

# **SYNTAX–SEMANTICS INTERFACE**

**EVA HAJIČOVÁ**

KAROLINUM

## Syntax-Semantics Interface

Eva Hajičová

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*To my teachers, who have shaped my way to understanding language structure.  
And to my past and present colleagues from ÚFAL, who have friendly accompanied  
me and supported me on this way.*



## FOREWORD

The present volume is a selected collection of papers published during my professional career. The theoretical framework I subscribe to is the Functional Generative Description (FGD) as proposed by Petr Sgall in the early sixties and developed further by him and his pupils since then. This framework was conceived of as an alternative to the original Chomskyan transformational generative grammar and in a way can be characterized as an predecessor of those alternative frameworks that take into account semantics and start the generative process from that level. The FGD is deeply rooted in the structural and functional tenets of the Prague School Linguistics in its conception of language description proceeding from function to form, which is reflected in a multilevel design of the framework, in a duly respect paid to the communicative function of language and in the recognition of the distinction between (linguistic) meaning and (extralinguistic) content.

Thematically, the present volume covers issues ranging from the verb-argument structure of the sentence and its information structure through the capturing of the underlying structure in an annotated corpus to issue going beyond the sentence structure, adding finally some contributions comparing the point of departure of the treatment proposed in our papers with other approaches. In a way, the structure of the volume (except for the last Part) follows the development of my research interests in time: starting, in the late sixties and early seventies, with the core of the underlying sentence structure (Part 1 of this volume) my attention was then focused on those aspects of language that are not covered by the underlying predicate-argument core but still belong to it as they are semantically relevant, namely the topic-focus articulation (information structure of the sentence) and related issues such as negation and presupposition (Part 2). The possibility to validate the consistence of the theoretical findings on large language material offered by the technical availability of large electronic (computerized) corpora of texts have quite naturally led to my participation at the process of the design of a scheme of corpus annotation which would cover the issues studied and thus serve as a good test-bed for the formulated theory (Part 3). The transition from these aspects to phenomena beyond the sentence boundary was then quite natural (Part 4). Papers included in Part 5 compare our approach to the information

structure of the sentence with the treatments within some other linguistic theories such as Chomskyan transformational grammar, the so-called optimality theory and Mel'chuk's Meaning-Text model.

Each Part of the volume is accompanied by a Foreword briefly outlining the main issues under discussion and putting them into the overall context of investigations.

In the present volume, only papers where I was the only author are included, with the exception of two papers in the Appendix. One of them, co-authored by Jarmila Panevová, documents the very start of the use of "machines" in linguistic analysis, the core of the other one, co-authored by Petr Sgall, lies in the formulation of the formal background of the theoretical framework of FGD.

In order to make each selected paper a self-contained whole and to make it possible for the reader to follow the original argumentation, I could not avoid a reduplication of the general introductions or summarizations of the starting points in two or more papers. If I have decided to leave out a part of the text, I mark the deletions by brackets [...] and in some cases, I add a note indicating what is left out. In principle, however, the texts are left as they were in their original form, only evident misprints have been corrected.

A major adaptation concerns bibliographical references. In the original versions of the papers included in this volume, different ways of bibliographical reference were used: some were included in the texts themselves, some in the footnotes, in some of them there were separate lists of references at the end of the paper. I have decided to collect the references in a single list of Bibliography, which has allowed me to unify the references throughout the volume in the way described in the introductory note attached to the Bibliography.

My most sincere thanks go to Anna Kotěšovcová for her devoted and time-consuming technical work connected with the preparation of the electronic versions of the papers, which in case of earlier contributions involved laborious scanning and transmission to an electronic form. I am also most grateful to Barbora Hladká, who has helped me by the formatting of the Bibliography, by carrying out the visualizations in Part 4 of the volume and also by commenting upon the Introductory sections.

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The studies included in this volume are reprinted from the following original sources:

### 1. UNDERLYING SYNTACTIC STRUCTURE

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### 2. TOPIC-FOCUS ARTICULATION AND RELATED ISSUES

- E. Hajičová (2012). "Vilém Mathesius and Functional Sentence Perspective and Beyond." In *A Centenary of English Studies at Charles University: From Mathesius to Present-Day Linguistics*, edited by M. Malá and P. Šaldová, 1–10. Prague: Filozofická fakulta UK v Praze.  
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### 3. THEORETICAL DESCRIPTION REFLECTED IN CORPUS ANNOTATION

- E. Hajičová (2002). "Theoretical Description of Language as a Basis of Corpus Annotation: The Case of Prague Dependency Treebank." In *Travaux de Cercle Linguistique de Prague, N.S. 4*, 111–127. Amsterdam: John Benjamins.
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### APPENDIX: A GLIMPSE BACK AT HISTORICAL SOURCES

- Eva Hajičová, and Jarmila Panevová (1968). "Some Experience with the Use of Punched-Card Machines for Linguistic Analysis." In *Les machines dans la linguistique. Colloque international sur la mécanisation et l'automatisation des recherches linguistiques (Prague, June 7–10, 1966)*, 109–115. Prague: Academia.
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# **1. UNDERLYING SYNTACTIC STRUCTURE**

## FOREWORD

The theoretical framework of the Functional Generative Description (FGD) we subscribe to is based on dependency syntax both at the deep, underlying layer (called tectogrammatical) and on the surface syntactic layer. Thus the issues of valency are of crucial importance for the formulation of this framework and the introduction of “case grammar” by Charles Fillmore was a stimulus for a detailed comparison of the tenets of the FGD with Fillmorean approach. Within FGD, the attention to the issues of valency, esp. with regard to Czech syntax, was paid especially by Jarmila Panevová (see her papers 1974, 1978 quoted in Bibliography and the monograph by the same author from 1980, her 1976 joint paper with Petr Sgall and our joint paper from 1984 comparing valency frames as postulated by the FGD theory of a selected set of Czech and English verbs). J. Panevová also studied in detail the distinction between actants (arguments) and free modifications (adjuncts) and formulated a so-called dialogue test for the determination of semantic obligatoriness of the given type of valency slot. Our own concerns were some specific aspects of Fillmorean approach, namely his specification of the first argument discussed in our 1979 study *Agentive or Actor-Bearer?*; this issue is closely related to the necessity or redundancy of the introduction of a specific formal device of “crossed brackets” (see Hajičová 1981, not included in this volume). In a more general vein, we examined the issue of the status of Fillmorean cases in the overall description of language: distinguishing the layer of linguistic meaning and a layer of cognitive content, and in line with Petr Sgall’s (1980) paper, we argue in *Remarks on the Meaning of Cases* (1983) that a distinction is to be made between the formal means such as morphological case and prepositions in prepositional groups, the valency slots in terms of linguistic meaning and the ontological categories. We come back to the study of valency slots with regard to their ordering in the underlying structure in the study of information structure, included in Part 2 of this volume.

## AGENTIVE OR ACTOR/BEARER?

The plausibility of the hypotheses is examined whether a single tectogrammatical (deep structure) participant can be postulated, which would be regarded as the primary meaning of the surface subject. If operational criteria concerning possible combinations of syntactic units are used and the tectogrammatical representation is conceived of as differing from the surface structure only in case of clearly substantiated distinctions, then the hypothesis obtains strong support. It appears useful to assign all verbs having a single participant slot in their case frame only a single type of participant (cf. Tesnière's "first actant") on the level of language meaning. The difference between such units as Agentive, Experiencer Theme, Locative (if rendered by surface subject) belongs then to a layer of organization of factual knowledge ("scenarios") rather than to the language structure. Such a treatment allows for a more simple and economic formal description, avoiding the necessity of such devices as crossed and embedded brackets.

1. One of the most important issues in the description of the semantic structure of the sentence is that of the "frames" of the verb, i.e. the classification of the types of participants of the verbs and criteria of such a classification. In the framework of generative description, the pioneering investigations of Fillmore are based on and develop the European theories of the functions of cases and sentence parts (subject, direct and indirect object, adverbials). In his latest paper on this topic, Fillmore (1977) clearly distinguishes between the deep structure level and that of cognitive content and makes a distinction between units belonging to the former and those belonging to the latter level (cf. the discussion of this distinction in Sgall, *in press*, who in this connection proposes to use the terms "participant" for the level of deep structure, tectogrammatical or linguistic meaning, and "role" for the domain of cognitive content or factual knowledge).

In the framework of functional generative description<sup>1</sup>, to which we subscribe, the problems of deep structure (tectogrammatical representation) as belonging to the do-

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1 For the first formulations of the functional generative description, see Sgall (1964); the latest version (the mathematical formulation of which can be found in Hajičová, Koubek and Sgall, 1977) is applied for Czech (with respect to topic/focus articulation) in Sgall, Hajičová and Buráňová (in print).

main of linguistic meaning were discussed in Sgall, Procházka and Hajičová (1977); in that framework, the “case” frames were analyzed in detail by Panevová (1977a; 1977b; Panevová and Sgall, 1976) who has formulated also an operational criterion distinguishing between semantically obligatory and optional participants.

If we understand well, both approaches coincide in the point that deep subject (actor, the “first actant of Tesnière) may be considered to underlie the syntactic subject in the primary case – with some secondary deviations that should be specified. Our objective in the present paper will be to examine on a sample of English verbs the plausibility of a hypothesis that a single (deep structure, tectogrammatical) participant “actor/bearer” can be postulated, rendering the primary function of the syntactic subject; in the sequel, we do not use this well established term actor/bearer only because it is a two-word combination and we use instead the term “Actor” even though we are aware of the possible misunderstanding following from the fact that the term itself may imply a much narrower case relation. The distinction between the functions of participants identified by the actor/bearer is considered here not to belong to the linguistically structured meaning; it can be often regarded as determined by the specific (lexical) meanings of the given verb form.<sup>2</sup> These distinctions belong to a layer of organization of factual knowledge (“scenarios”) rather than to the language structure. Our arguments corroborate the view that such a treatment leads to a more simple and economic description, avoiding the necessity of such notational devices as crossed and embedded brackets of Fillmore’s case grammar.

2. Semantic considerations such as that concerning the identification of the case markers of the subject phrase in (2) with the object phrase in (1) (in both sentences “there is a semantically relevant relation between the door and open that is the same in the two sentences,” Fillmore, 1966, p. 363) led Fillmore to distinguish different case relations of the subject NP’s in such examples as the following:

- (1) The janitor will open the door. (Agentive)
- (2) The door will open. (Objective)
- (3) The key will open the door. (Instrument)
- (4) The smoke rose. (Objective)
- (5) The mist ascends from the valley. (Objective)
- (6) I know him. (Dative)
- (7) Howard died. (Dative)
- (8) Fire killed the rats. (Instrument)
- (9) The wind broke the window. (Instrument)
- (10) John broke the window. (Agentive)
- (11) The window broke. (Objective)

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2 As for a similar hypothesis stated for the NP’s in the object position (with such examples as *build a table, ruin a table, see a table, sing a song*) see Sgall (1972a), esp. p. 204, our use of “NP” in the sequel covers also the prepositional phrases (the preposition being considered a mere surface phenomenon).

However sound a base of such a differentiation may be, the specification of the cases as found in Fillmore's studies differs from one writing to another and does not offer more than rather vague characterizations in terms of semantic (cognitive) notions. In addition, to be able to provide for a (single) case frame of such verbs as *break*, *crack*, *fold*, *bend*, Fillmore has to propose a feature of "conditional obligatoriness" (represented in his notation by "embedded brackets"): the case frame postulated for this group of verbs is O (I(A)), which means that if Agentive is present in the deep structure of the given sentence, Instrument must be present, too. In (10) above, it is understood that John broke the window with something (even if with his own body, when he butted into it), while in (9) no Agentive is present at all. A still different device is necessary to account for such verbs as *kill* with the case frame O(I)(A), where the crossed brackets indicate that at least one of the two adjacent cases must be chosen to provide for the possibility of (8) as well as of *Mother killed the rats with fire* and for the impossibility of \**The rats killed* (as contrasted with the verb *wake up*, where besides *My daughter woke me up with an explosion* one can say both *An explosion woke me up* and *I woke up*; the suggested case frame for *wake up* is O(I)(A), with both Instrument and Agentive being optional). However elegant this proposal may seem, one is faced with serious obstacles when formulating explicit rules for the inclusion of such a treatment into some sort of generative grammar.<sup>3</sup>

Considerations of a similar kind underlie another, more or less simultaneously formulated treatment of semantic relations of the verbs and their participants, the system of the so-called thematic relations as proposed by Gruber (1965, 1967). Among several thematic relations, there is one that is present in every sentence, namely the Theme; again, no explicit criteria or definitions are given for the individual relations, which are specified by means of vague characterizations and often in different terms for different classes of verbs: thus Theme is specified as the NP understood as undergoing the motion with the verbs of motion, and as the NP whose location is being asserted with the verbs of location. The relation Agent is specified as attributing to the NP a will or volition toward the action expressed by the sentence (hence the Agent is always animate, as with Fillmore). Agent - if present - is generally the subject, but the subject can bear simultaneously also other thematic relations. (The thematic relations given in the brackets are those assigned to the subject NP's in the given sentences).

- (12) The rock rolled down the hill. (Theme)
- (13) John rolled down the hill. (Agent + Theme)
- (14) Max owns the book. (Location)
- (15) Max knows the answer. (Location)
- (16) Bill inherited a million. (Goal)
- (17) Charlie bought the lamp from Mary. (Agent + Goal)
- (18) Harry gave the book away. (Agent + Source)

3 For a discussion of these difficulties and of a possibility of a different approach, see Panevová (1977 b).

- (19) The rock stood in the corner. (Location)
- (20) The book belongs to Herman. (Location)
- (21) The dot is contained in the circle. (Theme)

Once again, as with Fillmore's case frames, several questions suggest themselves: if the difference in the assignment of thematic relations to the subject NP's in (12) and (13) is given only by the fact that John is animate while the rock is not, why to postulate a different thematic relation assignment rather than to capture this fact by a difference in the semantic features of the NP? Is there any reason other than the cognitive distinction between rolling down under one's own volition and rolling down not being aware of one's motion (e.g. when asleep) to distinguish these two "meanings" of (13) by means of assignment of both the Agent and the Theme relation to John for the former and only the relation of Theme for the latter reading (as done by Jackendoff, 1972, p. 34 following Gruber)?<sup>4</sup> If one is to assume that in every sentence there is one NP which bears the relation of Theme to the verb, which NP's bear this relation in (19) and (20)? If one assigns the NP *in the circle* the relation of Location (saying that the preposition *in* is an unmistakable mark of a Location phrase) in (21) – and, by way of analogy, also the NP *circle* in *The circle contains the dot* is considered to be a Location – are there two Locations in (19)? And compare *It was raining in Prague* (Location without Theme, or Theme and Location both represented by the *in*-phrase?) with *There was a thunderstorm in Prague* (where the *in*-phrase scarcely could be assigned another relation), and *Last Sunday it rained* (with Time and Theme combined?) with *Last Sunday it rained in Prague* (Time and Location, of course – but what criterion tells us which of them is combined with Theme?).

The list of such Objections probably would increase if further verbs were taken into consideration; there seems to be no reason to doubt that many of the distinctions regarded as different thematic relations are due to the specific lexical content of the given verbs not directly grammatically relevant, while others can be treated as well by means of a reference to the semantic features of the respective NP's.

Fillmore and Gruber meet in several respects with Halliday's treatment of participant roles. Halliday's (1967–8) distinction between three participant roles (actor, initiator and goal) and three functions of subject (labelled ergative, nominative, accusative) determined by the transitivity systems can be illustrated on the following examples:

- (22) She washed the clothes. (actor + initiator; ergative)
- (23) He marched the prisoners. (initiator; ergative)
- (24) The prisoners marched. (initiator + actor; nominative)

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4 And what about a situation, when a speaker comments upon a state of affairs looking at a child rolling down a hill, saying "He is rolling down the hill"? Does the speaker know, which type of participant he used in the sentence he uttered? Cf. also the objection Poldauf (1970, p. 120) has against distinguishing *John (intentionally) broke the window* and *John (falling from the roof) broke the window*.

- (25) The prisoners were marched. (actor; accusative)  
 (26) She washed herself. (actor + goal + initiator; nominative)  
 (27) (a) The clothes were washed. (goal; accusative)  
 (b) The clothes washed (easily).

As Poldauf (1970, p. 123) duly remarks, some of Halliday's distinctions are due to a certain "over-semantization" (e.g. the introduction of two participants – actor and initiator – in place of one in (22) and (24)), or based on the interpretation of the verbal idea (*he* in (23) is regarded as an initiator, because it was the prisoners who were the actors of marching, while in (24) *the prisoners* is both the actor and the initiator).

A "more abstract" view of cases is also the starting point of Anderson's (1971) compact study of the grammar of case in English. He opposes strongly against the attempts to characterize the subject – verb relation in terms like "actor action" and offers a great variety of case functions to be assigned to the subject NP's, according to the nature of their participation "in the "process" or "state" represented in the sentence" (p. 10):

- (28) The rose smells nice. (Ablative)  
 (29) He smells the rose. (Locative)  
 (30) Egbert left. (Nominative + Ablative)  
 (31) The statue stood on the square. (Nominative)  
 (32) Mary obtained the book from John. (Locative + Ergative)  
 (33) John moved. (Nominative + Ergative)  
 (34) John moved the couch. (Ergative)  
 (35) John is cold. (Nominative + Locative)

When two functions are assigned to a single NP, one of them is called "case", the other "a feature on a case," the reasons for such a differentiation remaining unclear. The unclear status of the assignment of different cases to the NP's is illustrated by several apparent hesitations of the author himself: thus *Egbert* in (30) is assigned Nominative + Ablative in one place, but Nominative + Ergative in another (along with the subjects of such verbs as *work*, *remain*, *reach*, *walk*). Anderson's analysis is evidently influenced by the object language studied<sup>5</sup> – this may be the explanation why the morphemic sameness of the verb *smell* in English leads to the recognition of a single meaning unit both in (28) and (29) assigning the case Ablative to the NP *rose* in both of them – even though the function of the adverb makes it clear that the semantic relation between *smell* and *rose* is different (*This rose smells nicely* – *He smells the rose nicely*); in this respect, this verb differs from the famous Fillmorean example with the verb *open*. Let us note that in Czech, similarly as in many other languages, there are two lexical units correspondings to the single English form *smell*, one for its meaning as exemplified by (28): *vonět*, and one for (29): *čichat*.

5 The specificity of some of Anderson's observations for English as well as some other inappropriate conclusions arrived at Anderson's study has also been noted by Bauer and Boagey (1977).

**3.** After this short survey of some treatments of the differentiation of the “first actant”, let us now test on a sample of English verbs<sup>6</sup> the plausibility of the idea of identification of the typical functions of the subject as a single deep structure participant called here “Actor”.

The sample falls into the following groups:

**3.1** Intransitive verbs without any morphemically identical transitive counterparts:

Even though the only participant of these verbs is classified under different headings, there is no reason why to differentiate between the various functions ascribed to this single surface sentence part in terms of deep structure participants. The difference of syntactic properties (unacceptability of imperatives or the impossibility of formation of the progressive forms with some of these verbs) can be easily provided for by means of subclassification of the verbs themselves and has no closer connection with the participant functions.<sup>7</sup>

**3.2** Transitive verbs without any morphemically identical intransitive counterpart:

Semantic considerations based on examination of the degree of active participation, volition or will on the side of the “first actant” result in an assignment of different cases or “thematic” relations to the subject NP in (6) with the verb *know* (Dative with Fillmore, Location with Gruber) as well as in (14) with the verb *own* (Location), in (16) Goal with the verb *inherit*, in (17) Agent and Goal in Gruber’s account of the verb *buy* and in (18) Agent and Source with the verb *give*. The double assignment of “thematic” relations in the last two examples might be compared with the above mentioned distinction (well known from European structural linguistics) between semantic patterning inside the language system and the language independent domain of cognitive content or factual knowledge (in connection with the structure of human memory); it would then be possible to distinguish the deep structure participant of “Actor” or “first actant” (as a matter of linguistically structured meaning) and the “role” of Source or Goal belonging to the layer of organization of factual knowledge (scenario structures with Kay, 1975, roles with Fillmore 1971, 1977) rather than to the language structure itself.

**3.3** Verbs with which the subject position can be occupied by an NP that with the same form of the verb may occupy also a position of some other syntactic function (the semantic relation, as understood by Fillmore, being the same):

**3.3.1** “Direct object” shifted into the position of subject:

6 The data used in our analysis were gathered by M. Turbová. For the purpose of the present paper we have analyzed the first 200 verbs out of her excerption of more than 1,000 verbs based on Hornby (1963) and comprising (i) intransitive and transitive verbs with inanimate subjects and (ii) such verb forms that may be used both transitively and intransitively, to which we added (iii) verbs quoted in linguistic writings as examples of different case frames.

7 We assume that such distinctions as that between Agentive, Experiencer, Theme or Dative etc. (in a position primarily corresponding to that of surface subject) belong to the domain of cognitive content (scenarios); the criteria concerning the existence of progressive forms with the given verb, of the difference between *do* and *happen* in a corresponding question, etc. appear not to characterize the class of consciously active Agentives; such a series as *Jim goes*, *Jim sits*, *Jim lies*, *the book lies*, corroborates the view that the linguistic patterning is the same.

This is the most numerous group, the most typical example being the often quoted verb *open*. It is necessary, however, to distinguish two different types of oppositions:

- (36) (a) Mary opens the door with a key.  
 (b) The door opens with a key.  
 (37) The door opens (and George is standing behind it).

In (36), the verb *open* is used in the meaning in which it clearly has an Actor in its case frame, which in (36)(b) is “general” and deleted in the surface structure;<sup>8</sup> in both (a) and (b) sentences, the NP *the door* is assumed to function as Patient (Objective) in the approach of functional generative description. The (b) sentence is thus understood as synonymous with the passive construction with a deleted *by*-phrase.

Similar examples are the verbs *bake*, *adjourn*.

- (38) (a) The president adjourned the meeting at 5 o'clock.  
 (b) The meeting adjourned at 5 o'clock.  
 (= The meeting was adjourned at 5 o'clock.)  
 (39) (a) Mother bakes bread in the oven.  
 (b) Bread bakes in the oven.  
 (= Bread is baked in the oven.)

A different situation is faced in (37): here, no agent is involved in the action (not even a “general” agent), and the verb *open* can be treated as an intransitive verb with a single participant, which can be then understood as the “first actant”, i.e. Actor (in the broader, non-literal sense, as above with the group 3.1).

In his analysis of the intransitive counterparts of transitive verbs (without an overt derivational morph) Poltauf (1969) argues convincingly that with similar verbs (e.g. in *the test applies to every supposition*) the intransitive meaning constitutes a new lexical unit; therefore we prefer not to work with such commonly used terms as “middle voice”, which point rather to a grammatical distinction and might conceal the distinction between grammatical voice and productive formation of derived intransitive verbs.

The proposed analysis results in a distinction to be made between two verbs, *open*<sub>1</sub> (transitive) and *open*<sub>2</sub> (intransitive).<sup>9</sup> The relation between the two verbs may be described as being analogous to that between the “basic” form and a derived verb in pairs such as *lie - lay*, *fall - fell*; one may speak about a “zero morpheme” for the derivation of transitive verbs, or about a process of “zero modification” in English word formation.<sup>10</sup>

8 Similarly as in *One opens the door with a key*, under the assumption that (36)(b) either is synonymous with the latter sentence or with, say, *One can open the door with a key*. For a detailed discussion of “general” Actor, see Panevová (1973).

9 We leave here aside still another meaning of the verb *open*, namely that in *The door opens into the garden* (i.e. leads).

10 For the latter term, see Lyons (1968, p. 360).

The Czech counterparts of the intransitive verbs of this kind are often derived by the reflexive particle *se*: cf. the Czech translation of (37):

(40) Dveře se otvírají (a Jiří stojí za nimi).

The Czech construction verb + *se* is ambiguous in a similar way as the English verbs of the type *open*: either an Actor is present and the construction has the function of the passive of a transitive verb as with (36) (b) above, or the verb denotes some change of state or unprompted “activity” of the first actant (as in (37) above); it is with the latter interpretation that the verb is classed along with the intransitive verbs (with its case frame including only Actor), as contrasted with the morphemically identical verb with a transitive case frame with Actor.<sup>11</sup>

In the sample analyzed, some verbs provide a similar pattern of grammatical and/ or lexical oppositions as the verb *open*. Thus the verb *deflect* can be used in the following sentences, with different tectogrammatical structures being suggested by the intrasentential context: *The wind deflected the bullet from its course* (transitive active) – *The bullet deflected by the strength of the wind* (passive) – *The bullet deflected from its course* (intransitive); similarly, all the three possibilities can be found with the verbs *depreciate*, *collect*, *cafeify*, *chip*, *blend*, *alternate*.

With other verbs it appears that only the transitive active and intransitive meanings seem to be present:<sup>12</sup> *He soon accumulated a library* (H) – *Dust soon accumulates if we don't sweep our rooms* (H); similarly *darken*, *crumple*, *crumble*, *croak*, *colour*, *clog*, *chape*, *bolt*.

With some verbs it is even more evident that a zero derivational morpheme is concerned (cf. the discussion about the verb *smell* above); compare the pairs of German equivalents of a single English verb form:

- (41) (a) When the ship sailed the storm abated. (H)  
 (b) We must abate the smoke nuisance in our big cities. (H)  
 abate: nachlassen (intr.) – abschaffen (trans.)
- (42) (a) The trees arched over the river. (H)  
 (b) The cat arched its back when it saw the dog. (H)  
 arch: sich wölben (intr.) – krümmen (trans.) – cf. Note 11 above
- (43) (a) If you cut your finger it will bleed. (H)  
 (b) Doctors used to bleed people when they were ill. (H)  
 bleed: bluten – zur Ader lassen
- (44) (a) A rubber ball bounces well. (H)  
 (b) She was bouncing a ball. (H)  
 bounce: springen – schlagen

11 See Králíková (diss. ); German is partly similar to English here (cf. *öffnen*), and partly to the Slavonic languages, e. g. (*sich*) *verbreiten*.

12 In the sequel, we denote examples taken over from Hornby (1963) by (H). – All these English (pairs of) verbs have as their Czech counterparts a simple transitive verb on the one hand, and a verb “derived” by means of *se* (semantically distinct from the reflexive passive) on the other.

- (45) (a) His pockets were bulging with apples. (H)  
 (b) He bulged his pockets with apples. (H)  
 bulge: anschwellen – ausbauchen
- (46) (a) The crowds cheered as the Queen rode past. (H)  
 (b) Everyone cheered the news that the war was over. (H)  
 cheer: fröhlich sein – begrüßen
- (47) (a) False news circulate quickly.  
 (b) People who circulate false news are to be blamed. (H)  
 circulate: umlaufen – verbreiten

Similar examples are the verbs *decline* (abnehmen – beugen), *corner* (um e. Ecke biegen – in die E. treiben), *appreciate* (im Werte steigen – abschätzen, hochschätzen), *accord* (harmonisieren – anpassen), *blink* (blinken vermeiden).

Often the intransitive verb can be used with a specific modal meaning (especially in negative potential, cf. Halliday, 1967–8, p. 47, about *won't*, *don't*) – this is the well known type *The book reads well*, *The dress washes easily*. Similar examples are the verbs *construe* (*This sentence won't construe* – H), *burnish* (*material that burnishes well* – H), *button* (*My collar won't button* – H). This modal meaning may perhaps be taken as one of the meanings of the zero suffix. An interesting example of ambiguity in such cases is adduced by Halliday (1967–8, p. 49):

- (48) Children don't wash easily.

with the meanings (i) themselves (the NP *children* is of the subject type of nominative), (ii) something (the subject functions as ergative), (iii) = it is difficult to wash children (the subject functions as accusative). We see a boundary line between (i) and (ii) on the one side, and (iii) on the other: in (iii) we are faced with an intransitive verb (with a modal meaning), in (i) and (ii) with a transitive one, with deleted Patient *themselves* in the former, and with the deleted “general” Patient in the latter case.

It should be noticed that *The dress washes easily* is not synonymous with *It is easy to wash the dress*; not only the topic/focus articulation differs, but the latter sentence can also be used with such a continuation as ... *since there is a good laundry service here*.

**3.3.2** A participant from another position than that of the object is “shifted” into the position of subject – from the position primarily belonging to the modification of place in (49) and (50), to instrument in (51) to (56):

- (49) (a) The bees swarm in the garden.  
 (b) The garden swarms with bees.
- (50) (a) Fish abound in the sea. (H)  
 (b) The river abounds in fish. (H)
- (51) (a) He accounts for his absence by his illness.  
 (b) His illness accounts for his absence.

- (52) (a) You will benefit by a holiday. (H)  
 (b) A holiday will benefit you.
- (53) (a) The boy amused George by a funny song.  
 (b) A funny song amused George.
- (54) (a) Employers compensate workers for injuries suffered at their work  
 by a payment.  
 (b) Nothing can compensate for the loss of one's health. (H)
- (55) (a) John opened the front door with this key.  
 (b) The front door opens with this key.  
 (c) This key opens the front door.  
 (d) The front door was opened with this key.
- (56) (a) The murderer killed his victim with a knife.  
 (b) The car killed him in a street accident.

Two ways of accounting for sentences (49) to (56) suggest themselves: either (i) the semantic (deep, tectogrammatical) relation between the verb and the participants in the subject position in one case and in some other position (adverbial of place, instrument etc.) in the other is the same; there is either no semantic difference between the two verbs, or the semantic difference must be connected with some phenomenon other than the type of participants; or (ii) the semantic relation of the verb and the participants in different surface positions is not the same: the difference is then connected with the difference in participants which is often accompanied by a difference in the lexical content of the (morphemically) identical verbs. The latter analysis seems appropriate for the verbs in (50) to (54). From the point of view of linguistic structure, an NP in the subject position and the same NP in some other syntactic position with the morphemically identical verb belong here to different participant types (Actor in the former case, Instrument or some other type of adverbial modification in the latter). In some cases, however, they may be understood as having the same "roles" from the point of view of cognitive relationship or scenarios.

When discussing sentences like (49), Fillmore (1966, p. 370) quotes several similar examples (given to him by J. B. Fraser): *Spray the wall with paint* against *Spray paint on the wall*; *Stuff cotton into the sack* vs. *Stuff the sack with cotton*; *Plant the garden with roses* vs. *Plant roses in the garden*; *Stack the table with dishes* vs. *Stack the dishes into the table*. Fraser – according to Fillmore – speaks about "alternate meanings" of the quoted verbs; in a later study, Fillmore (1968) notes a "focusing" difference, which may be accompanied with slighter or stronger differences in meaning (p. 48). Thus e.g. the sentence (49)(b) implies that the garden is full of bees, while (49)(a) does not have such an implication: the Actor in the (b) example is affected fully by the action. Similar considerations (with the Patient being affected fully by the action) hold about examples with spraying paint on the wall and spraying the wall with paint, planting roses in the garden and planting the garden with roses etc. Fillmore quotes among such examples also the pair *make out of- make into*; however, while in the former set semantically different units are concerned, *make into* and *make out of* can be taken as inverse forms of a

single verb, which similarly as the distinction of active/passive constructions serve as the means for expressing the difference in the topic/focus articulation.<sup>13</sup>

The example (55) illustrates an even more complicated situation, where the surface position of subject can be occupied by the NP that in other sentences with the same surface verb is in the direct object position (*the front door* in (a) and (c) as compared with (b) and (d)) and by the NP that in other sentences may appear in the position of instrumental adverbial (cf. (c) as compared with the rest of the examples in (55)). We have analyzed the former situation above and have come to the conclusion that the NP *the front door* in sentences like (55)(b) and (d) has the function of Patient (with Actor being deleted in both cases); the active form of the verb in (b) has the same “passive” function as the passive in (d). In the (c) sentence, with the NP *this key* in the subject position, we assume that *this key* functions here as an Actor rather than an Instrument: one can easily imagine a special key with two different ends, one of which (the flat one) opens the front door. Then we can say (with the Actor and the Instrument clearly differentiated):

(55) (e) This key opens the front door with the flat end.

When discussing examples of a similar structure, Fillmore proposes to work with an underlying structure that can be paraphrased as “the flat end of this key opens the front door” since he assumes that examples like (55)(e) are possible only in the sense of “this key ... with its flat end.” This is not necessarily the case: a car can kill someone with its front wheel, but also with a branch broken off a tree that has been cut down by the car. As for a possible objection that the key cannot be understood as Agentive since in the passive sentence (d) the preposition of the corresponding instrumental NP is *with* rather than *by*, it should be noticed that the use of a preposition cannot be specified so simply; also the rule of distribution of *by* and *with* as Instrument prepositions is not so clearcut as it might seem from Fillmore’s writings (1966, p. 374), namely that when Agentive is present in the deep structure, the Instrument preposition is *with*, while when there is no Agentive, the Instrument preposition is *by*: in *The boys amused themselves by drawing portraits of their teacher* (H), the Agentive is clearly *the boys* and nevertheless the Instrument (in Fillmore’s conception) preposition is *by*.<sup>14</sup>

Thus our examples have not brought any counter-evidence against the treatment denoted by (ii), namely that the semantic difference between the two verbs is connected with the difference in the type of participants in different syntactic positions, and it follows from our analysis that for the examples (49) to (56) the solution (i) is not needed. Thus the hypothesis stated in § 1 about the possibility of the postulation of

13 Cf. the discussion of examples of inverse and converse predicates in Sgall (1972b).

14 Fillmore (1966, p. 365) adduces as the criterion for the distinction between Agentive and Instrument the impossibility of coordinating the two participants (*\*John and a hammer broke the window*). It has been noticed by Poldauf (1970, p. 126) that this impossibility “is due to the stylistic clash of purposive activity of animates and non-purposive activity of inanimates.”

an actor/bearer participant in the deep (semantic, tectogrammatical) structure of the sentence seems to be plausible.

4. The distinction made between Agentive and Instrument, and, at the same time, the necessity of the presence of at least one of these participants in the case frame of such verbs as *kill* (see example (56) above) leads Fillmore to an introduction of the notion of relative obligatoriness into the case frames and to the use of the notational device of the crossed brackets. The arguments for the differentiation between Agentive and Instrument are again based on semantic considerations about the relationship between the verb and the corresponding participants; an important role is played by the distinction between animate and inanimate participants of the action. With the approach proposed here, viz. with the identification of the animate and inanimate uses into a single participant, such a device as the crossed brackets is not necessary and a much more economic description can be achieved; in our framework, *kill* has an obligatory Actor and an optional Instrument.

Our sample contains a long list of verbs that may have both an animate and inanimate NP in the subject position with no distinction of the semantic relation to the verb: *attract, attest, appear, appeal, admit, absorb, adhere, demand, defy, comfort, cling, cause, betray, baffle*, etc. etc. The character of the process certainly may be influenced if an animate or an inanimate Actor is concerned, but this is a matter of extralinguistic content rather than of linguistic meaning.<sup>15</sup>

The examples of verbs quoted above may serve as an evidence for the hypothesis from § 1 according to which a single participant is concerned; these examples corroborate the view that in English, too, the Actor is structured as the “first actant” even if inanimate.

As for the “embedded” brackets, all the examples adduced by Fillmore concern the pair of cases Agentive and Instrument (*break, crack, fold, bend*): if Agentive is present, Instrument must be present, too. The approach proposed above for the verb *open* leads us to distinguish between *break*<sup>1</sup> – intransitive (*The window broke as it fell down*), with Actor as the only obligatory case, and *break*<sup>2</sup> – transitive (*John broke the window with a hammer, The wind broke the window, The hammer broke the window*); *break*<sup>2</sup> is present also in one of the readings of *The window broke as John and Tom were playing football in the room*, where the NP *the window* is a Patient and the Actor is deleted on the surface level; this sentence is taken as synonymous with *The window was broken as John and Tom were playing football in the room*. With such a treatment, the embedded brackets are no longer necessary.

A consistent differentiation between linguistic meaning and cognitive content allows us to distinguish between a single actor/bearer participant as a matter of linguistic structure itself (similarly with other deep structure, tectogrammatical participants

15 For the arguments against the ± Animate sub-categorization as one of the underlying distinctions between cases, see Poldauf (1970, p. 126) who speaks about the extralinguistic nature of the difference between intentional agency and unintentional agency; as for the vagueness of the distinction itself (with institutions or higher types of machines as Agentives), cf. Zoenpritz (1971), Sgall (1972a). This view is corroborated e.g. by Quirk et al. (1972, p. 325), who illustrate it by the sentence *The area was ravaged by floods and guerilla forces*.

such as Patient, Addressee, or free modifications as Locative etc.) and its (several) cognitive, conceptual roles as a matter of the level of cognitive content (where such distinctions as those between agent, experiencer, location, affected vs. effected object are provided for). Among the relationships between a participant and its roles, there is one which may be considered as primary; deviations however are possible, and the repertoire of roles is much richer (see Kay, 1975).

5. The analysis of a sample of English verbs had led us to distinguish the following possible situations:

- (i) There is no need to distinguish between the Actor and some other participant function with a verb the frame of which contains a single case; the distinction, if any, is given either by the features of the concepts involved (e. g. animate vs. inanimate) or by the lexical content of the verb (activity vs. state etc.) and has nothing to do with the distinction in the functions of participants as linguistic units.
- (ii) Two (morphemically identical but semantically distinct) verbs rather than a single verb are concerned with two different case frames; one with the Actor as the only participant, the other with Actor and Patient (and possibly others, as the case may be). One of the two verbs may be regarded as derived from the other by a zero derivational morpheme. The possible semantic relatedness of the Actor in the former case with the Patient in the latter is then not a matter of linguistic structure but of some part or aspect of the organization of factual knowledge, which has not yet been studied deeply enough to give a more definite account of such “scenarios” or “templates”.
- (iii) In some cases, the superficially “active” verb form in English functions as a variant of the passive form of the transitive verb; we may speak about a zero morpheme for passivization; in such cases, a “general” Actor is understood to be present in the underlying structure (cf. Note 8), being deleted on the surface (cf. the reflexive passives in Slavonic and other languages). The subject NP then has the same participant function as the object NP in the active construction of the given verb, namely the Patient.

Thus Anderson’s (1971, p. 8) objection of surfacism does not apply: not only in the superficial passive sentences, but also in the above quoted examples of derivation of passives in English by means of a zero morpheme (and probably also in other, more or less exceptional cases, such as the verb *belong*, which seems to have as its underlying structure the possessive verb *have*, and perhaps other verbs such as *please* vs. *enjoy*) the subject is assigned a function other than the Actor. The intuitive idea that there should be one “case” present generally in the deep structure of all sentences (if their verb is accompanied by a participant at all, not only by a free adverbial) is, as a matter of fact, present in many treatments: with Anderson, such a universally present case is called Nominative, with Gruber, it is the Theme; in neither approach, however, any clear criterion could be traced that leads to the postulation of such a universally present case. Our standpoint, demonstrated in the present paper by the hypothesis of Actor under-

lying the syntactic subject in the primary case<sup>16</sup>, is based on operational criteria, as we have attempted to show in this paper; these criteria were systematically investigated in the quoted studies by Panevová. The approach of functional generative description is led by an endeavour to postulate a semantic representation close enough to the linguistic form and differing from it only in case of clear, substantiated and explicitly specifiable cases.

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16 In this connection, Skalička (1962) speaks about the anthropocentrism of syntax; similar formulation can be found more recently with Oosten (1977, p. 469), who goes even further and considers also the subject of *This wine drinks like it was water* as “acting as agent.” With our approach (cf. example (36)(b) above), this sentence contains a suffixless passive form of the verb *to drink* (with deleted general Actor).

## REMARKS ON THE MEANINGS OF CASES

0. The introduction of “case grammar” (Fillmore, 1966; 1968; 1971; 1977) into the transformational generative description of language met with reactions of two kinds: on the one hand, “case” theory was appreciated as a most valuable hint for transformational grammar to take into account also semantic considerations when describing the structure of the sentence, while on the other hand it evoked considerable reservations about the use of the term “case” for semantic (or underlying) rather than morphemic units. The latter objection is not merely a matter of terminology: the use of a term traditionally belonging to the domain of morphemics also brought about a lack of substantial differentiation between morphemic, semantic and even cognitive issues (cf. Sgall, 1980, for a discussion supporting the necessity of distinguishing between the latter two aspects of the “case” relations between verbs and their participants).

In the present paper we want to plead for a three-stage treatment of what is often subsumed in transformational writings under the notion of “case”, namely *morphemic case* – the meaning (function) of case (*verbal valency*) – the *cognitive roles* of verbal participants, the main emphasis being laid on the second of the three layers.

1. The most suitable starting point for the study of case meanings is offered, in our opinion, by Kuryłowicz’ (1949) distinction between the syntactic function and the (semantic) meaning of (morphemic) case. This distinction, elaborated further by Skalička (1950), is supported by the fact that in inflectional languages prepositionless case has primarily a syntactic function while prepositional case has primarily a semantic function. In this way, the prepositional case comes close to such categories as tense, number, etc., which also have primarily a semantic function, referring to aspects of the extralinguistic situation.

In the classical writings distinguishing these two functions of the morphemic category of case the notion of syntactic function lacks a clear specification. For such a specification it is necessary to work within an explicit framework of linguistic description.

One of the frameworks serving this aim is the functional generative description, including a semantic base. In Sgall (1967), an explicit distinction is made (on the level of meaning) between functors (i.e. syntactic functions, distinguishing agent, pa-

tient, addressee, nominative complement and “determination”) and “grammatemes” (as semantic variations of the “determination” function; under determination Sgall subsumed all kinds of adverbial functions). This classification was checked in detailed studies on the description of Czech and of other languages as well (esp. English and Russian). In the course of these studies, which were always guided by efforts to apply operational criteria to any distinction to be made, it appeared necessary to distinguish several kinds of local, temporal, etc. modifications as syntactically different functions; see Sgall and Hajičová (1970); Panevová (1980, p. 71f., Sect. 3.2), where a distinction is made e.g. between  $P_{\text{where}}$  as a syntactic function and the semantic variations “where on”, “where in”, “where behind”, “where beside”, “close beside”; similarly with  $R_{\text{when}}$  distinguishing between “in (a certain point of time)”, “before (a certain point of time)”, “after (a certain point of time)”; as a matter of fact, such a subtle classification corresponds to Kuryłowicz’ approach.

It is necessary, however, to bear in mind that not only the relation between the morphemic and the tectogrammatical (semantic) level is concerned, but that this relation is again a two-stage relation: intermediate between the two levels there is the surface sentence structure. Thus if we understand the relation of function as a relation between two adjacent levels of the language system (as with Sgall, 1964), then we speak about a function of nominative (case), which primarily is the subject (as a unit of the surface syntactic level) and about a function of subject, which primarily is the actor/bearer (as a unit of the semantic level). It is, of course, true that sometimes it may suffice to work with two levels only: thus, e.g., prepositional cases such as  $v$  + locative (*in*), *nad* + instrumental (*above*), *pod* + instrumental (*under*), *mezi* + instrumental (*between*) etc., all express location “where,” and thus they are semantic variations inside a single syntactic function. The usefulness of three levels, however, is demonstrated by examples where some relation of transformation occurs, be it the relation between active and passive construction (where it is necessary to distinguish between a morphemic category, as nominative, a syntactic category, as subject, and a tectogrammatical category, as actor/bearer), or between nominalization and the respective underlying construction (in *shooting of the hunters* the morphemic unit – genitive case – renders the syntactic function of attribute, which in its turn serves as an expression for the actor/bearer, or for the patient).

2. The syntactic functions and the meanings of cases were widely discussed and relatively well established for Czech before the elaboration of formal systems, mainly thanks to Šmilauer’s (1947) syntactic monograph, in which one can find a detailed characterization of individual semantic variations of syntactic functions. As for English, the situation is more complicated: present-day English has no morphemic category of case as we are used to using the term, but this does not mean that the meanings of cases are missing, since the functions of cases are taken over to a great extent by prepositions and by the word order positions.

Relatively close to a two-stage understanding of case stands the approach of Quirk et al. (1973), who work with six “syntactically defined elements of clause”, namely subject, direct and indirect object, complement to subject and complement to object and