Two Critical Contributions to the Problem of Truth and Meaning

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Abstract. This paper critically discusses two points concerning some recent views about the concept of truth. Firstly, contrary to Davidson, it shows that meaning of sentences cannot be explicated by T-equivalences. In particular, "is true" is an extensional predicate, but "means that" an intensional one. Secondly, the minimalist account of truth does not provide a satisfactory analysis of the concept of falsity. In this respect, minimalism does not satisfy Russell's claim that any adequate truth-theory must be a theory of falsity as well.

1. Against Davidson's reduction of meaning to truth

Davidson (1967) proposed an explanation of the concept of meaning via the concept of truth. More specifically, Davidson used T-biconditionals as the basic tool. If **L** is a language (natural or formalized), its theory of meaning is captured by sentences of the form

(T) s is true if and only if A^*,

where s is the name of a sentence translated as A^* into a metalanguage **ML**. Otherwise speaking, we axiomatize the theory of meaning for **L** by instantiating the scheme (T) for any sentence $A \in \mathbf{L}$. According to Davidson (1970, p. 60; the page-reference is to the reprinted version), the phrase 'is true if and only if' can be rendered by 'means that'. Accordingly, (T) becomes

(M) s means that A^*.

For example, the sentence

(1) 'Kraków is a city' is true if and only if Kraków is a city,

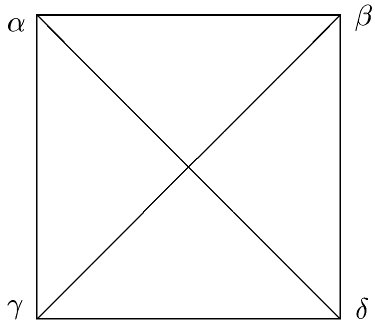
which is an instance of (T), can be interpreted as (I assume that the right side of (1) is translated into itself)

(2) 'Kraków is a city' means that Kraków is a city,

which falls under (M).

I will argue that this account is untenable because the properties of 'it is true' are different than the properties of 'means that'. Truth and meaning can be considered as modalities. Take truth first (see Woleński

2004 for a more detailed account). We transform 'A is true' into 'it is true that A' (neglect here the **L/ML** distinction and assume that dangerous sentences, like the Liar, are excluded). Thus, 'it is true that' functions as a monadic modal operator acting on sentences. The basic logical facts about 'it is true that A' (symbolically: $\mathbf{V}A$) are displayed by diagram (**D**):



where $\alpha - \mathbf{V}A$, $\beta - \mathbf{V}\neg A$, $\gamma - \neg\mathbf{V}\neg A$, $\delta - \mathbf{V}\neg A$. We have the following principles (similar to the case of categorical sentences):

(3) $\vdash \neg(\alpha \wedge \beta)$ ($\mathbf{V}A$, $\mathbf{V}\neg A$ are contraries);
(4) $\vdash (\alpha \Rightarrow \gamma)$ ($\mathbf{V}A$ entails $\neg\mathbf{V}\neg A$);
(5) $\vdash (\beta \Rightarrow \delta)$ ($\mathbf{V}\neg A$ entails $\neg\mathbf{V}A$);
(6) $\vdash (\alpha \Leftrightarrow \neg\delta)$ ($\mathbf{V}A$, $\neg\mathbf{V}A$ are contradictories);
(7) $\vdash (\beta \Leftrightarrow \neg\gamma)$ ($\mathbf{V}\neg A$, $\neg\mathbf{V}\neg A$ are contradictories);
(8) $\vdash (\gamma \vee \delta)$ ($\neg\mathbf{V}\neg A$, $\neg\mathbf{V}A$ are complementarities).

Since the formula **M**A (it means that, it is meaningful that) satisfies the same dependencies, so far we have full symmetry between truth and meaning. However, matters become more complicated if we ask for further rules. In particular, the problem arises of how both operators behave with respect to negation and non-modalized sentences.

Diagram (**D**) suggests nothing for both issues. Since Davidson's approach uses T-biconditionals in Tarski's sense, we have (**F**—it is false that)

(9) $(\mathbf{V}A \Leftrightarrow A) \Leftrightarrow (\neg\mathbf{V}A \Leftrightarrow \neg A) \Leftrightarrow (\mathbf{V}\neg A \Leftrightarrow \neg A) \Leftrightarrow (\mathbf{F}A \Leftrightarrow \neg A)$.

This means that **V** fully commutes with negation and 'not-truth', 'truth not' and 'falsehood' are exactly co-extensional; in particular, not-truth is falsehood. Things with **M** are different, because we cannot equate $\neg\mathbf{M}A$ and $\mathbf{M}\neg A$, that is, 'it is not the case that s means A' and 's means not-A' (I return to the initial formulas concerning meaning as more transparent). Clearly, the sentence "it is not the case that 'Kraków is a city' means that Kraków is a river" is not equivalent to" 'Kraków is a city' means that it is not the case, that Kraków is a river". In fact, the former entails the latter, but the reverse dependence does not hold. T-biconditionals establish a very strong connection between $\mathbf{V}A$ and A, namely that both are equivalent. Now we cannot accept either (a) $\mathbf{M}A \Rightarrow A$ or (b) $A \Rightarrow \mathbf{M}A$. The reason for rejecting (a) is obvious, because the sentence '$2 + 2 = 5$' means that $2 + 2 = 5$, but is false. Hence, we cannot assert the T-biconditional related to it. At first sight, (b) seems plausible, because one might argue that, by its biconditional, if A, then A holds, but it requires that s means A. Yet there are cases at odds with this proviso. If A is an arithmetical sentence, true in standard as well as non-standard models, its meaning depends on additional constraints which are not captured by (b) or related biconditionals. The differences between $\mathbf{V}A$ and $\mathbf{M}A$ have a very simple explanation. Truth, at least on Tarski's approach, is purely extensional, but meaning cannot be considered in this way.

Note: in this paper I touch upon only the logical aspects of Davidson's project. In fact, in particular in his later works, he tried to establish some empirical conditions for 's means that'. I do not enter into whether the theory of meaning for $\mathbf{L}$ as an empirical theory based on T-biconditionals liquidates the gap between the intensionality of $\mathbf{M}$ and the extensionality of $\mathbf{V}$. I presented my arguments in my talk on the views of Davidson in Kazimierz in 1995 (Woleński 1996). Davidson was present and replied (Davidson 1996). According to him, my remarks concerned marginalities of his theory of meaning and truth. He pointed out that his intention was to explain an important conceptual link between two concepts, namely truth and meaning. However, my argument does not question the fact that such a link exists and is important. My aim is to show that since the nature of truth is fairly different, modulo the extensionality/intensionality feature, from the nature of meaning, Davidson's attempt fails at least so far as logical problems are involved.

2. Minimalism and the concept of falsehood

Minimalism with respect to truth is the view that everything that is important for the concept of truth is captured by T-biconditionals of type (T). There is the problem of how to define 'it is false' on the minimalist account. The question is important. Russell (1912, p. 133) remarked that every theory of truth should also explain the concept of falsehood and considered this to be one of the conditions of adequacy for any satisfactory account of what truth is. Horwich, the main representative of minimalism, addresses this problem as important for the proper formulation of minimalism (1998, pp. 71–73). Horwich's way out is as follows. We cannot use the formula

(10) A is false if and only if A is not true,

for explaining 'it is false', because it would be circular, even if we accept the standard truth-table for negation, that is, the equalities (i) $\mathbf{v}(\neg A) = 1$, if $\mathbf{v}(A) = 0$, (ii) $\mathbf{v}(\neg A) = 0$, if $\mathbf{v}(A) = 1$. On the other hand, (10) can be replaced by

(11) A is false if and only if not (A is true) (equivalently: A is false if and only if not-A).

Accepting the principle

(12) for any A, A is true or A is false,

we transform (i), (ii) and (12) into (i') $A \Rightarrow \neg\neg A$; (ii') $\neg A \Rightarrow \neg A$, and (12') $A \vee \neg A$. These formulas define negation without circularity, but not completely. Horwich says:

> A complete account of the meaning of 'not' must contain those fundamental facts about its use that suffice to explain our entire employment of the term. Such basic regularities of use might well include the acceptance of the theorems of deductive logic—which include the laws implicit in (N*) [that is, (i'), (ii') and (12')—J.W.]. But a further pattern of usage, not implied by (N*), must be recognized, namely that which is characterized by the principle
>
> (K) 'not p' is acceptable to the degree that 'p' is unacceptable.
>
> Perhaps the combination of (N*) and (K), when conjoined with the fact about the use of ther terms, will be capable of explaining all our ways of deploying 'not'. If so, then the meaning will be fixed and we proceed to define falsity in terms of it by means of the definition (2*) [that is, (11)—J.W.] and without fear of circularity (Horwich 1998, p. 72).

I will argue that this account is essentially incomplete.

Let me start with (i'), (ii') and (12'). They are tautologies of classical propositional logic, **PC**, for brevity. Hence, we can say that negation is defined by this logic, in fact, by any proper axiom system for **PC**. On this account, 'it is true that' becomes a truth-functional connective, more specifically, one defined by the tables (iii) $\mathbf{v}(\mathbf{V}A) = \mathbf{1}$, if $A = \mathbf{1}$, (iv) $\mathbf{v}(\mathbf{V}A) = \mathbf{0}$, if $A = \mathbf{0}$. This is a good syntactical definition, but it leaves the symbols **1** and **0** entirely unexplained. Moreover, this definition operates solely on the level of propositional language and cannot be applied to languages based on first-order logic. Hence, most applications of the concept of truth (or satisfaction) in advanced first-order semantics are lost. In particular, one cannot define tautologies of first-order logic as true in all models, etc. Adding (K) does not introduce any progress in this respect. Moreover, (K) creates special problems. Assume that A and not-A are acceptable to the same degree. For example, one can think about tomorrow's weather in this way. In such a situation, (K) is incorrect. This suggests that adding (K) brings more difficulties than advantages. Summing up: the minimalist account of 'it is false' is either circular, or incomplete, or obscure.

This last conclusion can be strengthened by the following observation. Consider two T-biconditionals (v) 'Kraków is an old city' is true if and only if Kraków is an old city, and (vi) 'Kraków is the present capital of Poland' is true if and only if Kraków is the present capital of Poland. We know that (vii) 'Kraków is an old city' is a true sentence and that (viii) 'Kraków is the present capital of Poland' is a false one. Clearly, minimalism does not explain the difference in question (note that the problem does not concern how to check that the former sentence is true, but the latter—false). The semantic theory of truth does this job much better. It says that (vii) is true in the model corresponding to the real world, but (viii) in a different model (for example, referring to Poland in the 15th century or assuming another interpretation of some words occurring in the latter sentence). Yet both (v) and (vi) follow from the semantic definition of truth, but they have no common logical antecedent on the minimalist theory, except a convention expressed by (T). This is an additional reason to consider minimalism as an incomplete theory of truth.

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