A Critique of Geach's Arguments Against General Reference: Lecture Six Intensive Course STOQ 50547 II Semester April 26–30, 2004

Nino B. Cocchiarella

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1 Introduction

Theories of reference in the 20th Century have been almost exclusively theories of singular reference, i.e., theories of the use of proper names and definite descriptions to refer to single objects. General reference by means of quantifier phrases has usually been rejected, mainly because of a confusion of pragmatics with semantics, i.e., a confusion of the referential use of quantifier phrases in speech and mental acts with the truth conditions of sentences containing those phrases.

This confusion of pragmatics with semantics is in marked contrast with our conceptualist theory of reference (as described in our fifth lecture) where singular and general reference are given a unified account. It is also in contrast with medieval *suppositio* theories where a unified account was also given, but only in terms of categorical propositions. Bertrand Russell had a theory of general reference in his 1903 *Principles of Mathematics*, but he later abandoned that theory in his 1905 paper, "On Denoting".

In his later 1905 theory, Russell took ordinary proper names to be eliminable in terms of definite descriptions, which were in turn eliminable contextually in terms of quantifier phrases, and quantifier phrases were then said to be "reducible" to conjunctions and disjunctions of singular propositions. Thus, the 1905 theory, according to Russell, "gives a reduction of all propositions in which denoting phrases [i.e., quantifier phrases and definite descriptions] occur to forms in which no such phrases occur."[1] Russell did allow for a category of "logically proper names," however, i.e., expressions such as 'this' and 'that', each of which he said "applies directly to just one object, and does not in any way *describe* the object to which it applies."[2] Such a category of "logically proper names"

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[1] Russell 1956, p. 45.

[2] See, e.g., Russell's 1914 paper "On the Nature of Acquaintance", reprinted in Russell 1956.

figured prominently in Russell's logical atomism, where the idea of eliminating all forms of general reference found its clearest paradigm. Indeed, this way of reducing general reference to the singular reference of logically proper names, or what came to be called "individual constants," was laid out explicitly by Rudolf Carnap in his state-description semantics, which he developed and applied even to quantified modal logic.[3] In many ways, and however unwittingly, it is this paradigm for reducing general reference to singular reference that is now part of the so-called "new theory of direct reference" in which there is only singular reference.[4]

Aside from the paradigm of logical atomism as a framework for eliminating general reference, there were no explicit arguments against theories of general reference, i.e., arguments that there could be only singular reference. This situation changed in 1962 when Peter Geach published his book, *Reference and Generality,* which was later revised and reprinted in 1980. In this book, Geach developed arguments that are supposed to apply to any theory of general reference, as well as some others that are designed to work specifically against Russell's 1903 theory and against the medieval *suppositio* theories.

Geach's arguments do not work against our conceptualist theory of reference, however, as we will explain in what follows. Nor do those arguments work against the medieval *suppositio* theories once they are interpreted and reconstructed within conceptual realism, as I have shown elsewhere.[5] But that is a subject we will not go into here.

2   Geach's Negation Argument

The only "genuine" form of reference, according to Geach, is reference by means of singular terms, and in particular in the use of proper names. One type of argument that he gives against general reference is based on negation.

Consider, for example, an indicative sentence of English containing a proper name 'a', and let '$f(\ )$' represent the propositional context remaining when the name 'a' has been extracted from the sentence. The propositional context '$f(\ )$' is what Geach calls a *predicable*. Attaching a prime to 'f', as in '$f'(\ )$', is then said to represent a predicable contradictory to '$f(\ )$'. Geach does not make clear, as we will see, that by '$f'(\ )$' he does not mean 'It is not not the case that $f(\ )$'.

Now Geach claims that when these predicable expressions are "attached to any proper name 'a' as subject, they will give us contradictory predications".[6]

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[3] See Carnap 1946. Carnap showed that the thesis of the necessity of identity, the modal thesis of anti-essentialism, and what later came to be called the Barcan formula by some, but which really should be called the Carnap-Barcan formula, were all valid in his state-description semantics for quantified modal logic—long before these topics became popular in the philosophical literature.

[4] For a discussion and an account of the "new theory of direct reference," see Humphreys and Fetzer, 1998.

[5] See Cocchiarella 2001 for such a reconsrtuction of medieval logic.

[6] Geach 1980, p.84.

Thus, e.g., where 'a' is the proper name 'Socrates' and '$f(\ )$' is the propositional context '... is wise', the sentences resulting by this replacement in '$f(\ )$' and '$f'(\ )$', namely, 'Socrates is wise' and its denial 'It is not the case that Socrates is wise' are indeed contradictory. Of course, assuming that 'Socrates' is being used with existential presupposition, then 'It is not the case that Socrates is wise' is equivalent to 'Socrates is not wise', which, as we will see, is the contradictory sentence Geach really has in mind. In conceptual realism, incidentally, we would symbolize 'Socrates is wise' and 'Socrates is not wise' as

$$(\exists xSocrates)Wise(x)$$

and

$$(\exists xSocrates)[\lambda x\neg Wise(x)](x).$$

Now where 'A' is a common name and '$*A$' is a quantifier phrase of English, such as 'Every A' or 'Some A', then, according to Geach, instead of getting contradictory sentences when we replace the proper name 'a' in the contradictory sentences '$f(a)$' and $f'(a)$' by the quantifier phrase '$*A$', what we get are sentences that might both be true. Thus, e.g., 'Some man is wise' and 'Some man is not wise', symbolized as follows,

$$(\exists xMan)Wise(x)$$

and

$$(\exists xMan)[\lambda x\neg Wise(x)](x)$$

can both true. Here, of course, we see that by '$f'(\ )$' Geach does not mean 'It is not the case that $f(\ )$', because 'It is not the case that some man is wise' is the contradictory of 'Some man is wise'.

What this shows, according to Geach, is that the quantifier phrase 'Some man' is only a "quasi-subject", and not a "genuine subject" the way the proper name 'Socrates' is. In other words, because of this difference, according to Geach, the quantifier phrase 'some man' cannot really be used as a "genuine" referential expression.[7] Quantifier phrases, unlike proper names, cannot be used to stand for referential concepts, or, in Geach's terms, they cannot be "genuine logical subjects," because, according to Geach, they do not in general yield contradictory propositions when applied to contradictory predicables.

Geach does not justify or explain why yielding contradictory propositions when applied to contradictory predicables is a necessary condition for "genuine" reference—except, of course, for maintaining that this is what is true of proper names. That referential expressions cannot be used as forms of "genuine" reference unless they function the same way as proper names is simply assumed, which begs the question at issue.

But even when restricted to proper names, Geach's "criterion", or "definition" for "genuine reference," i.e., his claim that a "genuine" referring expression will yield contradictory propositions when applied to contradictory predicables,

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[7]Ibid., p. 85.

is not unqualifiedly true. For example, if A is a proper name, such as 'Pegasus', that denotes nothing, and $F(\ )$ is a monadic predicate, so that $F(\ )$ and $\neg F(\ )$ are contradictory "predicables," then when A is used without existential presupposition, we can have both $(\forall x A)F(x)$ and $(\forall x A)\neg F(x)$ true, i.e., the two assertions that A is F and that A is not F can both be true in a logic that is free of existential presuppositions for objectual terms.

Where $[\lambda x \varphi]$ is taken to represent a predicable expression, and a is an objectual variable that represents the kind of symbol Geach assumes a proper name to be, what Geach implicitly assumes is that $[\lambda x \varphi](a)$ and $\neg[\lambda x \varphi](a)$ are contradictories when in fact they are not, or, equivalently, that $\neg[\lambda x \varphi](a)$ and $[\lambda x \neg \varphi](a)$ say the same thing, when in fact they do not—or at least not in a logic that is free of existential presuppositions in the use of a proper name. In other words, whereas

$$\neg[\lambda x \varphi](a) \leftrightarrow (\forall x)[x = a \rightarrow \neg \varphi],$$

and

$$[\lambda x \neg \varphi](a) \leftrightarrow (\exists x)[x = a \wedge \neg \varphi],$$

are valid in a logic free of existential presuppositions for objectual terms, we do not also have

$$\neg[\lambda x \varphi](a) \leftrightarrow [\lambda x \neg \varphi](a),$$

or equivalently

$$(\forall x)[x = a \rightarrow \neg \varphi] \leftrightarrow (\exists x)[x = a \wedge \neg \varphi]$$

as valid as well. It is not unqualifiedly true in such a logic, in other words, that a will yield contradictory propositions when applied to contradictory predicables.

Geach is apparently aware that his argument does not work against proper names that denote nothing; but instead of rejecting the argument he rejects the use of "empty proper names."[8] That response, however, only indicates how inadequate his theory of reference is for pragmatics.

Now the condition for when a referring expression will yield contradictory propositions when applied to contradictory predicables can be given even in free logic, but it is a condition that applies to common names as well as to proper names. In particular, what is valid in a logic free of existential presuppositions is that any proper or common name A, such as 'Socrates' or 'moon of the Earth', that denotes exactly one object will yield contradictory propositions when applied to contradictory predicables. In other words,

$$(\exists x A)(\forall y A)(x = y) \rightarrow [\neg(\exists x A)\varphi \leftrightarrow (\exists x A)\neg \varphi] \wedge [\neg(\forall x A)\varphi \leftrightarrow (\forall x A)\neg \varphi]$$

is valid regardless whether or not A is a proper name or a common name. But there is nothing about this result that shows that the only "genuine" referential expressions are those of the form $(\exists x A)$, where A is a name, proper or common, for which the above antecedent condition is true.

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[8] Ibid., p. 186.

3 Geach's Disjunction and Conjunction Argument

Geach gives a similar argument based on the observation that connectives "that join propositions may be used to join predicables" to form complex predicate expressions.[9] Thus, for example, instead of making two separate assertions, such as

$$Sofia\ is\ ill$$

and

$$Sofia\ is\ home\ in\ bed$$

we could make an assertion using the complex predicate 'ill and home in bed', as in 'Sofia is ill and home in bed', which we can symbolize as:

$$(\exists xSofia)[\lambda x(Ill(x) \wedge Home\text{-}In\text{-}Bed(x))](x).$$

Similarly, instead of asserting a disjunction such as 'Either Sofia is home or Sofia is shopping' we could assert 'Sofia is either home or shopping', symbolized as

$$(\exists xSofia)[\lambda x(Home(x) \vee Shopping(x))](x).$$

Now what Geach claims—or rather assumes without argument—is that "the very meaning" such connectives as 'and' and 'or' have in a complex predicate is the meaning they have as propositional connectives. That is, "by attaching a complex predicable so formed to a logical subject [i.e. to what Geach calls a "genuine" referring expression] we get the same result as we should by first attaching the several predicables to that subject, and then using the connective to join the propositions thus formed precisely as the respective predicables were joined by that connective."[10]

This claim is true when restricted to nonempty proper names, at least as far as truth conditions are concerned. An assertion of 'Sofia is home or shopping', for example, has the same truth conditions (but not the same cognitive structure) as an assertion of 'Either Sofia is home or Sofia is shopping'. Indeed, where a is an objectual variable representing the kind of symbol Geach takes a nonempty proper name to be,

$$[\lambda x(\varphi \vee \psi)](a) \leftrightarrow [\lambda x\varphi](a) \vee [\lambda x\psi](a)$$

is valid (and provable) in conceptual realism.

The same claim is not in general true when applied to a universal quantifier phrase, on the other hand—nor, of course when a is an empty proper name.

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[9] Ibid., p. 86.
[10] Ibid.

The sentence 'Every integer is odd or even', for example, is not equivalent to 'Every integer is odd or every integer is even'. Indeed,

$$(\forall x A)[\lambda x(\varphi \vee \psi)](x) \leftrightarrow (\forall x A)[\lambda x \varphi](x) \vee (\forall x A)[\lambda x \psi](x)$$

is not a valid schema in the logic of conceptual realism, whether A is proper or a common name. But this does not show that a universal quantifier phrase cannot be used as a "genuine" referential expression; and, in particular, that there is no reference to every integer in a speech act in which someone asserts that every integer is odd or even. What it shows is that Geach's claim is really an assumption, and hence that his argument begs the question at issue.

The equivalence does hold, moreover, if a proper or common name A can be used to name at most one object in a "simple act of naming"[11]; i.e.,

$$(\forall x A)(\forall y A)(x = y) \rightarrow [(\forall x A)[\lambda x(\varphi \vee \psi)](x) \leftrightarrow (\forall x A[\lambda x \varphi](x) \vee (\forall x A)[\lambda x \psi](x)]$$

is valid in conceptual realism. And of course, we do have

$$(\exists x A)[\lambda x(\varphi \vee \psi)](x) \leftrightarrow (\exists x A)[\lambda x \varphi](x) \vee (\exists x A)[\lambda x \psi](x)$$

as valid, i.e., the distribution of $(\exists x A)$ over a disjunction is valid.

The distribution of $(\exists x A)$ over a conjunction, on the other hand, is valid in only one direction. But why does this show that we cannot use $(\exists x A)$ to refer to an A? In other words, why should we conclude that the invalidity of

$$(\exists x A)[\lambda x \varphi](x) \wedge (\exists x A)[\lambda x \psi](x) \rightarrow (\exists x A)[\lambda x(\varphi \wedge \psi)](x)$$

shows that a quantifier phrase of the form $(\exists x A)$, where A is a common name (complex or simple), cannot be used as a "genuine" referential expression? The failure of a logical equivalence does not show this except by begging the question that only proper names can be "genuine" referential expressions.

It is noteworthy, moreover, that the antecedent of the above conditional, i.e. the conjunction,

$$(\exists x A)[\lambda x \varphi](x) \wedge (\exists x A)[\lambda x \psi](x),$$

does not represent a basic speech act that is analyzable in terms of a referential and a predicable expression. What it can be used to represent is a speaker's conjunction of two assertions in each of which the same referential concept is applied. But to apply the same referential concept, especially one of the form $(\exists x A)$, in two conjoined assertions is not the same as to purport to refer to the same object or objects in those assertions, unless, of course, the referential concept in question is based on the use of a proper name. We can assert, e.g., that some republicans are honest and that some republicans are dishonest, but in doing so we do not purport to refer to the same republicans in both uses of the quantifier phrase 'Some republicans'.

Geach's implicit assumption is that if a quantifier phrase can be used as a "genuine" referential expression, then it must refer to the same object(s) whenever it is so used. In other words, a "genuine" referential expression must refer the way a nonvacuous proper name refers, which, of course, begs the question.

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[11] Geach 1980, p.53.

It is by begging the question and assuming that only proper names can be used as "genuine" referential expressions that Geach's negation and complex-predicate arguments have any plausibility.

4 Active Versus Deactivated Referential Concepts

Geach does have a more interesting type of argument that does not beg the question, but which in our conceptualist theory involves the important distinction we made in our last lecture between active and deactivated referential concepts. In explaining this distinction, we noted that a referential concept, as a basic thesis of our theory, is never part of what informs a speech or mental act with a predicable nature, but functions only as what informs such an act with a referential nature, i.e., as what accounts for the intentionality or aboutness of that act. Every basic assertion as expressed by a noun phrase and a verb phrase, in other words, is the result of applying just one referential concept and one predicable concept.

What this means is that a complex predicate expression that contains a quantifier phrase cannot be applied in such a way as to presuppose an *active* exercise of the referential concept that that quantifier phrase stands for. The referential concept that the quantifier phrase stands for has been "deactivated", in other words, which means that the predicable concept expressed by the complex predicate that contains that quantifier phrase is formed not on the basis of the referential concept that the quantifier phrase stands for but on the basis of its intensional content instead.

Now by the intensional content of a referential concept, as we explained in our last lecture, we mean the intensional content of the predicable concept based on that referential concept. Thus, where A is a proper or common name symbol, complex or simple, and Q is a quantifier symbol representing a determiner of natural language, the predicate expression that is determined by the quantifier phrase (QxA) was defined as follows[12]:

$$[QxA] =_{df} [\lambda F(QxA)F(x)].$$

This predicate expression can be nominalized, of course, in which case what it denotes is the intensional content of the predicate, and thereby, indirectly, the intensional content of the referential (quantifier) expression (QxA). As explained in our earlier lecture, we use $[QxA]$ as an abbreviation of $[\lambda F(QxA)F(x)]$. Also, it should be remembered that a referential (quantifier) expression that occurs

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[12]The application of the λ-operator to predicate variables is understood as an abbreviated notation, which, in the monadic case, is indicated as follows:

$$[\lambda F\varphi] =_{df} [\lambda y(\exists F)(y = F \land \varphi)],$$

where y does not occur free in φ.

within an abstract singular term, i.e. within a nominalized complex predicate, has been deactivated and is not used in that occurrence to represent an active exercise of the referential concept that the expression otherwise stands for as a grammatical subject.

The example we gave in our earlier lecture was

$$[\text{Sofia}]_{NP}[\text{seeks } [\text{a unicorn}]]_{VP}$$
$$\downarrow \qquad\qquad \downarrow \qquad\qquad \downarrow$$
$$(\exists x Sofia)[\lambda x Seek(x, [\exists y Unicorn])](x),$$

where the quantifier phrase 'a unicorn' that occurs as part the predicate 'seeks a unicorn' has been deactivated. The same quantifier is also deactivated in

$$\text{Sofia}_{NP}[\text{finds } [\text{a unicorn}]]_{VP}$$
$$\downarrow \qquad\qquad \downarrow \qquad\qquad \downarrow$$
$$(\exists x Sofia)[\lambda x Find(x, [\exists y Unicorn])](x).$$

But because the predicate $Find$ is extensional in it second argument position, then the latter sentence implies

$$(\exists y Unicorn)(\exists x Sofia)Finds(x, y).$$

The predicate $Seek$, on the other hand, is not extensional in its second argument position, which means that 'Sofia seeks a unicorn' does not imply that there is a unicorn. In other words, even though 'Sofia seeks a unicorn' and 'Sofia finds a unicorn' have the same logical form, nevertheless one implies that there is a unicorn, whereas the other does not. The difference, as we explained in our fifth lecture, is that the following meaning postulate,

$$[\lambda x Finds(x, [\exists y A])] = [\lambda x (\exists y A)Finds(x, y)].$$

is assumed for $Find$, whereas no such similar meaning postulate can be assumed for $Seek$.

This type of meaning postulate also applies to our use of the copula to express identity, as when we say that Sofia is an actress. Note that the predicable concept expressed by 'is an actress' in this example cannot be represented by

$$[\lambda x(\exists y Actress)(x = y)],$$

because the quantifier phrase $(\exists y Actress)$ has not been deactivated. That is, this λ-abstract is not the appropriate way to express the cognitive structure of the speech act in question. What we need here is a symbolic counterpart of the copula, e.g., Is, as a two-place predicate constant. Thus, the appropriate analysis the speech act in question is:

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$$[\text{Sofia}]_{NP} \ [\text{is an actress}]_{VP}$$

$$(\exists x Sofia) \qquad [\lambda x Is(x, [\exists y Actress])]$$

$$(\exists x Sofia)[\lambda x Is(x, [\exists y Actress])](x),$$

where the quantifier phrase $(\exists y Actress)$ has been deactivated.

Now of course this does not mean that we are asserting that Sofia is identical with the intensional content of being an actress, just as in asserting that Sofia seeks a unicorn we do mean that Sofia seeks the intensional content of being a unicorn. To get at the right truth conditions for this sort of assertion, we need to assume the following as a meaning postulate for the copula Is:

$$[\lambda x Is(x, [\exists y A])] = [\lambda x(\exists y A)(x = y)],$$

where A a variable having complex or simple names, proper or common, as substituends. Thus, because of this meaning postulate, the following

$$(\exists x Sofia)[\lambda x Is(x, [\exists y Actress])](x) \leftrightarrow (\exists x Sofia)(\exists y Actress)(x = y)$$

is valid in the logic of conceptual realism.[13]

5 Deactivation and Geach's Arguments

In one of his arguments against general reference, Geach claims that "we cannot suppose 'some man' to refer to some man in one single way," because, if it were a "genuine" referring expression, then "we should have to distinguish several types of reference—it is not easy to see how many".[14] Suppose, he says, "we can say 'some man' refers to some man in a statement like this:

(1)   Joan admires some man.

that is, a statement for which the question 'which man?' would be in order. Let us call this type of reference type A. Then in a statement like the following one:

(2)   Every girl admires some man.

'some man' must refer to some man in a different way, since the question 'Which man?' is plainly silly".[15] Calling the type of reference indicated in (2) type-B

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[13] Russell, incidentally, proposed a similar analysis in his 1903 *Principles*, where he assumed that every proposition consists of a relation between "terms", and that, e.g., the proposition expressed by 'Socrates is a man' expresses a relation between Socrates and the denoting concept *a man*. Presumably, the relation was not strict identity, but something like what we are representing here by *Is*. Of course, Russell was proposing a logical realist theory and not a conceptualist theory; and he had nothing like our distinction between active and deactivated concepts.

[14] Geach 1980, p. 32. Geach attributes this argument to Elizabeth Anscombe.

[15] Ibid.

reference, Geach goes on to argue that we must then distinguish further types as well.

The problem with this argument is that in an assertion of either (1) or (2), the referential concept that the quantifier phrase 'some man' stands for has been deactivated, i.e., the phrase is not being used to refer in either case. Of course, there is a difference between the two assertions in that (1) logically implies that some particular man is admired by Joan—assuming 'Joan' is being used with existential presupposition in this context—whereas (2) does not logically imply that some particular man is admired by every girl. This can be easily seen to be so in the logical forms representing the cognitive structures of these assertions

$$(1')\qquad (\exists xJoan)[\lambda xAdmire(x,[\exists yMan])](x),$$

and

$$(2')\qquad (\forall xGirl)[\lambda xAdmire(x,[\exists yMan])](x).$$

Now it is natural to assume that 'admire' is extensional in this context in its second argument position.[16] That is, we take

$$[\lambda xAdmire(x,[QyA])] = [\lambda x(QyA)Admire(x,y)]$$

to be a meaning postulate representing a conceptual truth in the context in question. Then, from an instance of this postulate it can be seen that (by λ-conversion and commutation of existential quantifier phrases), the statement that some man is admired by Joan, which is analyzed as,

$$(\exists yMan)[\lambda yAdmire([\exists xJoan],y)](y),$$

or equivalently, not considering it as the form of an assertion,

$$(\exists yMan)(\exists xJoan)Admire(x,y),$$

follows validly from $(1')$, which indicates why the question 'Which man?' is appropriate in a context in which (1) is asserted.

> In general, wh-questions—i.e., 'who', 'which', 'what', 'when' and 'where' questions—apply only to active referential expressions, not to deactivated ones—or, as in this case, to those that could be activated as part of a statement that follows validly from a given assertion.

Now what follows validly from $(2')$, on the other hand, is

$$(\forall xGirl)(\exists yMan)Admire(x,y),$$

and not

$$(\exists yMan)(\forall xGirl)Admire(x,y),$$

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[16] It is clear that Geach assumes this to be so in the context in question. In some contexts, it would seem, 'admire' might function as an intensional verb—as, e.g., when we say of someone that s/he admires Sherlock Holmes.

which, in the form of an assertion, is equivalent to

$$(\exists y Man)[\lambda y Admire(x, [\forall x Girl])](y),$$

that is, the statement that some man admires every girl. In other words, 'some man' is not being used in (2) to refer to some particular man; nor does (2) imply a sentence in which one might refer to some particular man. That is why the question 'Which man?' is inappropriate in a context in which (2) is asserted.

> It is simply false, on our account, to claim that there are two different types of reference in assertions of (1) and (2). The referential concept that the quantifier phrase 'some man' stands for has been deactivated in both assertions, which means that the phrase is not being used in those sentences to refer, no less to refer in two different ways.

Another argument that Geach gives turns on his misconstruing a reflexive pronoun as "a pronoun of laziness," i.e. as a pronoun that functions as a proxy for its grammatical antecedent and that can be replaced by that expression "without changing the force of the proposition."[17] Thus, according to Geach,

> "If [the quantifier phrase] 'every man' has reference to every man, and if a reflexive pronoun has the same reference as the subject of the verb, [then] how can 'Every man sees every man' be a different statement from 'Every man sees himself'?"[18]

Now, it clear that

> Every man sees every man.

and

> Every man sees himself.

are different statements. But does this show that the quantifier phrase 'every man' cannot be used to refer to every man, as Geach claims? Is it really clear in this case that the reflexive pronoun 'himself' is functioning here as "a pronoun of laziness," and hence can be replaced by the quantifier phrase 'every man' so that the result is an equivalent sentence, i.e., a sentence having the same force as the original sentence?

In our theory the occurrence of the quantifier phrase 'every man' in the verb phrase 'sees every man' is not being used to refer to every man, but instead stands for a deactivated referential concept. Let us compare an assertion of 'Every man sees every man' with an assertion of 'Gino sees Gino'. Assuming that 'Gino' is being used with existential presupposition, the logical forms representing the cognitive structures of these two assertions are as follows:

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[17] Geach 1980, p. 151.
[18] Ibid., p. 9.

$$(\forall xMan)[\lambda xSees(x, [\forall yMan])](x),$$

and

$$(\exists xGino)[\lambda xSees(x, [\exists yGino])](x),$$

where the occurrences of the referential expressions 'every man' and 'Gino' after the transitive verb are deactivated and interpreted as standing for their respective intensional contents.

Note that unlike the above assertions, where the λ-abstracts represent *different predicable concepts*, assertions of

<p style="text-align:center">Every man sees himself.</p>

and

<p style="text-align:center">Gino sees himself.</p>

involve an application of *the same predicable concept*, namely,

$$[\lambda xSees(x, x)].$$

The logical forms representing the cognitive structures of these assertions, in other words, are as follows:

$$(\forall xMan)[\lambda xSees(x, x)](x),$$

and

$$(\exists xGino)[\lambda xSees(x, x)](x).$$

> The reflexive pronoun 'himself' is not functioning as "a pronoun of laziness" in these assertions—even though it has "the same reference as the subject of the verb".

Now, if the relational concept of seeing, i.e.,

$$[\lambda xySee(x, y)],$$

is extensional in its second argument position, then, because 'Gino' is a proper name that is assumed to name exactly one object in the context in question, it follows that 'Gino see Gino' and 'Gino sees himself' are equivalent, i.e.,

$$(\exists xGino)[\lambda xSees(x, [\exists yGino])](x) \leftrightarrow (\exists xGino)[\lambda xSees(x, x)](x)$$

is provable.[19] In other words, in the case of a proper name A, where A is assumed to name exactly one object in the context in question, it is true that 'A sees A' and 'A sees her/himself' are necessarily equivalent. This, of course, is not to say that as assertions, or mental acts, 'A sees A' and 'A sees her/himself' have the same cognitive structure, and in fact they have different cognitive structures as indicated by the above logical forms.

On the other hand, 'Every man sees every man' and 'Every man sees himself' are not equivalent; but, contrary to Geach's claim, this does not mean that the use of 'every man' as the grammatical subject of an assertion of either of these sentences does not refer to every man, even though its use as the direct object of the verb does not stand for a referential concept.

> Once again, Geach's implicit assumption seems to be that a referential expression is not a "genuine" referring expression, but only a "quasi subject", if it does not behave logically the way a nonempty proper name does.

6   Geach's Arguments Against Complex Names

Some of Geach's arguments are directed not only against referential expressions of the form 'every A' and 'some A', but also against the view that there are *complex names* of the form 'A that is F', and hence against complex referential expressions of the form 'every A that is F' and 'some A that is F', which, as already noted in our fifth lecture, we symbolize in our theory as $(\forall x A/F(x))$ and $(\exists x A/F(x))$.

One such argument that Geach gives against complex names is based on a medieval paralogism[20]:

> Only an animal can bray; ergo, Socrates is an animal, if he can bray.
>
> But any animal, if he can bray, is a donkey.
>
> Ergo, Socrates is a donkey.

Now Geach correctly observes that "we clearly cannot take 'animal, if he can bray' as a complex term [i.e., as a complex name] that is a legitimate reading of 'A' in 'Socrates is an A; any A is a donkey; ergo, Socrates is a donkey"[21]; but he does not explain the relevance of this observation, or how

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[19] If 'see' is interpreted as an extensional transitive verb in a given context, then seeing in that context does not imply knowing who or what it is that one sees. For example, Gino's seeing Maria (in the extensional sense) does not imply that Gino knows that it is Maria he sees; and, similarly, Gino's seeing Gino (as in a mirror or a photo) does not imply that Gino knows that he sees himself. In some contexts, 'see' might well be interpreted as an intensional verb, where seeing implies knowing who or what one sees, and in that case, 'Gino sees Gino' and 'Gino sees himself' would not then be equivalent.

[20] Geach 1980, p. 143.

[21] Ibid.

this shows that a complex name like 'animal that can bray' is not "a genuine logical unit,"[22] namely, a complex name.

Apparently, Geach is confusing the complex name 'animal that can bray' in this argument with an expression that is not a complex name, namely, 'animal, if he can bray'. Note that by the exportation rule

$$(\forall x A)\varphi \leftrightarrow (\forall x)[(\exists y A)(x = y) \rightarrow \varphi], \qquad \textbf{(MP1)}$$

mentioned in our previous lecture, an assertion of 'Every animal that can bray is a donkey', which is analyzed as follows:

$$[\text{Every animal that can bray}]_{NP} \ [\text{is a donkey}]_{VP}$$
$$\downarrow \qquad\qquad\qquad\qquad \downarrow$$
$$(\forall x Animal/Can\text{-}Bray(x)) \qquad\qquad [\lambda x Is(x, [\exists y Donkey])]$$
$$\downarrow \qquad\qquad\qquad\qquad \downarrow$$
$$(\forall x Animal/Can\text{-}Bray(x))[\lambda x Is(x, [\exists y Donkey])](x)$$

is equivalent to an assertion of 'Every animal, if he can bray, is a donkey', analyzed as,

$$[\text{Every animal}]_{NP}[\text{if he can bray is a donkey}]_{VP}$$
$$\downarrow \qquad\qquad\qquad\qquad \downarrow$$
$$(\forall x Animal) \qquad [\lambda x (Can\text{-}Bray(x) \rightarrow Is(x, [\exists y Donkey]))](x)$$
$$\downarrow \qquad\qquad\qquad\qquad \downarrow$$
$$(\forall x Animal)[\lambda x (Can\text{-}Bray(x) \rightarrow Is(x, [\exists y Donkey]))](x)$$

In other words, the following biconditional is valid in the logic of conceptual realism:

$$(\forall x Animal/Can\text{-}Bray(x))[\lambda x Is(x, [\exists y Donkey])](x) \leftrightarrow$$
$$(\forall x Animal)[\lambda x (Can\text{-}Bray(x) \rightarrow Is(x, [\exists y Donkey]))](x).$$

Geach seems to confuse the grammatically correct claim that in the first assertion we are referring to *every animal that can bray* with the grammatically incorrect claim that in the second assertion we are referring to *every animal, if he can bray.* That is why Geach claims that "the phrase 'animal that can bray' is a systematically ambiguous one,"[23] when in fact it is not.

7 Relative Pronouns as Referential Expressions

Geach does recognize that "we cannot count this as proved" and attempts to "confirm the suggestion of ambiguity by considering another sort of medieval example."[24] This is the pair of contradictory sentences,

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[22] Ibid., p. 142.

[23] Ibid.

[24] Ibid. We have changed the verb 'beat' in Geach's example to 'feed', which in no way affects his argument, or our criticism of it.

(3)   Any man who owns a donkey feeds it.

(4)   Some man who owns a donkey does not feed it.

in which, on our account, 'man who owns a donkey' occurs as a complex name.

Now, according to Geach, if 'man who owns a donkey' is a complex name, then it is "replaceable by the single word 'donkey-owner'," in which case (3) and (4) would become "unintelligible".[25] Of course, this sort of "replacement argument" is fallacious in that it deprives the relative pronoun 'it' in (3) and (4) of an antecedent, as Geach himself seems to acknowledge. He then suggests a supposedly "plausible rewording" of (3) and (4) in which 'it' is given an antecedent, namely,

(5)   Any man who owns a donkey owns a donkey and feeds it.

(6)   Some man who owns a donkey owns a donkey and does
           not feed it.

But (5) and (6) are not equivalent to (3) and (4), as Geach himself notes, because, in particular, unlike (3) and (4), (5) and (6) are not contradictories in that both would be true if each man who owned a donkey had two donkeys and fed only one of them.

Geach then rephrases (3) and (4) as

(3′)   Any man, *if* he owns a donkey, [*then* he] feeds it.

(4′)   Some man owns a donkey *and* he does not feed it.

which, by the export-import meaning postulates **(MP1)** and **(MP2)** for complex referential expressions (given in our fifth lecture), are equivalent to (3) and (4). That is, as represented by appropriate instances of those meaning postulates, (3) and (3′), and (4) and (4′), have the same truth conditions, even though the cognitive structures of the speech or mental acts they represent are not the same.

> By ignoring the distinction between logical forms that represent the cognitive structure of our speech and mental acts and the logical forms that represent the
> truth conditions of those acts, Geach fallaciously concludes that "the complex term 'A that is P' is a sort of logical mirage. The structure of a proposition in which such a complex term appears to occur can be readily seen only when we have replaced the grammatically relative pronoun by a connective followed by a pronoun; when this is done, the apparent unity of the phrase disappears."[26]

What is needed here for a proper analysis of (3) and (4) is an analysis of the role the relative pronoun 'it' has in in these kinds of sentences, which in the literature have come to be called "donkey-sentences." Our proposal is that relative

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[25] Ibid., p. 144.
[26] Ibid., p. 145.

pronouns in general, and the pronoun 'it' in particular, are referential expressions that are interpreted with respect to an antecedent referential expression. In particular, we maintain that the sentence (3), 'Any man who owns a donkey feeds it' is synonymous with, and in fact has the same cognitive structure as, the following sentence

(3″)   Any man who owns a donkey feeds that donkey.

or, if one prefers, the same as

Any man who owns a donkey feeds it (i.e. that donkey).

with the phrase 'that donkey' expressed, as it were, *sotto voce*.

Now because all referential expressions are analyzed in conceptual realism as quantifier phrases, what this means is that relative pronouns are to be logically analyzed as quantifier phrases of the form 'that A', where A is the common name occurring in the antecedent referential phrase relative to which the pronoun is interpreted. What we need, accordingly, is a variable-binding 'that'-operator, $\mathcal{T}$, that, when indexed by a variable, can be applied to a name A, whether complex or simple, and result in a quantifier phrase, e.g., '$\mathcal{T}yA$', which is read as 'that A'.

On this proposal, the cognitive structure of (3″)—and, on our proposal, therefore of (3)—can now be analyzed as:

$$[\text{Any man owns a donkey}]_{\mathbf{NP}}[\text{feeds that donkey}]_{\mathbf{VP}}$$

$$(\forall xMan/Own(x,[\exists yDonkey])) \qquad\qquad [\lambda xFeeds(x,[\mathcal{T}yDonkey])]$$

$$(\forall xMan/Own(x,[\exists yDonkey]))[\lambda xFeeds(x,[\mathcal{T}yDonkey])](x)$$

The relative pronoun 'it' in (3), in other words, is a proxy for the pronominal referential expression 'that donkey', which in this context stands for a deactivated referential concept relative to the deactivated antecedent referential concept that 'a donkey' stands for in the grammatical subject of (3).

Now, by the export-import meaning postulate **(MP**1**)** for complex referential expressions, the above analysis, which we will call (3_{cog}), is equivalent to

$$(\forall xMan)[\lambda x(Own(x,[\exists yDonkey]) \to Feeds(x,[\mathcal{T}yDonkey]))](x), \quad (\mathbf{3'_{cog}})$$

which is easily seen to represent the cognitive structure of an assertion of (3′), i.e., the sentence 'Any man, *if* he owns a donkey, [*then* he] feeds it'. But because 'own' and 'feed' are extensional transitive verbs, the deactivated quantifier phrases 'a donkey' and 'that donkey' can be "reactivated," in which case (3_{cog}) and $(3'_{cog})$ are equivalent to

$$(\forall xMan)[(\exists yDonkey)Own(x,y) \to (\mathcal{T}yDonkey)Feeds(x,y)],$$

which does not represent the cognitive structure of a speech or mental act, but does represent the truth conditions of an assertion of either (3) or (3′). We can obtain a logically more perspicuous representation of those truth conditions,

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moreover, by means of the following meaning postulate for the $\mathcal{T}$-operator, i.e. a postulate that makes clear that it is functioning as a pronoun relative to an antecedent referential expression:

$$[(\exists yS)\varphi \to (\mathcal{T}yS)\psi] = [(\forall yS)(\varphi \to \psi)], \qquad \textbf{(MP5)}$$

which, by Leibniz's law implies

$$[(\exists yS)\varphi \to (\mathcal{T}yS)\psi] \leftrightarrow [(\forall yS)(\varphi \to \psi)].$$

Thus, by mean of this postulate and the preceding formula, it follows that

$$(\forall xMan)(\forall yDonkey)[Owns(x,y) \to Feeds(x,y)]$$

is equivalent to (3_{cog}) and $(3'_{cog})$, and this formula, it is clear, provides a logically perspicuous representation of their truth conditions, and hence of the truth conditions of (3) and (3′).

The meaning postulate **(MP5)** for the 'that'-operator explains why sentences like

> If someone is married, then s/he (i.e., that person) has a spouse.

and

> If a witness lied, then s/he (i.e., that witness) committed perjury.

have the truth conditions that they do, and are equivalent to

> Anyone who is married has a spouse.

and

> Any witness who lied committed perjury.

We also should note that the $\mathcal{T}$-operator is designed to be used only on the level of analyzing the cognitive structure of our speech and mental acts, and otherwise should not be used in deductive transformations such as simplification, adjunction, and the rewrite of bound variables. The idea is to restrict the standard transformations to just Leibniz's law as based on meaning postulates until the occurrences of the $\mathcal{T}$-operator have been eliminated.

Turning now to a formal representation of the cognitive structure of (4), i.e., the sentence 'Some man who owns a donkey does not feed it', let us note first that this sentence, on our proposal, has the same cognitive structure as

(4″)   Some man who owns a donkey does not feed that donkey.

Now because the negation in the verb phrase 'does not feed it' is internal to the predicate, we have the following as an analysis of (4″), and therefore, on our proposal, of (4) as well:

[Some man who owns a donkey]$_{NP}$[does not feed that donkey]$_{VP}$

$(\exists xMan/Own(x,[\exists yDonkey]))$ $\qquad$ $[\lambda x[\lambda zw\neg Feeds(z,w)](x,[\mathcal{T}yDonkey])]$

$(\exists xMan/Own(x,[\exists yDonkey]))[\lambda x[\lambda zw\neg Feeds(z,w)](x,[\mathcal{T}yDonkey])](x)$

This analysis of the cognitive structure of $(4'')$—and hence, on our proposal, of (4) as well—can be simplified by applying the export-import meaning postulate **(MP2)** for complex names and the meaning postulates regarding the extensionality of 'own' and 'feed', and therefore of 'does not feed'. In other words, by these meaning postulates, the above analysis of $(4'')$ and (4), which we will call (4_{cog}), is equivalent to:

$$(\exists x Man)[(\exists y Donkey)Own(x,y) \wedge (\mathcal{T}y Donkey)\neg Feeds(x,y)].$$

Finally, the relevant meaning postulate for the $\mathcal{T}$-operator in this case is the following,[27]

$$[(\exists y S)\varphi \wedge (\mathcal{T}y S)\psi] = [(\exists y S)(\varphi \wedge \psi)], \qquad \text{(\textbf{MP6})}$$

which, by Leibniz's law implies

$$[(\exists y S)\varphi \wedge (\mathcal{T}y S)\psi] \leftrightarrow [(\exists y S)(\varphi \wedge \psi)],$$

which, together with the preceding formula, shows that (4_{cog}) is equivalent to, and therefore has the same truth conditions as,

$$(\exists x Man)(\exists y Donkey)[Own(x,y) \wedge \neg Feeds(x,y)].$$

This formula is easily seen to be a contradictory of the above logically perspicuous representation of the truth conditions for (3). That is,

$$(\forall x Man)(\forall y Donkey)[Owns(x,y) \rightarrow Feeds(x,y)]$$

and

$$(\exists x Man)(\exists y Donkey)[Own(x,y) \wedge \neg Feeds(x,y)].$$

are contradictories in that one is equivalent to the negation of the other.

We conclude, accordingly, that the sentences

(3)   Any man who owns a donkey feeds it.

and

(4)   Some man who owns a donkey does not feed it.

do in fact have the truth conditions Geach says they have, even though the expression 'man who owns a donkey' functions in both as a complex name, contrary to what Geach claims. In other words, the sentences (3) and (4) in no way support Geach's claim that "the complex term 'A that is P' is a sort of logical mirage", i.e., that it is not "a genuine logical unit", and that such expressions must be expanded into forms where there are no complex names at all. Nor do they show that there are inextricable difficulties with the conceptualist theory of reference we have described here.

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[27] An example of the use of this meaning postulate is one from Geach 1980, namely, 'Some man broke the bank at Monte Carlo and that man died a pauper', the truth conditions of which are the same as 'Some man broke the bank at Monte Carlo and died a pauper'.

8 Concluding Remarks

The conceptualist theory of reference we described in our previous lecture has not only all of the philosophically important features we listed there, but it provides as well a general framework by which to refute the claim that there can be only singular reference, and hence the claim that there can be no "genuine" form of general reference.

The idea that the only genuine form of reference is singular reference has been the dominant theory throughout the twentieth century, but that doctrine is based either on the type of arguments that Geach has given and that we have refuted here, or it is based on a confusion of pragmatics with semantics, i.e., that the analysis of our speech and mental acts is the same as the analysis of their truth conditions. The truth conditions of sentences containing quantifier phrases are of course reducible to the atomic components of those sentences, but that does not mean that those same quantifier phrases do not stand for referential concepts. Indeed, to the contrary, general reference is a basic feature of our speech and mental acts, which is why they occur as grammatical subjects, or noun phrases, in natural language—and occur as such, moreover, with as great, or greater frequency, than proper names do.

The dominance of the doctrine that there can be only singular reference explains why the logical analysis of the cognitive structure of our speech and mental acts has been ignored in the analytic movement. By giving an analysis only of the truth conditions of our speech and mental acts, the analytic movement has assumed that singular reference is the only genuine form of reference. As a result, the analytic movement ignored the problem of giving of a logical analysis of the cognitive structure of our speech and mental acts, because in order to do so it must give an account of general as well as singular reference. What is needed is a theory of logical forms that can represent general as well as singular reference, and in particular a theory such as we have constructed for conceptual realism.

Just as a unified account of general and singular reference was once given by medieval logicians, but only for categorical propositions, conceptual realism provides a unified account of both general and singular reference for all propositional forms combining a noun phrase with a verb phrase. It is by doing so that conceptual realism can give a logical analysis of the cognitive structure of our speech and mental acts, which is the starting point for any formal ontology that is based initially on the structure of thought, and by means of that structure an analysis of the ontological categories of reality as well.

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