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SOME THOUGHTS ON THE SEMANTIC STRUCTURE OF THE SENTENCE

FRANTIŠEK DANEŠ

In his critical review of Chomsky's 'Syntactic Structures',[1]) Prof. Reichling pointed out that 'the function of syntactic grouping is not to establish the relations between the forms as such, but with the aid of formal relations, to effect a semantic connection, i.e., a connection of meanings' (p. 1). This suggestive idea surprisingly agrees with some aspects of the approach of a group of Prague linguists, developing in the last decade some ideas of the late Prof. V. Mathesius. This 'three-level approach' to syntax also forms the theoretical basis of the following discussion.[2])

Let the relational grammatical structure of the sentence be represented by the underlying *grammatical sentence pattern* (GSP) or by some of its derivations. Thus, e.g., $N^1 \rightarrow VF \rightarrow N^2$ is one of the most common GSP in English, and $PRO_{poss} \leftarrow N^1 \rightarrow VF\ A \leftarrow N^2$ is one of its derivations. (Elements of the pattern are, in this case: word-classes, the relation of dependence (→) and word order; derivations are produced by means of a set of rules of different types. Traditional grammatical terms Subject, Predicate, Object, etc. may be regarded as arbitrary names of different 'functional positions' in some patterns (or their derivations).)

In a sentence, the functional positions of the underlying GSP are

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[1]) Anton Reichling, "Principles and methods of syntax: cryptanalytical formalism". *Lingua* 10 (1961), 1–17. – Cf. also some cognate ideas in E. M. Uhlenbeck's paper "Some further remarks on transformational grammar", *Lingua* 17 (1967), 263–316.

[2]) Cf., e.g., F. Daneš, "A three-level approach to syntax", *Travaux linguistiques de Prague* 1, 1964, 225–234; the same: 'Semantic considerations in syntax' (to appear in the Proceedings of the 10th International Congress of Linguists, Bucharest 1967).

filled with particular lexical items (functioning as naming units). Now, the question arises, what happens with the lexical meaning of these items, when they occupy the given functional positions and thus are put into mutual relations in compliance with the structure of the pattern. The investigation done by Weinreich, Katz and others has paid attention mostly to the process of semantic combination; but this is one aspect of the whole problem only: the GSP does not only combine, but at the same time it converts the particular lexical meanings into another type of meaning, on a higher level of abstraction; these meanings might be called *syntactic meanings* and characterized as the generalization of lexical meanings contained in the sentence, accomplished by the relational structure of the underlying GSP. Thus we might say that in the sentence *My father is writing a long letter* the items *(my) father, is writing, (a long) letter* display the syntactic meanings of 'actor', 'action', and 'goal', respectively. Let us call such configurations of syntactic meanings *semantic sentence pattern* (SSP).

When studying the mutual relations between GSPs and SSPs in a given language, we presently discover that there is no biunique correlation between the units of these two levels. This fact is evidently a manifestation of the well-known universal principle of 'the asymmetric dualism of the linguistic sign' (Karcevskij). The analysis of a number of sentences based on the GSP $N^1 \rightarrow VF \rightarrow N^2$ shows a variety of types of 'syntactic meanings' arranged in several different SSPs. Our above-adduced example 'actor-action-goal' is only one of them, and a refined analysis shows that even these meanings need further qualification.

Let us begin with some examples (that do not exhaust the whole range of possible types): (1) *The farmer killed the duck.* (2) *John repairs his car.* (3) *Mary wrote a poem.* (4) *He dug a hole.* (5) *Mary studied mathematics.* (6) *She plays tennis.* (7) *John met Mary.* (8) *John likes music.* (9) *John excelled the other players.*

A detailed inspection shows that the different semantic values (syntactic meanings) of the nouns in a sentence depend on the properties of the particular finite verb, and not *vice versa.*[3]) This is

[3]) This is in agreement with the "transitive" (or more precisely, "relational") character of verb, as pointed out esp. by Sechehaye (*Essai sur la structure logique de la phrase*, Paris 1926); cf. also his term *transitivité*, renewed recently by M. A. K. Halliday in his paper "Notes on transitivity and theme in English", *JL* 31 (1967), 37 ff.

clearly revealed by the fact that, if in a sentence a noun is substituted by a personal pronoun, the same syntactic meaning would be assigned to it. [This does not, of course, contradict the fact that verbs belonging to a certain semantico-syntactical class do not combine with all nouns (in the left and right position) without restriction, and the other way round. These restrictions are not of the kind that they might indicate the structure of the particular SSP. Thus in *My brother* $\rightarrow VF \rightarrow$ *mathematics* the class of VF is not predictable; it might belong to the class {study, teach, ...}, or to the class {like, hate, ...} or to some other class, and, consequently, the syntactic meanings of the left and right noun would be 'actor' and 'specification', or 'bearer of attitude' and 'object of attitude', respectively.]

In sentences (1)–(6), VFs belong to the class of 'verbs of action'. This is revealed by the fact that for all of them a question can be formulated,[4]) containing the interrogative phrase 'What does X do?', substituting the verbs in the respective statements by the verb *do*, the most general meaning of which is just 'to perform an action'. With (7), (8), (9) however, a question with the categorical verb *do* would be out of place. The respective questions could be:
(7') 'What happened to him?' The categorial verb *happen*,[5]) indicating the unintended, involuntarily character of the process,

[4]) In his article "Some semantic relations between sentoïds", *FL* 3 (1967), 68–88, J. F. Staal points out that verbs or verb-phrases cannot be questioned as such, but that in English verbs may be questioned by questioning a noun-phrase; e.g.: "John smokes" – "What does John do?" Staal evidently neglects the fact that in such a question the particular verb of the statement (*smoke*) is substituted by a verb of a very general meaning (I would call it categorial verb) and that the whole interrogative expression is "what does ... do"; within the framework of the question, the pronoun *what* is the object of the verb *do*, but in relation to the respective statement we are not questioning the object (even if it were contained in the statement: "What does he do?" – "He *repairs his car*"), but the quality (*what*) of the action (*does do*). (If we wanted to question the object only, we would use the particular verb (not the categorial one): "What does he repair?" – "He repairs *his car*".

[5]) Besides the verb *meet*, other verbs, such as *find, lose*, belong to this category; cf. also the definitions of their meanings in dictionaries (e.g.: to happen on; to come upon; to become unable to find).

shows that the whole phrase *met Mary* should be considered a complex 'event', to which the left member of the SSP (or: the left participant, corresponding to the N^1 or 'Subject' of the GSP) stands in the relation of a 'bearer' of the event.[6]) The global semantic character of the phrase *met Mary* (*lost his hat*, etc.) is revealed by the fact that in the underlying GSP $N^1 \rightarrow VF \rightarrow N^2$ the item N^2 may not be omitted in any case (in contradistinction to those types with the verbs of 'action' in which this item may be omitted; cf.: 'He writes (a letter)', with a modified underlying GSP $N^1 \rightarrow VF \rightarrow (N^2)$). On the other hand, this kind of 'event', the 'complex event', has to be distinguished from such instances as *He fell* (based on a different GSP, viz. $N \rightarrow VF$), with a 'simple event'. In both instances the event is of a process-type, but while in the first case the process is directed to a goal, in the second case is it not. Thus (7) is based on SSP 'bearer–complex event (process–object)'.

(8′) 'What is John's attitude to music?' Here the question is related to VF only, and the verb belongs into the category of expressions of 'attitude'; the two participants are then the 'bearer' of attitude and the 'object' of it.

(9′) 'How was John in comparison with (in relation to) the other players?' In this case,[7]) the finite verb states the comparative relation (proportion) between items with respect to size, extent, amount, value, degree, intensity, etc. (these respects can be expressed by means of the prepositional phrase 'in ...'); other verbs of this class are *exceed*, *surpass*, *equal*, ... The participants of this 'comparative relation' could be labeled (if necessary) 'comparand' and ('comparative) background', respectively.

[6]) Labels such as 'bearer', 'event', etc. are not to be taken as explanations of the respective notions; they are rather a mnemonic aid. The relevant fact is the ascertainment of the semantic category of VF: the character of the left and right participant is determined by it.

[7]) This question seems rather artificial. A more natural question would be perhaps "How did John perform?"; but this question relates to the whole "predicate complex" VF → N^2, i.e., to the phrase "excelled the other players" and does not characterize the semantic class of the VF (cf. other possible answers to the same question: "He was excellent", "He surprised us", ..., belonging to very different SSPs). So we may say that when wishing to evaluate an activity, event or thing, we have at our disposal sentences of different semantic types. The evaluative character of such sentences does not, however, belong to the semantic structure of the sentence, but it pertains to the utterance stratum of the linguistic system.

Let us now return to the sentences (1)–(6). We have already stated that they contain verbs with the semantic feature 'action'; with respect to the fact that all of them are 'transitive' verbs (i.e., are applicable in the GSP $N^1 \rightarrow VF \rightarrow N^2$ as possible 'fillers' of its functional position $\rightarrow VF \rightarrow$), the feature should be qualified as 'goal-directed action'. Now we must try to find out other questions or some other diagnostic means that could specify semantic character of the two participants of the action.

As for the sentences (1), (2), such questions might be: (1′) 'What did the farmer do with the duckling?', (2′) 'What does he do with his car?' This type of questions reveals that the right-hand participant of such a goal-directed action is an object that is, in some way, touched or affected by it (cf. the traditional term 'verba afficiendi'); let us call it 'patient', while the left-hand participant could be labeled 'actor'.

Such questions cannot be applied to (3)–(6). But in contradistinction to (5), (6) as well as to (1), (2), in the case of (3), (4) the particular verbs may be substituted not only by the most general categorial verb *do*, but also by a less general verb *make* (*originate*; the so-called 'verba efficiendi'); the left-hand participant, the actor, might be asked 'Who is the originator of ...?' ('From whom does ... originate?'). Consequently, let us call the right-hand participant 'result', and its left-hand counterpart 'actor/originator' (the label 'originator' reflects its direct relation to 'result', while 'actor' is relating to 'action' and only through it to 'result').[8])

In sentences (5)–(6) the verb expresses a kind of engagement and the right-hand participant specifies it only by pointing out one sphere, type, instance, etc. from the possible scope of that kind of engagement.[9]) (Mostly there is only a rather limited number of these spheres, instances, etc. in the scope of a given verb.) There is a semantic affinity between the verb and the set of nouns that can become its possible right-hand participants ('objects'); cf., e.g.: *play*

[8]) The qualifying term 'originator' might seem unnecessary; but its relevance appears in such cases, as in the nominal phrase of the type *Turner's picture*, where *Turner's* has the meaning of 'originator', but not of 'actor'. In other words, the semantic basis of the 'nominalization' of the type *Turner painted this picture* → *Turner's picture* may be described as 'actor/originator – action – result' → 'originator – result'.

[9]) Cf. Halliday's term *range* (o.c., 58).

'to take part in a *game*'; *tennis* 'a *game played* outdoors ...'. Most obviously is this fact revealed in the so-called 'inner object' or 'figura etymologica' (e.g., *He sang a song*), representing the extreme case of this semantic affinity.[10]) Such sets of nouns may be, as a rule, summerized by means of categorial (generic) nouns; thus *tennis, baseball, ..., poker ...* are all nouns of different *games*. (Cf. questions of the type 'What (sort of) game do you play?', 'What branch (discipline) do you study?') Let us call, therefore, the meaning of the right-hand participant in this type 'specification'.

It is evident that this type finds itself on the periphery in respect to the other, more central types of sentences, with verbs expressing goal-directed action ((1)–(4) and others). Thus it does not surprise that there exist even some marginal, transitional cases,[11]) such as *He lived a useful life:* a sentence based on the GSP $N \rightarrow VF$ (*He lived usefully*), with an intransitive verb, is formally remodelled on the basis of GSP $N^1 \rightarrow VF \rightarrow N^2$, with the same verb, converted thus into a transitive one. From the viewpoint of cognitive content,[12]) there is no relevant difference between *He lived usefully* and *He lived a useful life*. Nevertheless, from the viewpoint of the language-specific semantic structure, there is a difference between the two sentences, as the grammatical structure (GSP), being the very linguistic means of expression, necessarily has a back-effect on the presentation (interpretation) of the communicated cognitive content. But owing to the semantic identity of the verb *to live* and the noun *life*, the said back-effect of the GSP is a seeming one only, and its real effect is merely a stylistic one. This 'figura etymologica' proper differs from such cases as *He sang a song*, because the actor could sing also an air, a hymn, a ballad, a carol etc.[13])

[10]) This semantic affinity should be distinguished from the nonlinguistic, factual affinity between the denotation of any verb and its object (e.g.: killed (in a nonmetaphorical sense) may be only a living being, repaired only something that can become broken, damaged, be out of order, etc.).

[11]) Cf. F. Daneš "The relation of centre and periphery as a language universal", *Travaux linguistiques de Prague* 2 (1966), 9–22, and the articles by J. Neustupný, J. Vachek and others in the same volume.

[12]) The need for differentiating between the universal cognitive content of an expression, and the language-specific meaning of it, has been pointed out by the present author and by M. Dokulil. Cf.: F. Daneš "A three-level approach to syntax". M. Dokulil "Zum wechselseitigen Verhältnis zwischen Wortbildung und Syntax", *TLP* 1, 1964, 215–224. F. Daneš, "Semantic considerations in syntax".

In other words, in sentences of the type (5), (6) the semantic affinity between the VF and the set of nouns that may be filled in the functional position N^2 shows different degrees, a whole scale of cognateness.

We have just touched the problem of the distinction between the level of cognitive (gnoseological-logical) content and the level of linguistic meaning. This point is worth one's while. As I have explained elsewhere, this distinction is of principal significance and reveals itself clearly in the contrastive comparison of different languages. The so-called constant of translation (as well as the constant of paraphrases), sometimes refered to as logical 'proposition', may not, in principle, be identified with the language-specific semantic structure of sentence (i.e., with linguistic meaning). This assumption does not contradict the fact that in some (or, may be, many) cases this distinction remains unrevealed, as the parallel structures, viz. the 'cognitive' and linguistic ones, incidentally coincide.

I will try to demonstrate the said different levels on the following pair of English sentences: (a) *John likes music*, (b) *Music pleases John*. We have already described the SSP of (a) as 'bearer of attitude–attitude–object of attitude'. In the above-quoted paper, J. F. Staal (following Lyons) calls the verbs *like* and *please* 'converse terms' and considers (a) and (b) paraphrases of each other. Surely, it may be maintained that they have an identic cognitive content (represent one and the same proposition) and that both of them can refer (when uttered) to an identic event. But the linguistic presentation of these facts by means of the sentence (a) and of the sentence (b) is clearly different and cannot be described simply by reverting the order of the semantic items in the underlying SSP only. In fact, the SSP of (b) is of a quite different type: 'music' is presented here as the 'source (cause)' of John's pleasure, 'John' as the 'recipient of effection' and 'pleases' ('to cause, to give pleasure to') means the 'effecting'. The respective questions show this difference quite obviously: While (a) can be asked 'What is John's attitude to music?', the sentence (b) prompts the question 'How does music effect John?'

[13]) Cf. M. A. K. Halliday, o.c., p. 59.

The elements of cognitive content as well as those of linguistic meaning are conceptual generalizations on different levels of abstraction. The former go beyond the linguistic forms and are of universal character, whereas the latter represent such generalizations that are relevant in respect to the forms of a given language. (More precisely: of a given *natural* language, as even the cognitive elements must be expressed by means of a language, if they have to be treated scientifically; but as far as I know, the language of gnoseology and logic is mostly also a natural language, or, if an artificial, formal language, it is based on a natural language, though often unconsciously.)

At the same time I am fully aware of the fact that even the linguistically relevant semantic generalizations may be obtained on several different levels of abstraction. Our conception of SSP does not regard SSP as the highest possible degree of semantic abstraction on the sentence stratum. Thus, e.g., all sentences displaying the semantic feature 'action' constitute a more general semantic class of sentences, comprising several classes of lower hierarchy, based on different (though cognate) SSPs; an even more general category would be the semantic class of processual sentences. Etc.

But such a merely semantic classification would be a one-sided one: the aim of linguistic investigation is to ascertain categories based on the form-meaning relation, on the interdependence of these two aspects. It follows only from the technique of the presentation of our analysis that we are always shifting from form to meaning, and the other way round. In principle, one must agree with K. L. Pike when saying: 'In our view ... we reject both the start from meaning and the start from pure form, by insisting on treating language as form-meaning composite, and by insisting on the necessity of working with both of them from the beginning, and of keeping both of them in our definitions. We grant Bloomfield's second protest, that meanings cannot be known exactly, but deny his conclusion (that, since meanings cannot be known exactly, they cannot be utilized in definitions of sentence types).' (*Language in relation to a unified theory of the structure of human behavior*. The Hague 1967, p. 149).

The starting point of our present discussion has been a tentative and uncomplete analysis of the category of sentences based on one and the same GSP. It might be assumed that such category is of

formal grammatical character only, semantically heterogeneous (cf. our preceding analysis). Nevertheless, the already mentioned 'back-effect' of the grammatical form, revealing the principle of hierarchical superiority of the form in language (which does not contradict, but is a logical consequence of the fact, very aptly pointed out by Prof. Reichling, viz. that the function of grammatical means lies beyond grammar, in the domain of semantics, and not vice versa) is shown by an integrating effect of the shared grammatical form. Thus, e.g., since the center (core) of the set of sentences based on the GSP $N^1 \rightarrow VF \rightarrow N^2$ is occupied by sentences of the semantic class 'goal-directed action', the shared grammatical form (GSP) *simulates* the same semantic structure even with other, peripheral sentences based on this GSP, but displaying a different semantic character. For example, in the sentence *The concert excelled our expectations* the underlying semantic relations are 'styled' as if 'the concert' were an 'actor' having performed 'an action', the goal of which was 'our expectations'.[14]) It is mainly the impossibility to formulate a question containing the categorial verb *do* (attesting the semantic character of 'action') that leads us to the assumption that sentences of this type have a different underlying semantic structure, based on the relational meaning of the verb. (If the terms 'surface structure' and 'deep structure' had not been employed already with a different sense, I would not hesitate to use them just for labelling the 'simulated SSP' and 'underlying SSP'.)

This purely synchronistic analysis could be backed by a diachronistic one as well. But I have to content myself here with one

[14]) Probably Pike is referring to a similar fact, when he explains the difference between the tagmatic and tagmemic slot (o.c., p. 220): "Two tagmatic slots may be assumed to constitute the same tagmemic slot if they differ only in the functional relation between these slots and, respectively, the neighboring slots in the utterances in which they occur, provided that this functional difference seems to be noncontrastive in the language, and is rather conditioned by the particular lexical elements filling these slots. Thus, for example, the relation of *fire* to *burns* in *Fire burns* is a bit different from the relation of *man* to *sings* in *Man sings* (since fire cannot voluntarily perform its action, etc.), but this difference is not emic; the tagmemic slot filled by *fire* is the same tagmemic slot as is filled by *man*; the language treats *fire* "as if" it were an actor, precisely by constituting it a member of the same morphemic class as *man*, filling the same tagmemic, and manifesting the same slot tagmeme in the same utterance." Cf. also B. Havránek, *Genera verbi I*, Praha 1928, 10.

elucidating quotation only. In his article 'Das Wesen der Morphologie und der Syntax,'[15] V. Skalička tries to explain the said facts in terms of what he calls 'Anthropozentrismus der Syntax'. He says: 'Verhältnisse der Satzteile sind sehr mannigfaltig. Man kann natürlich nicht alle Verschiedenheiten dieser Verhältnisse ausdrücken und deswegen begnügt man auch mit einigen Schemen. Und diese Schemen der Syntax sind n.E. anthropozentrisch. Am wichtigsten ist hier das Aktionsprinzip, d.h. eine Verbindung eines Agens ('Subject'), einer Aktion ('Prädikat'), bzw. noch eines Patiens ('Objekt'), eines zweiten Patiens ('das zweite Objekt') und der Umständen ('Adverbiale des Platzes, der Zeit' usw.). Dieses Schema passt ausgezeichnet auf Sätze, die eine menschliche Handlung anzeigen. Sie wird aber auch in anderen Sätzen angewendet: *Die Erscheinung kommt hier vor* ... Für solche Sätze wäre ein anderes Schema wünschenswert ... Es ist aber bequemer, solche Sätze dem allgemeinen Aktionsschema anzupassen'.

Generally speaking, since there is no biunique correlation between the set of GSPs and that of SSPs in a given language, it would be possible to constitute not only sets of sentences based on one and the same GSP (and to break them down in subsets based on different SSPs), but also sets of sentences based on an identic SSP (and to break them down in subsets based on different GSPs). Schematically: let $A, B, C, \ldots$ be the particular GSPs, and $a, b, c, \ldots$ the particular SSPs in a given language. Then $A/(a,c,d,g)$, $B/(a,b)$, ... would be the sets of the formal, grammatical type (and A/a, A/c, A/d; ..., B/a, B/b; ... their subsets), and $a/(A,B)$, ..., $b/(B,F)$ ... the sets of the semantic type (and a/A, a/B, ...; b/B, ... their subsets). Since, what is relevant in the subsets of both categories is the combination of a GSP with a SSP, it is evident, that $A/a = a/A$, $B/a = a/B$, ... (If A' and a' are classes of sentences based on A and a', respectively, then both A/a and a/A represent the conjunct (common class) of A and a.) Let us call such combinations *complex sentence patterns* (CSP). Such CSPs would be, e.g.:

$N^1 \rightarrow VF \rightarrow N^2$ / *Bearer–Complex event*
$N^1 \rightarrow VF \rightarrow N^2$ / *Actor–Action–Patiens*

They characterize types of the grammatico-semantic structure of sentences.

[15] *Slavica Pragensia* IV, 1962, 123–127.

The formulas $A/(a,c,d,g)$, $B/(a,b)$ represent sets of sentences based on one and the same GSP, while $a/(A,B)$, $b/(B,F)$ those based on an identic SSP. One would be inclined to claim that the formulas of the type $A/(a,c,d,g)$ ascertain the *polysemy* of a GSP, whereas the formulas of the other type, i.e. $a/(A,B)$, ascertain the relation of *synonymy* between GSPs. Still, due to the hierarchical dominance of the grammatical form, the relation of synonymy holds good on the level only of cognitive content, but not on the level of linguistic meaning. One has to agree with E. M. Uhlenbeck, who disagrees with Katz's and Fodor's opinion that the sentences (1) *The dog bit the man* and (2) *The man was bitten by the dog* are linguistically synonymous, and maintains that 'in the two sentences the action is viewed in completely different ways' (o.c., p. 298, note 95). The two sentences are based on the following CSPs:

(1) $N^1 \rightarrow VF \rightarrow N^2$ / *Actor–Action–Patiens*
(2) $N^2 \rightarrow VF_{pass}\,[\rightarrow by\ N^1]$ / *Patiens–Action* [*–Actor*]

The semantic difference between them does not consist in the different order of the identic semantic elements in the SSP (this fact would probably be compatible with synonymy), but in the circumstance that these elements occupy different functional positions in the relational structure of the sentence (in the GSP and, consequently, in the CSP). By this I refer not only to the difference between (in Pike's terminology) 'patiens-as-object' and 'patiens-as-subject', but also to the fact that in the case of the passive form, the position *by* N^1/*actor* is not an obligatory, but an optional element only; it does not belong to the GSP proper ($N^2 \rightarrow VF_{pass}$), but it is introduced by an (optional) derivational rule. This means that 'actor' is relegated from the sentence pattern proper, it is 'backgrounded' (to use Weinreich's term) and becomes a peripheral element, and only the action with its goal (patiens) remains in the foreground. [It might be objected that even in the case of the active GSP $N^1 \rightarrow VF \rightarrow N^2$, the item N^2 could be unrealized in some instances (see p. 58). But it it necessary to differentiate between an occasional omission of a constitutive item, and an optional supplementing of a nonconstitutive one: while in the case of $N^1 \rightarrow VF \rightarrow (N^2)$ the potential presence of N^2 is the distinctive systemic feature of the opposition between this GSP and another GSP $N^1 \rightarrow VF$ (*The soldiers marched*), in the case of $N^2 \rightarrow VF_{pass}\,[\rightarrow by\ N^1]$ the presence or absence of *by*

N^1 is for the systemic position of this GSP irrelevant (it is a non-distinctive, redundant feature).]

It may be that in languages like English, where the contrast between the two functional positions ('Subject' and 'Object') is expressed by means of the word order, the difference between 'patiens-as-object' and 'patiens-as-subject' is not so clear, for the order of elements is an elementary linguistic means, lacking the character of a bilateral sign. But in other languages, e.g., Slavic, the said contrast will be expressed by means of morphological devices, i.e. by means of the inflexional forms of the noun (cases). The noun filling the 'patiens-as-object' position will have the form of the Accusative case, while the noun in the role of 'patiens-as-subject' will assume the form of the Nominative case. (The word-order is 'free', irrelevant, in this respect, and therefore employable in other linguistic functions.) Thus the Czech equivalents of the English active-passive pair of sentences, viz. (a) *Pes pokousal muže*, (b) *Muž byl pokousán psem* (with their word-order variants) are based on the following GSPs:

(a) $VF \swarrow N^1_{nom}$, $VF \searrow N^2_{acc}$ (b) $VF \nearrow N^1_{[instr]}$, $VF \nwarrow N^2_{nom}$

Now, the morphological devices, such as cases, are nonelementary linguistic means, i.e., means having the sign-character, displaying their own 'morphological meanings'.[16]) According to R. Jakobson (o.c., p. 247 ff.), the general meaning ('Gesamtbedeutung') of the

[16]) This conception, following some ideas of the older grammarians (such as C. Uhlenbeck, F. Fortunatov, A. Peškovskij), has been elaborated by the European structuralists of different schools. Cf., at least: R. Jakobson "Beitrag zur allgemeinen Kasuslehre", *TCLP* VI, 1936, 240–288. S. Karcevskij, *Système du verbe russe*, Prague 1927. (This Prague School tradition has been developed by a number of Czech and Slovak scholars: Skalička, Pauliny, Isačenko, Dokulil, Hausenblas, Miko, Mareš, Oravec, etc.). – L. Hjelmslev, *La catégorie des cas*, Aarhus 1935. J. Kuryłowicz, "Le problème du classement des cas", *Biuletyn Polskiego towarzystwa językoznawczego* II, 1949. A. W. de Groot, "Classification of Cases and Uses of Cases", *For Roman Jakobson*, The Hague 1956, 186–194.

Acc. may be characterized by the feature 'relatedness' ('Bezug') (i.e., the Acc. indicates that the thing meant is related to an action, that it is an object which the action is directed at ('Bezugsgegenstand')), whereas the Nom., as the unmarked member of the correlation of relatedness ('Bezugskorrelation'), indicates neither presence, nor absence of this feature. The general meaning of the Instrumental case (corresponding, in our Czech example, to the phrase *by N* in its English equivalent), Jakobson characterizes with the features 'marginal' and 'unmarked' (which is in agreement with our previous statement of the 'backgrounding').[17]) The unmarked character of the Nom. allows its employment for expressing both the actor (in active constructions) and the patient (in passive constructions): which of these two possible syntactic meanings should be assigned to the noun in Nom. is signalled by the voice of the finite verb (the morphological category of voice occurs, necessarily, also in English); the passive form of a transitive verb degrades the actor to a peripheral element and makes the patiens (which in the active construction belongs to the center of the sentence (to GSP proper), but in the hierarchy of the functional positions in the GSP keeps a dependent status) the dominant element of the sentence.[18])

Thus we may conclude that the semantic structure of the sentence is not a mere combination of particular syntactic meanings (accomplished by means of the relational structure of the GSP): it displays a *hierarchical order*. The hierarchy has two parameters: (1) some semantic items belong to the center of the sentence (i.e., those, corresponding to the functional positions of the respective GSP), others are peripheral (those occurring in a derivation of the GSP only); (2) the central semantic elements are differentiated according to their position in the network of syntactic (grammatical) dependencies.

[17]) Jakobson's statements are based on Russian linguistic material; but the said oppositions between cases are generally valid even for Czech. Of course, there are languages with different systems of case oppositions.

[18]) Cf. R. Jakobson's statement: 'Husserl analysiert in zweitem Bande der Logischen Untersuchungen ... derartige Satzpaare wie „a ist grösser als b" und „b ist kleiner als a" und stellt fest, dass die beiden Sätze zwar dieselbe Sachlage ausdrücken, aber nach ihrem Bedeutungsgehalt verschieden sind (48). Sie unterscheiden sich durch die Hierarchie der Bedeutung.' ("Beitrag zur allgemeinen Kasuslehre', 251). Cf. also Apresjan's distinction between the denotative, the significative, and the syntactic meaning.

It is obvious that in languages with a fullfledged morphological stratum, the semantic distinction between an active and passive construction is more conspicuous, due to the fact that the units of the sentence stratum employ and incorporate several bilateral units of the morphological stratum.[19])

A final remark

The hierarchy of syntactic meanings, revealed in the structure of GSP, should not be identified with the so-called 'functional perspective of utterance', i.e. with the Theme–Rheme (or Topic-Comment) bipartition of utterance.[20]) 'Theme' and 'Rheme' are two communicative functions, assigned to different portions of the sentence when it is used, in the capacity of an utterance, in a particular act of communication. The 'static' semantic structure of the sentence and the 'dynamic' T–R bipartition of an utterance belong to two different strata of the over-all linguistic system (i.e., to the stratum of sentence, and to that of utterance, respectively).[21])

Let us illustrate this fact by an example. The fact that two states, France and Switzerland, have a part of their borders in common, may be expressed by means of two different sentences: (1) *France borders on Switzerland*, (2) *Switzerland borders on France*. The two sentences convey an identic cognitive content[22]) (Husserl's 'Sachlage') and are based on one and the same CSP, filled with the same set of

[19]) Cf. the functionalist conception of the hierarchical stratal system of language in F. Daneš, "O pojmu jazykový prostředek" [On the notion "linguistic means"], *SaS* 28, 1967, 341–349; cf. also F. Daneš and K. Hausenblas "Problematika urovnej s točki zrenija teksta i sistemy jazyka", in the *Proceedings of the Conference on the problems of linguistic strata*, Moscow 1967 (in print).

[20]) The concept of the "functional sentence perspective" sketched here very roughly and in a simplified way, was elaborated by the late Prof. V. Mathesius some decades ago and has been further developed by some Czech and other linguists on the material of different languages. Cf., e.g., J. Firbas "On defining the Theme in functional sentence analysis", *TLP* 1, Prague 1964, 267–280. – Cf. also the second part of Halliday's article, quoted above; his conception of the "Theme" does not seem to be fundamentally different from Mathesius' ideas.

[21]) Cf. F. Daneš, "Order of elements and sentence intonation". *To Honor Roman Jakobson*, The Hague 1967, 499–512.

[22]) This fact is due to the semantic feature of reciprocity, contained in the verb *to border* (and in others of this class).

lexical items in both cases; but they differ in the functional positions occupied in them by the items *France* and *Switzerland*. Thus in (1) the dominant position is filled with the item *France*, while in (2) with *Switzerland*. The Czech equivalents of (1) and (2) are: (1) *Francie hraničí se Švýcarskem*, (2) *Švýcarsko hraničí s Francií*. – Now, the two sentences may be used, in the capacity of an utterance, in two different types of context and situation:

(a) If we are speaking about France and specifying its neighbours (i.e., if 'France' is the Theme (Topic) of our utterance), then we shall use the sentence (1), in both languages.

(b) If we are speaking about Switzerland and specifying its neighbors (i.e., if 'Switzerland' is the Theme of the utterance), then we shall use the sentence (2) in both languages. In these cases, the semantic sentence structure and the 'functional perspective of utterance' (T–R bipartition) roughly coincide. We might even say that the functional needs of the level of utterance (i.e. the need to make 'France' the Theme of an utterance) are satisfied by the choice of a sentence with a convenient sentence structure (CSP).

But in languages like Czech, there is still another possibility to meet the needs of the utterance perspective: in the situation (a) we may use the form (2') *S Francií hraničí Švýcarsko*, i.e., the sentence (2) with inverted word-order. In this case it is obvious that the hierarchy of the sentence structure ('Švýcarsko' as the dominant element) and the utterance perspective ('France' as the Theme) do not coincide. The discrepancy of the two structures reveals itself in the marked (non-neutral) character of the form (2'). An analogous possibility occurs in the situation (b), where the form (1') *Se Švýcarskem sousedí Francie* is available. In other words, in Czech the two linguistic strata (i.e., the sentence stratum, and the utterance stratum) display a high degree of autonomy, due to the fact that the order of elements, as an elementary linguistic means, has a relatively very low functional load on the sentence stratum, so that it may be employed as the means on the utterance stratum.

Author's address: Velvarská 53, Praha 6, Czechoslovakia