Semantical Hierarchies and Semantical Primitives

Charles Sayward
University of Nebraska-Lincoln

As a way of avoiding the Grelling paradox and the liar paradox Quine recommends this theory (Quine, 1966: 9-10):

> The expressions 'true', 'true of' and related ones can be used with numerical subscripts '0', '1', '2', and so on always attached or imagined; thus '$true_0$', '$true_1$', '$true_2$', '$false_0$' and so on. Then we can avoid the antimonies by taking care, when a truth locution $\underline{T}$ is applied to a sentence $\underline{S}$, that the subscript on $\underline{T}$ is higher than any subscript inside $\underline{S}$. Violations of this restriction would be treated as meaningless, or ungrammatical, rather than as true or false sentences.

A good case can be made for denying that this theory (Quine's theory' for short) is true of English (or any other learnable language). The case is based on these premises:

Premise 1: No learnable language has infinitely many semantical primitives.

Premise 2: Any language of which Quine's theory is true has infinitely many semantical primitives.

Premise 3: English is a learnable language.

Premise 1 has been defended by Donald Davidson in (Davidson, 1965). He defines a semantical primitive in this way (Davidson, 1965: 388): 'Let us call an expression a semantical primitive provided the rules which give the meaning for the sentences in which it does not appear do not suffice to determine the meaning of the sentences in which it does appear'. Intuitively, a semantical primitive is an expression whose meaning is not determined by the meaning of its parts. Thus suppose that an expression ab is a syntactically composite expression constructed out of two expressions a and b. Consider the set S of rules which determine the truth conditions of each of the sentences in which (i) a occurs and b does not occur, in which (ii) b occurs and a does not occur, and in which (iii) neither a nor b occur. For simplicity we suppose ba is ill formed. Now if ab is a semantical primitive not all the biconditionals which give the truth conditions of each of the sentences in which ab occurs is derivable from S. This means the set S must be enlarged to contain a specific rule governing ab. Now suppose there are infinitely many such semantical primitives. Then, Davidson argues (Davidson, 1966: 387-388), 'no matter how many sentences a would-be speaker learns to produce and understand, there will remain others whose meanings are not given by the rules already mastered. It is

natural to say such a language is unlearnable'.

If Quine's theory is true of English, then these rules ought to be part of the grammar of English:

(i) '① is $true_0$' is a predicate of English;

(ii) for any numeral n, if ⌜① is $true_n$⌝ is a predicate of English, so is ⌜① is $true_{\underline{n} + 1}$⌝.

So there are infinitely many truth locutions in English. We are told in addition that this rule is operative in English:

(iii) When a truth locution T is applied to a sentence S the result is ungrammatical unless the subscript or T is higher than any inside S.

None of these rules tell us how, for any numeral n, we can get from rules governing the meaning of ⌜① is $true_n$⌝ to rules governing the meaning of ⌜① is $true_{n+1}$⌝. Suppose we have a theory defining '① is $true_0$ (in English)'. There is not the slightest hint as to how we could get from that theory to a theory defining '① is $true_1$ (in English)'. We are thus left with infinitely many semantical primitives.

Of course, the fact that Quine has not provided a way of generating semantical rules governing truth locutions of lower orders to semantical rules governing truth locutions of higher orders does not mean it cannot be done. But the burden here is pretty clearly on a defender of Quine's theory.

This brings us back to premise 1 - Davidson's thesis that every learnable language has finitely many semantical primitives. Just how plausible is this claim? The only possible flaw in Davidson's argument I can see is that he seems to rely on this assumption: (A) The speakers of a language L learn the meaning of the sentences of L by learning rules which give the meaning of those sentences. If one looks at the way Davidson argues for his thesis in (Davidson, 1965: 387-388) it is pretty clear that (A) is taken for granted.

While something can be said for (A), I think the following considerations show it is too dubious to rest an important argument upon its assumption. Suppose at some future date there is a generally accepted criterion of adequacy for semantical theories of English. Tarski's Convention T, suitably modified to apply to an indexical language like English, might qualify. Suppose also two semantical theories T_1 and T_2 both satisfy the criterion, but differ markedly in content. Each might differ, for example, in the clauses which recursively define '① satisfies ② in English'. How are we to say which of the two theories give us the rules we actually learn in learning the meaning

of English expressions? Lacking any clue as to how to answer this, (A) is dubious. So Davidson's argument for his thesis is not all that convincing.

But surely Davidson's thesis can be defended without relying on (A). To learn the meaning of a semantical primitive one must learn its meaning independently of the meaning of its parts. So if there are infinitely many such expressions, it would take an infinite amount of time to learn them all since it would take some time to learn each one individually. At least that is the way it seems.

What a defender of Quine's thesis would have to argue is that truth locutions form a special category: Once we learn the meaning of '① is true$_0$', we somehow automatically learn the meaning of the rest, even though the meaning of the rest is not in any clear way explainable in terms of '① is true$_0$'. One can only await the argument. Here again the burden rests with the defender of Quine's theory.

To sum up: Seriously entertaining Quine's theory awaits his (or a defender's) demonstration of one of two things. (i) He must show how the meaning of 'is true$_0$' is explainable in terms of the meaning of 'is true$_{n-1}$' for any numeral n. (ii) Or he must explain how we can learn the meaning of infinitely many truth locutions, each one of which is a semantical primitive.

BIBLIOGRAPHY

Davidson, Donald. 1965. Theories of meaning and learnable languages. Proceedings of the 1964 international congress for logic, methodology and philosophy of science, 383-394. Amsterdam: North Holland.

Quine, W. V. O. 1966. The ways of paradox. New York: Random House.