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Singular/General

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1 Modern logic takes the difference between singular and general terms very seriously. It insists that sentences with general subjects have a much more complex logical syntax than sentences with singular subjects (see for example [10], p. 66). This is partly because modern logic always treats general terms as predicates and never treats singular terms as anything but subjects. The insistence that the logic of singulars is different from the logic of general propositions is also partly due to modern logic's demand that the logical form of any sentence be a reflection of its truth conditions. 'Socrates is wise' is true just in case Socrates is wise. But 'Some philosopher is wise' is true just in case there is at least one thing which is such that it is a philosopher and it is wise. So the modern logician requires a great deal of semantic information to be reflected in syntax. But how does a logician decide how much semantic information should be so reflected? Surely not all. There's just too much. Just that which determines truth? 'John is a bachelor' has as one of its (necessary) truth conditions that John is a male. Yet the modern logician does not require this bit of semantic information to be revealed syntactically.

2 Traditional, pre-Fregean, logicians made no such demands on logical syntax. Traditional logic allowed for a uniform logical treatment of both singular and general terms. It took all propositions to be categorical. Thus the logical subject of any propositions, whether singular or general, must be a quantified expression. Since singulars in natural language have no explicit quantity, the traditional logician took their quantity to be implicit. (For a discussion of singulars in Aristotle's logic see [4]; for a comparison of traditional and modern views see [3], [6], [7], [11] and [18].)

Nonetheless, there was a price to be paid by traditional logic for this syntactical uniformity. The scholastic logicians generally treated singulars as implicitly universal (since singular subjects terms are distributed). Yet there are valid syllogisms (e.g., 'Socrates is a man. Socrates is wise. So some man is wise.') which would have an invalid form when the singular terms are formulated with

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universal quantity. Thus, the traditional logician is faced with the question of just what quantity must be supplied for singular subjects, for singular propositions seem to contain more information than any standard categorical.

There are four logicians who, as far as I know, offered the correct (or nearly correct) solution to the problem of singular quantity.

In a brief essay written late in his career Leibniz suggested that a singular proposition should be read as equivalent both to a universal and to a particular ([9], p. 115).

In the mid-fifties the Polish logician T. Czeżowski argued that singulars could be treated either as particulars or as universals (see [2]).

A closely related view was argued later in a series of essays by Sommers (see especially [12]–[17]). His claim is that singulars are implicitly particular but can, if need be, be treated as universal since they always entail their universalizations.

Most recently, in the latest edition of his logic text, Copi [1] has briefly argued (a bit unclearly) for the thesis that a singular is equivalent to the conjunction of a universal and a particular.

We can codify these views as follows (letting 'S' be a singular proposition and 'U' and 'P' be its corresponding universal and particular):

Leibniz: $S = U$ and $S = P$
Czezowski: $S = U$ or $S = P$
Sommers: $S = P$ and $S \vdash U$
Copi: $S = (U \text{ and } P)$.

Copi's solution has the unwelcome result of requiring each singular to be formulated as a conjunction. While Leibniz said explicitly that a singular is equivalent to a universal and to a particular, his examples make it clear that what he had in mind was really the Sommers solution. Unlike the other three, Sommers has argued extensively for this position, and he has traced out the consequences it has for an entire logic of terms.

Sommers calls the implicit quantity of singulars "wild quantity". Given the implication of its universalization by a singular, we are, in effect, free to choose, as the case demands, either quantity on singular subjects. For example, our syllogism

Socrates is a man.
Socrates is wise.
So some man is wise.

can be given a (perfect) valid form only by allowing the minor premise to be particular and the major to be universal. On the other hand,

Every philosopher is a lover.
Socrates is a philosopher.
So Socrates is a lover.

is validly formulated either as *Barbara* or *Darii*.

3 Sommers has shown that one of the greatest advantages of his solution comes to logic when it is coupled with the notion that singular terms can be predicated (without, à la Quine, first turning them into general terms). This is possible for

traditional, but not modern, logic. The result is that a traditional term logic needs no special theory of identity appended to it. Identity statements can simply be viewed as categoricals. It just happens that their subject and predicate terms are both singular. Thus there is no "'is' of identity". Identities are just predications – every 'is' is an 'is' of predication (see [5], [8], [13]).

The modern logician will protest this on the grounds that the identity relation must preserve reflexivity, symmetry, and transitivity. But these are all guaranteed once singular predication is coupled with wild quantity. Thus:

Reflexivity: (Every) A is A
Symmetry: (Some) A is B iff (Some) B is A
Transitivity: (Every/Some) A is B
(Every) B is C
So (every/some) A is C.

The first is a tautology, the second is grounded on **I** conversion, and the third is guaranteed by the validity of either *Barbara* or *Darii*.

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