (19) and (20) are fully referential, (19) and (20) won't do for the purposes of (17) and (18), because the occurrences of 'nine' in (17) and (18) refer to quite a different entity. Combining (17) with:

(21) Nine numbers the planets,

we derive:

(22) $\exists y$ [y numbers the planets & **Nec** ('**x** is greater than five', y)].

But (19) and (21) seem to yield only:

$\exists y$ [y numbers the planets & **N** ⌜nine is greater than five⌝],

in which the quantifier binds nothing in the necessity context, or:

$\exists \alpha$ [α numbers the planets & **N** ⌜α is greater than five⌝],

which is false because the planets are not numbered by an expression (recall our conventions about Greek variables).

Thus the Fregean formulations appear to lack the kind of recurrence of a variable both within and without the necessity context that is characteristic of quantified modal logic and that appears in (22). But this difficulty can be considerably mitigated by taking note of the fact that though the number nine and the expression 'nine' are distinct entities, there is an important relationship between them. The second denotes the first. We can follow Church[6] by introducing a denotation predicate, '**Δ**', into our language, and so restore, at least in an *indirect* way (recall Frege's indirect reference by way of intermediate entities) the connection between occurrences of an expression within and without the modal context, as in:

(23) $\exists y$ [y numbers the planets & $\exists \alpha$(**Δ**(α, y) & **N** ⌜α is greater than five⌝)].

I propose (23), or some variant, as Frege's version of (22); and

(24) $\exists \alpha$ [**Δ**(α, nine) & **N** ⌜α is greater than five⌝),

or some variant, as Frege's version of (17). (We shall return later to the variants.) (23) and (24) may not be as exciting as (22) and (17), but neither do they commit us to essentialism. It may well be that (24), and its variants, supply all the connection between occurrences of expressions within and without modal contexts as can sensibly be allowed.

When I summed up Quine's elaboration of the orthographic accident theory of intermediate occurrences I emphasized the fact that to move an expression in an opaque construction to referential position, a new *primitive* predicate (such as '**Nec**' and '**Bel**' of (17) and (18)) had to be

introduced and supplied with an interpretation. In contrast, the same effect is achieved by Frege's method using only the original predicates plus logical signs, including '**Δ**', and of course the ontological decomposition involved in the use of the Frege quotes.

Turning now to belief I propose:

(25) $\exists\alpha[\mathbf{\Delta}(\alpha, \text{nine}) \,\&\, \text{Hegel } \mathbf{B} \ulcorner\alpha \text{ is greater than five}\urcorner]$,

or some variant, as Frege's version of Quine's (18).

VI

If we accept (25) as the interpretation of Quine's (18), we can justify a crucial form of inference he seems to consider valid and explain certain seemingly paradoxical results which he accepts.

Quine recites the following story.

> There is a certain man in a brown hat whom Ralph has glimpsed several times under questionable circumstances on which we need not enter here; suffice it to say that Ralph suspects he is a spy. Also there is a gray-haired man, vaguely known to Ralph as rather a pillar of the community, whom Ralph is not aware of having seen except once at the beach. Now Ralph does not know it, but the men are one and the same.

Quine then poses the question, "Can we say of this *man* (Bernard J. Ortcutt, to give him a name) that Ralph believes him to be a spy?" The critical facts of the story are summarized in what we would write as:

(26) Ralph **B** 'the man in the brown hat is a spy',

(27) Ralph **B** 'the man seen at the beach is not a spy',

(28) the man in the brown hat = the man seen at the beach = Ortcutt.

Quine answers his own query by deriving what we would write as:

(29) Ralph **Bel** ('**x** is a spy', the man in the brown hat)

from (26). He says of this move, "The kind of exportation which leads from [(26)] to [(29)] should doubtless be viewed in general as implica-

tive."[13] Now our versions of (26) and (29) are:

(30) Ralph **B** ⌜the man in the brown hat is a spy⌝,

(31) $\exists\alpha$ [**Δ**(α, the man in the brown hat) & Ralph **B** ⌜α is a spy⌝].

And (31) certainly is implied by (30) and the nearly analytic truth:

Δ('the man in the brown hat', the man in the brown hat).[14]

We thus justify exportation.

In discussing a seeming paradox Quine notes that exportation will also lead from (27) to:

Ralph **Bel** ('**x** is not a spy', the man seen at the beach)

and hence, by (28), to:

(32) Ralph **Bel** ('**x** is not a spy', Ortcutt).

Whereas (29) and (28) yield:

(33) Ralph **Bel** ('**x** is a spy', Ortcutt).

Thus, asserts Quine,

> [(32)] and [(33)] both count as true. This is not, however, to charge Ralph with contradictory beliefs. Such a charge might reasonably be read into:
>
> [(34) Ralph **Bel** ('**x** is a spy and **x** is not a spy', Ortcutt),]
>
> but this merely goes to show that it is undesirable to look upon [(32)] and [(33)] as implying [(34)].

At first blush it may appear that avoidance of that undesirable course (looking upon (32) and (33) as implying (34)) calls for the most intense kind of concentration and focus of interest. In fact one may be pessimistically inclined to take the easy way out and simply dispose of (32), (33), (34) and any other assertions involving **Bel** as nonsense. But, as Quine says, "How then to provide for those indispensable relational statements of belief, like 'There is someone whom Ralph believes to be a spy'.?"

Fortunately our versions of **Bel** again conform to Quine's intuitions. (32), (33) and (34) go over respectively into:

(35) $\exists\alpha$ [**Δ**(α, Ortcutt) & Ralph **B** ⌜α is not a spy⌝],

(36) $\exists\alpha[\Delta(\alpha, \text{Ortcutt}) \,\&\, \text{Ralph } \mathbf{B} \ulcorner \alpha \text{ is a spy} \urcorner]$,

(37) $\exists\alpha[\Delta(\alpha, \text{Ortcutt}) \,\&\, \text{Ralph } \mathbf{B} \ulcorner \alpha \text{ is a spy and } \alpha \text{ is not a spy} \urcorner]$

which clearly verify Quine's claims, even in the presence of the suppressed premise:

$$\forall\alpha\forall\beta[\text{Ralph } \mathbf{B} \ulcorner \alpha \text{ is a spy} \urcorner \,\&\, \text{Ralph } \mathbf{B} \ulcorner \beta \text{ is not a spy} \urcorner \rightarrow \text{Ralph } \mathbf{B} \ulcorner \alpha \text{ is a spy and } \beta \text{ is not a spy} \urcorner]$$

VII

So far so good. But further exploration with our version of **Bel** suggests that the rule of exportation fails to mesh with the intuitive ideas that originally led Quine to the introduction of **Bel**. And I believe that our version will also allow us to see more clearly exactly what problems lay before us if we are to supply a notion answering to these motivating intuitions. As I hope later developments will show, there are a number of different kinds of counter-cases which could be posed. I will only develop one at this point.

Suppose that the situation is as stated in (9). We would now express (9) as:

(38) Ralph **B** '$\exists y$ y is a spy'.

Believing that spies differ widely in height, Ralph believes that one among them is shortest. Thus,

(39) Ralph **B** 'the shortest spy is a spy'.

Supposing that there is in fact one shortest spy, by exportation (39) yields:

(40) Ralph **Bel** ('**x** is a spy', the shortest spy)

which, under the same supposition, by existential generalization yields:

(41) $\exists y$ Ralph **Bel** ('**x** is a spy', y).

And (41) currently expresses (10). But (10) was originally intended to express a fact which would interest the F.B.I. (recall Quine's comment that if Ralph is like most of us, (10) is false), and we would not expect the interest of that organization to be piqued by Ralph's conviction that no two spies share a size.

Two details of this case can be slightly improved. First, the near analyticity of Ralph's crucial belief, as expressed in (39), can be eliminated by taking advantage of Ralph's belief that all members of the C.P.U.S.A. (none of which are known to him) are spies. Second, we can weaken the assumption of Ralph's special ideas about spy sizes by using only the well-known fact that two persons can not be born at exactly the same time at exactly the same place (where the place of birth is an interior point of the infant's body). Given any four spatial points a, b, c, d not in a plane, we can use the relations: t_1 is earlier than t_2, and p_1 is closer to $a(b, c, d)$ than p_2 is, to order all space time points. We can then form such names as 'the least spy' with the meaning: ^{m}that spy whose spatio-temporal location at birth precedes that of all other spies^{m}.

Details aside, the point is that exportation, as represented in our current version of **Bel**, conflicts with the intention that there be a 'vast' difference between (9) and (10). Still, I am convinced that we are on the right track. That track, roughly speaking, is this: instead of trying to introduce a new primitive relation like Quine's **Bel**, we focus on trying to define it (or something as close to it as we can sensibly come, remember modal logic) using just the dyadic **B** plus other logical and semi-logical apparatus such as quantifiers, **Δ**, etc. and also possibly other seemingly more fundamental epistemological notions.

Some years ago I thought that this task was hopeless and took basically the same attitude toward such quantified belief contexts as Quine takes toward quantified modal logic.[15] At that earlier time I used to argue with my colleague, Montgomery Furth, who shares my attitude toward Frege's theory, about the meaningfulness of such quantifications in as in (10). (This was after noticing the difficulty, indicated above, in our current analysis.[16]) Furth suggested that a solution might lie in somehow picking out certain kinds of names as being required for the exportation. But this just seemed essentialism all over again and we gave up. Although still uncertain that (10) makes sense, I think I can show that it comes to something like what Furth had in mind. Indeed, the analogies between the relational senses of belief and necessity are so strong that I have often wondered why Quine's scepticism with regard to **Nec** did not extend to **Bel**.

There is even an inadequacy in our proposed analysis, (24), of **Nec** parallel to that displayed for our proposed analysis, (25), of **Bel**. Although

our analysis of **Nec** avoids essentialism, it also avoids rejecting:

(42) **Nec** ('**x** = the number of planets', nine),

which comes out true on the understanding:

(43) $\exists\alpha(\Delta(\alpha, \text{nine}) \,\&\, \mathbf{N}\ulcorner\alpha = \text{the number of planets}\urcorner)$

in view of the facts that

$\mathbf{N}\ulcorner\text{the number of planets} = \text{the number of planets}\urcorner$

and

$\Delta(\text{'the number of planets'}, \text{nine})$.

In a sense, we have not avoided essentialism but only inessentialism, since so many of nine's properties become essential. Small consolation to know of our essential rationality if each blunder and error is equally ingrained.

The parallel inadequacies of our versions of **Nec** and **Bel** are now apparent. Our analyses credit nine with an excess of essence and put Ralph *en rapport* with an excess of individuals.

VIII

What is wanted is "a frankly inequalitarian attitude toward various ways of specifying the number [nine]".[17] This suggests to me that we should restrict our attention to a smaller class of names; names which are so intimately connected with what they name that they could not but name it. I shall say that such a name *necessarily denotes* its object, and I shall use '$\Delta_{\mathbf{N}}$' to symbolize this more discriminating form of denotation.

Such a relation is available; based on the notion of a *standard name*. A standard name is one whose denotation is fixed on logical, or perhaps I should say linguistic, grounds alone. Numerals and quotation names are prominent among the standard names.[18] Such names do, in the appropriate sense, necessarily denote their denotations.

Russell and some others who have attempted to treat proper names of persons as standard names have emphasized the purely referential function of such names and their apparent lack of descriptive content. But consideration of the place value system of arabic numerals and our conventions for the construction of quotation names of expressions

should convince us that what is at stake is not pure reference in the absence of any descriptive structure, but rather reference freed of *empirical* vicissitudes. 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 '9' 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, '9' will denote the same number under all possible circumstances. 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 indicate only linguistic incompetence.[19]

$\Delta_N(\alpha, x)$ cannot be analyzed in terms of the analyticity of some sentence of the form $\Delta(---, \ldots)$;
since:

Δ('the number of planets', the number of planets)

is analytic, but 'the number of planets' is not a standard name of the number of planets (viz: nine), and

Δ('9', the number of planets)

is not analytic, although '9' is a standard name of that number. We have in Δ_N a relation that holds between the standard name and the number itself, independent of any particular way of specifying the number. Thus there is a certain intimacy between '9' and 9, lacking between 'the number of planets' and the number of planets, which allows '9' to go proxy for 9 in assertions of necessity.

There is a sense in which the finite ordinals (which we can take the entities here under discussion to be) find their essence in their ordering. Thus, names which reflect this ordering in an *a priori* way, as by making true statements of order analytic, capture all that is essential to these numbers. And our careless attitude toward any intrinsic features of these numbers (e.g. whether zero is a set, and if so whether it has any members) suggests that such names may have captured all there is to these numbers.[20] I am less interested in urging an explanation of the special intimacy between 'nine' and nine, than in noting the fact. The phenomenon is widespread, extending to expressions, pure sets of finite rank, and others

of their ilk. I would require any adequate explanation to generalize so as to handle all such cases, and I should hope that such an explanation would also support the limitations which I suggest below on the kinds of entities eligible for standard names.[21]

The foregoing considerations suggest simple variants for our current Fregean versions of (17) and (42). We replace (24) with:

$$\exists\alpha(\Delta_{\mathbf{N}}(\alpha, \text{nine})\,\&\,\mathbf{N}\ulcorner\alpha \text{ is greater than five}\urcorner)$$

as our analysis of (17), and we replace (43) with:

$$\exists\alpha(\Delta_{\mathbf{N}}(\alpha, \text{nine})\,\&\,\mathbf{N}\ulcorner\alpha = \text{the number of planets}\urcorner)$$

as our analysis of (42). According to the reformed analyses, (17) and (42) come out respectively as true and false, which accords much better with our intuitions and may even satisfy the essentialist.[22] All, it is hoped, without a lapse into irreducible (though questionable) metaphysical assumptions.

There are, however, limitations on the resort to standard names. Only abstract objects can have standard names, since only they (and not all of them) lack that element of contingency which makes the rest of us liable to failures of existence. Thus, Quine can have no standard name, for he might not be. And then what shall his standard name name? Quine's singleton, {Quine}, though abstract, is clearly no better off.

Numerals 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 individual of one possible world is "the same person" as that of another. Often when the worlds have a common part, as when we consider alternative futures to the present, the individual(s) can be traced back to the common part by the usual continuity conditions and there compared. But for individuals not extant during an overlap such techniques are unavailing. It seems that such radically disjoint worlds are sometimes contemplated by modal logicians. I am not here passing final judgment but only remarking the relevance of a second difference between Quine and Nine: namely, that he presents a very real problem of transworld identification while it does not.

Thus the device of using standard names, 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. I am consoled by the fact that my own intuitions do not assign essential properties to persons in any broad metaphysical sense, which is not to say that quantified modal logic can have no interesting interpretation when trans-world identifications are made from the point of view of a frankly special interest.

IX

All this on **Nec** was aimed toward analogy with **Bel** and a charge of inconsistent scepticism against Quine. We have patched our first version of **Nec** with a more discriminating sense of denotation. The same trick would work for **Bel**, if Ralph would confine his cogitations to numbers and expressions. If not, we must seek some other form of special intimacy between name and object which allows the former to go proxy for the latter in Ralph's cognitive state.

I believe that the fundamental difficulty with our first version of **Bel** is that Δ gave us a relation between name and object in which Ralph played no significant role. Supposing all speakers of English to have available approximately the same stock of names (i.e. singular terms), this puts us all *en rapport* with the same persons. But the interesting relational sense of belief, and the one which I suppose Quine to have been getting at with (10), is one which provides Ralph with access to some but not all persons of whom he can frame names. What we are after this time is a three-place relation between Ralph, a name (which I here use in the broad sense of singular term) α, and a person x. For this purpose I will introduce two special notions: that of a name α being *of* x for Ralph, and that of a name being *vivid*, both of which I will compare with the notion of a name *denoting* x.

Let us begin by distinguishing the *descriptive content* of a name from the *genetic character* of the name as used by Ralph. The first goes to user-independent features of the name, the second to features of a particular user's acquisition of certain beliefs involving the name. It is perhaps easiest to make the distinction in terms not of names but of pictures, with consideration limited to pictures which show a single person. Those features of a picture, in virtue of which we say it resembles or is a likeness of a particular person, comprise the picture's descriptive content. The

genetic character of a picture is determined by the causal chain of events leading to its production. In the case of photographs and portraits we say that the picture is *of* the person who was photographed or who sat for the portrait. The same relation presumably holds between a perception and the perceived object.[23] This relation between picture and person clearly depends entirely on the genetic character of the picture. Without attempting a definition, we can say that for a picture to be *of* a person, the person must serve significantly in the causal chain leading to the picture's production and also serve as object for the picture. The second clause is to prevent all of an artist's paintings from being *of* the artist. I will shortly say a bit more about how I understand this relation, which I designate with the italicized '*of*'.

The "user-independence" of the descriptive content of a picture lies in the fact that "identical" pictures, such as two prints made from a single negative, will resemble all the same persons. In this sense, the descriptive content of a picture is a function of what we might call the picture-type rather than the picture-token. The "user-dependent" nature of the genetic character of a picture lies in the fact that "identical" paintings can be such that they are *of* different persons (e.g. twins sitting separately for portraits). Thus the genetic character of a picture is a function only of the picture-token. In order to accommodate genesis, I use 'picture' throughout in the sense of 'picture-token'.

Armed with *resemblance* and *of*-ness, let me recite just a few of the familiar facts of portraiture. First, not all pictures *of* a person resemble that person. Of two recent pictures taken of me, one resembles Steve Allen and the other resembles nothing on earth. Secondly, not all pictures which resemble a person are *of* that person. It is obvious that a picture *of* one twin will, if it resembles the twin it is *of*, also resemble the other twin. What is more interesting is that a picture which resembles a person may not be *of* any person at all. My camera may have had a hallucination due to light leaks in its perceptual system. Similarly, if I have drawn my conception of how the typical man will look in one million years, even if a man looking like that now exists, my picture is not *of* him (unless he sat as a model or played some other such role). Thirdly, a picture may be *of* more than one person, as when, by the split mirror technique, we obtain a composite photograph showing one man's head on another man's body. Indeed, in summary, a single picture may be *of* no one, one person, or

many persons, while resembling no one, one person, or many persons, with any degree of overlap between those whom it is *of* and those whom it resembles. Of course, if photographs did not frequently, indeed usually, resemble their subjects, they could not serve many of the purposes for which we use them. Still, on occasion, things can and do go awry, and a bad photograph of one is yet a photograph *of* one.

I turn now to cases in which the causal chain from object to picture is relatively indirect. If one or several witnesses describe the criminal to a police artist who then constructs a picture, I shall say that it is a picture *of* the criminal, even when after such a genesis the resulting picture has quite ceased to resemble the criminal. Similarly, had a photograph of Julius Caesar been xeroxed, and the xerox copy televised to a monastery, where it was copied by a monk, and so was reproduced down through the ages, I would call the resulting copy, no matter how distorted, no matter who, if anyone, it resembled, a picture *of* Julius Caesar.[24]

A police artist's reconstruction of Santa Claus, based on a careful reading of the poem *The Night Before Christmas*, is not a picture *of* anyone no matter how many people make themselves up so that it exactly resembles them, and no matter whether the artist regards the poem as fact or fiction. Even if in combining facial features of known statistical frequencies the artist correctly judges that the resulting picture will resemble someone or other, that person has no special causal efficacy in the production of the picture and so it still will not be a picture *of* anyone. And if the story of Medusa originated in imagination or hallucination (as opposed to misperception or misapprehension), then a rendering based on that legend is *of* no one, notwithstanding the existence of any past, present, or future snake-haired women.

In addition to the link with reality provided by the relation of resemblance the descriptive content of a picture determines its *vividness*. A faded picture showing the back of a man wearing a cloak and lurking in shadow will lack vividness. A clear picture, head on, full length, life size, showing fingerprints, etc. would be counted highly vivid. What is counted as vivid may to some extent depend on special interests. To the clothier, nude portraits may be lacking in detail, while to the foot fetishist a picture showing only the left big toe may leap from the canvas. Though special interests may thus weight detail, I would expect that increase in detail always increases vividness. It should be clear that there are no necessary

connections between how vivid a picture is and whether it is *of* anyone or whether it resembles anyone.

Returning now to names, it is their descriptive content that determines what if anything they denote. Thus, denotation is the analogue for names to resemblance for pictures. The genetic character of a name in a given person's usage will account for how he *acquired* the name, that is how he heard of such a thing and, if he believes that such a thing exists, how he came to believe it. It is the genetic character of the name that determines what if anything it is a name *of*. (I here use the same nomenclature, '*of*', for names as for pictures.) The user-dependence of this notion is required by the fact that Ralph and Fred may each have acquired the name 'John Smith', but in such a way that for Ralph it is a name *of* one John Smith while for Fred it is a name *of* another John Smith.

I would suppose that students of rhetoric realize that most of the lines of argument traditionally classified as 'informal fallacies' (*ad hominem*, *ad vericundiam*, etc.) are commonly considered relevant or even determinative by reasonable men.[25] Cases such as that of the two John Smiths, which emphasize the importance of genetic features in language use, indicate limitations that must be placed on the traditional dichotomy between *what* we believe (assert, desire, etc.) and *how* we came to believe it.

Let us attempt to apply these considerations to the case of proper names. Proper names denote each of the usually many persons so dubbed. Ralph may acquire a proper name in a number of different ways. He may have attended a dubbing with the subject present. I reconstruct such dubbings as consisting of a stipulative association of the name with a perception *of* the subject. Thus, the name becomes a name *of* the subject, and as it passes from Ralph to others retains this feature in the manner of the picture *of* Julius Caesar. We may of course dub on the basis of a hallucination, in which case the name is a name *of* nothing, though it will still denote each actual person, if any, that may be so dubbed. Dubbings sometimes take place with the subject absent, in which case some other name (usually a description) stands in for the perception, and the stipulatively introduced proper name takes its genetic character from the stand-in name. If the latter only denotes the subject (and is not a name *of* the subject for the user in question), the proper name can do no better. This having a name *of* x, I shall later take to be essential to having a belief about x, and I am unwilling to adopt any theory of proper names which

permits me to perform a dubbing in absentia, as by solemnly declaring "I hereby dub the first child to be born in the twenty-second century 'Newman 1'", and thus grant myself standing to have beliefs about that as yet unborn child. Another presumably more common way to acquire a proper name is in casual conversation or reading, e.g. from the headline, "Mayor Indicted; B. J. Ortcutt sought by F.B.I.". In such cases we retrace the causal sequence from Ralph back through his immediate source to its immediate source and so on. An especially difficult case of this sort arises when someone other than Ortcutt, say Wyman, is introduced to Ralph as Ortcutt. Suppose that the introduction took place with intent to deceive and that Fred, who made the introduction, acquired the name 'Ortcutt' as a name *of* Ortcutt. Clearly we should count 'Ortcutt' as a name *of* Wyman for Ralph, but also, through Fred, as a name *of* Ortcutt. The situation is analogous to the composite photograph made by the split mirror technique. But here the much greater vividness of the perceptual half of the equation may outweigh the dim reflection of Ortcutt.

I leave to the reader the useful exercise of constructing cases of names (not necessarily proper) which are analogues to each of the cited cases of pictures.

The notion of a vivid name is intended to go to the purely internal aspects of individuation. Consider typical cases in which we would be likely to say that Ralph knows x or is acquainted with x. Then look only at the conglomeration of images, names, and partial descriptions which Ralph employs to bring x before his mind. Such a conglomeration, when suitably arranged and regimented, is what I call a vivid name. As with pictures, there are degrees of vividness and the whole notion is to some degree relative to special interests. The crucial feature of this notion is that it depends only on Ralph's current mental state, and ignores all links whether by resemblence or genesis with the actual world. If the name is such, that on the assumption that there exists some individual x whom it both denotes and resembles we should say that Ralph knows x or is acquainted with x, then the name is vivid.

The vivid names "represent" those persons who fill major roles in that *inner story* which consists of all those sentences which Ralph believes. I have placed 'represent' here in scarequotes to warn that there may not actually exist anything which is so "represented". Ralph may enjoy an inner story totally out of contact with reality, but this is not to deny it a

cast of robust and clearly delineated characters. Life is often less plausible than art. Of course a vivid name should make an existence *claim*. If Ralph does not believe that there is a Santa Claus, I would not call any Santa Claus name vivid, no matter how lively it is in other respects.

There are certain features which may contribute strongly to vividness but which I feel we should not accept as absolute requirements. It is certainly too much to require that a vivid name must provide Ralph with a means of recognizing its purported object under all circumstances, for we do not follow the careers of even those we know best that closely. There are always gaps. We sometimes even fail to recognize ourselves in early photographs or recent descriptions, simply because of gaps in our self-concept.[26] It also seems to me too much to require that Ralph believes himself to have at some time perceived the purported object of a vivid name since a scholar may be better acquainted with Julius Caesar than with his own neighbor. Some have also suggested that the appropriate kind of name must provide Ralph with the means of locating its purported object. But parents and police are frequently unable to locate persons well known to them. Also, a vivid biography of a peasant somewhere in Asia, may involve none but the vaguest spatio-temporal references.

One might understand the assertion, 'Ralph has an opinion as to who Ortcutt is' as a claim that Ralph can place Ortcutt among the leading characters of his inner story, thus that Ralph believes some sentence of the form $\ulcorner \alpha = \text{Ortcutt} \urcorner$ with α vivid. This, I believe, is the view of Hintikka. Hintikka institutionalizes the sense of 'represents' with usual quotes by allowing existential generalization on the leading character or inner individual "represented" by a vivid name. Although his symbolism allows him to distinguish between those inner individuals which are actual and those which are not, a central role is assigned to something close to what I call a vivid name.[27] In emphasizing this conceptual separation of vividness, which makes a name a *candidate* for exportation, from those features depending on genesis and resemblence, which determine what actual person, if anyone, the name really represents (without quotes), Hintikka (if I have him right) and I are in agreement.

It is a familiar fact of philosophy that no idea, description, or image can insure itself against non-natural causes. The most vivid of names may have had its origin in imagination or hallucination. Thus, to freely allow exportation a name must not only be vivid but must also be a name

of someone, and indeed a name *of* the person it denotes. This last is an accuracy requirement which no doubt is rarely satisfied by the most vivid names we use. Our most vivid names can be roughly characterized as those elaborate descriptions containing all we believe about a single person. Such names will almost certainly contain inaccuracies which will prevent them from actually denoting anyone. Also such names are often not *of* a single person but result from conflation of information about several persons (as in Fred's prevaricating introduction of Wyman to Ralph).

One proposal for handling such difficulties would be to apply the method of best fit to our most vivid names, i.e. to seek the individual who comes closest to satisfying the two conditions: that the name denotes him and is *of* him. But it seems that this technique would distort the account of conflations, never allowing us to say that there are two persons whom Ralph believes to be one. There is an alternate method which I favor. Starting with one of our most vivid names, form the largest core, all of which is *of* the same person and which denotes that person. A vivid name resulting from conflation may contain more than one such core name. The question is whether such a core, remaining after excision of inaccuracy, is yet vivid. If so, I will say that the core name *represents* the person whom it both denotes and is *of* to Ralph.

Our task was to characterize a relation between Ralph, a name, and a person, which could replace Δ in a variant analysis of **Bel**. For this I will use the above notion of representation. To repeat, I will say α *represents* x *to* Ralph (symbolized: '$\mathbf{R}(\alpha, x, \text{Ralph})$') if and only if (i) α denotes x, (ii) α is a name *of* x for Ralph, and (iii) α is (sufficiently) vivid. Our final version of (33) is the following variant of (36):

(44) $\exists\alpha\,[\mathbf{R}(\alpha, \text{Ortcutt, Ralph}) \,\&\, \text{Ralph } \mathbf{B} \ulcorner \alpha \text{ is a spy} \urcorner]$.

X

Part of our aim was to restrict the range of persons with whom Ralph is *en rapport* (in the sense of **Bel**). This was done by means of clauses (ii) and (iii). Clause (ii) excludes all future persons such as Newman 1[28] and indeed any person past, present, or future who has not left his mark on Ralph. The addition of clause (iii) excludes any person who has not left a vivid mark on Ralph.

The crucial exportation step for the case of the shortest spy is now blocked, because in spite of Ralph's correct belief that such a person exists, 'the shortest spy' is not, for Ralph, a name *of* him.[29]

Clause (iii) takes account of the desire to allow Ralph beliefs *about* (again in the sense of **Bel**) only those persons he 'has in mind', where the mere acquisition of, say, a proper name *of* x would not suffice to put x in mind. Furthermore, if we were to drop clause (iii), and allow any name which both denotes x and is a name *of* x to represent x to Holmes, then after Holmes observed the victim, 'the murderer' would represent the murderer to him. And thus we would have:

$$\exists y \exists \alpha [\mathbf{R}(\alpha, y, \text{Holmes}) \,\&\, \text{Holmes } \mathbf{B} \ulcorner \alpha = \text{the murderer} \urcorner],$$

which is our present analysis of:

$$\exists y \text{ Holmes } \mathbf{Bel} (\text{`}\mathbf{x} = \text{the murderer'}, y),$$

which is, roughly, Quine's translation of:

There is someone whom Holmes believes to be the murderer.

But this last should presage an arrest and not the mere certification of homicide. Clause (iii) is intended to block such cases. At some point in his investigation, the slow accretion of evidence, all "pointing in a certain direction" may just push Holmes' description over the appropriate vividness threshold so that we *would* say that there is now someone whom Holmes believes to be the murderer.

Clause (iii) could also be used to block exportation of 'the shortest spy'. But that would not eliminate the need for clause (ii) which is still needed to insure that we export to the right individual.

Although I believe that all three clauses are required to block all the anomalies of exportation, I am less interested in a definitive analysis of that particular inference than I am in separating and elucidating certain notions which may be useful in epistemological discussions. According to my analysis, Ralph must have quite a solid conception of x before we can say that Ralph believes x to be a spy. By weakening the accuracy requirements on the notion of representation we obtain in general new relational senses of belief.[30] Any such notion, based on a clearly specified variant of (36), may be worthy of investigation.

XI

A vivid name is a little bit like a standard name, but not much. It can't guarantee existence to its purported object, and although it has a kind of inner reliability by way of Ralph's use of such names to order his inner world, a crucial condition of reliability – the determinateness of standard identities – fails. A standard identity is an identity sentence in which both terms are standard names. It is corollary to the reliability of standard names, that standard identities are either true under all circumstances or false under all circumstances. But not so for identities involving vivid names. We can easily form two vivid names, one describing Bertrand Russell as logician, and another describing Russell as social critic, which are such that the identity sentence simply can not be decided on internal evidence. In the case of the morning star and the evening star, we can even form names which allow us to locate the purported objects (if we are willing to wait for the propitious moment) without the identity sentence being determinate. Of course Ralph may believe the negation of the identity sentence for all distinct pairs of vivid names, but such beliefs may simply be wrong. And the names can remain vivid even after such inaccurate non-identities are excised. It may happen that Ralph comes to change his beliefs so that where he once believed a non-identity between vivid names, he now believes an identity. And at some intermediate stage of wonder he believes neither the identity nor the non-identity. Such Monte Cristo cases may be rare in reality (though rife in fiction)[31], but they are nevertheless clearly possible. They could be ruled out only by demanding an unreasonably high standard of vividness, to wit: no gaps, or else by adding an artificial and ad hoc requirement that all vivid names contain certain format items, e.g. exact place and date of birth. Either course would put us out of *rapport* with most of our closest friends. Thus, two vivid names can represent the same person to Ralph although Ralph does not believe the identity sentence. He may simply wonder, or he may disbelieve the identity sentence and so believe of one person that he is two. Similarly two vivid names can represent different persons to Ralph although Ralph does not believe the non-identity sentence. Again, Ralph may either suspend judgment or disbelieve the non-identity and so believe of two persons that they are one. Since this last situation is perhaps more plausible than the others, it is important to see that theoretically the

cases are on a par. In fact, a case where Ralph has so conflated two persons and is then disabused by his friend Fred, becomes a case of believing one person to be two simply by assuming that Ralph was right in the first place and that Fred lied.

Quine acknowledges that Ralph can believe of one person that he is two on Quine's own understanding of **Bel**, when he remarks, as mentioned in VI above, that

(32) Ralph **Bel** ('**x** is not a spy', Ortcutt),

and

(33) Ralph **Bel** ('**x** is a spy', Ortcutt),

do not express an inconsistency on Ralph's part and do not imply (34). The background story justifying (32) and (33) involves Ralph twice spotting Ortcutt but under circumstances so different that Ralph was unaware that he was seeing the same man again. Indeed he believed he was not seeing the same man again, since on the one occasion he thought, 'There goes a spy', and on the other, 'Here is no spy'. My point is that though one may quibble about whether each or either of the names of Ortcutt were vivid in the particular cases as described by Quine[32], and so question whether in those cases exportation should have been permitted, no plausible characterization of appropriate conditions for vividness can prevent analogous cases from arising.

Cases of the foregoing kind, which agree with Quine's intuitions, argue an inadequacy in his regimentation of language. For in the same sense in which (32) and (33) do not express an inconsistency on Ralph's part, neither should (33) and

(45) $\sim$ Ralph **Bel** ('**x** is a spy', Ortcutt)

express an inconsistency on ours. Indeed it seems natural to claim that (45) is a consequence of (32). But the temptation to look upon (33) and (45) as contradictory is extremely difficult to resist. The problem is that since Quine's **Bel** suppresses mention of the specific name being exported, he can not distinguish between

(46) $\exists\alpha[\mathbf{R}(\alpha, \text{Ortcutt}, \text{Ralph}) \,\&\, \sim \text{Ralph } \mathbf{B} \ulcorner \alpha \text{ is a spy} \urcorner]$

and

(47) $\sim \exists\alpha[\mathbf{R}(\alpha, \text{Ortcutt}, \text{Ralph}) \,\&\, \text{Ralph } \mathbf{B} \ulcorner \alpha \text{ is a spy} \urcorner]$

If (45) is read as (46), there is no inconsistency with (32); in fact, on this interpretation (45) is a consequence of (32) (at least on the assumption that Ralph does not have contradictory beliefs). But if (45) is read as (47) (Quine's intention, I suppose), it is inconsistent with (33) and independent of (32).

So long as Ralph can believe of one person that he is two, as in Quine's story, we should be loath to make either (46) or (47) inexpressible.[33] If (33) is read as (44), we certainly must retain some way of expressing (47) since it expresses the negation of (33). Is it important to retain expression of (46)? In Quine's story, something stronger than (46) holds, namely (32), which we now read as:

(48) $\exists\alpha[\mathbf{R}(\alpha, \text{Ortcutt}, \text{Ralph}) \,\&\, \text{Ralph } \mathbf{B} \ulcorner \alpha \text{ is not a spy} \urcorner]$

But we can continue the story to a later time at which Ralph's suspicions regarding even the man at the beach have begun to grow. Not that Ralph now proclaims that respected citizen to be a spy, but Ralph now suspends judgment as to the man's spyhood. At this time (48) is false, and (46) is true. If we are to have the means to express such suspensions of judgment, something like (46) is required.

I have gone to some trouble here to indicate the source of the notational inadequacy in the possibility of a single person bearing distinct exportable names not believed to name the same thing, and also to argue in favor of maintaining the possibility of such names. I have done this because logicians working in this field have for the most part been in accord with Quine in adopting the simpler language form. In my view the consequence of adopting such a form is either to exclude natural interpretations by setting an impossibly high standard for vividness, and thus for exportation, or else to make such partial expressions of suspended judgment as (46) inexpressible.

XII

When earlier I argued for Frege's method – seek the intermediate entity – it was on the grounds that a clarified view of the problem was worth at least a momentary ontological risk. But now it appears that to give adequate expression to the epistemological situation requires explicit quantificational certification of the status of such entities. I am undismayed and even would urge that the conservative course so far followed of taking expressions as the intermediate entities is clearly inadequate to

the task. Many of our beliefs have the form: 'The color of her hair is _____', or 'The song he was singing went _____', where the blanks are filled with images, sensory impressions, or what have you, but certainly not words. If we cannot even *say* it with words but have to paint it or sing it, we certainly cannot believe it with words.

My picture theory of meaning played heavily on the analogy between names and pictures. I believe that the whole theory of sense and denotation can be extended to apply to pictures as well as words. (How can an identity "sentence" with the components filled by pictures be both true and informative?) If we explicitly include such visual images among names, we gain a new perspective on the claim that we can definitively settle the question of whether Bernard J. Ortcutt is such that Ralph believes him to be a spy by confronting Ralph with Ortcutt and asking 'Is *he* a spy?' Ralph's response will depend on recognition, a comparison of current images with stored ones. And stored images are simply one more form of description, worth perhaps a thousand words, but thoroughly comparable to words. Thus Ralph's answer in such a situation is simply one more piece in the whole jigsaw of his cognitive structure. He might answer 'yes' for some confrontations (compare – 'yes' for some names), 'no' for others, and withhold judgment for still others.

The suggested extension of the intermediate entities poses an interesting problem for the ontologist. Must we posit a realm of special mental entities as values for the variables used in analyzing the relational sense of belief, or will a variant on the trick of taking sentences as the objects of belief also account for beliefs involving visual images, odors, sounds, etc.?[34]

XIII

There are, I believe, two rather different problem areas connected with the analysis of intermediate contexts. The first problem area, which lies squarely within what is usually called the philosophy of language, involves chiefly the more fundamental non-relational interpretation of intermediate contexts. It calls for an explanation of the seemingly logically deviant behavior of expressions in such contexts and perhaps also for a more exact statement of just what inferences, if any, are valid for such contexts. Here I feel that Frege's method outlines a generally acceptable solution. I especially appreciate the fact that for Frege intermediate

contexts are not seen as exceptions to a powerful and heretofore general logical theory but rather are seen as fully accessible to that theory with the noted anomalies explained as due to a misreading of "initial conditions" leading to an inappropriate application of the laws. This accounting for seemingly aberrant phenomena in terms of the correct application of a familiar theory is explanation at its most satisfying. By contrast, the view I have associated with Quine – that intermediate contexts are referentially inarticulate – contents itself with a huge and unobvious class of "exceptions to the rules". This is shabby explanation, if explanation at all.

The second problem area specifically concerns the relational interpretation of intermediate contexts. Here I have tried to show how Frege's method, though it may provide a basis for unifying the relational and non-relational interpretation of a given intermediate context and though it immediately provides for some form of quantification in, does not by itself necessarily provide the most interesting (and perhaps indispensible) relational interpretation. Further analysis, often specific to the context in question, may be required in order to produce an appropriately discriminating form of Δ which will yield results in conformity with our intuitive demands. Indeed, such an investigation may well lead far beyond the philosophy of language proper into metaphysics and epistemology. I know of no earlier source than 'Quantifiers and Propositional Attitudes' in which relational uses of intermediate contexts are so clearly identified throughout an area of concern more urgent than modal logic. In that article Quine early expressed his remarkable insights into the pervasiveness of the relational forms and the need for a special analysis of their structure. And in fact following Quine's outlook and attempting to refine the conditions for valid applications of exportation, one might well arrive at the same metaphysical and epistemological insights as those obtained in attempting to refine Δ. What is important is that we should achieve some form of analysis of these contexts without recourse to the very idioms we are attempting to analyze.

The problem of interpreting the most interesting form of quantification in, appears in various guises: as the problem of making trans-world identifications, as the problem of finding favored names, and as the problem of distinguishing 'essential' from 'accidental' properties.
The present paper suggests two polar techniques for finding favored names.

It is curious and somehow satisfying that they so neatly divide the objects between them, the one applying only to objects capable of being perceived (or at least of initiating causal chains), the other applying only to purely abstract objects. I am well aware of obscurities and difficulties in my formulations of the two central notions – that of a standard name and that of a name being *of* an object for a particular user. Yet both seem to me promising and worthy of further investigation.

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[17] W. V. Quine, 'Quantifiers and Propositional Attitudes', *The Journal of Philosophy* **53** (1956) 177–187; reprinted (minus 15 lines) in [20].
[18] W. V. Quine, *Word and Object*, New York 1960.
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[1] This paper is intended as a commentary on Quine's 'Quantifiers and Propositional Attitudes'. Quine's article was first published in 1956 and I have been thinking about it ever since. Quine has not been idle while I have been thinking, but his subsequent writings do not seem to have repudiated any part of 'Quantifiers and Propositional Attitudes' which remains, to my mind, the best brief introduction to the field. The first half of my reflections was read to the Harvard Philosophy Colloquium in January 1966. Its writing was aided by conversations with Montgomery Furth. The present ending has been influenced by a number of different persons, most significantly by Saul Kripke and Charles Chastain. But they should not be held to blame for it. Furth, who also read the penultimate version, is responsible for any remaining deficiencies aside from Section IX about which he is skeptical. My research has been partially supported by N.S.F. Grant GP-7706.

[2] The quotation is from *Word and Object*, p. 144, wherein the inspiration for 'opaque' is explicitly given. The assimilation of intermediate occurrences to accidental ones might fairly be said to represent a *tendency* on Quine's part. The further evidence of *Word and Object* belies any simplistic characterization of Quine's attitudes toward intermediate occurrences.

[3] In 'Three Grades of Modal Involvement', p. 172 in [20] and other places. An intriguing suggestion for notational efficiency at no loss (or gain) to Quine's theory is to take advantage of the fact that occurrences of variables within opaque contexts which are bindable from without are prohibited, and use the vacated forms as "a way of indicating, selectively and changeably, just what positions in the contained sentence are to shine through as referential on any particular occasion" (*Word and Object*, p. 199). We interpret, 'Hegel believed that x is greater than five' with bindable 'x', as 'x is such that Hegel believed it to be greater than five' which is modeled on (8). Similarly, 'Hegel believed that x is greater than y' is now read as, 'x and y are such that Hegel believed the former to be greater than the latter'. (8) itself could be rendered as, '$\exists x[x = \text{nine}$ & Hegel believed that x is greater than five]', and still not be a logical consequence of (5).

[4] The reader will recognize that I have incorporated, without reference, many themes upon which Quine has harped, and that I have not attempted to make my agreement with him explicit at each point at which it occurs. Suffice it to say that the agreements far outweigh the disagreements, and that in both the areas of agreement and of disagreement I have benefited greatly from his writings.

[5] See especially the end of 'Three Grades of Modal Involvement'. I am informed by

scholarly sources that Aristotelian essentialism has its origin in 'Two Dogmas of Empiricism'. It reappears significantly in 'Reply to Professor Marcus', where essential properties of numbers are discussed, and in *Word and Object*, p. 199, where essential properties of persons are discussed. I will later argue that the two cases are unlike.

[6] In 'A Formulation of the Logic of Sense and Denotation'.

[7] See *Meaning and Necessity*, Section 9, for the discovery of the explicandum, and Section 40 for the discovery of the explicans.

[8] See 'On Sense and Reference' pp. 58, 59 in *Translations from the Philosophical Writings of Gottlob Frege*.

[9] The acute reader will have discerned a certain similarity in function, though not in foundation, between the Frege quotes and another familiar quotation device.

[10] These parallels are exhibited at some length in my dissertation *Foundations of Intensional Logic*.

[11] A drawback to this position is that the resulting *correct* applications of Leibniz' Law are rather unexciting. More interesting intermediate entities can be obtained by taking what Carnap, in *Meaning and Necessity* calls 'intensions'. Two expressions have the same intension, in this sense, if they are logically equivalent. Other interesting senses of 'intension' might be obtained by weakening the notion of logical equivalence to logical equivalence within sentential logic, intuitionistic logic, etc. Church suggests alternatives which might be understood along these lines.

[12] I have approximately followed the notational devices used by Quine in 'Quantifiers and Propositional Attitudes'. Neither of us recommend the notation for practical purposes, even with the theory as is. An alternative notation is suggested in note 3 above.

[13] Also, see *Word and Object*, p. 211, for an implicit use of exportation.

[14] The 'nearly' of 'nearly analytic' is accounted for by a small scruple regarding the logic of singular terms. If a language L containing the name '$\imath yFy$' is extended to a metalanguage L' containing the predicate 'Δ' for denotation-in-L and also containing the logical particles, including quotes, in their usual meaning, then I regard

$$[\exists x\ x = \imath yFy \rightarrow \Delta(\text{`}\imath yFy\text{'}, \imath yFy)]$$

as fully analytic in L'.

My reasons for thinking so depend, in part, on my treatment of quotation names as standard names, for which see Section VIII below. I am being careful, because Quine suggests disagreement in an impatient footnote to 'Notes on the Theory of Reference' (I am grateful to Furth, who recalled the footnote.) I do not know whether our disagreement, if a fact, is over quotation or elsewhere. The whole question of analyticity is less than crucial to my line of argument.

[15] For a recent expression see *Word and Object*, Section 41.

[16] The same difficulty was noticed, independently, by John Wallace and reported in a private communication.

[17] Quoted from the end of Quine's 'Reply to Professor Marcus'. I fully agree with Quine's characterization of the case, though not with the misinterpretation of Church's review of 'Notes on Existence and Necessity' from which Quine's characterization springs.

[18] See the discussion of what Carnap calls *L-determinate individual expressions* in *Meaning and Necessity*, Section 18, and also Tarski's discussion of what he calls *structural descriptive names* in 'The Concept of Truth in Formalized Languages', Section 1.

[19] The latter wonder is not to be confused with an ontological anxiety concerning the nature of nine, which is more appropriately expressed by dropping the word 'number' in the wonder description.

[20] Benacerraf so concludes in 'What Numbers Could Not Be'.

[21] The present discussion of standard names is based on that in the more technical environment of my dissertation, pp. 55–57.

[22] Given this understanding of **Nec**, it is interesting to note that on certain natural assumptions '$\mathbf{\Delta_n}(\alpha, y)$' is itself expressed by '$\mathbf{Nec}(\ulcorner\alpha = \mathbf{x}\urcorner, y)$'.

[23] Note that an attempt to identify the object perceived in terms of resemblance with the perception rather than in terms of the causal chain leading to the perception would seriously distort an account of misperception.

[24] The corresponding principle for determining who it is that a given proper name, as it is used by some speaker, names, was first brought to my attention by Saul Kripke. Kripke's examples incorporated both the indirect path from person named to person naming and also the possible distortions of associated descriptions.

The existence of a relatively large number of persons with the same proper name gives urgency to this problem even in mundane settings. In theoretical discussions it is usually claimed that such difficulties are settled by "context". I have recently found at least vague recognition of the use of genetic factors to account for the connection between name and named in such diverse sources as Henry Leonard: "Probably for most of us there is little more than a vaguely felt willingness to mean ... whatever the first assigners of the name intended by it." (*An Introduction to Principles of Right Reason*, section 30.2), and P. F. Strawson: "[T]he identifying description ... may include a reference to another's reference to that particular ... So one reference may borrow the credentials ... from another; and that from another." (*Individuals*, footnote 1, page 182). Though in neither case are genetic and descriptive features clearly distinguished.

Kripke's insights and those of Charles Chastain, who has especially emphasized the role of *knowledge* in order to establish the desired connection between name and named, are in large part responsible for the heavy emphasis I place on genetic factors.

[25] Although it is useful for scholarly purposes to have a catalogue of such "fallacies" (such as that provided in Carney and Scheer, *Fundamentals of Logic*), the value of such discussions in improving the practical reasoning of rational beings seems to me somewhat dubious. A sensitive discussion of a related form of argument occurs in Angell, *Reasoning and Logic*, especially pp. 422–423.

[26] Such failures may also be due to self-deception, an inaccurate self-concept, but then the purported object does not exist at all.

[27] Insofar as I understand Hintikka's 'Individuals, Possible Worlds, and Epistemic Logic', the domain of values of the bound variables fluctuates with the placement of the bound occurrences of the variables. If, in a quantifier's matrix, the occurrences of the variable bound to the quantifier fall only within uniterated epistemological contexts, then the variables range over possible(?) individuals "represented" by vivid names. If, on the other hand, no occurrences of the variable fall within epistemological (or other opaque) contexts, then the variables range over the usual actual individuals. And if the variable occurs both within and without an epistemological context, then the values of the variables are inner individuals which are also actual. Thus if Ralph believes in Santa Claus, and σ is Ralph's vivid Santa Claus description, Hintikka would treat '$\ulcorner$Ralph believes that σ = Santa Claus$\urcorner$, as true and as implying '$\exists x$ Ralph believes that x = Santa Claus', but would treat '$\exists x[x$ = Santa Claus & Ralph believes that x =

Santa Claus]' and presumably '$\exists x[\exists y\ y = x$ & Ralph believes that $x =$ Santa Claus]' as false, and not as consequences of '$\ulcorner\sigma =$ Santa Claus & Ralph believes that $\sigma =$ Santa Claus$\urcorner$.

[28] I disregard precognition explained by a reverse causal chain.

[29] We might say in such cases that the name *specifies* its denotation, in the sense in which a set of specifications, though not generated by the object specified, is written with the intention that there is or will be an object so described.

[30] One such weakened notion of representation is that expressed by 'Ralph **Bel** ($\ulcorner\alpha = \mathbf{x}\urcorner$, y)', analyzed as in (44) using our current **R**, which here, in contrast to the situation for $\Delta_{\mathbf{N}}$ (see reference 22 above), is not equivalent to '**R**(α, y, Ralph)'. Still this new notion of representation, when used in place of our current **R** in an analysis of the form of (44), leads to the same relational sense of belief.

[31] Note especially the "secret identity" genre of children's literature containing Superman, Batman, etc.

[32] At least one author, Hintikka, has seemed unwilling to allow Ralph a belief *about* Ortcutt merely on the basis of Ralph's few glimpses *of* Ortcutt skulking around the missile base. See his 'Individuals, Possible Worlds, and Epistemic Logic', footnote 13.

[33] Another way out is to accept the fact that two names may represent the same person to Ralph though Ralph believes the non-identity, but to put an ad hoc restriction on exportation. For example to analyze (33) as: '$\exists\alpha$[**R**(α, Ortcutt, Ralph) & Ralph **B** $\ulcorner\alpha$ is a spy$\urcorner$] & $\sim \exists\alpha$[**R**(α, Ortcutt, Ralph) & $\sim$ Ralph **B** $\ulcorner\alpha$ is a spy$\urcorner$]'. This prevents exportation where contradiction threatens. But again much that we would like to say is inexpressible in Quine's nomenclature.

[34] It should be noted that in Church's 'On Carnap's Analysis of Statements of Assertion and Belief' serious objections are raised to even the first step.