

Haldur Öin

1. In generative semantics the standpoint is generally accepted that the only category of content-bearing units that is needed in semantic representations is the category of predicates. The meaning of any sentence (and of any nonelementary unit) is presented in terms of predicates and their arguments. I want to consider here the question of whether such an absolutism of predicates is justified from the empirical point of view. I will try to show that there are some facts of language that do not fit the predicate-argument mechanics but require a quite different treatment. I will also seek to suggest the general lines of one possible treatment of these facts. The above question has been treated already in Dahl, 1971. Dahl considers the question of the relation between nouns and predicates. I will start with an analysis of Dahl's proposals, trying to show their deficiency, and will then present my own point of view in these questions.

2. The view that Dahl defends in his paper is that nouns are not a special kind of predicates but that they have a logical status of their own in the semantic representation, i.e. that they form a separate semantic category representing "another "mode of signifying" than, e.g., verbs". He observes that in complex noun phrases always a relation of "logical priority" holds between its components, a relation that cannot be represented by conjunction only. In such a NP one of the units determines as if a certain universe (= a set) whereas the other units serve to specify the property that singles out a definite subset within this universe/set. This explains e.g. why the meaning of Buddhist Japanese and Japanese Buddhist is

not the same, although they can refer to the same person. And if one wants to characterize an object by a description, one must choose first a suitable universe for the description, and, as a rule, this universe is referred to by a noun: this is the reason why, e.g., in the sentences Peter is a nice fellow, Mary is a beautiful girl the nouns fellow and girl are needed.

On the ground of these and some other facts Dahl offers the hypothesis that nouns function always as names of sets (set constants) and, accordingly, are not to be treated as predicates. The logical form of a (complex) noun phrase would, according to Dahl, be the following:

The subset M of N such that the members of M satisfy the description D

where N is represented by a noun and D is represented by an adjective or a relative clause in the surface structure.

In discussing his proposal Dahl notes, in addition, that when all word-classes of surface structure are treated as manifestations of one category in semantic representation it remains quite unexplained why there should be such things as word-classes at all. Intuitively we feel, for instance, that it is not an accident that we do not say John is a run instead of John runs or That thing is chairing instead of That thing is a chair. And the lists of word-classes that occur in different languages do not differ from one another to such an extent at all as it would be supposed if they were only accidental surface structure phenomena introduced by transformations. Quite the contrary, notes Dahl, the three traditional word-classes, nouns, adjectives and verbs, show up in the most disparate languages and so there is ground to believe that they correspond in some way to natural semantic classes.

Dahl's arguments are quite convincing when he points out that the form $[x + S]_{NP}$ which is used in genera-

tive semantics for presenting the content of noun phrases, is inadequate with respect to many semantic properties of noun phrases, and that the standpoint according to which all content-bearing structures of language can be given in terms of predicates and arguments needs revising. But Dahl's positive proposals, when looked at a little closer, appear to be quite confused.

We may not consider the question of the precise meaning of such terms as "set", "name of a set", "mode of signifying" in generative semantics - apparently, they could be made more precise without much trouble. But there is a question that inevitably rises in the case of Dahl's approach: what is it exactly that Dahl has in view when speaking of nouns and noun phrases? Since he nowhere specifies his use of these terms we have to conclude that he uses them in their surface structure meaning. But in this meaning it is undoubtedly quite unacceptable to say that nouns should be treated as forming a semantic class of their own. In this case it would be necessary to include into this class not only such units as woman, girl, Marxist, chair, with which Dahl itself operates in his examples, but also such units as difference, possibility, restriction, and even run or laugh since in the surface structure they are nouns. As is well known, it is possible to form a corresponding noun from practically every verb and adjective without any remarkable change in basic meaning; consequently, we would be faced with the fact that most of the units occur in semantic representation as members of the class of nouns as well as predicates, and in different classes we should give them quite different descriptions. To my mind, this fact alone suffices to discredit the hypothesis that nouns, taken in their surface structure meaning, should be treated as belonging to a separate semantic class which is opposed to the class of predicates.

But if it is not the case that all surface nouns are

included in the semantic class of "names of sets", then what would be the criterion governing the choice of the appropriate units? Note that the question is here of explicating the semantic nature of not only nouns but of predicates as well. So long as we had to do in semantics with only one category of contentful units, it was not so important to say explicitly what was the real essence of this class, but as soon as there are two (or more) such classes we have to explain their difference, i.e. we have to characterize explicitly the semantic functions of both of them.

Undoubtedly the most natural-looking solution to consider is that among the surface nouns it is possible to single out a group of words which can be regarded as "genuine nouns" - in the sense that they cannot be derived from the units of other word-classes. It is well known how confused this problem is from the formal point of view - remember such notions as "abstract verbs", etc. that are used in transformational grammar in the treatment of the relation between nouns and verbs. But here we have to find a semantic ground for separating the given group of units from predicates. Since one of the most characteristic features of predicates is that they have arguments, it is here that one would begin to look for the difference between the two categories, explaining this, e.g., in the following way: predicates are semantically incomplete, they have certain "empty places" - arguments - to be filled in when the predicates are used in concrete cases (remember that already Frege has characterized predicates in somewhat the same way, saying that they are "ergänzungsbedürftig"); names (genuine nouns), on the other hand, are semantically independent, they do not have "empty places", they do not need completing when used in concrete cases, etc. The reason for such characterization is to single out a group of nouns such as girl, chair, stone, place, stuff, etc. that quite

apparently are not derived from any verb or adjective. For instance, it is wholly natural to speak in the following way:

- (1) I looked through the window and saw a girl. I quite liked the girl.

But not in the following way:

- (2) I looked through the window and saw a sitting (speaking, laughing). I quite liked the sitting (speaking, laughing).

Before we can use the words sitting, speaking or laughing in such contexts as the above, we have to fill in certain "empty places" in their meanings (who is sitting, and where, who is speaking, laughing). On the ground of the above characterization of the difference between nouns and predicates it is also natural that, e.g., such words as idea or difference do not belong to the class of nouns, quite irrespective of whether they are formally derived from some other units or not: any difference is a difference between something, any idea is an idea of someone and about something, i.e. the given words have certain "empty places" and hence are predicates.

But this solution has at least two important defects. First, in the case of this solution the facts about nouns and noun phrases adduced by Dahl remain, in the end, wholly unexplained. These facts - first of all, that between the constituents of a noun phrase there holds a relation of logical priority and that the main constituent of a noun phrase (which is, of course, a noun) determines a certain universe which the other constituents of the corresponding noun phrase serve to specify - hold in the case of all noun phrases, independently of whether the corresponding main unit is a genuine noun or a derived one. Consequently, if one wants to claim that nouns form an independent semantic class, there seem to be no other possibilities than to include all surface nouns into this class.

The second defect of the above solution is connected with the characterization of nouns as units that do not have "empty places" in contrast to predicates that do have such places. This characterization does not hold. As one can see, when looking a little closer, even such words as girl or stone cannot be characterized as not having "empty places", i.e. as words the meanings of which do not need specifying. When we say of a particular object that it is a stone, there still remain many aspects that await specification: of what shape is the stone, of what size is it, what is its color, how hard is it, etc. It cannot be denied that these aspects are connected with the meaning of stone as necessarily as are, e.g., the "who" and "where" aspects connected with the meaning of sitting. Every stone is as necessarily of some shape, size, color etc., as every sitting is done by someone and somewhere. And the concrete content of these aspects is no more determined by the meaning of stone than is the content of the "who" and "where" aspects determined by the meaning of sitting, i.e. the former are as empty as the latter. Why is it, then, that the given aspects of sitting are called arguments (and sitting itself a predicate), but the corresponding aspects of stone are not called so?

As is apparent, the semantic independence of genuine nouns, as demonstrated by the example (1) vrs. (2), is based on some other property than the lack of "empty places". When we look closer, we will see that this independence is in fact connected with a phenomenon that could be called particular reference. In the above examples both girl and sitting are used as referring to particular instances of the corresponding phenomena. And these examples show that the object referred to by girl can be freely conceived as a particular even with its "empty places" unspecified, but the "object" referred to by sitting cannot be so conceived. A sitting can be made

individual, as a rule, only through connecting it with the individual object who is doing this sitting. Note that on the general level, when one speaks about "sitting in general" and not about some particular instance of it, also the word sitting can be used without any specification:

- (3) Sitting is a much more comfortable position than standing.

Accordingly, the observed independence of the words such as girl or stone could be characterized more precisely as the "ability for independent particular reference". And, as we have seen, this ability has nothing to do with the presence or lack of "empty places" in the meanings of the corresponding words.

The above discussion should have made it clear that if one wants to single out in semantic representation a definite class of units - the class of nouns - then it is hard to find any semantically appropriate characterization of this class. On the one hand, when we depart directly from the facts presented by Dahl, we have to include into this class all units that can function as nouns in the surface structure, a solution which clearly is unacceptable in semantics. On the other hand, we found a semantic property which we called the ability of independent particular reference and which characterizes only a definite group of surface nouns, but by means of this property we cannot explain the facts mentioned by Dahl. And further, it should be remembered that all nouns can be used for particular reference, even such ones as idea or sitting, when their corresponding "empty places" are appropriately specified (John's idea to go to bed, Mary's sitting on the bench under the old tree). One may claim, on the ground of this, that the difference between genuine nouns and the others is only one of degree and so there is no ground for separating the genuine nouns so sharply from all other units of language.

3. I think the only reasonable way out of this situation is to admit that from the semantic point of view there are no such classes of units as nouns and predicates. The difference between these notions is not a difference of (classes of) units per se but a difference of functions (or functional positions) into which the concrete units can be put. The function which is presented by nouns - as has become evident also from the foregoing discussion - is the referring function, which is opposed to the predicative function (and, maybe, also to some other functions if these are needed in semantic representations). The distinction between referring and predicative functions is undoubtedly one of the most basic distinctions of semantics. The need for such a distinction is not hard to prove when language is considered in the context of its communicative function. (And note that since language in general is a functional structure, it is natural to suppose that its description should ultimately be based on a set of explicitly distinguished functions.)

The referring position is the position of the unit (or structure) about which something is said or, in formal terms, which is operated upon in the corresponding message, whereas the predicative position is the position of the unit carrying the information that will operate upon the first structure (see Öim, to appear, for the details of such a treatment of predicative expressions). In principle, every unit of language can occur in both referring and predicative positions, although there exist certain constraints in this occurrence (see below). The surface structure word-classes are only certain reflections of these semantic functions. If this is taken into account, then the fact that caused most confusion in the above discussion - that there are such highly regular means for converting the units of one class into the units of other classes (in the given case, for deriving nouns from verbs and adjectives) - ceases to be a puzzling problem.

But the whole solution of the problem cannot, of course, be limited to what is said above. There are many general problems that are raised by such a treatment, the most important of them being the following: if all units of language can in principle occur both in the predicative and in the referring functions (and also in other functions, if there are such to be distinguished), then why are words, nevertheless, divided into word-classes in surface structure - as a rule, every word belongs primarily to a certain word-class and the corresponding representatives of other classes - where they exist - are "derived" from this primary form? For instance, sit is primarily a verb, sitting is a derived form of it; happy is primarily an adjective, happiness is a derived noun; girl is a noun and it seems that there even does not exist any corresponding verb or adjective having the same "basic meaning" as the noun girl.

The explanation of this state of affairs, I think, can - at least partially - be found in connection with the fact that we have already touched upon from a certain aspect. We found that it is possible to single out a group of "genuine nouns", such as girl, stone, etc., and observed that the semantic property that forms the basis of this group is the ability of independent particular reference - we may use them for referring to particulars independently of any other unit. In the case of all other units this property is lacking; in order to use them in this function we have to connect them previously with some unit or expression that already has the given property. But this means that for all these other units logically the primary use is not in the referring function but in the predicative one. Logically, before we can say something about an individual instance of sitting or speaking, we have to say that someone is sitting or is speaking; and on the basis of this it is only natural to discover that such words as sit or speak are primarily not nouns but verbs.

But we can go further and establish a general hierarchy among all units, according to what it is exactly the previous occurrence of which the corresponding unit presupposes. In this way we establish, e.g., the hierarchy boy - run - fast: before we can speak of a particular instance of fastness we have to say of something, e.g., of an instance of running, that it is fast; but before we can say something of an instance of running we have to say that someone, e.g. a particular boy, is running; and here the hierarchy ends since there is no need to say something about something or someone else, before we can speak of a boy as an individual boy.

Now we are able to answer also the question touched upon above: what is the difference between such "empty places" as size, shape, color, etc. in the case of the word stone, and such as "who" and "where" in the case of sitting (i.e. the ones that usually are considered arguments)? This difference lies in the same hierarchy: the meanings of the words denoting concrete sizes or shapes can be individualized only through the reference to the corresponding objects themselves, but in the latter case, e.g. in the case of the words occurring in the "who" position of sitting, such a previous reference to the corresponding activity is not at all presupposed - instead, as we have just seen, the converse relation holds.

But now it should be noted that these hierarchies have relevance only with respect to the predicative function, not with respect to the referring function taken by itself. They characterize the logical order of predicability of units. When the units are considered from the point of view of the referring position (i.e. as already standing in this position and already having the ability of particular reference), these orderings have no more sense. And, accordingly, there is no more difference also between the size-shape type aspects on the one hand and the so-called arguments on the other. They all stand

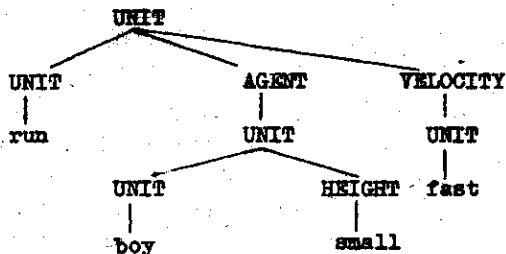
in the same general relation to their corresponding main units - this is the relation of "empty places" to the concepts that have them. It is with respect to this position that we can say that, e.g., the aspects size and shape are connected with the meaning of stone exactly in the same way as are the "who" and "where" aspects connected with the meaning of sitting and that there is no ground for giving to the former aspects quite another status than to the others. All structures occurring in the referring position - as the tall boy and the sitting boy as well as the sitting of the boy - have the same basic organization. And it is with respect to these structures that Dahl's observations are valid. There is in such a structure always a main unit (referring to the corresponding "universe"); this unit has a definite list of "empty places" which present the aspects or dimensions with respect to which the meaning of the unit can be made more specific; and there may be certain units - attributes - filling in, i.e. giving the values of (some of) these dimensions. In general, such a structure should be organized recursively since attributes may have in their turn certain attributes (i.e. in other connections the attributes of a main unit may themselves function as main units).

As to the formal presentation of such structures, it is not very clear what would be the most appropriate way of presenting the relation of main units to their attributes through the corresponding dimensions. The most straightforward (or at least the most handy) form would be something of the type used in Fillmore's case structures, his case notions being interpreted as dimensions in our sense. For instance, the structure of the noun phrase

(4) the fast running of the small boy

would be, according to this, something like the following:

(5)



What is implied by the above treatment with respect to the semantic descriptions of whole sentences consists, first of all, in the fact that these descriptions should be given explicitly in terms of referring and predicative functions (i.e. in terms of structures standing in these positions). It is also implied that a way should be found of determining how a referring structure (e.g. the running boy) can be derived from the corresponding predicative structure (the boy is running). Some suggestions as to how this can be done have already been made elsewhere (see Öim, to appear).

R e f e r e n c e s

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