ON THE SEMANTIC REPRESENTATIONS OF PREDICATES

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In the previous paper we envisaged the general lines of the framework into which the semantic theory is placed when it is considered explicitly as the 'theory of predication'. The main advantage of this framework, as we see it, is that all the semantic categories and principles get ordered in a definite way, and so many general constraints which naturally follow from this framework, can be laid on the possible semantic structures. In the present part we will consider from this point of view the semantic representations of predicates.

Most of the predicates (the concrete words, etc.) are semantically complex, as we know. We have to analyse them in order to find out exactly what can every one of them be used to predicate (to assert) and what is the other information they contain. According to the present semantic theory this analysis consists, first of all, of the following points: (a) we have to establish the arguments which the given predicate ('conceptually') takes; (b) we have to identify the 'cases' (the semantic roles) of these arguments; (c) we have to find out what is the proper meaning of the predicate (the meaning that it asserts - or predicates in our sense - as new information) and what it presupposes when used appropriately; (d) on the ground of such an analysis the semantic representation of the corresponding predicate is to be construed, and (e) this semantic representation is to be formulated in terms of elementary semantic predicates and variables (as their arguments).

All this may seem clear and simple enough. But in fact there are many questions which will arise immediately when we try to apply this scheme in the analysis of conc-

rete words. The main point is that we lack any general principle which would serve as a criterion in the case of concrete instances of construing semantic representations. First of all, how can we decide, just what arguments are required by the given predicate and just what elementary predicates (resp. propositions) have we to include into its semantic representation?

As for the arguments, it has been pointed out that there is no one-to-one correspondence between the arguments of a predicate (word) and the syntactic constituents which are obligatorily connected with this word in the surface structure expressions (Fillmore 1968b, section 5). And, of course, these constituents may vary from construction to construction, so that it cannot be decided on the ground of the surface structure only what the arguments of the given predicate are; we have to know just <u>what</u> must be taken into account among these various facts. So, for instance, if we are interested in the arguments of the Estonian predicate word <u>edu</u> 'success', we may find (among others) the following types of sentences with this word

(1) Tal oli märkimisväärne edu vanade daamide lõbustamisel 'He had remarkable success in amusing the old ladies'.

(2) See, et teda üldse märgati, oli juba märkimisväärne edu 'That he was noticed at all was already a remarkable success (of his)'.

(3) Tema edu vanade daamide lõbustamisel ei üllatanud kedagi 'His success in amusing the old ladies did not surprise anybody'.

Here in the sentence (3) it is explicitly pointed out of what the success consists; in the sentences (2) and (4) we do not have the corresponding constituent. In the case of the sentence (2) we might add this information, for instance, in the following sentence or by attaching the corresponding

clause to the sentence (2) by a colon; but in the case of (3) it is impossible to add this information even in such a way. Now, do we have to include the constituent which presents the mentioned information (of what the success consists) among the arguments of the predicate edu or not? What we are interested in here is not, of course, so very much the answer to this particular question but, rather: what are the semantic principles by which we are to be guided in making such decisions? Fillmore often speaks of arguments which the corresponding predicate conceptually takes. However the word 'conceptually' itself does not very much explain until it has not been made explicit what is meant by this word in the present context, and this again is the question of the principles of such a 'conceptual' analysis. Of course, the very same question of principles will also arise in the case of other points of semantic analysis mentioned before. It must be emphasized that what we are after here is not at all the establishment of some useful 'tests' for the concrete analysis but the establishment of some general constraints which are to be laid on the semantic representations of the predicates. Such general principles are lacking in the present semantic theory (at least they have not been stated explicitly).

We shall try to show now what are some of the 'general constraints' which appear naturally when we approach the semantic problems in the context of predication. Remind that in this case we are primarily interested in the principles which would allow us to describe all particular instances of predication (of 'adding new information to something') possible in a language. The class of predicates is settled out as the class of the units which can be used to predicate something in the corresponding language.

One of the most important facts that immediately follows from what has been said is that every individual pre-

dicate is to be analysed just in the predicated ('asserted') position; we have to choose the sentences where the given word is predicated (introduced in the logical sense). In fact, what we have to analyse are 'situations' rather than sentences, since for many words it may be hard to find any real sentence where it is just the only item which introduces the new information (as suggested already the example analysed above). But logically, as it is clear, there must exist such a situation for every predicate; and we have to analyse it just in the context of this situation.

According to that we may say at once, for instance, that in the case of our word edu 'success' at least the sentence (3) is not to be taken into account; we need not worry about what holds and what does not hold in connection with the word edu in this sentence (but this by itself does not solve the question of the arguments of the word edu, of course).

The task of the semantic analysis of a predicate is to establish its semantic representation. It should be the general aim of the semantic theory to offer the basis for formulating the relation between a predicate and its semantic representation in such a way that the concrete semantic properties of the given predicate would necessarily follow from the corresponding semantic representation. In such a case could we say that the semantic representation explains the semantic properties ('the semantic behaviour' etc.) of the given word. In order to achieve at such an explanatory connection we have to set up the corresponding principles which will make necessary the connection between a semantic representation and the specific properties of the corresponding concrete item. So namely here we need some 'general constraints' to be laid on handling the semantic material. In the following we shall consider one of such principles (which we take to be one of the most basic principles of semantics) and show how we may by means of that explain (some of) the semantic properties of predicates. We shall call the principle in question the principle of identifi-

cation (see Strawson 1959, 1961. Note that, in our view, Strawson's analysis of 'necessary conditions of (having) language', as presented, in particular, in his book "Individuals", is, as a whole, of the highest value to the present semantic theory of linguistics.) This principle may be explained as follows.

The main feature of every communicative - predicative - act is that the speaker's intention is, as a rule, not merely to say something but to tell the hearer some quite definite, particular facts (or events etc.). Communication is successful when the hearer understands what fact, event etc. it was, of which the speaker had spoken to him. And in this case, i.e. when the hearer is able to understand it, we say that he is able to identify the fact or event spoken to him as this-particular-fact (event, etc.). So, for instance, it is clear that such sentences as

(4) John sleeps

(5) John saw Mary yesterday

(6) John had remarkable success in amusing the old ladies

when used in a proper communication situation, are all intended by the speaker to inform the hearer of some definite, particular instance of John's sleeping, of John's having seen Mary at the time mentioned etc. And the communication cannot be called successful (and so, of course, any communication at all) unless the hearer can identify this particular instance of John's sleeping, etc., of which the speaker has intended to inform him.

This principle will explain very much to us. In particular, we may say on the ground of this principle, apparently, that anything that is present in a sentence beyond the part(s) which immadiately carries the new information, is there in order to enable the hearer to identify the new information. The predicates - the units which are intended to carry the new information - (such as sleep, see, success) in itself are unable to refer to any particular fact. The predicates are 'incomplete', 'universal', etc. We

have to supply them with some definite material in order to make concrete what they say. So, as we may say, the need for identification (in the given sense) is just the raison d'être of what are called the arguments of the predicates (and, accordingly, we had just on the ground of this principle to try to determine the arguments of concrete predicates).

Now, when we consider all this from the point of view of individual predicates, it is apparent that in the case of every predicate there must exist definite facts which unambigously identify what this predicate says whenever used as predicate (and so, we may say, identify this predicate). Therefore, if we are interested in the semantic representations of individual predicates and we want to know just what is to be included into these representations we may say that the semantic representation of a predicate must in the explicit form (at least) show all the information which is necessary for identifying (understanding) any particular fact which the given predicate can be used to assert; or, to put it in other words: the semantic representation must state the necessary conditions which every sentence ('situation') where the given predicate is predicated must satisfy in order to enable the hearer to identify the corresponding particular fact, event, etc.

These conditions are to be formulated in terms of elementary semantic predicates; they take the form of 'elemer tary propositions' which state the facts ('pieces of information') to be known (identified) by the hearer in order to understand the corresponding sentence.

Let us have a concrete example to see what these conditions of identification are like. Take the same predicate success which we have touched upon earlier (as it is apparent that the English word success is understood principially in much the same way as the Estonian edu, so let us operate here with the English word).

What are the 'elementary facts' which the hearer has to know in order to be able to identify a concrete fact of(someone's) having success in doing something (of which we are told) as 'this-particular(-instance-of)-success'? As we see it, at least the following facts are necessary (the following will be, of course, only a brief illustration of what in fact should be described).

(1) In case of concrete sentences the hearer has to identify, first of all, the concrete person of whom it is said that he had success. Here, in the general conditions we have to represent him, of course, by a variable; let it be x. (Note, however, in this connection that it is not necessary at all that the hearer were able to identify x as some real person whom he personally knows; it is not even necessary for him to know whether x exists in reality or not. He must only be able to identify x as <u>the same person</u> (real or imaginary) with whom he can connect some previously known fact (real or imaginary)).

(2) In order to understand what has been meant by saying that x had success, the hearer, apparently, has to know that x <u>wanted</u> something, and namely wanted something to be the case. So, for instance, in the case of the sentence (6) (<u>John had remarkable success in amusing the old ladies</u>) the hearer has necessarily to understand that John <u>wanted</u> to amuse the old ladies (wanted to cause the ladies to be amused) The concrete state of affairs which x may want to bring about varies from case to case, and we have to represent it here again by a variable, say y. So, introducing the corresponding elementary predicates 'want' and 'cause' we may state the given condition as:

'x wants to cause y'

Again, in the case of concrete sentences the hearer necessarily has to identify the <u>particular</u> content of y, i.e. the particular state of affairs which x wants to bring about. The elementary predicates 'want' and 'cause' only state a general (but necessary) connection which must hold between

some particularperson x and some particular state of affairs y in every particular case of success.

(3) It is also apparent that one cannot understand (identify) something as success (and, consequently,as any particular case of success of course) unless he knows beyond the fact that x wanted to cause y, that x was doing something (in order to cause y); let us present this activity by z. So, in the case of the sentence (7) we undoubtedly have to know that John was doing (had done)something in order to amuse the old ladies; otherwise the word success would be inappropriate. And it is clear again that in particular instances z must be some concrete activity, and we have to know it in order to identify x's success as 'this particular instance of success'. But note also that there is a principal difference between x and y on the one hand and z on the other. Of course, it is necessary to know that x was doing something (for causing y), in order to use the word success at all; but we have not necessarily to know the particular content of z (i.e. the particular activity of x) for taking something to be success at all. On the other hand, we can hardly speak of(and understand) 'having success' at all without knowing the particular x, i.e. who it was who had success, and the particular y, i.e. what it was that x wanted to cause. Without knowing that we would be unable to decide whether there was some success at all or not (in some activity), i.e. we would be unable to identify something as success.(Following Fillmore 1968b we may say that in real sentences z can be lacking when it is definite as well as when it is indefinite, but x and y can be lacking (if they can be lacking at all) only if they are definite.) We may formulate the condition under consideration as following:

'x is doing z in order to cause y'

(4) But in addition to the facts that x wanted to cause y we still have necessarily to know an additional piece of information about x in order to characterize him as having

success; this is the fact that x really did cause y. From the sentence (7) it follows necessarily that John in fact did amuse the old ladies; if this were not the case, we could not speak of any success either (given that John wanted to amuse the ladies and he also did something for this end). The given fact we may formulate as

'x causes y'

Now we have established the following 'elementary propositions' as stating the conditions of identification of the predicate success:

(1) 'x wants to cause y'

(2) 'x is doing s, in order to cause y'

(3) 'x causes y'

On the other hand if we know that the facts stated by the propositions (1)-(3) in fact hold we may always say (on the ground of this knowledge only) that x had success. So the conditions (1)-(3) are also sufficient for identifying the predicate success, and according to our general approach these 'elementary propositions' can be taken as making up just the semantic representation of this predicate.

We may describe the relation between the predicate success and the propositions (1)-(3) also in another way. Observe that whenever the predicate success holds (i.e. what is asserted by the corresponding sentence is true), so it is necessary that these propositions also hold, i.e.we may say that the proposition stating the conditions of identification of a predicate follow necessarily from any sentence where the corresponding predicate is asserted. It is apparent that also the converse holds: there cannot be any other ground for making the knowledge of some special fact necessary in knowing the fact stated by a predicate as the ground that the corresponding special fact is necessary for understanding (=identifying) what the given predicate states. And thus we may also say that the semantic representation of a predicate is made up just of the 'elementary propositions' which necessarily follow from any sentence

where the given predicate is asserted (or, as we might say, follows from this predicate).* This fact may be particulary useful from the point of view of practical establishment of semantic representations (assuming that the notion of necessary following is intuitively more clear than the notion of identification).

We have not yet distinguished different types of the elementary propositions in the semantic representations of predicates, but even before we do so, we can make clear an important point in the relation between a predicate and its semantic representation. As we have pointed out before, according to the 'principle of identification' the arguments of a predicate function (have sense) as just the 'points' the particular content of which makes the fact expressed by means of the predicate a particular fact (i.e. so to speak, as the 'points' through which the predicate is 'tied to the reality'). In the case of the predicate success, as we see, the 'points' which in every particular case of the use of the predicate have their particular content to be identified are presented by the variables (arguments of the corresponding elementary predicates)x,y and z. It must be possible in the surface structure in one way or another to express (to refer to) the particular content of x, y and z, since otherwise it would be impossible to identify the particular fact stated by the predicate.Therefore, we may speak of these three variables as, in fact,

*It may seem that there is a confusion of the object language and metalanguage in this formulation: the 'elementary propositions' under consideration here are stated in terms of elementary predicates which belong to metalanguage,whereas the corresponding predicate itself (and also the corresponding sentences) belongs to an object language (i.e. to the corresponding natural language).But, of course, we may understand it even so that both the elementary propositions and the predicates themselves are taken either as belonging to the metalanguage or as belonging to the object language, when we deal with the mentioned relation between them.

presenting the arguments of the predicate success. What it means is that we can define the arguments of a predicate through its semantic representation, and namely as just the arguments of the elementary predicates in its semantic representation which are presented by (different) variables. So it can be said also that in this sense every semantic representation explains why the corresponding predicate has just the arguments it has: its arguments are necessitated by its conditions of identification.

One fact is still worth nothing. In the case of the predicate success we can observe that if its conditions of identification are satisfied in some particular situation, the predicate success is necessarily true in this situation: if John wanted to amuse the old ladies, if he did something do in order to amuse them, and if he really amused them, it is true, of course, to say that John had success in amusing the old ladies. It is clear enough that this is the general rule: if the conditions of identification of the predicate are satisfied in some particular situation, the predicate is necessarily true in this situation. So we may say that the conditions of identification of a predicate include, in fact, its truth conditions. But which of the conditions of identification of a predicate are its truth conditions? It should be clear that in some sense all conditions of identification are relevant for the truth of the predicate. If some of these conditions are not satisfied, the predicate cannot be true either, since, if the predicate - the corresponding sentence - was true, so, as we have pointed out earlier, all the elementary propositions stating (or, rather, corresponding to) the conditions of identification of this predicate should necessarily follow from it, i.e. be true also. In this sense we could say, consequently, that the semantic representation of a predicate is made up just of its truth conditions stated in terms of elementary semantic predicates. If we distinguish in the semantic representation of a predicate those 'elementary propositions' which represent its presuppositions

from those (or this) which represent its 'asserted meaning', it would be inaccurate to say that all the conditions of identification of a predicate are its truth conditions in one and the same sense: the presuppositions of a predicate state, rather, the conditions the holding of which is necessary for the predicate to be true or false, i.e.to have a truth value at all. But, nevertheless, what is important here is the fact that all conditions of identification are significant with respect to the truth of the corresponding predicate.

Here we have discussed some problems connected with the semantic representations of predicates. There are,of course, still many problems to be discussed in this connection. Thus, following our line or reasoning we should ask, how to distinguish in the semantic representation of a predicate the information what the predicate properly 'asserts' ('adds as new information') from the other information contained in the semantic representation. But we shall not consider here the questions of the internal structure of semantic representations. It is just here that, for instance, the Fillmorean distinction between the 'meaning proper' and the 'presuppositions' of a predicate is relevant. We shall not consider here the problem of forming a semantic representation into some 'connected structure' either. Note,however, that the fact that a semantic representation is given as a 'set of propositions' does not mean that the corresponding propositions are unconnected. Thus, in the semantic representation of the predicate <u>success</u> the elementary propositions (1)-(3) undoubtedly are semantically connected, namely through the respectively identical arguments x and y which occur in every proposition there.

What we have pointed out here is, in short, that

(1) When we want to know whether a given elementary predicate (resp. proposition) is to be included into the semantic representation of a predicate, we have to

decide whether the knowledge of this proposition (of the corresponding fact) is necessary for identifying the particular facts represented by the given predicate in particular sentences or not; or - what is the same - whether this proposition follows necessarily from the given predicate or not; or - what is the same again - whether this proposition does belong to the truth conditions of the given predicate or not; and

(2) the arguments of a predicate can be determined as those arguments of the elementary predicates in its semantic representation that are represented by variables.

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