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AN ALTERNATIVE TO PROTOTYPE RULES*

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1. Recently, a number of linguists (e.g. Lawler, 1975: 371, and Lakoff, 1975a-b) started to doubt the value of the transformational or derivational paradigm which has governed linguistics for the past twenty years. It is not self-evident what kind of theory will fill the post-transformational vacuum, in which this paper is to be situated. But recent developments (e.g. the 1975 CLS Parasession on Functionalism) suggest that a central part will come to be assigned to the notion function. The application of prototype theory is a form of this functionally oriented characterization (or explanation in so far as the characterization is claimed to be universal) of linguistic forms. The prototype notion originated in psychology (e.g. Rosch, 1975) and was first introduced into lexical semantics² by Fillmore (1975a-b) who offered it as an alternative to checklist or feature theories of meaning: "Instead of the meaning of a linguistic form being represented in terms of a checklist of conditions that have to be satisfied in order for the form to be appropriately or truthfully used, it is held that the understanding of meaning requires, at least for a great many cases, an appeal to an exemplar or prototype (...)." (1975a:123). Later, Lakoff (1975b) started to think of syntactic phenomena in prototype terms. He claims that, perhaps, sets of widely divergent linguistic forms, like the ones normally referred to as 'passive', can be related to prototypes. In this paper, the linguistic application of prototype theory will figure as an exemplification of the functional approach to language (even though it is not only a matter of functions).

In spite of its title, it is not the purpose of this paper to completely supplant the prototype idea, but rather to make it more workable by revealing its limitations. First we shall point out a number of difficulties inherent to a prototype approach to syntax. Afterwards we shall show them to be due to a widespread misconception of the way in which functions can figure in linguistic explanations. And finally we present a functional approach to language which avoids the difficulties mentioned.

2. General issues as the doubtful difference between the properties in terms of which prototypes have to be described and the features presented in checklist theories, will be left aside. Nor shall we answer the question how to decide which properties belong to a prototype and which ones do not. Since our cognitive apparatus itself seems to operate with prototypes - to a certain extent at least - we shall simply take our intuition as a guide.

Let us stick for a while to the specific problems arising when we try to find prototypes for syntactic phenomena. Our example will be the passive. To illustrate the problems we do not resort to wildly exciting exotic languages - though that is very fashionable these days - but we simply compare the passives of two languages as trivial and as closely related as English and Dutch. Sentences (1) to (4) are examples of Dutch passives.

- (1) Het boek werd aan Jan gegeven
(The book became to John given)
- (2) De huizen werden verwoest
(The houses became destroyed)
- (3) Er wordt te veel gemopperd door de soldaten
(There becomes too much grumbled by the soldiers)
- (4) Er wordt geklopt
(There becomes knocked)

In contrast to (1) and (2), sentences (3) and (4) are impersonal passives. I want to argue (i) that a focus on the event expressed by the verb is the main functional characteristic of the Dutch passive, and (ii) that this function is most prototypically realized in the impersonal passive.

In order to prove these points, we have to eliminate a misconception first. Many people think that the Dutch impersonal passive is a relatively marginal phenomenon. In an otherwise very insightful paper, Kirsner (1975), for instance, (i) calls it a "pseudo-passive", (ii) claims that it can occur only with intransitive verbs and with pseudo-intransitives (i.e. verbs with omissible objects, like 'to eat'), and (iii) says that its implied logical subject must be human (whereas that of the so-called "true passive" can be human, non-human animate or inanimate). Those claims are wrong. Sentence (5) can be non-defectively uttered though its verb is transitive and irrespective of whether its agent is human, a herd of wild elephants, or a storm.

- (5) Er werden vele huizen verwoest
(There became many houses destroyed)

Consequently, the impersonal passive applies to a wider range of verbs (viz. transitive, pseudo-intransitive and intransitive) than the personal passive, which can only be used with transitives and pseudo-intransitives.

A second observation: not all occurrences of the passive sound equally natural. Have a look at sentences (6)a to (7)c.

- (6) a. Het boek werd aan Jan gegeven
(The book became to John given)
- b. Een boek werd aan Jan gegeven
(A book became to John given)
- c. De huizen werden verwoest
(The houses became destroyed)
- d. Vele huizen werden verwoest
(Many houses became destroyed)
- e. Huizen werden verwoest
(Houses became destroyed)
- (7) a. Er werd een boek aan Jan gegeven
(There became a book to John given)
- b. Er werden vele huizen verwoest
(There became many houses destroyed)
- c. Er werden huizen verwoest
(There became houses destroyed)

In general, in spoken Dutch the personal passives always carry a flavour of being artificial. The only cases in which they cannot be replaced by an impersonal passive are sentences (6)a and (6)c, in which there is a definite logical direct object. In all other cases the impersonal form is the preferred one: thus (7)a is more natural than (6)b, (7)b is more natural than (6)d and (7)c is more natural than (6)e. (This is not to say that any of these sentences should be ungrammatical.) We conclude that the impersonal passive expresses more states of affairs naturally than its counterpart.

Now we come to the crucial points of the discussion. First, what is the main functional characteristic of the Dutch passive? It is clear that the impersonal passive can do little else than focusing on the event (unless a special intonation pattern is used). And since in all cases in which both forms are grammatically possible, the impersonal passive is preferred over the personal one, it seems reasonable to assume that also in those cases the focus on the event is the most salient feature (no matter which one of the two forms is actually used). Only when there is a definite logical direct object not only the event seems to matter, but also the object in question. But now my claim is that this happens not by virtue of the passive construction as such, but by virtue of the definiteness of the di-

rect object itself. Consequently, the focus on the event characterizes the Dutch passive as a whole.

Second crucial question: what type of passive realizes this function in the most prototypical way? The answer is implicit in the answer to the first question already. Additional arguments for the prototype status of the Dutch impersonal passive are to be found in the above observations that it applies to a wider range of verbs and expresses more states of affairs naturally than the so-called "true passive". None of these are real proofs. They only serve to make our intuitions more comprehensible.

Our comparison with the English passive can be extremely brief. Though focusing on the event expressed by the verb may be one of the features of some English passives, it is not likely to be the central characteristic of them all. English simply uses different devices for that function, as emerges from (8) and (9), which are the equivalents of the Dutch (3) and (4).

- (8) There is too much grumbling among the soldiers
 (9) There is a knock

Anyway, if our analysis is correct, the prototypical English passive will differ significantly from the Dutch one since English has no impersonal passives at all.

It should be quite clear by now that positing universal prototypes for syntactic phenomena is virtually impossible. But what is the core of the problem? And, more importantly, how can we solve it?

§. Let us first try to find an 'explanation' for the difficulties. They seem to follow from a mistaken conception of the way in which functions explain forms, which seems to lurk behind the prototype treatment of syntax - and, for that matter, behind most of the functional approaches to syntax that I am aware of. Functions do not explain why a language uses a specific form as such, since there is a lot of arbitrariness, as the case forms of the objects in sentences (10) to (13) show.

- | | | |
|------|---------------------------------|--------|
| (10) | The father helps his son | (Acc.) |
| (11) | Der Vater hilft seinem Sohn | (Dat.) |
| (12) | a. Pater adiuvat filium | (Acc.) |
| | b. Pater adest filio | (Dat.) |
| (13) | a. De vader helpt zijn zoon | (Acc.) |
| | b. De vader staat zijn zoon bij | (Acc.) |

But functions do explain why languages use specific forms for specific functions in relation to each other

or, in other words, why it is possible to use a form, which is used for a certain function, for a different function as well within the same framework of linguistic devices (i.e. within the same natural language). This type of explanation is illustrated, for instance, in Comrie's (1973 and 1975) functional approach to ergativity. Linguistic forms are usually relatively arbitrary devices to express certain meanings and functions. In other words, they are not naturally and necessarily connected with a particular function. This explains the impossibility to find one prototype for both the English and the Dutch passive.

In spite of this relatively straightforward observation, all the functional approaches to syntax that I am aware of - including the prototype approach - take a linguistic form as their starting-point and then ask what its functions are and/or try to explain it in terms of its functions. We shall call this the from-form-to-function approach. To a certain extent this works if one remains within the boundaries of one language, but it is bound to meet a tremendous amount of difficulties - if not complete failure - if one wants to make universal claims, as we have tried to show in the preceding section. The foregoing considerations suggest that, since functions are more likely to be universal than either forms or the combination of forms and functions, the from-form-to-function approach can be replaced by or at least supplemented with a from-function-to-form approach. We shall first draw a comparison with the prototype analysis of lexical items. In the next section we shall discuss how the principle works out for syntax.

In the case of lexical semantics, a universal from-form-to-function prototype approach seems to work well for colour terms, probably because colour is such a universal thing. But difficulties crop up as soon as one starts thinking about such trivial things as chairs. Does a throne or an electric chair belong to the class of chairs? A primitive throne, as well as a somewhat stream-lined electric chair, may look exactly like a simple kitchenchair. Also in terms of motor programs there needn't be any difference: one makes exactly the same movements to sit down on any one of them. But probably we would not be inclined to put them into one class of objects, because of their respective functions. We claim that the problem would not even arise if one did not start from the word 'chair', but from universal functions: (i) everybody has to sit down once in a while, people use objects to sit down on, and those objects form a separate class of things; (ii) the

electric chair would come to be classified with guillotines and other instruments to execute caught criminals and other unlucky people with; (iii) in the same way a throne would come to belong to the class of objects to which also the White House belongs, viz. the symbols of power (which every culture has; people who do not believe that the exertion of power is really universal, have to be reminded of the story about the ship on which nobody wanted to command the others and which got into a storm; the story is extremely short; the ship sank).

4. To return to syntax, what would a from-function-to-form approach look like there? We want to illustrate it by giving a brief account of some recent investigations (Verschuere, 1976). The account will, of necessity, be too short. Therefore the main point of attention will be the conclusions we were able to draw from the study. It is their relevance which will have to serve as a measure for evaluating the procedure we propose.

In "A Fragment of the Functional Grammar of Giving" we set out to capture the ways in which the proposition

(14) GIVE(John_{Ag}, Peter_G, a book_{Pat}) - Past

(i.e. a past act of 'giving' in which there are two human participants, the Agent 'John' and the Goal 'Peter' and one non-human participant, the Patient 'a book') can be stated literally in English in a context in which one of the four main points of information (viz. 'GIVE', 'John', 'Peter' and 'book') or a combination of them is asked for. Fifteen questions of that type are possible. We list them here because they represent the functional variation we allow.

- Q1. What happened with John, Peter and a book?
What did you say about John, Peter and a book?
- Q2. Who gave Peter a book?
- Q3. To whom did John give a book?
- Q4. What did John give to Peter?
- Q5. What happened with Peter and a book?
What did you say about Peter and a book?
- Q6. What happened with John and a book?
What did you say about John and a book?
- Q7. What happened with John and Peter?
What did you say about John and Peter?
- Q8. Who gave a book to whom?
- Q9. Who gave what to Peter?
- Q10. To whom did John give what?
- Q11. What happened with a book?
What did you say about a book?

- Q12. What happened with Peter?
 What did you say about Peter?
- Q13. What happened with John?
 What did you say about John?
- Q14. Who gave what to whom?
- Q15. What happened?
 What did you say?

There are too many possibilities to express the proposition (14). Therefore we limited the scope of our investigation by allowing only four phenomena to vary: (i) the sentences can be active or passive; (ii) the Goal can have a preposition or not (in other words, it can be dative or not); (iii) every participant in the action can be pronominalized, which provides us with 8 different pronominalization patterns; (iv) we allow 4 different stress patterns (either 'GIVE', 'John', 'Peter' or 'book' can be stressed). This provides us with 128 possible sentences.

In order to find out how the functions represented by the questions Q1 to Q15 are realized in English, we simply have to check which ones of the 128 sentences are possible answers to each one of the 15 questions. Of course only those sentences are regarded as answers to a specific question, which are possible purely on the basis of the presuppositions of the question itself, without relying on any other information. The data thus obtained are only limited by the fact that we do not consider all the possible expressions of the proposition (14). But notice that the incompleteness is completely under control. Here are some of the conclusions we have been able to draw. Remember that they bear exclusively on the data at hand and that they can only suggest more general processes.

First, our data show that the capacity of a noun to be pronominalized does not only depend on its being 'given' in the preceding discourse and/or context. If there are two human participants in an action, they can only be pronominalized if, in addition to being given information themselves, the action in which they participate and their respective roles in it, are given. This emerges from the fact that 'John' and 'Peter' can be pronominalized in answer to Q4, but not in answer to Q1.

Second, one would expect that a question which asks for two pieces of information could never be answered with one of our 128 sentences, which all have one stress only. Q5 cannot, but for Q6 we find at least 12 answers, in all of which the Goal is stressed, but never the verb. Both questions presuppose the Patient

'a book', but they differ in that Q5 presupposes the existence of the Goal and Q6 of the Agent. It seems that, curiously enough, when the Agent is given in the question (but not the action), also the action takes the shape of given information in the mind of the hearer (i.e. the person who is about to answer the question). This suggests (i) that an action and its agent form a much stronger unity in the human mind than is sometimes assumed, and (ii) that a presuppositional gap (here between questioner and answerer) is not always a case of communication failure, but a productive communicative device.

Third, the Patient 'book' seems to be the normal carrier of stress since Q12, Q13 and Q14, which all ask for three pieces of information, can only have one-stress answers if the stress is on 'book'. This might lead us to the conclusion that the relational grammar habit of relegating the logical direct objects in sentences with a dative (e.g. John gave Peter a book) to the limbo of forgotten things (called 'chômeurs') is not psychologically justified, since it is the prominent element throughout.

Fourth, the same conclusion can be drawn from the observation that there is no distributional difference at all between sentences of 'giving' in which the Goal takes a dative case form and those in which it is a prepositional phrase. This observation might also put an end to the series of transformational attempts (a recent one of which is to be found in Seuren, 1975: 39-50) to find out which structure is the more basic one.

It is up to you to judge whether conclusions of this kind, drawn from a very brief application of the from-function-to-form approach to syntax, are interesting enough to justify its further pursuit. No doubt the foregoing proposal is very far removed from any type of formalized syntax, but part of the intention was to make linguistics simple again.

FOOTNOTES

- * Thanks are due to George Lakoff, during whose lectures (Fall 1975 and Winter 1976, at Berkeley) the ideas constituting this paper have come to my mind (even though he may not like some of them); to Johan Van der Auwera, for his comments on an earlier draft; and to the Commonwealth Fund of New York, on whose Harkness Fellowship I am living at this very moment.

- 1 The renunciation of transformations does not imply that one no longer recognizes the existence of a deep and a surface structure, though one would deny that the one is really 'deeper' than the other and though one would prefer to call the former 'logical structure' and the latter 'grammatical structure'. Ironically enough, this leads us back to traditional grammar.
- 2 Here we abstract from areas in linguistics which have applied the prototype idea unconsciously. The earliest application is probably to be found in phonology: a phoneme could be defined as the prototype of a group of phonetically divergent sounds. Here it is evident that - as we shall argue later in connection with syntactic phenomena - different languages have different prototypes even if they have the same sounds. Both in English and in Dutch the sounds [k] and [g] occur, but in English they have to be regarded as two separate phonemes /k/ and /g/ whereas in Dutch [g] is simply an environmentally determined variant of the single phoneme /k/.
- 3 While advocating a from-function-to-form approach, we do not want to brand the from-form-to-function approach as heretic. Rather, we presuppose the insights it can yield.

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