A REPLY TO LEONARD LINSKY

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In his note on the paradox of analysis, Dr. Leonard Linsky discusses my solution of this paradox based on the concept of intensional isomorphism. He tries to show that the proposed method solves the paradox only in certain cases but not in general. I shall discuss his two objections in turn.

1. The first objection is based on an example suggested by Dr. Benson Mates. It consists of two sentences (5) and (6) which are intensionally isomorphic; nevertheless, the first seems to be informative while the second is trivial. Thus the paradox of analysis seems to be revived, and the concept of intensional isomorphism seems unable to solve it.

However, the example is not usable in its present form. The two expressions (5) and (6) consist of a mixture of English and German words and are therefore, strictly speaking, not sentences. Let us try to represent the same basic idea in an example consisting of similar sentences entirely in English, say:

(5′) The proposition that 5 is a prime number is identical with the proposition that V is a prime number.

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A simpler example of essentially the same kind would be this:

(5′′) The number 5 is the same as the number V.

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The sentences (6′) and (6′′) are certainly trivial. Linsky would probably say that (5′) and (5′′) an "informative and express genuine knowledge." I would be more inclined to regard these sentences likewise as trivial. The appearance to the contrary may be caused by misinterpreting (5″) and (6″) as meaning the same as the following two sentences, which, in fact, are of an entirely different nature:

(5‴) '5' has the same meaning as 'V'.

(6‴) '5' has the same meaning as '5'.

Here the first sentence is indeed informative in contradistinction to the second. It speaks about two objects (which are signs) and says that they have a certain property in common. The sentence (5″), on the other hand, speaks of *one the same object* (which is a number), not of two objects, although it refers to this one object twice with the help of two different signs. (While (5‴) *mentions* two signs, (5″) *uses* them without mentioning them; thus we have here a case of the important and often emphasized distinction between the use and the mention of signs.) The sentence (5″) says of this one object to which it refers that it is identical with itself. Thus this sentence is rather trivial.

Although (5″) is nearly as trivial as (6″) and the difference between them is hardly relevant for most practical purposes, nevertheless it must, of course, be admitted that there is a difference. The one sentence contains the same sign twice, while the other contains instead two synonymous signs. We shall come back to this difference in the second part of the discussion (compare the subsequent examples E1 and E2a).

2. The second objection raised by Linsky involves an important question: what should be required of an adequate explication of 'synonymous' or 'having the same meaning'? It seems to me that these terms in their ordinary use are ambiguous; therefore more than one explicatum must be considered. We shall, now define seven semantical relations $R_1, \ldots, R_7$, each of which might be considered as an explicatum. The definitions will be based on seven transformations $T_1, \ldots, T_7$ between designators (e.g. sentences, predicate expressions, etc.). R_n (n = 1 to 7) is then characterized by the set of "admitted" transformations $T_1, \ldots, T_n$; that is to say, R_n holds between two designators if and only if one of them can be formed from the other by a chain of admitted transformations. Since for each new relation in the series new transformations are admitted, each relation is weaker than the one preceding it and is entailed by it. The first relation, R_1, is the strongest; it is the trivial relation of identity (of design). The last relation„ R_7, is the weakest; it is simply L-equivalence of the whole designators irrespective of the way in which they are built up out of their parts. Each of the relations holds not only in the examples given for it but, of course, also in the preceding examples.

T_1 is the (trivial) transformation of identity; the two designators consist of the same units in the same order.

R_1 is the trivial relation of identity (of design).

Example: E1. '5 > 3' and '5 > 3'.

T_2 is the replacement of a unit (i.e. a single word or sign) by an L-equivalent unit.

R_2 is characterized by T_1 and T_2; that is to say, R_2 holds between two designators if they are either alike or differ only by the occurrence of one or several L-equivalent units.

Examples: E2a. '5 > 3' and 'V > 3'.
E2b. '5 > 3' and 'V Gr III'.

T_3 consists in the change of position of a predicator or functor with respect to its arguments.

For R_3, T_1, T_2, and T_3 are admitted; thus R_3 is the relation of *intensional isomorphism.*

Example: E3a. 'V Gr III' and 'Gr V III'.
E3b. '5 > 3' and 'Gr V III'.

T_4 consists in the application of a definition (explicit or contextual, but not recursive) for the introduction or elimination of the defined expression.

R_4 admits T_1 through T_4.

Example: E4. Assuming that 'brother' is defined as 'male sibling': 'Jack is a brother of Peter' and 'Jack is a male sibling of Peter'.

T_5 is the elimination of double negation.

R_5 admits T_1 through T_5.

Example: E5. 'Not-not-*A*' and '*A*'.

T_6 consists in the commutation of a conjunction or disjunction.

R_6 admits T_1 through T_6.

Example: E6. '*A* or *B*' and '*B* or *A*'.

At this place in the series, a number of other simple transformations might be listed which, like those mentioned so far, are easily recognizable. For the sake of simplicity we shall omit them here and proceed immediately to the weakest relation.

T_7 comprehends all other L-equivalent transformations, i.e. those which lead from my sentence to an L-equivalent one.

R_7 is *L-equivalence*.

Example: E7. '5 > 3' and '7 is a prime number'.

In my book[1] I take chiefly L-equivalence (R_7) and intensional isomorphism (R_3) as explicata for 'having the same meaning'; hence, intension and intensional structure are taken as explicata for meaning'. However, some of the intermediate relations may also be useful concepts, and sometimes one of them is meant by the terms 'synonymity' or 'identity of meaning'. Thus Linsky says: "We should all hold that a sentence means the same thing as its definitional expansion". This shows that he understands the term 'meaning the same thing' as admitting the transformation T_4. To be sure, the term is often understood in such a sense. But it is also often understood in a stronger sense, for instance, in the sense of intensional isomorphism (R_3); and for a sense of this kind, of course, Linsky's statement does not hold

Now we come back to the question of the paradox of analysis. Let us look at the original example of G. E. Moore, quoted again by Linsky:

(1) The concept brother is identical with the concept male sibling.

(2) The concept brother is identical with the concept brother.

Let us now describe in general terms the essential features of the paradoxical

[1] R. Carnap, *Meaning and Necessity,* Chicago 1947, pp. 56-59, 63-64.

situation. We have here two statements each of which asserts the identity of entities (intensions, that is, concepts or propositions). The one does so by using two occurrences of the same expression and is therefore trivial. The other one is informative; it expresses a genuine result of analysis; it does so with the help of two different expressions. Now the reasoning is as follows: if the informative statement is correct, the two different expressions mean the same; therefore one of them can always be replaced by the other; however, by a replacement of this kind the informative statement is transformable into the trivial one; therefore it must itself be trivial, while, in fact, it appears as non-trivial. This is the paradox. It is solved by showing that the two different expressions in the non-trivial statement, although they have the same meaning in the weak sense of L-equivalence (identity of intension), do not have the same meaning in a stronger sense. This stronger sense must be explicated by a suitable relation which is stronger than L-equivalence. I have proposed for this purpose the relation of intensional isomorphism (R_3). But it may sometimes be useful or even necessary to apply a still stronger relation in order to solve a special instance of the paradox. For example, if one regards, as Linsky does, the statement (5″), in contradistinction to (6″), as non-trivial and hence the pair (5″), (6″) as an instance of the paradox, he has to apply a very strong relation which does not even admit the transformation T_2, e.g., the identity-relation R_1. However, for most of the clearly paradoxical cases the relation R_3 will probably suffice. It seems that Linsky demands that any explicatum of synonymity should admit the transformation by definition (T_4). However, any relation that fulfills this requirement is certainly too weak for solving the paradox, since such a relation would not fail to hold between the two expressions in statements like (1) (compare Example E4).

The forgoing discussions make it possible to answer the critical remarks about the concept of intensional isomorphism (R_3) which Linsky makes in his last paragraph. He states, correctly, that this concept does not hold in cases of transformation by definition (T_4). He believes that, therefore, it cannot be accepted as an explicatum for "the ordinary notion of synonymity". My reply is that there are several such notions, that some of them do indeed admit T_4 and thus are to be explicated by weaker relations, but that some are stronger and exclude T_4; I believe that R_3 explicates one of them.

Linsky regards, furthermore, as an unsatisfactory feature of my conception the fact that, according to it, a purported analysis could be transformed from a trivial to a significant form by definitional abbreviation (T_4). It seems to me that this feature, far from being unsatisfactory, is a necessary character of what it known as analysis. All authors who have discussed Moore's paradox agree that (2) is trivial and (1) is significant; but (1) can obviously be obtained from (2) by T_4 on the basis of a suitable definition (see E4).

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