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Information structure: with examples from Russian, English and Dutch

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INFORMATION STRUCTURE

With examples from Russian, English and Dutch

ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad van
doctor in de Letteren
aan de Universiteit van Amsterdam,
op gezag van de Rector Magnificus
dr. D.W. Bresters,
hoogleraar in de Faculteit der Wiskunde en Natuurwetenschappen,
in het openbaar te verdedigen in de Aula der Universiteit
(tijdelijk in het Wiskundegebouw, Roetersstraat 15)
op dinsdag 7 mei 1985 om 16.00 uur

door

CORNELIA EVA KEIJSPER

geboren te Zaandam

AMSTERDAM 1985

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(C.E.Keijsper)

ERRATA

PAGE: LINE: SHOULD READ:

IMPORTANT:

207 1th down ... "square" "rectangle"
 274 11th up ... if he did not lose
 290 13th up ... without a final rise
 366 add last line: The simplification came from Prof.Dr.F.H.H.Kortlandt
 in a discus-

MINOR ERRORS:

vii 10th up ... and Prof.Dr.J.Dorling ...
 3 13th up ... or "Actual Sentence Bipartition" ...
 7 10th up ... whether or not ...
 11 7th down accented and unaccented elements.
 34 4th up ... the type of prob-
 35 3th up ... (to be described) ...
 48 5th up of word order ...
 53 4th down *Kōlja kupil mašinu* ...
 68 10th down *The theatre group arrived*
 74 16th down ... *Felix* praised himself ...
 79 13th up ... as to which aspects ...
 80 17th up ... of his article ...
 82 14th down ... in the next chapter ...
 88 1th up ... is "unmarked" ...
 89 4th down Benoist (1979: 123-152), ...
 110 4th down ... by an accent and ...
 116 14th up ... the syllable following the fall, or both ...
 123 13th up ... (see chapter XII) ...
 125 7th down ... of the three "stylistic" ...
 129 1th up ... (SV; VŠ; SVÖ; SOV);
 138 12th down ... (belated)
 140 3th down ... near the window, therefore we ...
 154 7th up ... order of the words ...
 154 6th up pose ...
 156 5th up ... in a hierarchi-
 157 14th up ... the data pertaining to scope ...
 158 11th up ... *John's wife* ...
 159 9th up ... basic oppositions ...
 160 14th down ... reference to time ...
 161 8th down ... following chapters ...
 172 16th up ... the one above it ...
 174 3th down of the meaning "flower" ...
 176 16th up ... focusing attention on ...
 182 7th down ... *The flower is beautiful* ...
 183 6th up ... whether or not ...
 186 3th up ... and then with this property ...
 187 19th down ... We saw in the fore-
 204 10th up ... (vertical order) only;
 206 1th down tially ...
 215 12th down In terms of the pictures ...
 239 1th down ... the clams-example ...
 240 2th up both head - mōdifier ...
 245 7th up ... *On ispugalsja* ...
 246 5th up ... (see IX.7) ...
 249 4th down on these sentences ...
 251 17th down ... have a somewhat

PAGE: LINE: SHOULD READ:

264 1th down What remains is ...
 287 9th down The main thing to be ...
 288 9th down ... the additional assumption that ...
 299 8th down ... possible in English ...
 313 5th down *rūsskie* ...
 341 9th up whether or not ...
 346 7th down or not ...
 351 13th down ... unambiguously ...
 363 12th down ... Křížková (1953), ...
 366 23th up ... the concurrent ...

original del I. b. w. a. v. n. !

PART ONE:

SOME QUESTIONS OF FUNCTIONAL SENTENCE PERSPECTIVE

I. INTRODUCTION

1. In publications by East European linguists, the history of the study of word order and accentuation is usually divided into two periods: before and after the Czechoslovak scholar Vilém Mathesius (1882-1945). Before Mathesius, other scholars - Von der Gabelentz, Paul and Wegener, for instance - had discussed the same problems, but they had used non-linguistic terms, such as "psychological subject" and "psychological predicate", which "according to Mathesius unduly tended to relegate the problems [...] to spheres not treated by current linguistic research" (Firbas 1974: 11); "Mathesius' merit lies in the fact that by replacing the psychologistic terms with those of functional linguistics, he made the whole conception really workable" (Vachek 1966: 89). Mathesius, who was influenced mainly by Weil (1844), laid the foundations of a theory which is called in Czech "aktuální členění větné"; this name has been translated as "Actual Sentence Division" (e.g. Tyl ed. 1970: IX) or "Actual Sentence Bipartition" (e.g. Dahl 1969: 7), but the term "Functional Sentence Perspective" (henceforth: FSP), coined in English by Firbas, is better known (Firbas 1957: 171; 1964 (b): 117).

In his famous article "O tak zvaném aktuálním členění větném" (1939; cited here from 1947: 234-242), Mathesius opposed the "formal division" of a sentence to its "actual division". The former concerns the grammatical structure of a sentence, the grammatical subject and the grammatical predicate being the main elements. The latter has to do "with the way in which the sentence is included in the factual context from which it originated"¹ (1947: 234). The main elements of the "actual division" are the "východiště výpovědi" and the "jádro výpovědi", that is, the

starting point of an utterance and the nucleus of an utterance. The starting point of an utterance is "that which in the given situation is known or at least evident and from which the speaker departs", the nucleus of an utterance is "that which the speaker enunciates on, or in regard to, the starting point of the utterance".²

Besides the distinction between the formal and the actual division of a sentence, we owe to Mathesius the formulation of the view that in a language like Czech, where word order has few grammatical functions, it is the actual division which is the main factor determining the order of the words: the starting point normally precedes the nucleus, irrespective of the grammatical function of the elements involved. In Mathesius' view, Czech differs from English in this respect. Since in English the order of the words indicates, for example, which element is the subject and which the object (grammatical function), the starting point cannot in general freely be preposed to the nucleus. In order to reconcile the grammatical principle of word order with that of the actual division, English sentences are often built in such a way that the grammatical subject is simultaneously the starting point, so that the arrangement 'subject - predicate' is at the same time an arrangement 'starting point - nucleus'. To this aim, English must often employ special syntactic constructions, such as the passive. Where such a reconciliation is impossible, the grammatical principle takes precedence. As a result, the influence of the actual division on English word order is secondary, and the actual division is often expressed by means other than word order, such as accentuation (e.g. Mathesius 1941(a); 1942(a); 1961: 95-97, 180-188).

Another view which can be traced back to Mathesius is the idea that two stylistically different arrangements exist: an "objective" word order, where the starting point precedes the nucleus, and a "subjective" arrangement, where the starting point follows the nucleus. An arrangement 'starting point - nucleus' is called "objective" because a speaker who chooses this arrangement "takes into account the particular situation and conforms to the usual mental procedure" (Mathesius 1975(a): 83). An arrangement 'nucleus - starting point' is "subjective" because in this case the speaker

pays no attention to the fact that the hearer "does not yet know what is being talked about, he is fully carried away by what seems to him the most important thing"³ (Mathesius 1942(b): 61). Mathesius' 1939 article has been translated into (among other languages) German (Mathesius 1972) and English (Mathesius 1975(b); reference cited from Sgall 1981: 192). Since the publication of Mathesius (1975(a)) his whole conception of language, including his view on FSP, has been available in English.

Although Mathesius wrote his first article on word order as early as 1907, it was not until approximately 1970 that the notions which he had introduced became widely known. In that year, 1970, the first international symposium on FSP was held (Daneš ed. 1974). On this occasion a tentative bibliography on FSP was published (Tyl ed. 1970); it contains 663 titles, chronologically arranged from 1900 on. A second bibliography, containing only publications of Czech authors (1900-1972), has been compiled by Firbas and Gol-ková (1976; 302 titles).

2. On a number of issues which became important later, Mathesius did not express an opinion. He used, for example, the terms "východiště" (starting point), "východisko" (idem), "základ" (basis) and "téma" (theme) without consistently distinguishing between the present notions "known information" and "the thing about which something is said" (see on this point e.g. Daneš 1964(a); Firbas 1964(a), 1978; and Trávníček 1961). The notion "lowest degree of Communicative Dynamism" is Firbas' innovation (e.g. 1964(a): 272).

Mathesius' publications inspired some scholars, notably Daneš, to develop the view that the "formal" and the "actual" division of a sentence belong to different levels of a language system. Daneš proposes that a distinction be made between the level of the grammatical structure of a sentence, the level of the semantic structure of a sentence, and the level of the organization of an utterance; FSP belongs, in his conception, to the last-mentioned level (e.g. 1964(b)). In this connection Daneš opposes sentences to utterances. A sentence is "an abstract pattern which represents one of several formal grammatical units of a given linguistic

system"; utterances "are realizations (implementations) of sentence patterns in the act of communication" (1970(b): 133); "[...] while the sentence, as an abstract unit of the language system, does not refer to any object of reality and does not communicate about any event (situation), the utterance refers to particular objects and tells something about something" (1970(a): 407-408).

By postulating this difference between sentences and utterances, Daneš goes much further than did Mathesius. On the one hand, Mathesius did differentiate between a sentence viewed as an abstract pattern belonging to the language and a sentence viewed as a concrete utterance belonging to speech (e.g. 1936: 105-106) (according to Daneš, both sentence and utterance belong to the 'langue'). But on the other hand, Mathesius regarded intonation (including here accentuation) as an inherent part of a sentence (he calls it "subjective completeness") (1924; 1947: 230-231). Thus, without proposing that intonation, let alone word order, comes into the picture only when a sentence is put to use in a particular act of communication. The distinction between the abstraction and the concrete utterance is introduced by Mathesius not in connection with FSP, in which connection it is often quoted (e.g. Firbas 1974: 15), but in connection with his view that utterances which in their formal properties deviate from the grammatical possibilities of the language involved, are not sentences but "pathological sentence substitutes" (1936: 105); nowadays we would say that in speech "ungrammatical" sentences sometimes occur (Mathesius 1936: 104-107). But it cannot be denied that Mathesius obscures the issue by mentioning, in his 1936 definition of the sentence, not only a speaker, as he did in 1924 (1947: 231), but also a writer. And in a written text the accents of the corresponding spoken sentences are not indicated. Mathesius' definition runs: "The sentence is an elementary speech utterance, through which the speaker (or writer) reacts to some reality, concrete or abstract, and which in its formal character appears to realize grammatical possibilities of the respective language and to be subjectively, that is, from the point of view of the speaker (or writer), complete." (1936: 105-106). The importance of this issue will become clear in the course of the discussion.

The subdivisions made by others within Mathesius' category of

the "východiště" (and other terms), and Daneš' application of the notions "sentence" and "utterance", are only two examples of the developments in Czech studies on FSP conducted since Mathesius' death. For concise surveys see, for example, Firbas (1974); Sgall and Hajičová (1977-1978); Sgall and Daneš (1978).

Because of the subsequent developments, it is difficult to evaluate Mathesius' work in isolation. It is not at all clear whether he would have agreed with the steps made by his followers. Furthermore, it is doubtful whether he would have approved of the status which has been given to his publications. To mention but one example, in Mathesius (1941(b)) and (1942(b)) the "rule" that the starting point normally precedes the nucleus is embedded in recommendations for writing good, clear Czech. In this context, the remark that you should first state what you are talking about and only then what you have to say, gives the impression of being a piece of informal stylistic advice. That is far from saying that "the starting point of the theory is the assumption that it is in accordance both with the character of human thought and with the linear character [...] of the sentence to arrange the sentence elements in a consistent theme-transition-rheme sequence [...]" (Firbas 1964(b): 115). In general, it would be unjust to approach Mathesius' work with the present standards of explicitness. Mathesius' publications do not exclude the interpretations which his followers gave them, and quotations could be adduced to sustain them, but the relevant statements are vague enough to allow a number of interpretations. On the whole, Mathesius did not, in my view, leave a consistent and unambiguous account of the phenomena of FSP. I think it would be illuminating to relate Mathesius' publications to the theories of his contemporaries, whether or not members of the "Prague School". From such an historical appreciation, for which the research is still to be conducted, it might well appear that Mathesius' theory was less revolutionary than is sometimes suggested by his followers. In this connection it may be useful to remind the reader of a remark made by Firbas:

Trávníček's criticism, however, cannot be disregarded. And we have to emphasize in this connection how desirable it is that his earlier studies of Czech word order should be thoroughly studied from

the point of view of the FSP theory. (Firbas 1964(a): 276)

The reservations ventured in this section are not meant to diminish the value of Mathesius' work, but only to indicate that the present situation in FSP, which I intend to discuss from chapter II onwards, cannot be explained by saying that Mathesius is responsible for it.

3. Among the languages to which Mathesius' approach has been applied, Russian takes a prominent place.⁴

In the Soviet Union, the Mathesian period was opened by Vinogradov in his introduction to the first so-called Academy Grammar (Grammatika 1954). This grammar is a typical borderline product: although Vinogradov calls attention to Mathesius' theory (op.cit. 91-92), the section especially devoted to word order (op.cit. 660-693) is still couched in pre-Mathesian terms.

The interregnum character of the 1954 Grammar is the more striking when one compares this grammar with the most recent Academy Grammar (Grammatika 1980). The new Grammar marks the full victory of the Mathesian approach, it essentially canonizes the variant of Mathesius' theory formulated by Adamec (mainly 1966).

Between 1954 and 1980 there was such an explosion of publications on FSP in Russian that by now every possible aspect of the problem seems to have been covered. I can mention here only a few of the studies. The first widely known article in the Mathesian period is Krušel'nickaja (1956), the first monograph is Raspopov (1961). (Mel'ničuk (1958) does not regard himself as a follower of Mathesius.) The most influential publications are probably that of Adamec (1966) and Kovtunova (1969; 1976; Kovtunova is also the author of the section on word order in the 1980 Grammar). The main source for those interested in statistical information is Sirotinina (1965); see also Altermark (1977), Bivon (1971), Buttke (1969), Svedstedt (1976). Classifications of arrangements possible in different sentence types can be found in e.g. Adamec (1966), Kovtunova (1976), Raspopov (1961; 1970), and the 1980 Grammar. On the "grammatical" function of word order in Russian one may consult e.g. Večorek (= Wieczorek 1976) and Benoist

(1979: 27-67). Some comparative studies (German - Russian) are Birkenmaier (1979), Gladrow (1979), and Krušel'nickaja (1961: 196-262). Kovtunova (1976) popularizes the results of her investigations for the benefit of Russian students; Krylova and Khavronina (1976) explain the approach in a manual for foreign students (also available in West European languages other than English); on interference between German and Russian see Buttke (1969: 97-112). Benoist's dissertation (1979) fills a gap in the stream of publications available outside the Soviet Union because it discusses extensively the functioning of word order in actual texts (some works by Gor'kij).

A fairly complete picture of the literature on FSP in Russian can be obtained by combining the bibliographies (in) Adamec (1966), Tyl ed. (1970) and Benoist (1979).⁵

4. During the boom period sketched in section 3, critical remarks were few. As early as 1958, Mel'ničuk called Mathesius' Actual Sentence Division superfluous. He argued that the division was the result of insufficiently generalizing the phenomena which had traditionally been studied under the heading of the so-called Syntagmatic Division of a sentence (1958: 55). The name "syntagm" is used in Russian in approximately the same sense as the term "information unit" in Halliday (1967). Indeed, Mathesius did not clearly set out the connection between the two types of division (cf. Mathesius 1937; 1947: 247), and later "the stormy development of the theory of the Actual Division distracted the attention of investigators from the problems of the Syntagmatic Division and partly crowded the latter out from the orbit of widely discussed problems"⁶ (Prokopova 1981: 207). Prokopova correctly observes that the theory of the Actual Sentence Division arose on the basis of written texts, while the theory of the syntagm (information unit) was developed on the basis of spoken language. She remarks that "the initial material still has a substantial influence on the research conducted in the two spheres"⁷ (Prokopova 1981: 211). However, while Krušel'nickaja (1956: 60-61) did not even consider the possibility that the two divisions could be different, while Mel'ničuk called Mathesius' division redundant, and

while Adamec (1966: 19) still held the view that Mel'ničuk's Syntagmatic Division was essentially an application of Mathesius' Actual Division (note that Mel'ničuk would say the reverse), Prokopova proposed that both types of division be made.

Other investigators apply the same tactics. Torsueva, for example, speaks of "smyslovoe členenie" (sense division), which comprises, in her view, besides the division into "theme" and "rheme", and that into "old" and "new" information, also the segmentation into "degrees of importance" (členenie po stepeni važnosti). The last-mentioned type is her own object of study (mainly based on the accentuation and intonation of spoken language); cf. Firbas (1972(a): 84-94) (Torsueva 1971; 1979: 32-38).

Although such peaceful coexistence may in practice be wise policy, it will hardly contribute to a better understanding of the phenomena studied. A characteristic feature of the present state of Soviet research on FSP in Russian is the suggestion that students of written language and students of spoken language have different objects of research. At the root of this situation lies a controversy between the two groups of investigators. In the beginning, students of spoken language tried to account for the facts of spontaneously spoken Russian in Mathesius' terminology, but they had little success. When Mathesius' followers, who gradually became the dominant party, did not react to their criticism, the students of spoken language went their own way, often paying only lip service to the established theory.

This development can, for example, be traced in the work of Lapteva. In 1963 Lapteva still wrote that Soviet linguistics was paying too little attention to the Mathesian approach (1963: 121). In 1968 she reviewed Adamec (1966) with reservation, her most positive remark being that the excellent bibliography would simplify the task of future investigators of Russian word order (Lapteva 1968: 267). Her review of Kovtunova (1969) was not very enthusiastic either (Lapteva 1970). Two years later she expressed her opinion in a perfect understatement: "No small part in the new status of this discipline is played by its quantitative growth"⁸ (1972: 35). And in 1974 she remarked reluctantly: "Fate decided that the analytic principles developed by the theory of the Actual Division should become extraordinarily influential"⁹

(1974: 152). She kept arguing that, although it is possible to recognize centres of information in an utterance, these centres cannot be correlated to notions of content such as "given" and "new" or "starting point" and "nucleus" (e.g. 1974: 157-158). On various occasions she called attention to the rhythmic principle in Russian sentences, i.e. the systematic alternation between accented and unaccented elements. The most complete version of her conception of spoken language was published in Lapteva (1976).

Another student of spoken language, Sirotinina, directed her criticism against the view that the difference between "objective" and "subjective" arrangements is entirely a matter of style; she made valuable observations in this connection and showed, on the basis of a corpus of spoken utterances, that descriptions like that in the 1954 Grammar, saying that certain arrangements are more "normal" than others, are in many cases mistaken as far as spontaneously spoken Russian is concerned (various publications mentioned in the reference section).

The students of spoken language all more or less subscribe to Mel'ničuk's view on the function of word order: "The main role of word order in the Slavic languages amounts to the expression of sense relations between lexical formations in a sentence: lexical formations which enter into direct sense relations are, irrespective of their strict syntactic functions, in contact position, the remaining lexical formations are placed at a distance from each other."¹⁰ (Mel'ničuk 1974: 208)

The findings of students of spoken language are reflected in the publications of Mathesius' followers: the latter take care to restrict their own statements to written language. Kovtunova, for example, says: "In comparison with the written language, word order in the spoken language is characterized by greater freedom and variability: here the role of word order as a means of expressing the Actual Division is considerably weakened."¹¹ (Grammatika 1980: 208)

In one way or another, these contrasting views will have to be related to each other. No one will deny that considerable differences exist between the sentences studied on the two sides, but it is also true that these differences form a continuum (see e.g.

Sirotinina 1974(a): 135 ff.). The unnatural introduction of a sharp borderline in this continuum, to the effect that everybody can mind his own business, may avoid problems, but it certainly does not solve any.

Recently, a more sensible course has been taken by Zolotova (1982: 293 ff.). Zolotova returns to the former syntagmatic division and views sentences which have only a single theme-rheme division as simple examples of a more general principle.

Vardul' stands apart from the controversy between students of spoken and written language (see further chapters III and VI below) (Vardul' 1967; 1977: 237-256). He not only rejects the established theory but also sketches the outlines of a different approach. As far as I know, his proposal has never been commented upon. It does not lead to the problems of a Mathesian approach, but it does exhibit some deficiencies (see V.9 ff.).

Besides the various linguistic approaches, a largely separate stream of publications exists in which FSP is discussed from a psychological or logical/philosophical point of view. I shall not discuss them here; some representative examples are Arutjunova (1976), Česnokov (1979) and Panfilov (1963).

Whatever the merits of the Mathesian approach may be, its adherents must be held responsible for the present standstill in the scholarly discussion on FSP in the Soviet Union. This stagnation cannot be concealed by the enormous number of publications.

5. In publications of other than Czech and Russian linguists, the fact that Mathesius' approach was originally an analysis of written texts has not been sufficiently appreciated. As we will see in the following chapters, this has given rise to a great deal of confusion. Theories on FSP have mainly been accused of being vague:

Until a more solid theoretical foundation is built and a more rigorous method developed, these studies by Firbas and his students must be regarded as rather impressionistic ventures into stylistics, marked by a good deal of arbitrary statement (Francis 1966: 149);

[...] there is a Prague-school tradition going back to Mathesius which, although rich in insights con-

cerning the informational content of the sentence and its importance for word order and other phenomena, has always remained highly speculative and fairly inexplicit (Contreras 1976: ix);

The general notion of given versus new information figures prominently in much linguistic literature [...]. Unfortunately, however, this intuitively appealing notion has never received a satisfactory characterization that would enable a working linguist to not only invoke it but to actually put it to use. [...] As added evidence of the gravity of the situation, let me mention that the Old/New Information Workshop held at Urbana, Summer 1978, was quickly and quite appropriately dubbed the "Mushy Information Workshop". (Prince 1981: 225)

Mathesius' followers occasionally deny that such criticism is justified. Bílý (1981: 58), for example, states: "The Prague school theory of FSP [...] is, in my opinion, well-defined and consistently worked out." But a reaction such as the following is more characteristic (Sgall 1981: 173; see also Bílý 1981: 58-59):

The lack of precise definitions has been critically pointed out in the domain of topic and focus (functional sentence perspective) more often than in other domains, though there are still no commonly accepted definitions of Agentive, Addressee and other participants, of Subject, Object and other sentence parts, of Noun, Numeral and other parts of speech, of Case, Degree of Comparison or other morphemic categories, etc. The higher degree of plausibility of the assertions using terms from morphemics and surface syntax, if compared with the lower acceptability of notions from functional sentence perspective and some other parts of the domain of linguistic meaning thus appears to be connected first of all with the fact that the former domains have been often and for a long time described in detail by the informal methods of traditional linguistics, internalized by school training, and that it was relatively easy to incorporate them - though not in a unified form - into the different approaches to a formal description of language.

This is, of course, a very weak argument of the type: "Well, I did murder my wife, but my neighbour did the same, so why do you blame me?". Furthermore, the suggestion that FSP is a young discipline, which needs more time for everybody to become accustomed to it, is, given the time-honoured research tradition and the number of publications available, totally misplaced.

In the article quoted and elsewhere, Sgall attempts to eliminate the lack of precise definitions in FSP by replacing informal descriptions with formal definitions which relate "the term to other elements of a correct framework the adequateness of which (as a whole) can be checked empirically" (1981: 174).

Of course, formalization itself cannot provide the "theoretical foundation" and the "rigorous method" demanded by Francis, because formal definitions are only quasi-explicit and pseudo-rigorous as long as the problems which cause informal descriptions to remain vague have not been solved. Nobody would say that the phenomena of FSP are easy to analyze, but the first necessity for attacking the problems is an open-minded attitude. Assuming such an attitude, we might sum up the state of the art as did Dahl in 1974 (: 1):

A few years ago, I wrote a short book on the treatment of topic-comment structure [...]. Today, I feel that we are much farther from a final solution of these problems than I thought we were when I wrote the book.

6. Part One of the present study is an attempt to locate the problems of current approaches to FSP. Some issues will be discussed which, although at first sight trivial, are, in my view, essential in the sense that everybody dealing with FSP has to take a stand on them, explicitly or implicitly. I shall apply a rigorous "method", by making explicit the assumptions which underlie a given analysis and confronting them with the facts. The result is not a review of the type "Who said what on which occasion"; no attempt has been made to assess the contributions made to FSP by individual authors. The selection of quotations has been guided by considerations of conciseness and explicitness only.

Although I started from the main publications on FSP in Russian since approximately 1955, I have tried to formulate the text in such a way that the argument can be followed without a knowledge of Russian. I have done so because it is a remarkable, not to say alarming, fact that exactly the same issues which first appeared in the literature on Czech, then in that on Russian, are

at present being repeated in publications on English and other languages.

While I cannot guarantee that the references form a representative sample, I do claim that the issues discussed are representative of the literature on FSP.

On every issue I shall defend my own point of view. Admittedly, this way of writing has the disadvantage that the views of individual authors are not described in every detail. It must be emphasized that, when I reject an opinion on one particular point, this does not imply that I disagree with the same author on other points. I simply considered it more revealing to concentrate on the sources of disagreement.

Every chapter pursues a single line of reasoning which can be read as a self-contained whole. But the chapters overlap in many respects, since they approach the same problems from different angles. The fundamental problem is accentuation. In my view, the importance of accentuation in FSP has been systematically underestimated. In the original Czech conception, this was probably the consequence of too exclusive an interest in written language, together with a certain tradition in Czech linguistics that writing and speech can be viewed as coexistent systems which can be studied in considerable isolation (cf. Vachek 1939; 1959). Since the writing system happens to lack a graphic correlate of accentuation, the resulting statements on FSP concentrate on word order and context at the expense of accentuation. I intend to show that the statements require reformulation if we start from the more widespread view that writing is secondary to speech, i.e. that the former is essentially an imperfect reflection of the latter in another medium (e.g. Lyons 1968: 8-10, 38-42, 60-63). In Russian, this problem is quite complicated, because normative grammar prescribes specific arrangements for writing. The necessary reformulation never took place. The old statements happened to fit conveniently into theories which had been developed independently, and which also underestimated accentuation. Theories, for example, on sentences with a so-called "normal" intonation, or, in general, language models which postulate that accents are added to words which have already been arranged in a linear string (this way of thinking is not

restricted to generative grammar). Indeed, adding accents to strings of words is exactly what we do when we read a written text. When the original statements on FSP, which in themselves can be easily adapted to the present-day conception of writing, are incorporated into these other theories, they acquire quite different implications. Mathesius' followers did little to avoid the confusion.

After the rehabilitation of accentuation, which will turn out to be a name for two different things, renewed attention can be paid to word order. It will appear that Mathesian views on that problem also need some revision.

This argument, which will be presented in detail below, does not solve the problems of FSP; it only indicates the steps which must, in my view, be taken before the problems can be attacked at all. Part Two starts from the conclusions reached in Part One.

The terminological diversity in the literature on FSP is considerable; the reader should be willing to follow the reasoning without stumbling over the particular labels attached to the matters discussed. I take the term Functional Sentence Perspective (FSP) to refer to the whole study of word order and accentuation. The name "information structure" will henceforth be used when the form and meaning of the word order and accentuation of specific sentences is meant; for the content side alone I shall employ the term "informational content". Word order or linear arrangement is the chronological order in which the word-forms are spoken, or the left to right order in which they are written. Accentuation or prosodic arrangement is the distribution of prosodic prominence over the word-forms (see V.9 for a re-definition). Accents will be indicated by the symbol "^" on the prominent syllables. Accent marks enclosed in round brackets indicate accents which are of questionable perceptibility and/or irrelevant to the point under discussion. While accentuation concerns the *placement* of accents, the differentiation between types of accent belongs to what I call intonation (see V.11). Intonation will not be discussed, except for the difference between a "neutral" and a "contrastive" type of accent which figures in the literature on FSP. Examples with accent marks are meant to be read with a non-rising

sentence-final intonation; this intonation will not be indicated. In accordance with Russian custom, I use the name "theme" for Mathesius' "starting point" and "rheme" for his "nucleus" (with further specifications as indicated in the text). The label "context" is to be understood in a broad sense, comprising all information available at a given moment (but excluding information conveyed by the sentence itself). The application of the term "meaning" will be explained. Finally, the term "string" refers to a set of linearly arranged, syntactically related words; I shall use it in all cases where terms like "proposition", "sentence" or "utterance" might be confusing; the name has no theoretical status. I have translated quotations into English as closely as possible; the original text can be found in the footnotes. In quotations, remarks enclosed in square brackets are mine.

II. BROAD AND NARROW SCOPE

1. Consider the following strings (Allwood (1974: 54), accents indicated by "^"):

- (1) *The man in the car was smoking a black cigarette*
- (2) *The man in the car was smoking a black cigar[^]ette*
- (3) *The man in the car was smoking a bla[^]ck cigarette*
- (4) *The man in the car was sm[^]oking a black cigarette*
- (5) *The m[^]an in the car was smoking a black cigarette*
- (6) *The man in the c[^]ar was smoking a black cigarette.*

Strings (2) through (6) bear an accent mark (for the time being only the last accent will be indicated). They are sentences as we hear them in actual communication: with a certain word order, with at least one accent somewhere, with an intonation.

String (1) does not bear an accent mark. In the literature on FSP such strings represent two different units:

- (i) A unit which does not occur in actual communication: a theoretical construct which abstracts from accentuation and intonation (and, for some authors, from word order), i.e. a lexically filled syntactic structure.
- (ii) A unit which does occur in actual communication, namely a sentence spoken with a so-called "normal" intonation.

Here I shall be concerned with type (ii). Type (i) will not enter into the discussion until chapter IV.

The first question to be asked about sentences with "normal" intonation is: Are such sentences accented or unaccented? The notation of (1) without an accent mark suggests that the sentence is unaccented. This suggestion is obviously incorrect. Pronounce, with "normal" intonation: *He was smoking a cigarette* and *He was smoking something*. In the first case the most prominent

syllable will be *-rette* of *cigarette*, in the second case *smo-* of *smoking*. Or pronounce, with "normal" intonation, the sentence *He was smoking*. Then start to pronounce, with "normal" intonation, the sentence *He was smoking a cigarette*, but stop speaking after *smoking*. Then we have (with some effort) an unaccented string, a part of a sentence. The difference between the sentence *He was smoking* and the truncated *He was smoking (a cigarette)* is a prominence-lending pitch movement, an accent. (Some scholars might maintain that it is not the pitch movement itself which makes the syllable prominent, but this will not affect the argument.) Sentences spoken with "normal" intonation contain at least one prominent syllable. The accent involved may be of a different type from that in (2) - (6) (see II.2), but there is an accent.

If there is an accent, it is located somewhere.

Allwood adds a note to string (2) (1974: 62):

It should perhaps be pointed out that since the sentential stress normally falls on the last word of a sentence, one therefore often does not need to stress this word extra to assert it.

From this note we gather that (1) is meant to be pronounced with an accent ("sentential stress") on *cigarette*:

(1) *The man in the car was smoking a black cigarette.*

String (2) is also meant to be pronounced with an accent on *cigarette*, but now with "extra stress". Let me indicate this for the time being by:

(2) *The man in the car was smoking a black CIGARETTE.*

What Allwood means, then, by not placing an accent mark on (1) is not that (1) is an abstract construct, nor that it is unaccented, but that the (last) accent is in its "automatic" position, on the "last accentable item".

The custom of omitting "automatic" accents is, in my view, objectionable for several reasons.

In the first place, it implies an analysis of the facts while suggesting that it does not. For example, the typographical differentiation between (1) and (2) reflects the view that these are different sentences, which remains to be shown (see II.2). And an identical notation of e.g. *He was smoking a cigarette* and *He was*

smoking something suggests that these sentences have the same accentuation. In both cases the accent is indeed on the "last accentable item", but in the first sentence this item is the object, while in the second it is the verb. This raises the question of whether *He was smoking a cigarette* and *He was smoking something* are identical, or *He was smoking a cigarette* and *He was smoking something* (see II.5 and chapter V). Whatever the answer to these questions may be, it should at least be clear that the questions exist.

Secondly, the omission of "automatic" accents is a constant source of confusion. It obscures the distinction

- (a) between strings of type (i), abstract constructs, and of type (ii), sentences with "normal" intonation (see this section and chapter IV);
- (b) between the informational role of word order and that of accentuation (see chapter III);
- (c) between the status of the context and that of accentuation (see chapter IV).

It may perhaps seem exaggerated to stress the importance of an explicit notation, but we will soon see that the problems involved here are not at all trivial.

The main problem presented by sentences with "normal" intonation is this: Do such sentences have an information structure, i.e. can they or can they not be excluded from the study of information structure? (cf. Zolotova 1982: 282). Mathesius said that the "Actual Division" of a sentence concerns the way in which the sentence is embedded in its context (I.1). As Kovtunova (1976: 7) states it:

The division into theme and rheme is called the *Actual Division* because that division is, in the given context or the given specific situation, *actual* [in the sense of existing at the present moment], *essential* for the speaker or writer.¹²

This idea raises the following problem: Which is "the given context or the given specific situation" in which sentences with "normal" intonation are "actual", if these sentences are called "normal" because they are contextually independent?

This problem has two possible solutions:

- A. Sentences with "normal" intonation are not regarded as "actualizations" but as that which is "actualized" by sentences like (2) - (6). In this variant no abstract constructs of type (i) are needed.
- B. Sentences with "normal" intonation are also "actualizations", namely of abstract constructs of type (i). They occur in contexts of a "neutral" type, defined, for example, by the question: What is happening?. In this variant, contexts of a "neutral" type are also contexts, so that a careful distinction must be made between
 1. contexts of a "neutral" type (for sentences with "normal" intonation), and
 2. the notion "in abstraction from all contexts, also of the "neutral" type" (for abstract constructs).

I shall not make a choice here, because in my approach the problem does not arise. But it may be useful to call attention to a confusion of tongues in the literature on this point (besides the confusion resulting from mixing up the answers).

There are linguists who, after Mathesius, divide most sentences into two parts, let us say theme and rheme. This school, which is the only one widely represented in the Soviet Union, may be called the Adamec-school. Other linguists, who also refer to Mathesius, divide a sentence into three parts: theme - transition - rheme. Moreover, they assign to every sentence element within these three parts a certain degree of communicative relevance. Firbas is the best known proponent of the views of this school.

Now, one comes across descriptions of these two schools such as the following (Fries 1971: 227):

Während Verfechter dieser letztgenannten Ansicht [the Firbas-school] jedem Satz eine Thema - transition - Rhema - Gliederung zuschreiben wollen, werden Vertreter der zuerst vorgeführten Ansicht [the Adamec-school] einräumen, dass es Sätze, nämlich kontext-unabhängige Aussagen, gibt, die keine Thema - Rhema - Strukturierung aufweisen.

The controversy meant here concerns sentences like the following *Once there was a king*. With regard to this sentence (or rather its Czech equivalent) Firbas says that *king* has the highest degree of

Communicative Dynamism, but a degree of Communicative Dynamism is also assigned to all other sentence elements. The theme is defined as the element(s) having the lowest degree of Communicative Dynamism (with further subdivisions). Setting aside the cases mentioned in Firbas (1982), there is always an element with the lowest degree, so the sentence *Once there was a king* has a theme (e.g. Firbas 1964(a)). Mathesius called the Czech sentence involved "undivided" (nečleněný). This name reflects his view that the sentence contains no theme but only a rheme (1947: 235-236). But Mathesius' definition of the notion "theme" as "the starting point" differs from that of Firbas (see I.1-2).

The Adamec-school recognizes sentences without a theme, namely sentences consisting of a rheme only. In such sentences Firbas makes finer distinctions. On both sides, the issue is about sentences with "normal" intonation. Adamec's followers do not necessarily deny that the sentences involved are accented, they do not necessarily exclude them from FSP; they merely avoid dividing them into two parts.¹³

The alternatives A. and B. formulated above have adherents in both schools, thus the choice between these alternatives is another issue.

The status which sentences with "normal" intonation receive in publications on FSP is comparable to the status of the nominative singular of a substantive in languages with a case system. The nominative singular is used as an entry in a dictionary, as a name for the whole paradigm (cf. Gunter 1966: 164). But at the same time it is a member of the paradigm. If we are describing nominal flexion, we do not exclude the nominative singular because it happens to be used as a dictionary form. After all, it is not self-evident that the form is as it is. Likewise, the form (and the meaning) of sentences with "normal" intonation must be described. I have proposed that the first thing to do is to indicate the accentuation of the strings involved. Otherwise, they cannot be pronounced at all.

2. Having put an accent mark on Allwood's string (1), we are left with two strings having an accent on the last word:

- (1) *The man in the car was smoking a black cigarette*
 (2) *The man in the car was smoking a black CIGARÊTTE.*

Are these strings formally different, as suggested by the typographical differentiation?

Let us assume for a moment that two types of accent are indeed involved. Then, which type of accent is represented in the other strings? Should we write

- (3) *The man in the car was smoking a blâck cigarette*

or

- (3') *The man in the car was smoking a BLÂCK cigarette?*

String (1) has what I shall call a "broad scope" interpretation. That is, the scope of the assertion is the whole verb phrase. Another way of saying this is: the string answers the question What was the man in the car doing? (for some authors also: What was happening?), i.e. a question in which, besides *cigarette*, *was smoking a black* is also absent. String (2) is not meant to assert the whole verb phrase but only *cigarette*, as indicated by Allwood (1974: 55): *The man in the car was not smoking a black CIGARÊTTE, but a black CIGÂR.* An appropriate question would be: What black thing was the man smoking?, i.e. the question contains all elements of the sentence studied except for the accented element. I shall call this: a "narrow scope" interpretation. String (3/3') has an interpretation of the narrow scope type: *The man in the car was not smoking a blâck/BLÂCK cigarette, but a white/WHÎTE cigarette* (What cigarette was the man smoking?).

Next,

- A. Are (1) and (2) two different forms, each with its own interpretation, or a single form with two interpretations?
 B. Do (2) and (3/3') share, besides a narrow scope interpretation, also the formal characteristics of their accents?

The greater part of the literature on FSP in Russian assumes
 A. that (1) and (2) are two different forms, each with its own interpretation, and B. that the accents in (2) and (3) are formally identical (so that notation (3') must be chosen). In Russian, the accent in (1) is often called "phrasal accent" (*frazovoe uda-*

renie), while the accent in (2) and (3') is called "logical accent" (*logičeskoe udarenie*). Benoist (1979: 119-122) describes these accents as follows:

La nature physique de l'accent de phrase est essentiellement mélodique [...]. La réalisation mélodique qui l'exprime, est l'amorce de la chute finale de la mélodie de la phrase, elle affecte la dernière syllabe tonique de cette phrase, que la chute elle-même commence sur cette syllabe ou après elle. [...] Quant à l'accent logique, qu'il soit final ou non, il apparaît comme "l'intensification de toutes les caractéristiques du mot" [here Benoist is quoting Bryzgunova (1963)], c'est-à-dire l'utilisation des trois paramètres simultanément [...]. C'est un sommet dynamique, un sommet mélodique, un sommet quantitatif (durée).

The accent in sentences like (2) and (3') is thus, in the opinion of Benoist, more intensive than that in (1) by being louder and/or higher pitched and/or longer¹⁴ (what Allwood (1974: 62) called "extra stress").

How much louder, how much higher, how much longer?

Let us first take (3') ... a BLÂCK cigarette. Pronounce the accent as "intensively" as possible. In this case the sentence has indeed a narrow scope interpretation. Now make the accent gradually less intensive. Does the narrow scope interpretation disappear? It does not. We can pronounce the accent as soft, low and short as we please, as long as the accent is on *black* the sentence will have a narrow scope interpretation. So it is not the type of accent which ensures this interpretation, but the place of the accent.

Next consider (2). Here it is certainly not the place of the accent which is responsible for the narrow scope interpretation, since (1) has an accent in the same place, yet (1) has a broad scope interpretation. Pronounce (2) a number of times, every time with a softer, lower and shorter accent. Is there a point where (2) becomes (1), where the possibility of a narrow scope interpretation disappears and the possibility of a broad scope interpretation appears? There is not. Whichever way we pronounce the accent, there are two interpretations every time. Although there may be a tendency to pronounce the accent more "intensively" when a narrow scope interpretation is aimed at, there is no discrete formal difference correlating with the two interpretations (for the same point see, for example, Bolinger (1961), Fuchs

(1976: 293-300), Ladd (1980: 78-80)). So (1) and (2) represent two interpretations of a single formal sentence: (1/2) ... *a black cigarette*. A formulation like the following is therefore more correct than that of Benoist:

A distinction may [...] be made between unmarked focus, realized as the location of the tonic on the final accented lexical item, which assigns the function 'new' to the constituent in question but does not specify the status of the remainder, and marked focus, realized as any other location of the tonic, which assigns the function 'new' to the focal constituent and that of 'given' to the rest of the information unit. (Halliday 1967: 208)

In the next section I shall discuss the notion "final accented lexical item".

To be sure, I do not deny that two (non-interrogative) types of accent exist (among other types), but only 1. that the formal distinction between these accents is a gradual one as indicated by Benoist, and 2. that the semantic difference between them is that between "narrow" and "broad" scope (see Keijsper 1983(a): 118-125; 1984: 26-28). Further, I do not deny that gradual differences convey information, but this information can never be segmented into discretely different interpretations. Incidentally, Bryzgunova, on whose authority Benoist relies, does not deny that sentences like (3) occur with both types of accent meant by Benoist (Bryzgunova 1977: 27 (exercise 13); see on this problem also Fougeron (1979) and Bonnot, Fougeron (1982; 1983)).

The problem which emerges from the preceding discussion is: Why does sentence (1/2) have two interpretations (at least), while (3) has only one?

This is a problem to be solved by students of information structure, it cannot be relegated to students of intonation (i.e. to those who study types of accent), since it has nothing to do with types of accent but only with the position in the sentence of an accent (of whatever type).

The example is not an incidental one, since a relation like that between (1/2) and (3) obtains in a large number of sentences. Many prosodic arrangements exhibit the following regularity: If two elements *x* and *y* are arranged prosodically in such a way that one element is accented and the other unaccented, then one of the two combinations *x* $\hat{y}$ or *y* $\hat{x}$ (abstracting from word order,

see chapter III) answers both a question in which, in addition to the accented element, the unaccented element is absent (broad scope interpretation) and a question in which the unaccented element is present (narrow scope interpretation), the other combination answers only a question in which the unaccented element is present (narrow scope interpretation). The elements *x* and *y* can be elements of varying levels of complexity. For example:

BROAD AND NARROW

black cigarettes, mysterious visitor
x y x y

lay, black cigarettes
x y

the table, the kitchen
x y x y

the, black cigarettes, the →
x y x

mysterious visitor
y

on, the table, in, the kitchen,
x y x y

of the mysterious visitor
x y

on the table in the kitchen
x y

the black cigarettes →
x

of the mysterious visitor
y

on the table in the kitchen, lay →
x y

the black cigarettes of
y

the mysterious visitor,
y

NARROW

black cigarettes, mysterious visitor
x y x y

lay, black cigarettes
x y

the table, the kitchen
x y x y

the, black cigarettes, the →
x y x

mysterious visitor
y

on, the table, in, the kitchen,
x y x y

of the mysterious visitor
x y

on the table in the kitchen
x y

the black cigarettes →
x

of the mysterious visitor
y

on the table in the kitchen, lay →
x y

the black cigarettes of
y

the mysterious visitor,
y

As indicated by the examples, we can also state the following: If a combination *x* $\hat{y}$ or *y* $\hat{x}$ has a broad reading on a certain level,

then it has a broad reading on all lower levels (e.g. on the *table in the kitchen* and in the *kitchen*; it does not hold true that, if a combination has a broad reading on a certain level, it necessarily has a broad reading on higher levels (e.g. on the *tâble* and on the *tâble in the kitchen*). If a combination has only a narrow reading on a certain level, then it has only a narrow reading on all higher levels (e.g. *blâck cigarettes* and on the *table in the kitchen lay the blâck cigarettes*); it does not hold true that, if a combination has only a narrow reading on a certain level, it necessarily has only a narrow reading on all lower levels (e.g. on the *tâble in the kitchen* and on the *tâble*). In Russian the same regularity obtains.

What has earlier been called "normal intonation" is thus the accentuation of a given string which ensures that the last accent has the broadest possible scope (Ladd 1979: 111-114). In FSP terminology: that accentuation which ensures that a string has a maximal rheme and a minimal theme. In the remainder of this chapter and in the next, I shall be concerned with a number of assumptions which seem to be, but are not, supported by the facts as given above.

The regularity formulated in this section is, of course, implicitly contained in the literature on FSP, but if one classifies the data as Benoist and Allwood do, the generalization cannot be formulated, because then every question which can be derived from a given accentuation defines a different unit. For example:

Question 1: What?	Unit 1: <i>black cigarettēs</i>
Question 2: What black things?	Unit 2: <i>black CIGARÊTTES</i>
Question 3: What cigarettes?	Unit 3: <i>BLÂCK cigarettes</i>

This presentation suggests that unit 2 is just as different from unit 1 as from unit 3, and that the type of accent in 2 is identical with the type of accent in 3. The presentation obscures the fact that 1 and 2 are formally identical, and that the type of accent in 3 has still less to do with the narrow scope interpretation.

3. In the foregoing, a distinction has been introduced between

- A. the type of accent used to make a syllable prominent,
- B. the place of the last accent in a sentence, and
- C. a broad and a narrow scope interpretation of an accent.

I now turn to the problem of whether B. and C. are related.

It is often assumed that the relation is as follows:

If the last accent is placed on the last accentable item (or: last lexical item) it has a broad scope interpretation; or: for a last accent to allow a broad scope interpretation it should be placed on the last accentable (last lexical) item.

One look at the list of examples given in the preceding section shows that the relation has at least a tendency to be this way. But on closer inspection the "rule" creates a new problem: Which is the last accentable (lexical) item?

Consider the following Russian example (for the same problem in English see e.g. Schmerling 1976: 21-22).

Nikolaeva (1982), like most Russian authors on the subject, differentiates between a so-called phrasal accent (on the last accentable item) and another accent (in the same place or elsewhere), on the basis of the presumed functional differences (see section 2 above) (Nikolaeva 1982: 7-13). The place of the phrasal accent is not indicated (see section 1). Nikolaeva discusses the functions of the non-phrasal accent; where this accent occurs she speaks of "akcentnoe vydelenie" (accentual prominence). In chapter 4 (1982: 65-76) sentences of the following type are discussed: *Tîše. Bâbuška spit* (Hûsh. Grândma is sleeping). The accent in such sentences does not lend special prominence to the accented word (in Nikolaeva's sense), and it has a broad scope interpretation (cf. What is happening?). Thus, there is a problem (which is not recognized as a problem by Nikolaeva). On the one hand, the accent is "normal" to such a degree that Nikolaeva does not always bother to indicate its position. So we are inclined to call the accent a phrasal accent. This is, however, impossible, because the sentence with the phrasal accent is supposed to be *Bâbuška spît* (Grandma is slêeping). On the other hand, there is no special prominence, nor necessarily a narrow scope interpretation, so we cannot call the accent "akcentnoe vydelenie" either. Nikolaeva has recourse to yet another term in such cases:

"akcentnoe podčerkivanie" (accentual underlining) (1982: 74). In Nikolaeva 1981 (: 187) it is explained that this type must be regarded as a "communicative variant of the neutral phrasal accent".

The problem is obviously that *spit* in *Babuška spit* is the last accentable item, while it is *Bábuška spit* which allows a broad scope interpretation. This problem cannot be solved by introducing a set of obscure terms, but only by separating the notions "broad scope interpretation" and "last accentable item" from each other.¹⁵ We might, of course, also interpret the latter notion according to the circumstances: "the automatic terminal position of the CI [center of intonation] is not the absolutely final position, but only the most nearly final position that is neutral" (Daneš 1960: 48). But some day we will have to say that notions such as "last accentable item", "last lexical item", "last content word", and "automatic terminal position" are defined in a circular way. Why do we call *smoking* in *He is smóking something* the last accentable item? Exactly because it is this sentence and not *He is smoking sôomething* which has a broad scope interpretation. So a rule saying that an accent has a broad scope interpretation if it is placed on the last accentable item is a senseless one. To give another example, the accent in *He is lying in the gârden* can be interpreted as including the verb in its scope (cf. *Where is John?*), the accent in *He lay down for a minute* cannot (only: *For how long did John lie down?*). A statement saying that not *minute* but *down* is here the last accentable item does not convey more than that the accent in *He lay down for a minute* does not include the verb in its scope.

Although it cannot be denied that in sentences with a broad scope interpretation the last accent is often found towards the end of the sentence, the notion "last accentable item" ("last lexical item", "last content word", "automatic terminal position" etc.) only creates problems. So I propose to give it up.

4. In Sgall et al (1973: 19-21) we read:

It is necessary to distinguish at least three layers

of TCA [topic/comment articulation]. The first of them, referred to as the basic distribution of CD [Communicative Dynamism] or as the scale of communicative importance, is determined by the semantic structure of the sentence [...] and appears, among others, in sentences not presupposing any preceding context (or situation). [...] In marked cases, however, the degree of CD of a constituent can be lower than if it were determined only by its syntactic role in the semantic representation of the sentence. These cases constitute the second layer of TCA. They are connected with the (necessary, not sufficient) condition that the constituent in question is "known" in a certain sense [...]. To the third layer of TCA belong the cases of the so-called second instance: a correction of some misunderstanding concerning a part of a sentence [...].

The proposed classification assumes that it is possible to tell in any given case whether or not a sentence presupposes a preceding context. Having decided not to circumvent the problem by omitting the accents on the strings involved, nor by relegating the problem to students of intonation, nor by supplying a circular definition, we are compelled to indicate which member of a paradigm like Allwood's (1)-(6) belongs to the "first layer". (Alternatively, the problem may be formulated in terms of word order, which is an equivalent formulation for languages like Czech and Russian - see chapter III.) This task raises some problems.

The accent in *He is lying in the gârden* may include the verb in its scope, that in *He lay down for a minute* cannot. And what about *He is working in the gârden*? We can probably agree that this sentence answers the question *Where is John?* What about *He is jogging in the gârden*? Does this sentence answer, besides *Where is John* doing his jogging?, also *Where is John?* (and: *What is happening?*)? If it does, let us take *He jogs in the gârden*. Only *Where* does he do his jogging?, or also *What* does John do for a hobby? (cf. *He jôgs, in the gârden*)?

With respect to such sentences, a solution has been sought in defining a syntactic difference between e.g. *He is lying in the gârden* and *He jôgs in the gârden*. Contreras (1976: 37), for example, would probably say that the locative phrase in

the former sentence is an argument ("because without it the sentence would be incomplete"), while in the latter sentence it is an adjunct (for Russian see e.g. Adamec 1966: 6-7, 57-60). We then arrive at the rule: if a string-final locative phrase is an argument, an accent on it includes the verb in its scope. The same problem now becomes: When is a locative phrase an argument?

A syntactic solution has also been proposed for pairs such as *She left directions for him to follow* and *She left directions for him to follow*, both of which have a broad scope interpretation (Bresnan 1971; 1972). Bolinger (1972) shows how weak the proposal is. In Russian, the sentence *On snjal furâžku zel'nogo cveta* (Lit. He took off his cap of a green colour) has a broad scope interpretation (He took off his cap, which, by the way, had a green colour - often spoken with a "continuation" type of intonation). The accent in *On snjal furažku zel'nogo cvêta* also allows a broad scope interpretation, but this sentence conveys that he might have had a different cap. In both sentences the phrase *of a green colour* is a normal attributive genitive; the semantic difference can be compared with the difference between a non-restrictive and a restrictive relative clause (Ladd 1979: 125; I do not agree with Ladd's analysis, however). Which of the two are we supposed to choose as the one not presupposing a preceding context?

Returning to Nikolaeva's example, we found that *Grândma is sleeping* has a broad scope interpretation. Does *Grandma is sleeping* presuppose a context? If it does, what about *You did not listen to me, you were sleeping*? Of course, we are inclined to say, pronouns are a separate case. As Bílý states it (1981: 46): "The inherently most thematic NPs are personal pronouns." But what should we do with sentences like this one: *When I came home, I found that you were sleeping there*? This sentence does allow a broad scope interpretation (cf. What was new?). Which of the two does not presuppose a preceding context? And which of these?:

I was lying in the garden, when suddenly Grândma came out of the house.

I came out of the house and stared: Grândma was lying in the garden.

Grândma was lying in the garden, when suddenly ĭ came out of the house.

Grândma came out of the house and stared: ĭ was lying in the garden.

And finally:

I entered the room and sniffed: that awful man had been smoking his black cigarettes.

In short, as soon as we leave behind the John-is-reading-a-book type of sentence it becomes somewhat difficult to classify sentences according to the criterion of whether they presuppose a preceding context (a context of a neutral type). As far as I know, all existing proposals translate the problem into another problem: a syntactic problem, as indicated above, or a semantic problem: if the semantic role of sentence elements determines which is the "normal" arrangement, then how are we supposed to decide whether a given constituent is an Instrument or a Target or a Complement or a Beneficiary or an Experiencer, and so forth? (Contreras 1976; for Czech see e.g. Sgall et al. 1980). Needless to say, the decision must be made independently of accentuation (or word order), otherwise the description will be circular. As mentioned by Dahl in his review of Sgall et al. (1973):

[...]each 'participant' (argument NP) of a verb (actor, dative, objective, direction etc.) has [in the view of Sgall et al.] an inherent degree of communicative importance. I find this notion at least as unclear as that of communicative dynamism. It is used to explain word order regularities that cannot be accounted for by other notions of TCA [topic comment articulation]. However, it appears that the only criterion for assuming that a certain participant has a greater communicative importance than another is that it usually comes first [last?]; so the explanatory power of the notion is dubious. (Dahl 1975: 348)

I hasten to say that the problem signalled in this section is not a problem for everyone. Daneš (1972: 221; originally 1967), for example, states:

But it would be a false assumption to think that for every sentence there must necessarily exist a neutral (unmarked) form.

And Kovtunova and others recognize in some cases two contextually

independent arrangements of a group of words (e.g. Kovtunova 1976: 157). I fail to understand the sense of a classification which need not classify the facts.

5. We saw in the preceding section that it is not easy to divide all sentences into two groups, one containing sentences which presuppose a preceding context, and one containing other sentences. The next question is: Do we really need such a division? What aim is served by trying to isolate a class of contextually independent sentences?

Ladd (1979: 104) correctly remarks:

The problem for the investigator, then, is not to write rules by which "normal stress" can be assigned to any sentence. Rather, it is to discover the principles by which native speakers signal (and infer) broad and narrow focuses and how these principles can account for the data of [...] sentence accent.

I do not agree with Ladd, however, that in order to discover these principles, we have to treat broad and narrow focuses separately. For broad focus Ladd proposes a hierarchy of accentability, the principle then being: "Accent goes on the most accentable syllable of the focus constituent" (1979: 116-117). Deviations from this principle (narrow focus and what Ladd calls "default accent") must then be interpreted as signalling a special relation to the context.

In my view, this is a very long detour. It consists of the following steps (at least):

1. We have to find the hierarchy of accentability.

At present, Bing's (1980: 126) remark is not too exaggerated: "The problem with Ladd's "poorly understood hierarchy of parts of speech" is that it is not a hierarchy. It includes noun phrases and everything else, with noun phrases first on the list and everything else second." A further development of the hierarchy is bound to run into the type of a problem mentioned in the preceding section.

2. Assuming that the problem is restricted to noun phrases on the one hand and everything else on the other, we have to

answer the question: Which phrases are noun phrases? In *He is a real nobody* the word *nobody* is "more accentable" than the same word in *Nobody réal*. Is *nobody* a noun or some other part of speech? Note that the question must be answered independently of the arrangement, otherwise an explanation saying that in the former sentence the accent is on *nobody* because *nobody* is a noun is circular (since it is a noun as a consequence of the arrangement).

3. We have to explain why the hierarchy is as it is. For example, why are personal pronouns less accentable than nouns? (And why not always? - see the examples in the preceding section).
4. Since the hierarchy serves to account for broad focus sentences only, other sentences must be explained in a different way, in Ladd's opinion in terms of contextual relations.

Although Ladd's study is refreshing, his proposal is conservative because it retains the requirement that it is necessary to define broad focus sentences as a class. If it is not our task to write rules for "normal stress" assignment, we can simply drop this requirement.

A classification of sentences into broad and narrow scope types is a classification based on a given content (whether or not the sentences presuppose a preceding context). Given the fact that a formally homogeneous class of broad scope sentences does not exist, we might as well take the formal characteristics of accentuation instead of aspects of content as the classificatory criterion. Thus, for example, *Grândma is sleeping* is in the same class as *I am sleeping*, regardless of the fact that the former sentence has a broad scope interpretation, while the latter most often has not. We can then proceed to explain this fact directly, in terms of its cause: the semantic difference between *Grândma* and *I*. This difference has to be described anyway (cf. step 3 mentioned above), so why not do it directly, without any hierarchy?

From the semantic difference to be described, together with the meaning of the accentuation (to be described), it should then follow that *Grândma is sleeping* allows a broad scope interpretation, while *I am sleeping* leads most often to a narrow scope

comprehension. Then we have what Contreras (1976: 5) calls "a theory of word order and stress placement that will predict what inferences are allowed given a certain stress placement and a certain word order". For this aim, no "layers of FSP" or "hierarchies of accentability" are needed, for the latter are the result of the opinion that we should predict stress placement and word order given a certain inference. In chapter VI shall discuss the difference between the two.

III. WORD ORDER AND ACCENTUATION

1. No controversy has ever been caused by the question as to when two sentences have the same word order. For example, in both *My mother is cōming* and *My mōther is coming* the linear arrangement is: 1. *my*, 2. *mother*, 3. *is*, 4. *coming*.

On the other hand, the question as to when two sentences have the same accentuation is the source of fundamental disagreements.

Consider the following sentences (Russian *poezd* = a/the train, *prišël* = arrived):

(1) <i>Poezd prišël</i>	(2) <i>Pôezd prišël</i>
(3) <i>Prišël poezd</i>	(4) <i>Prišël pôezd</i>

Some authors, Pospelov (1970: 186) for example, when commenting on these sentences, say:

horizontally, only the position of the accent changes; vertically, only the order of the words is different.

Birkenmaier (1979: 56), like many others, says however: "In der Horizontalen des Schemas verändert sich nur der Satzакzent, in der Vertikalen Wortstellung und Satzакzent".

The problem thus concerns the vertical rows. Pospelov holds the view that two sentences have the same accentuation if the same lexical item is accented, for example *prišël* in (1) and (3). According to Birkenmaier, (1) and (3) have a different accentuation because in (1) the second word is accented, while in (3) an accent is placed on the first word.

The controversy becomes more interesting when we combine it with another issue. In an orthodox Mathesian approach, (1) has an "objective" arrangement, just as (4). Sentences (2) and (3) are arranged in a "subjective" way. Many students of information structure hold the view that the difference between "objective" and "subjective" arrangements is stylistic. In this view, (1) and (3)

have the same informational content, the difference being a matter of style; (2) and (4) also differ only stylistically. Throughout this chapter I shall assume that this is correct (see chapter VI for discussion). Then, if one follows Pospelov, one says that the informational difference between (1) *Poezd prišël* and (4) *Prišël pœzd* is the consequence of the different accentuation, word order contributing stylistically only. If, on the contrary, one follows Birkenmaier, one ascribes the difference between (1) and (4) to word order, because now the accentuations are the same: an accent on the second word.

This is essentially the disagreement between students of spoken language and those of written language mentioned in I.4: the former group follows Pospelov, the latter Birkenmaier. When discussing word order, the two groups are talking about different things.

I shall defend Pospelov's point of view.

Birkenmaier, and other students of written language, define one variable, accentuation, in terms of another variable, word order. Why do they do so?

The assumptions leading to this analysis usually remain implicit. But they seem to amount to (all possible combinations of) the following:

1. The assumption that sentences like (1) and (4), with "normal" intonation, are unaccented. This view has been dealt with in II.1 above.
2. The assumption that word order is a hierarchically "higher" ("deeper") phenomenon than accentuation.
3. The assumption that the accents in (1) and (4) are "automatic" and therefore do not contribute to the meaning of the sentences.
4. The assumption that accentuation does not play a role in writing.

Only if we start from the assumption that accents are added to words which have already been put one after the other can we understand Birkenmaier's formulation. In that case, we can say that in (1) and (3), for example, an accent is added "in a different place". The implicit claim is that word order is a more fun-

damental linguistic device than accentuation.

This claim is made very often. Consider, for example, problems like: is this or that language of the SVO or of the SOV type (S = Subject, V = Verb, O = Object)? In discussions about such problems it is taken for granted that e.g. SVÔ and SVO are two different pronunciations (realizations) of the same unit, while e.g. SVÔ and SÔV are pronunciations of different units. But in what sense do the former two differ less fundamentally than the latter two? The difference between Russian SVÔ and SÔV is called "stylistic", while SVÔ and SVO undoubtedly have different informational contents. The facts of Russian as described in the literature on FSP thus rather suggest that SVÔ and SÔV differ less fundamentally than SVÔ and SVO.

Making an unmotivated claim is less serious than the failure to see that it is a claim. In his handbook on semantics, Lyons says (1977: 509-510):

We are committed by the definition of 'sentence' and 'grammar' with which we have been operating to the view that any two strings of forms that differ with respect to type-token identity must be accounted for in terms of their correspondence with different system-sentences. It follows that the type-token distinction of *John I know* and *I know John* is a sufficient condition for the postulation of the two system-sentences 'John I know' and 'I know John'. [...] But when the difference in the thematic structure of two utterance-tokens is simply a matter of their prosodic super-structure, as it were, the situation is not so clear [...]. It is arguable that the prosodic differences are a matter of the contextualization of the system-sentence under one set of circumstances rather than another. But other linguists might, quite reasonably, take a different view. No attempt will be made here to justify the methodological decision to draw the boundary between what is and what is not to be ascribed to the structure of system-sentences at one place or another.

I quote Lyons because he tries to give a relatively "theory-independent" survey of various points of view. In the passage quoted, and elsewhere, Lyons leaves open the question of whether his "methodological decision" to regard prosodically different strings as instances of the same system-sentence is correct. This question will be taken up in chapter IV; we will see that the issue is not at all methodological. But here attention must

be called to the fact that Lyons presents the informational difference between *John I know* and *I know John* as one not involving "prosodic superstructure". This presentation suggests that he regards the "prosodic superstructures" of *John I know* and *I know John* as identical, which is an extremely "theory-dependent" point of view, not a clear fact. A description which is not based on the assumption that word order and accentuation are hierarchically ordered with respect to each other would say that it is *John I know* and *I know John* which have the same accentuation, so that, assuming that these sentences differ only stylistically, the informational difference between *John I know* and *I know John* is a consequence of the different "prosodic superstructures" (and that the strings, adopting Lyons' "methodological decision", are consequently instances of the same system-sentence).

For those who aim at developing a psychologically adequate language model, a hierarchy in a model to the effect that the notion "same accentuation" is defined on the basis of word order ought to be a shocking idea. Such a model would contain the hypothesis that a speaker encoding a message wishes to lend prominence to a linear position rather than to a particular word: "let me put an accent on the first (or last) word" rather than "let me put an accent on x".

Such a hypothesis is unacceptable to me, in the first place because it is not sustained by facts, and in the second place because it is semantically not feasible.

Unfortunately, the statements of Mathesius and his followers about the function of word order can be smoothly embedded in a model which postulates such a hierarchy, since these statements were originally made about written texts. And in a written text, of course, the writer has already chosen a linear arrangement before the reader adds the accents mentally or actually (when he reads aloud).

Since the relation between word order and accentuation pervades the entire literature on FSP I shall discuss it in some detail.

2. In Adamec (1966: 8) we read:

A given word order and a given position of the sentence [= last] accent, taken together, constitute a so-called linear-dynamic structure of a sentence [...]. All functions of word order can be investigated only while taking into account [...] the place of the sentence accent, otherwise the results of the investigations are unreliable and inaccurate. [...] For example, it would be absolutely insufficient to say that the basis [theme] is generally located at the beginning, and the nucleus [rheme] at the end of the sentence, if it were not added that this holds true only when the sentence accent is on the last word of the sentence.

Up to this point I follow the argument and agree with it. But then it continues:

The relation between the order of the words and the place of the sentence accent can to a certain degree be characterized as a relation of functional substitution. In some cases [in "objective" arrangements] the main function is performed by the order of the words, while the place of the sentence accent only supports, or more precisely does not hinder the order of the words; but in other cases [in "subjective" arrangements] the main function is taken over by the sentence accent, the order of the words then becoming to a certain degree irrelevant.¹⁶

Let x be *poezd*, and y : *prišel*. Adamec says here that the informational content of $x\dot{g}$, and that of $y\dot{x}$, is expressed by means of word order, while the accent merely does not stand in the way of the order of the words. He proposes that in $\dot{g}x$ and $\dot{x}y$ the same informational contents are expressed by means of accentuation, word order now being ("to a certain degree") irrelevant. But if $x\dot{g}$ and $\dot{g}x$ have one informational content and $y\dot{x}$ and $\dot{x}y$ another, it immediately follows that the only relevant point is whether the accent is placed on x or on y , and that word order is irrelevant. Any other conclusion is excluded by the facts.

Kovtunova repeats Adamec' argument (e.g. 1973: 51-52):

On the level of the Actual Sentence Division, the order of the words plays a semantically distinctive role: it distinguishes the theme from the rheme. The theme [...] is located at the beginning of the sentence and the rheme [...] follows the theme at the end of the sentence. [...] The semantically distinctive function of word order is effectuated against the background of a stylistically neutral

rhythmical-intonational phrasal structure with an automatic sentence accent at the end of the phrase. [...] In utterances with a non-automatic [...] sentence accent, word order loses its distinctive properties. [...] A non-automatic sentence accent has distinctive power, since it is the only formal means by which the rheme is expressed.¹⁷

The fallacy in these arguments is the following.

We can determine whether a formal feature is relevant or irrelevant only by comparing the item presumed to be distinguished or not distinguished by the feature involved with another item, one which lacks the feature.

The statement that in $\acute{g}x$ and $\acute{x}y$ word order is irrelevant to informational content means that we can change the order of the words without arriving at a different informational content: $x\acute{g}$ and $y\acute{x}$. That is correct (under the "stylistic" assumption).

The statement that in $x\acute{g}$ and $y\acute{x}$ word order is distinctively relevant to informational content means that we cannot change the order of the words without arriving at a different informational content: $\acute{g}x$ and $\acute{x}y$. That is incorrect.

Adamec and Kovtunova attempt to combine the two contradictory statements by opposing in the first case $\acute{g}x$ to $x\acute{g}$ and $\acute{x}y$ to $y\acute{x}$, and in the second case $x\acute{g}$ to $y\acute{x}$ and $y\acute{x}$ to $x\acute{g}$. That is, in the first case they oppose to each other forms which have an accent on the same lexical item in a different linear position, while in the second case they oppose to each other forms which have an accent on a different lexical item in the same linear position. Two definitions of the notion "same accentuation" are thus being mixed up.

The fallacious reasoning is obviously inspired by the idea that an "automatic" accent, on the last item, does not contribute to the meaning of a sentence. But the facts show that it does contribute:

[...] a non-emphatic phrase-final accent has the same main function as a phrase-initial rhematic accent [...]. Not only does it render the sentence semantically complete and determine its communicative type [i.e. statement vs question etc.], it also indicates the semantic centre of the message: the rheme [...]. What is important here is not the degree of emphasis, nor the place of the accent (i.e. at the beginning of the phrase or at the end),

but the opposition; the prominence of the last word of the sentence signals even without emphasis that the carrier of the rheme is precisely that word, and not, for example, a word in the beginning or the middle of the phrase.¹⁸ (Ševjakova 1977: 109) (see also Čičagov 1959: 32)

Ševjakova writes this with reference to Raspopov (1961), who had already made the same error as Adamec and Kovtunova, but the same criticism could be made about many other publications on information structure.

The principle of "functional substitution" to which Adamec alludes has been invented for cases such as the following. In order to convey that a sentence is to be interpreted as a question, it may be spoken with a so-called "question intonation". When the same intonation is used in a sentence which already is a question as a consequence of a *wh*-expression contained in the sentence, the result is a question about a question: did you ask *wh* ...?

Some scholars would say that a *wh*-expression is a functional substitute for a "question" intonation, and the other way round in sentences without a *wh*-expression. This idea (which is, in my view, in itself unacceptable) cannot be applied to the word order case. In the question case it is a fact that (at least sometimes) a "question" intonation renders a sentence interrogative. But in the word order case it is not a fact but an assumption that word order expresses informational content. The facts show that it is not word order but accentuation which expresses informational content (under the "stylistic" assumption). The principle of functional substitution cannot be applied to cover up inconsistencies.

At present, Adamec (1981: 226) holds the view that in $x\acute{g}$ and $y\acute{x}$ informational content is expressed by word order and accentuation together, as "coupled means" (*ibidem*), while in $\acute{g}x$ and $\acute{x}y$ it is expressed by accentuation alone. My point remains the same.

How is it possible that an idea which is so obviously incorrect could become the official theory on FSP in the Soviet Union? Because it is combined with an argument which does make sense. This other argument has to do with writing.

3. When we write down a sentence or a text, we do not normally put accent marks on the words. Accents, which we hear when someone is speaking, are lost in writing. In order to compensate partially for this inconvenience, an ingenious "rule" exists. It instructs a writer to do the following: "if two arrangements convey the same informational content (under the "stylistic" assumption), then choose the one with the last accented item in final position". It says to a reader: "if the context, or other information, does not make clear with which accentuation a given string is meant to be read, then read it with the last accent on the last ("accentable") item".

In this sense, final accent placement is automatic in reading. The rule is responsible for the well-known "citation intonation" with which some untrained readers read aloud (cf. for example Schmerling 1976: 50 ff.).

The rule is more influential in Russian than in English (and more influential in Czech than in Russian, see note 4), because in Russian word order is more flexible than in English. Consider the following statistics about the position of subjects (S) with respect to verbs (V) in Russian (Bivon 1971: 30-35; Sirotinina 1963(a): 118-120; 1965: 95-110).

On the whole, SV is more frequent than VS, but the percentages in writing differ from those in speech. In written Russian, S precedes V in at least 70% of all cases. Arrangements VS almost invariably stand for $\hat{V}\hat{S}$: only in 2-4% of all VS occurrences is the string obviously meant to be pronounced as $\hat{V}\hat{S}$. In SV, the last accent is either on V or on an element following the SV-group. (Hence, if e.g. an adverbial phrase precedes, and another, accented element follows the group, Russian mostly has SV; Czech normally has VS here.) In spoken Russian, Sirotinina found ca. 90% SV and ca. 10% VS (in formal speech ca. 17% VS, in informal speech ca. 7%). Ironically, the few VS occurrences in informal speech had an unaccented subject in almost all cases (mostly a pronoun).

Thus, in informal speech SV is preferred irrespective of accentuation; in formal writing, VS is chosen when $\hat{V}\hat{S}$ is meant.

A comparable difference obtains for the position of the direct object (O) with respect to the verb (V) (e.g. Kločková 1961;

Sirotinina 1963(a): 124-130; 1965: 33-57). In written Russian, "scientific style", O precedes V in at most 10% of all cases. The object is then placed either in absolutely initial position, as a theme (e.g. $\hat{O}\hat{S}\hat{V}$), or in non-initial position as a part of the theme (e.g. $\hat{S}\hat{O}\hat{V}$, $\hat{A}\hat{d}\hat{v}\hat{e}\hat{r}\hat{b}\hat{O}\hat{V}\hat{S}$). Clearly, VO is the normal case here, with the last accent on O or on an element following the VO-group. An arrangement $\hat{S}\hat{O}\hat{V}$ practically never occurs in this style. In contrast, according to Sirotinina, informal, spontaneously spoken Russian has the object preposed to the verb in at least 50% of all cases, $\hat{S}\hat{O}\hat{V}$ being no less common than $\hat{S}\hat{V}\hat{O}$.

The percentages differ considerably according to the style of writing or speech. For example, in written texts Sirotinina (ibid.) counted 7-9% OV in scientific style, 12-20% in literary works, and 25-80% in written "imitations" of informal speech (dialogues etc.). See on this point also VI.1.

Since it is impossible to draw discrete borderlines between different style shifts, different sources adduce different percentages. Thus, Altermark (1977: 46, 64) found, among 1000 written SV/VS sentences, 860 examples which had (to be read with) an accent on the last word ($\hat{V}\hat{S}$: 136, $\hat{S}\hat{V}$: 724 (I take the liberty of adding up the figures for sentences with and without accent marks (see II.1-2))); among 1500 written sentences consisting of S, V and O, 895 examples had the last accent on the last element. Altermark's corpus thus contained relatively many arrangements having the last accent in non-final position (e.g. $\hat{S}\hat{V}$: 88 examples, $\hat{V}\hat{S}$: 52, $\hat{S}\hat{O}\hat{V}$: 90). This diversity has a number of sources. First, $\hat{S}\hat{V}\hat{O}$ is relatively frequent in writing (358 examples in Altermark's corpus - see note 26). Secondly, many of the $\hat{V}\hat{S}$ and $\hat{S}\hat{V}\hat{O}$ arrangements probably contain pronominal subjects and objects (Altermark does not specify this, but Sirotinina found differences between nouns and pronouns, and Svedstedt (1976) counted 50% $\hat{S}\hat{O}\hat{V}$ and 50% $\hat{S}\hat{V}\hat{O}$ for unaccented pronominal objects). Finally, Altermark's corpus also included "literary" texts written in a more or less colloquial style; thus, the author mentions (1977: 37) that the $\hat{S}\hat{V}$ and $\hat{V}\hat{S}$ arrangements were found in dialogues or other "stylized" representations of spoken language. In corpora where texts of the latter type are absent, the number of final accent placements increases immediately.

For example, in a story by Čechov, read aloud in a professional way, Galeeva (1975) counted 90% information units having the last accent on the last word; Adamec's corpus contained 93% "objective" arrangements (1966: 57); and so on. In this way, all available evidence clearly shows that word order is the main cue for accentuation in formally written Russian: the last accent is meant to be placed on the last word. Just as overwhelmingly, or almost as much so, informal, spontaneously spoken Russian exhibits the tendency to place the last accented element in non-final position (most often a mid-position).

It will be clear that typological classifications which, on the basis of frequency, regard Russian as e.g. a SVO language, only classify formally written Russian, and that they are unreliable as far as spontaneous speech is involved.

Given these facts, can we say, with e.g. Bivon (1971: 5) that "intonation [here: accentuation] plays no part in determining word order in the written language except where this is attempting to imitate the spoken language [...]?" On the contrary. Assuming for the sake of simplicity that the accentuation rule for writing is without exception, then accentuation is the only factor determining word order in the written language. Suppose that a writer has to arrange two words, *poezd* and *prišël*. He wants *poezd* to be the rheme. If he were a speaker, he could choose between *Pôezd prišël* and *Prišël pôezd*. But he will probably write *Prišël poezd* (except when he is attempting to imitate the spoken language). For he knows the rule. He knows that if he wrote *Poezd prišël*, he might be misunderstood by the reader who, also knowing the rule, would be inclined to read *Poezd prišël* instead of *Pôezd prišël*. So in writing, accentuation determines word order, not the other way round. In writing, the variability of word order existing in speech is to a large extent absent because word order is used as a compensation for the fact that the accents of the spoken message are lost in writing. Hence, we cannot say: "[...] in Slavonic (especially in Czech) the variability of word order is compensated for by a rather uniform (automatic) location of the terminal CI [center of intonation]". (Daneš 1972: 227; originally 1967). The correct formulation is that of Kločko-va (1961: 147): "Characteristic of declarative sentences of the

written language is the placement of the [...] prominent word at the end of the sentence."¹⁹ (see also, for example, Kovtunova 1967: 131, 1969: 181; Sgall and Hajičová 1978: 32; Sirotinina 1965: 163, 1969: 379)

This rule in Russian is not very old. Kovtunova (1969: 66-216) describes and extensively illustrates its gradual establishment since the 18th century. The fact that in Russian the rule functions only in writing is one of the two main reasons why word order in spoken Russian is so different from that in formally written Russian; the other reason is a principle called "projectivity", which functions in normative writing but not in speech (see VI.5).

The word order conventions for writing are not part of the competence of a language user whose knowledge of the language is not developed beyond the level automatically attained without schooling. The fact, mentioned by Sirotinina (1980: 119, 131), that some of the conventions have now been included in the school programme for Russian children is illustrative in this connection: the children make many "mistakes", i.e. they tend to write as they speak, which is not permitted by normative grammar. For these children the norm is comparable with e.g. spelling conventions, something to be explicitly learned or to be implicitly internalized by much reading. We can say that the word order conventions belong to the "extended competence" of an educated language user. In contrast to many spelling conventions, however, the norm for word order in writing does not seem to reflect an earlier historical phase of the language system. If Kovtunova's (1969) information is correct, the norm established itself independently of the spoken language, where the tendency in the cases concerned was and remained *xy* rather than *yx*. (But Lapteva (1970: 127) argues that Kovtunova incorrectly projects into the past some features of the present-day conception of "norm" and that less is known about how the language was spoken in the 17-18th century than Kovtunova claims.)

In consequence, it may seem that the norm for writing is alien to the language system. But this conclusion would be premature. The norm consists, in my view, of a very convenient generalization of another type of arrangement, where final accent

placement is in a certain sense inherent in the language system (see section 6 below).

When followers of Mathesius say that, in Czech and Russian, word order is the main device for expressing informational content, they must be understood as follows: in written Czech and Russian the order of the words more or less consistently indicates where the last accent is meant to be placed by the reader. This is the only way in which the statements about word order make sense. If one takes them literally, they are inconsistent, for how can word order be the main device for expressing informational content and a merely stylistic device at the same time? The confusion probably stems from the use of the verb "to express". When we say that word order in written Russian expresses informational content, we use the verb "to express" in a loose sense. In the linguistic sense of the word, i.e. "being the formal correlate of an aspect of content", it is accentuation which expresses informational content (under the "stylistic" assumption), while in writing, word order suggests accentuation, i.e. indirectly "expresses" informational content (e.g. Sirotnina 1974(b): 172-173).

My formulation crucially depends, of course, upon the view that writing is secondary to speech, i.e. that only the spoken, accented form directly correlates with content. Those who do not share this view would say (as far as they are consistent) that formally written Russian expresses informational content by means of word order (and other devices, see IV.6), while the spoken language expresses it by means of accentuation, and they would then use the verb "to express" in what is for them the linguistic sense. This conception is reflected in formulations like the following: "The object of my study is the simple [...] declarative sentence in its written form. In this connection the problem of the sentence accent is cancelled; this accent is, in the spoken form of communication, the equivalent of word order"²⁰ (Večerek 1976: 3).

Here we can only ask whether the written form is the "real" language. And what should we do with written strings which are not meant to be read with the last accent on the last word?

The opinion that writing and speech are two independent systems,

each with its own formal correlate(s) of informational content, is, as far as I understand, the reason why the problem discussed in this section could arise at all. The publications of some followers of Mathesius, notably those of Firbas, are formulated on the basis of this independency-conception up to the present day, which makes them difficult to understand if one is not aware of their uncommon use of terminology. Firbas (e.g. 1972(a): 77) explicitly says that his theory has been established by inquiries into the written language. This means that everything which nowadays we would call accentuation has been given another name: word order, context, etc. (for context etc. see chapter IV). Firbas (ibid.) consistently presents his study of information structure in the spoken language as an application of his theory (to another object). He consequently searches for congruencies between what he calls the scale of Communicative Dynamism (found on the basis of written language) and the gamut of prosodic weight in spoken language (1980: 126). He can do so because to his mind these are different things, which can, but need not, be congruous. The former did not arise as a hypothesis about the content side of the latter.

4. Mathesius' opinion that languages like Czech and Russian use devices for expressing informational content that are different from those in a language like English (I.1) can also be regarded as understandable only if it is reformulated along the lines indicated in the preceding section. In order to show how this point follows from the reasoning in the foregoing, I quote the same author as before, Birkenmaier, although the comparison here concerns Russian and German.

"Adamec führt zwei Typen von Fragen an:

- a) "Čto sdelał brat"? [What did your brother do?]
- b) "Čto sdelał brat so svoej stat'ej"? [What did your brother do with his article?]

Mögliche Antworten darauf sind im Falle a)

Brat pererabotal svoju stat'ju [My brother recast his article - word order SVO]

und im Falle b)

Brat svoju stat'ju pererabotal [idem - word order SOV] .

Die verschiedene Wortstellung der beiden Sätze bei gleicher lexematischer Gestaltung ist ein Reflex der unterschiedlichen Thema-Rhema-Gliederung. [...] Das Deutsche kann, da es im Aussagesatz den Platz des Verbums auf die zweite Stelle festgelegt hat, diesen Unterscheid nur durch Intonation wiedergeben.

Mein Bruder hat seinen Artikel umgearbeitet

Mein Bruder hat seinen Artikel úmgearbeitet." (Birkenmaier 1979: 64).

The correct argument can be derived from this statement in the following way.

In the first place we put accent marks on the Russian strings (see II.1):

a') *Brat pererabotal svoju stat'jú* (SVÔ)

b') *Brat svoju stat'ju pererabótal* (SOÛ)

Secondly, a') expresses, in Birkenmaier's view, the same informational content as

a'') *Brat svoju stat'jú pererabotal* (SÔV)

and b') expresses the same informational content as

b'') *Brat pererabótal svoju stat'ju* (SÛO)

(cf. op.cit.: 57).

It follows that in Russian, just as in German, informational content is expressed by means of accentuation (see III.2).

The difference between Russian and German is that Russian can, for a given informational content, choose between SVÔ and SÔV, and for another informational content between SÛO and SOÛ, while German has only SV₁ÔV₂ and SV₁ÔÛ₂, respectively. The flexibility of word order gives Russian the opportunity to use word order as a cue for accentuation in written texts, the convention being that written SOV stands for SOÛ, not SÔV. (Incidentally, Birkenmaier's example is somewhat unfortunate, because SÛO is relatively frequent in written texts - see note 26.) Understandably, Russians who are learning German typically make the mistake of reading e.g. a string SV₁OV₂ as SV₁ÔÛ₂ also when it should be SV₁ÔV₂ (Krušel'nic-

kaja 1961: 204). German does not have (in this case) the possibility of indicating by means of word order which accentuation is meant, so in this language only the context can resolve the ambiguity of the written string; Russians have to learn to rely on the context. In spoken Russian no convention exists, of course, since in speech one simply *hears* the accents. There is no more to it. In both languages it is accentuation which is the formal correlate of informational content (under the "stylistic" assumption).

The discussion of Czech and English data by Sgall et al (1980: 120-128, 134-138) can be interpreted along the lines indicated above for Russian and German. Interestingly, the authors discuss the relation between writing and speech and regard writing as a secondary system (op.cit.: 134). The last step to be made now is to discard the idea that, when in Czech and Russian the last accented element is placed in sentence-final position, it is word order which expresses informational content (e.g. op.cit.: 146). As shown in section 2 above, this idea mixes up two contradictory definitions of the notion "same accentuation" as a consequence of the assumption that "automatic accents" have no meaning.

Because of the influence in Russian of the accentuation rule for writing, Russian translations of English sentences often change the order of the words. For example (Cypyševa 1977: 184-185):

In the former case a negative electron is emitted.

V përvom slučae (Adverbial Phrase) *ispuskaetsja* (Verb) *elëktron* (Subject).

Although one might say: *V përvom slučae elëktron ispuskaetsja*, the use of this arrangement (SV) in writing, especially in a "scientific" text, is a serious style break, which will be corrected by a good editor. Since one does not expect such an arrangement here, the written Russian string will probably be misunderstood by a reader, who will strongly tend to place the last accent on the verb (... *is emitted*).

Likewise: *In Sec. 2-2 the average energy of the random motion of a gas molecule will be computed.* The literal translation is bad: *v § 2-2 srednjaja ènergija chaotičeskogo dviženija molëkuly gáza* (S)

vyčisljaetsja (V). This is a bad translation in a scientific article because, while reading the Russian string, one automatically places the last accent on the verb (... will be computed). It is better to prepose the verb to the subject so that the last accented item of the English sentence will be in sentence-final position in Russian. Again, this has nothing to do with spoken Russian. Even in a scientific lecture, an arrangement $\hat{S}\hat{V}$ may easily occur ($\hat{V}\hat{S}$ is more "bookish"). As far as information structure is concerned, the only relevant fact involved here remains the place of the last accent.

In VI.6 we will meet another reason for changing the word order of e.g. an English or a German sentence in a Russian translation: we may choose a different linear arrangement in order to arrive at a correct comprehension of an indefinite article.

5. In order to give an impression of the extent to which the linguistic thinking about word order has been influenced by assumptions about "normal" accentuation, in this section I shall discuss some examples from articles published in English.

Typological classifications of languages have been proposed which fully depend upon the assumption that an accent on the last word of a sentence does not contribute to the meaning of the sentence. Thompson (1978), for example, proposes a classification based on the criterion: is word order used pragmatically or grammatically, i.e. to signal which parts of the sentence convey old vs. new information, or to signal what the grammatical relations in the sentence are. In the first category the author includes Russian, Czech, Spanish and Mandarin Chinese, in the second English (with refinements not relevant here). She illustrates the presumed difference by adducing unaccented strings from the non-English languages which are meant to be read with an accent on the last word, and by comparing these strings with English sentences in which accentuation is indicated. As I tried to explain above, such comparisons are fallacious. For example, discussing Russian *Kupil mašinu Kolja* (Kolja bought the car - word order VOS), Thompson says: "Russian [...] can use word order to signal that the subject is the focused element" (1978: 30). This is correct

in the sense: the written Russian string suggests the accentuation^(*) *kupil mašinu kólja*, and this accentuation signals that the subject is the focused element. In speech, Russians might as well say: *kólja kupil mašinu* ($\hat{S}\hat{V}\hat{O}$), just as in English. What Thompson shows is not that Russian word order signals informational content, but that it has no grammatical function here, so that a writer may place the last accented element in sentence-final position. Gundel (1977), who discusses the same difference between English and Russian as Thompson, correctly adds in a footnote:

The English translations here [with accent marks] are actually appropriate only if the final element in the Russian sentences has the primary stress. [...] It is [...] the stress pattern which Mathesius apparently assumes in his discussion of these sentences. (1977: 43)

My Mandarin Chinese is not strong enough to make claims about this language, but the other data discussed by Thompson are deceptive along the same lines. (To be sure, I do not claim that spoken Czech and Spanish deviate from the written form to the same extent as is the case in Russian, but only that Thompson's data do not show what she claims they do. Further, I do not deny that Russian/Czech/Spanish (and English) word order contributes to informational content, but this contribution does not concern the question of which element is the "focused element", the latter being signalled by means of accentuation in all these languages - on word order see chapters VI and XII.)

A much discussed area where the contribution of accentuation has been systematically underestimated is the interpretation of sentences with quantifier-like meanings. It would lead us too far to go into the subject here, but one example may be useful. Lakoff (1971) discusses sentences such as *Many men read few books* and *Few books are read by many men*. In footnotes he points out that he intends to leave out accentuation: "The sentences to be discussed in the remainder of the section are subject to even greater variation, especially when factors like stress and intonation are studied closely" (238); "I have ignored the role of stress in this discussion, though it is of course important for many speakers" (244).

In the first place, it is impossible to exclude accentuation.

Lakoff's conclusions are probably based on the accentuations *Māny mēn read fēw bōoks* and *Fēw bōoks are read by māny mēn*. Secondly, these implicit accentuations are identical, i.e. do not contribute to the difference between the sentences, only under the assumption that linear arrangement precedes prosodic arrangement during the generation of a sentence (see section 1 above). As soon as we drop this assumption we see that the contribution of word order can be isolated only by comparing e.g. *Many men read fēw bōoks* with *Fēw bōoks are read by many men*. It will then appear that accentuation is far more important for the interpretation of quantifiers than word order. In the third place, the passive is still further away from the relevant variable than word order. By using a passive construction it is possible to place the actor in sentence-final position without deviating from the grammatical rules of English (but e.g. *By māny mēn fēw bōoks are read* is also possible, so it is not the function of the passive to reshuffle the sentence elements). The passive enables us, but does not force us, to use a certain word order. The resulting string may, but need not, be spoken with a certain accentuation. This accentuation is the relevant variable (still under the assumption that e.g. *By many men fēw bōoks are read* and *Fēw bōoks are read by many men* are stylistic variants).

The problems which are created by omitting accents while discussing informational content can also be demonstrated with the help of the following example. Reinhart (1982: 10-11) proposes a test to "verify our intuitive hypothesis concerning which NP is the topic expression of a structurally unmarked sentence in a given context". She gives the following example (op.cit.: 9):

Kracauer's book is probably the most famous ever written on the subject of the cinema. Of course, many more people are familiar with the book's catchy title than are acquainted with its turgid text.

Reinhart proposes to embed the sentence in question in an *about* sentence (see also e.g. Sgall et al 1973: 193-199):

He said about/of the book that many more people are familiar with its catchy title than are acquainted with its turgid text.

This is a strange test, since it works only if the *about* sentence is read with the same accentuation as the original sentence. In

He said about x that y item x is indeed the topic, but the cause of this is the accent on y, not the about-construction, since in He told about x or He said about x that y item x is not the topic but the comment (not the theme but the rheme) (cf. Bogusławski 1977: 142-147). The best test to verify "topic-hood" in written strings is to read them aloud, pretending to be a "naive reader", and listen to the accents. When reporting on the results, one should not confront the reader with another unaccented string, the accentuation of which has to be guessed, for then we get an endless regress: He said about (he said about (he said about ... x that y ...)). When one puts accent marks on the written strings the reader can at least decide what is not the topic: the item with the last accent never is.

The only thing which can make a phrase into a topic (theme) is an accent in the same sentence which does not include the phrase involved in its scope. The problem is to explain this fact (e.g. What is scope?). The fact itself can be found in the literature on FSP. For example, Firbas (1972(a): 87) says: "[...] prosodic intensification may put the theme or one of its components into evident, though not heavy, contrast with some element mentioned in, or easily understood from, previous context (*'Mine's from the library*) [...]. [...] It has to be borne in mind that the intensified elements would cease to be thematic were they not followed by bearers of functionally weightier prosodic features [...]" In Firbas' example, *mine* is interpreted as a theme as a consequence of the accent on *library*; if the latter accent were absent *mine* would be the rheme. This essential fact, which suggests that the notion "theme" is to be derived from the notion "rheme" as an interpretation determined by the next accent, somehow got lost.

The last example to be mentioned here concerns the movement transformations proposed at one time or another in generative grammar. Lately, laudable attempts have been made to reinterpret the transformations with the help of notions from FSP. But the formulations still suffer from the assumption that "normal" accentuation does not contribute to the meaning of a sentence, and from an incorrect view on the relation between form and content. Smyth et al (1979), for example, discuss Dative Position in English. They argue correctly that e.g. *John gave Mary the book* and

John gave the book to Mary are not free variants. Moreover, the authors note that *John gave the book to Mary* is informationally equivalent to *John gave Mary the book*, and that *John gave Mary the book* is equivalent to *John gave the book to Mary* (this is the view called "stylistic" here). They propose a Given-New strategy, a part of which runs (Smyth et al 1979: 40):

If one NP is Given and another New, the relative syntactic order is Given-New, with the New NP under sentence stress; the order New-Given may occur only if the New NP is under stress.

This formulation is dangerously close to that of Adamec and Kovtunova discussed in III.2 above. Smyth et al at least suggest that with the order Given-New it is word order which is the relevant variable, while with New-Given it is accentuation. A less deceptive (but not yet correct) formulation would be: "If one NP is Given and the other New, the New NP is stressed; the order unstressed - stressed prevails". As to frequency, the experiment conducted by the authors, using written strings which are read aloud, can lead to conclusions only about strings which are read aloud, not about spontaneously spoken language. After these amendments, my main problem remains: Where do the features Given and New, which are used to explain accentuation, come from? (see below).

Creider (1979) also discusses transformations in terms of FSP. The author lists as "topicalizing rules": Topicalization, Left-Dislocation, Passive, Dative Movement, *about*-Movement, Adverb Fronting, Particle Movement, Subject-Subject Raising, *though*-Movement. And as "focusing rules": Extraposition (*it*-Insertion), *there*-Insertion, Extraposition from NP, Complex NP Shift, Quantifier Postposing. To take one example, the movement called Topicalization converts e.g. *I saw John* into *John I saw*. It is a misconception to think that it is the movement which topicalizes John. This idea is based on the assumption that the accentuations in *I saw John* and *John I saw* are automatic and hence meaningless. But in the latter sentence *John* is the topic as a consequence of the accent on *saw*: in *John I saw* it is not the topic but the comment. The movement called Topicalization only makes it possible to add an accent in the same sentence, to the right of the accent on *John*, and it is this accent which topicalizes *John*. Creider discusses the relation between move-

ment transformations and accentuation (which is in itself an important step). But he arrives at the conclusion that accentuation is an alternative to movement: in order to express a given informational content, apply either a movement rule (and automatic accentuation) or use a non-automatic accentuation. This conclusion is still too conservative. The facts are that the movements create the word orders which can but need not be spoken with the accentuations which create the topic/comment structures involved: these structures cannot be ascribed to the movements themselves. Creider's formulation implies the conception that in sentences like *John I saw* the accents are fixed, hanging somewhere in the air while the words underneath them are moving around. Compare Andrew (1980: 60): "[...] Chambers suggested the feature [+ topic] to trigger those permutations such as passivization which prepose constituents, while [+ focus] would then trigger only the transformations such as dative movement which postpone constituents to the intonation centre" (which was already there, waiting for a word to come, or what?).

Leaving aside considerations of psychological adequacy, my objection is the same as in the case of Smyth et al cited above: Where do the features [+ topic] and [+ focus], which are to trigger the permutations, come from? We see here the application of the generative conception of an "explanation" to the relation between form and content: the occurrence of a form is "explained" by deriving the form from a content (topic, focus). This leaves us with the problem: how are we to "explain" the occurrence of the content, from where should it be derived, and how do we know that it is present (without relying on the form, of course, otherwise the reasoning is circular - see V.7)? We will see in the next chapter that the occurrence of the features of content involved cannot be predicted on the basis of the context. It is the formal features involved (the "intonation centre") which convey the fact that the features of content are present. In other words: the formal features have a meaning. In this case: accentuation has a meaning, also "automatic" accentuation. The occurrence of a form cannot be explained by deriving the form from, or predicting it on the basis of the presence of, the correlating content. This procedure would offer an explanation only if the content were present in-

dependently of, and by virtue of something other than the presence of the form, which is not the case.

6. From section II.2 onwards, I have been trying to cast doubts on assumptions connected with accents in sentence-final position. All these assumptions originate in the view that it is somehow more "normal" for a sentence to have the last accent at the end of the sentence than elsewhere. Now, to make things more complicated, I fully agree with this view.

The list of examples given in II.2 shows that final accent placement is at least related to a broad scope interpretation. We can see now that this, far from being obvious, is a very remarkable fact.

Consider English combinations of a "Noun" and a "Genitive": *The wife of John* and *John's wife*. Having subscribed, in III.1, to Pospelov's view on which accentuations are the same and which different, we would expect that the accent in both *The wife of John* and *John's wife*, or that in both *The wife of John* and *John's wife*, includes the unaccented part of the construction in its scope. But at least the accent in *John's wife* does not: the most obvious "broad scope" accentuations are *The wife of John* and *John's wife*.

When we translate the English sentence *John is reading a book* into Russian, we can choose between *Ivan čitaet knigu* (SVÔ) and *Ivan knigu čitaet* (SÔV). This is what we would expect. In contrast, those who in III.1 agree with Birkenmaier regard the NĜ/GŊ case as normal, but they have to explain the SVÔ/SÔV case, i.e. why does not the accent in both SVÔ and SÔV include the preceding element in its scope? (cf. Schmerling 1976: 83-85). I prefer to explain the NĜ/GŊ case (the other case must, of course, also be explained, but that is a more advanced phase).

Although both *The wife of John* and *John's wife* are loosely referred to as combinations of a Noun and a Genitive, they have different meanings. The difference concerns the way in which the constituting meanings are combined to refer to the wife involved. One can become conscious of a difference by considering the phrases *Something of John's* and *John's something*, or, as a more acceptable example, *Something new* and *A new something* (in general:

attributive "head - modifier" versus attributive "modifier - head"). In *John's something* and *A new something*, the meaning of the construction urges us to view the thing referred to in a way which deviates from the lexically normal use of the meaning "something": the referent of "something" becomes what we think of as an entity (and *something* is converted into what we call a noun). In *Something of John's* the referent of "something" is what may be called a part of the things associated with John, in *Something new* the referent of "something" is a part of a whole of new things. Here, the meaning of the construction does not clash with the inherent meaning of *something*.

This difference, which will be discussed in Part Two, is responsible for the fact that the accent in both *The wife of John* and *John's wife* includes the unaccented element(s) in its scope.

The SVÔ/SÔV case is an example of another type of opposition. This will be clear if one realizes that, when the object is *something*, neither word order gives rise to an uncommon interpretation of "something". Of course, if we nevertheless give "something" in *John is reading something* the "nouny" interpretation indicated above, the accent in *John is reading something* includes the verb in its scope. The point is, however, that the meaning of the construction does not urge us to make this strange step.

An example of a third type of opposition has been mentioned in II.4: in both *On snjal furažku zelënogo cvêta* (Lit. He took off his cap of a green colour - NĜ) and *On snjal furážku zelënogo sveta* (NĜ) the accent may include the unaccented element of the construction in its scope. The same holds true for e.g. Russian Adjective - Noun and Noun - Adjective. An English example of this type of opposition is *She left directions for him to follow* versus *She left directions for him to follow*, or *This is the doctor I was telling you about* versus *This the doctor I was telling you about* (in general: attributive "head - modifier" versus attributive "head - modifier").

In chapter X I shall return to these three types of opposition.

Unfortunately, existing typological classifications of word order oppositions do not take into account the facts of accentuation. This makes them less useful than they could have been. In my view, one cannot classify e.g. GN with OV (both "modifier -

head") and NG with VO (both "head - modifier") if in the language involved the accent in both $\hat{G}\hat{N}$ and $\hat{N}\hat{G}$, and not that in $\hat{G}\hat{N}$ and $\hat{N}\hat{G}$, and if the accent in both $\hat{O}\hat{V}$ and $\hat{V}\hat{O}$, and not that in $\hat{O}\hat{V}$ and $\hat{V}\hat{O}$, includes the unaccented element in its scope.

Finally, we must return to the accentuation "rule" for written texts formulated in section 3 above. This rule applies to the $SV\hat{O}/S\hat{O}V$ type of opposition. For writing the rule prescribes $SV\hat{O}$ ($x\hat{g}$ rather than $\hat{g}x$). This is an ingenious trick, because it uses the property which is inherent in the $\hat{N}\hat{G}/\hat{G}\hat{N}$ type of opposition: the property that an accent on the last item can include the preceding element in its scope. The rule can be said to apply also to the $\hat{N}\hat{G}/\hat{N}\hat{G}$ type of opposition, but here either $\hat{N}\hat{G}$ is chosen or, if the last accent must be placed on N for semantic reasons, a shift to $\hat{G}\hat{N}$ is made. This brings us back to the $\hat{N}\hat{G}/\hat{G}\hat{N}$ type of opposition, so that it is simpler to say that the $\hat{N}\hat{G}/\hat{N}\hat{G}$ type is almost absent in writing.

In so far as the first member of the "stylistic" pair $x\hat{g}/\hat{g}x$ is felt to be more "normal" than the second member not only in writing but also in speech, the facts allow only a single conclusion: the difference is not merely stylistic. This point will be taken up in chapter VI (and XII).

IV. ACCENTUATION AND CONTEXT

1. Imagine that someone is reading a book. He comes across the following sentences:

A boy fell from a rock. He died immediately.

A girl fell from a rock. She died immediately.

Our reader happens to be a linguist. He observes that after a boy the form *he* occurs, and after a girl the form *she*. So he invents the following rule:

The English sentence *x died immediately* takes the form *He died immediately* in the context 'male', and the form *She died immediately* in the context 'female'.

This rule postulates an abstract construct *x*, the meaning of which does not specify the gender of the intended referent; the construct has the contextual variants *he* and *she*, the first occurring in male contexts, the second in female contexts; thus it is the context which determines which form will actually occur.

How do we find out whether this rule is correct?

At first sight nothing seems wrong. *He* and *she* have indeed all features of meaning in common except for the gender of their referents, so why not derive them from a single underlying source?

The linguist reads another book. He finds:

A boy met a girl. He blushed.

A boy met a girl. She blushed.

Unfortunately, the abstract *x* rule does not account for these facts. It assumes that contexts are either male or female, so that either *he* or *she* must be chosen. But it happens to be the case that contexts exist where both *he* and *she* can be appropriate-

ly used. This is a sufficient reason for rejecting the rule: only if a 1-1 relationship obtains between different contexts and different forms can we surmise that it is the context which determines which form will occur. But if such a relationship does not obtain, *he* and *she* cannot be derived from a single source, since then they are not contextual variants. In that case it is not the context but the forms *he* and *she* themselves which convey the gender of the intended referents, and *he* and *she* are two independent units. Note that the decision is made independently of the fact that the difference in gender is the only difference between *he* and *she*.

Now imagine the following situation:

The newspaper boy has handled a newspaper clumsily, to the effect that in the place where *he* or *she* belongs the paper is torn. A reader finds: *A boy fell from a rock. (tear) died immediately.* Automatically, the reader fills in the open place. The incomplete message *A girl fell from a rock. (tear) died immediately* is not difficult either. But now *A boy met a girl. (tear) blushed.* Here the reader can only guess which message the writer wished to convey. Both *he* and *she*, and *they*, make a coherent story.

The case of the torn newspaper differs fundamentally from the abstract *x* case. The reader of the torn newspaper knows that the newspaper contained *he*, *she*, or *they*. He uses the context to fill in the information which incidentally got lost. But the linguist who postulated an abstract *x* used the context as an essential part of his analysis: in the underlying construct *x* *died immediately* the forms *he* and *she* are absent, their actual presence in texts is assumed to be the consequence of placing the underlying construct in one context or another.

The context can also be used in a third way.

Any linguist will have to account for the fact that the meanings of *he* and *she* refer to a male and female referent, respectively, and that the referent is to be found in the context (in a broad sense, i.e. common knowledge). Such a statement uses the context, but only backwards: *he* refers to a male referent to be found in the context, *she* to a female referent to be found in the context. This analysis does not assume that only either *he* or *she* can occur, and therefore accounts for the fact that in a given context

both forms may be appropriate:

↓
A boy met a girl. He blushed.

↓
A boy met a girl. She blushed.

The three ways of using the context which have just been exemplified have a parallel in accentuation.

When we read a text written without accent marks, we have recourse to the context (among other things) to guess the place of the missing accents. The absence of accents is an incidental imperfection of the graphical system; in the primary medium, in speech, accents are present. This is the case of the torn newspaper.

When we assume that pronunciations of a given string which differ only in accent placement derive from a single unaccented unit (cf. "proposition"), we create an abstract *x* case. We will see in the sections to come that an abstract *x* approach to accentuation is impossible for the same reason as in the *he/she* parallel: contexts exist where more than one accentuation can be appropriately used. It follows that in FSP context can be used only in the retrospective way.

Characteristically, publications on information structure confuse the case of the torn newspaper and the case of the abstract *x*. The origin of this confusion is probably the tradition of viewing written texts as consisting of forms which are directly correlated to content, not via the spoken form. In this view, written texts are inherently unaccented, inherently "torn", so that written texts are an abstract *x* case. When it is subsequently forgotten that the statements apply to written texts and that they must be reformulated as a torn newspaper case in order to reconcile them with the present-day conception of writing, the abstract *x* case is transferred to spoken language. And then the problems become unsurmountable.²¹

2. Mathesius held the view that the information structure of a sentence has to do with the "way in which the sentence is included in the context from which it originated" (see I.1). This statement, vague as it is, can be interpreted in various ways. It is

often interpreted as stating that the information structure of a sentence is a function of the context, so that we, given the context, can predict the information structure. This is a possible hypothesis only if a 1-1 relationship obtains between the set of contexts and the set of possible information structures of a given group of syntactically related words.

Some authors maintain that a 1-1 relationship indeed obtains. Gladrow (1979: 110), for example, says that "in einem bestimmten Kontext die Wahl zwischen den Äusserungen (a) *Poezd přišël* [the train arrived] und (c) *Přišël póezd* [the/a train arrived] obligatorisch ist, dass eine von beiden nur richtig sein kann". Some reflection shows that such statements are incorrect. Consider the following story: "We were waiting for the train, but it was late that day. John became nervous and went away to buy some cigarettes. Just as he left the station *the train arrived*. Or: Just as he left the station *the train arrived*". Both are possible, both make a coherent, but a different story.

In the literature on FSP, explicit statements like that of Gladrow are rare. More characteristic is the failure to draw consistent conclusions from the fact that no 1-1 relationship exists. Firbas, for example, has mentioned on various occasions that written strings can be, what he calls, "multifunctional". He illustrates this notion with the following example (1978: 43): [...] *but those who had seized Jesus took him away to the house of Caiaphas the high priest, where the scribes and elders had gathered*. That is: [...] *where the scribes and elders had gathered*; or: [...] *where the scribes and elders had gathered*.

The term "multifunctional" used by Firbas must be interpreted in the light of his view that written texts are entities in their own right (cf. Sgall et al 1980: 134-138). However, Firbas does not consider this "multifunctionality" very important: "Multifunctionality on the level of FSP would have to be accepted as a peripheral phenomenon of this [language] system" (1974: 22). In my view, the phenomenon is of crucial importance. It proves that a theory on FSP which treats a given accentuation as a consequence of placing an unaccented unit in a given context, is inadequate. Further, a consistent description will have to argue not from context to accentuation but from accentuation to context. This point

has been expressed very clearly by Gunter (1974: 86):

The reader will remember that in all of the dialogs used as illustrations in this book, we have looked first at the response and have then sought the relevance of that response to its antecedents. We always looked backwards. Not once did we begin with the antecedents and try to project things forward to the response. The reason is that we *cannot* project things forward, and here enters the most subtle and difficult problem that dialog presents. That is the fact that we all seem to accept the notion that an utterance flows naturally out of its antecedents, and is indeed caused by them, and is their effect, so that, given the antecedents, the present utterance is inevitable, in fact, predictable. But a more searching study of the matter suggests that this is in large part illusion. The truth is that we never know enough about the antecedents to predict anything at all about what the next speech will be - or even whether there will be a next speech.

and (op.cit. 96):

Since it is a fact that no one can predict what will be said next (as any investigator can discover simply by trying to do it) we cannot do research on the question of how a thing causes another thing in dialog, but rather we must confine ourselves to studying how B can be related back to A once the sequence A-B is made.

For two-word sentences, a description along the lines suggested by Gunter is given by Ebeling (1981). Ebeling introduces his proposal with the following example (1981: 18):

(1) Question: *How do you know that?*
 (m) Answer: *I met Péter on my way home.*
 (n') *Hé told me about it.*
 Or, instead of (n'), as an alternative possibility:
 (n'') *He told me about it.*
 The essence of the alternative possibilities becomes clear if one divides the frame of reference existing after (1,m) into a number of "subframes". In the given instance there are at least two subframes. One has been created by (1), it is characterized by the presence of an unidentified informant (or, more generally, an unknown source of information): alternative (n') serves to develop precisely this subframe. The other subframe has been created by (m), it is characterized by the presence of Peter; (n'') is presented as a continuation of this subframe. If there were a constraint [from the side of the frame of reference], the speaker would not have the freedom to select (n') in a frame of reference where Peter is in the center.

In other words, the speaker has the possibility to disregard the subframe that has been created by the immediately preceding sentence. This is the more surprising as at the same time he appeals to the knowledge of this subframe: otherwise he (paraphrased as "THE male person") would not be interpretable.

A Russian example of such a "disregard of the subframe created by the immediately preceding sentence" is the following:

In a story called "The eternally discontented Jakovlev" (Večno nedovol'nyj Jakovlev) the writer Šukšin sketches the feelings of those who left their native village for the better life in a big city. Jakovlev is such an uprooted person. He arrives on a visit to his village, but the visit is disappointing. He walks around, tries to talk to the people and to boast about his new life. But his former friends are not interested, let alone impressed. For them, Jakovlev is an outsider who intrudes on their quiet life. Jakovlev feels the attitude and becomes angry (and drunk). At a given moment everybody gathers near the local club, where a travelling amateur theatre is expected. Jakovlev attempts to establish contact by provoking a fight: he insults the wife of a former friend. But in vain. The story ends with the words:

Tut kak raz priechala samodejatel'nost'. [Just at that moment the theatre group arrived.]

I vse pošli smotret' samodejatel'nost'. [And everybody went to watch the theatre group.]

Šukšin probably meant these strings to be read as follows:

Tút kak ráz priechala samodêjatel'nost'. [Júst at that môment the thêatre group arrived.]

I vsê pošli smotrêt' samodêjatel'nost'. [And êverybody went to wâtch the thêatre group.]

We can, of course, also read:

Júst at that môment the theatre group arrived. And êverybody went to wâtch the theatre group (or other combinations). But the first accentuation makes the most perfect story. Moreover, in Russian it is suggested by the order of the words (see chapter III). In Ebeling's terminology, the accentuation ... *the theatre group arrived* alludes to the knowledge that the theatre group was expected. The sentence answers, so to speak, the question: What about the

theatre group, did it arrive? The accentuation ... *the théâtre group arrived* "creates a new subframe", compare: What happened next?

The accentuation *And everybody went to wâtch the theatre group* links up the last string with the immediately preceding one, compare: What did everybody do, given the arrival of the theatre group? The better accentuation *And everybody went to wâtch the théâtre group* disregards the preceding sentence. It involves more of the context: the village people did not answer the provocation, they ignored Jakovlev, they simply went to the thêatre.

Discussions about information structure tend to deal with contexts which are so simplified that only a single accentuation makes sense, for example contexts consisting of questions. It is true that often a given question corresponds to a single accentuation in the answer, but the point is that in a given context more than one "question" can be answered (see e.g. Raspopov 1970: 113; Svedstedt 1976: 16-17). Moreover, the "question" exists only at the moment when it is answered. If the speaker chooses one of several possible accentuations, the hearer is not left with a number of "unanswered questions", he simply does not become aware of the alternative possibilities.

In itself the observation that accentuation is unpredictable is not new (see, for example, Bolinger 1972). And most authors on FSP would probably agree with Gunter's statement quoted above. But in practice the assumption that accentuation is a function of the context keeps haunting the literature in all possible formulations. At the risk of boring the reader I shall discuss now some of its guises.

3. Daneš (1974: 114-115) introduces the so-called question test as follows:

For our purposes it is necessary to discover an objective criterion for ascertaining the theme (T) of a given utterance. [...] To this aim we employ a procedure using *wh*-questions, prompted by the given context and situation, for eliciting the rheme (R) of a given utterance [...]. Generally speaking, we assume that it is possible to assign to any sentence (taken as a grammatical unit)

a set of *wh*-questions, representing all possible types of context in which the given sentence is applicable, and consequently, revealing all possible FSP-structures which it can acquire.

The crucial phrase in this quotation is "prompted by the given context and situation".

We can indeed reveal the FSP-structure of a given accented utterance by using questions. This is equivalent to indicating the place and the scope of the last accent. For example:

The théâtre group arrived. Question: What did the theatre group do? Did the theatre group arrive? We then conclude that *the theatre group* is the theme and *arrived* the rheme.

The theatre group arrived. Question: What happened next? (broad scope interpretation). In this case the whole sentence is rheme. Alternatively: Who arrived? (narrow scope interpretation). Here *the theatre group* is rheme and *arrived* is theme. But which question is "prompted" by the context? Both accentuations are possible. We can only tell which part of the preceding context is alluded to by a given accentuation, as demonstrated in the preceding section.

Proposals for using the question test (or some other test) for discovering the informational content of a sentence often do not sufficiently specify whether the test is meant to be applied to unaccented strings or to accented sentences. In the former case the application of the test presupposes that a given context "prompts" only questions corresponding to a single accentuation, which is incorrect. In the latter case the test is a roundabout way of indicating the place and the scope of the last accent. As mentioned by Uhlířová (1976: 312), "the application of [the] question-answer procedure is conditioned by an empirical presupposition, namely that there will be no contradictions among [the] questions appropriate to a given utterance, i.e. a question identifying an element in the utterance as T, and a question identifying an element as R cannot be properly formulated simultaneously. This prerequisite can serve as a check of whether (or, to what degree) the question-answer method is valid".

If we start with accented sentences the presupposition is correct. There is, for example, no question which identifies *the theatre*

group in *The théâtre group arrived* as the theme. On the other hand, if we start with unaccented strings in a given context the "empirical presupposition" turns out to be incorrect, since the context can "prompt" both e.g. What happened?, which question identifies *the theatre group* in *The theatre group arrived* as (part of) the rheme, and Did the theatre group arrive?, which question identifies the same element as the theme. Uhlířová explicitly means also the second, incorrect application: "we consider this [question-answer] procedure one of those capable to identify R of the utterance both objectively and *independently of the system of means of its expression*" (1976: 309; italics mine, C.K.). But further on the author obscures the issue as follows (1976: 311) (cf. Daneš' "generally speaking ..."):

If we performed an analysis of another kind, e.g. such as would not start from concrete utterance-events (from a concrete text), but from all the possible types of contexts in which a sentence (or, an utterance taken as an abstract unit) could occur, we should just establish the "range of permissible focus" [here Uhlířová is quoting Chomsky] [...]. The question-answer procedure can serve both purposes:

1. that of analyzing a clause (utterance) as an abstract unit, which then need not have just one T-R interpretation;
2. that of analyzing concrete utterance-events in a concrete text.

Here it is suggested that case 2. deals with accented sentences, which can lead to correct inferences, from accentuation to context, but which makes the test trivial. At any rate, what is under discussion here is the assumption that it is possible "in a concrete text" (case 2.) to identify the theme and the rheme of a sentence "independently of the system of means of their expression". This assumption is incorrect.

Another formulation of this assumption is the following:

In both languages [Czech and English], the terminal center of intonation in the utterance (CI) will be located on R (this rule seems to be effective in many other languages as well). (Daneš 1970(b): 136)

This rule, which can be found in many other publications as well, is understandable only if we assume that one can determine which element is the rheme without knowing the location of the last ac-

cent. Otherwise, we say something like: the last accent conveys (signals, means, etc.) that the element which bears the accent is the rheme. One can state which meaning is conveyed by a given form, because the form could have another meaning. But one cannot give a rule asserting the fact that the form which conveys a certain content is present when this content is conveyed, since the statement of such a rule implies that the content would still be conveyed if the form conveying it were absent, which is not the case. Daneš' formulation implies that, while the last accent happens to be placed on the rheme, it could have been placed on e.g. the theme, while the rheme would then remain the rheme, i.e. that an element is the rheme independently of the fact that it bears the last accent, namely as a consequence of the context. One then has to determine which element is the rheme without relying on accentuation, namely with the help of the context. But this is impossible because no 1-1 relationship obtains between the set of contexts and the set of accentuations.

For accented themes, statements of the type "in stylistically unmarked sentences the theme precedes the rheme" are mistaken in the same way as the rule stating that the last accent is placed on the rheme. In e.g. *Mine's from the library*, the accent on *library* turns *mine* into the theme, so the theme cannot fail to precede the rheme (in *The one from the library is mine*, *mine* is the rheme). An assertion that the theme does precede the rheme is either senseless or based on the assumption that the phrase involved is the theme by virtue of something other than the fact that another accent follows in the same sentence, namely by virtue of the context. But this assumption is again incorrect, as shown by the following example, for the correct understanding of which one has to know that Russians normally drink tea in the evening.

In a story by Il'f and Petrov, an apartment is being renovated, which disrupts the tenor of daily life. Remembering the good old times before the renovations, a member of the family says: (Before the renovations) *we drank tēja in the evening* (My pili čāj po večerām), implying: but now we drink tea at the most impossible times; *we drank tēja* is the theme. I also heard another reading of the story, saying: (Before the renovations) *we drank tēja in the*

evening (My pili čāj po večerām). In this case the implication is: but now we do not even get tēja (in the evening); the same phrase is now the rheme. The context is of no help, it permits either sentence; it is the accentuation which makes a phrase into a theme or rheme. Of course, the names "theme" and "rheme" are not meanings but abbreviations of aspects of content which remain to be defined.

The basic misunderstanding in many publications on FSP is that they attempt to show that the accentuation and/or word order of a sentence is the *consequence* of the fact that some elements are the theme and others the rheme. We find this conception in statements of the type "*p*, therefore *q*", where *p* is an aspect of informational content (topic, comment, theme, rheme, given, new) and *q* an aspect of form (accentuation, word order). Assuming that such statements are meant to be sensible, they are based on the idea that *p* is present independently of the presence of *q*, namely by virtue of the context (but see V.7). This idea necessarily leads to circularity. A certain informational content is present when the correlating accentuation/word order is present; the content is absent when the accentuation/word order is absent. A certain accentuation/word order is present when the correlating informational content is present; the form is absent when the informational content is absent. In other words, form and content are two sides of the same thing.

4. The observation that contexts exist in which more than one accentuation can be appropriately used leads to the conclusion that an abstract *x* approach to accentuation is impossible: that different accentuations of a given string (and different linear arrangements of a given structure) cannot be derived from a single source, and to the conclusion that it is not the context but the accentuation itself which conveys the informational content of a sentence (see section 1 above).

It might be suggested that we can account for the unpredictability of accentuation without drawing these conclusions.

One of these suggestions might be the proposal that a difference be made between e.g. Given/New information and Theme/Rheme, the idea being that accentuation is unpredictable because a theme

need not be given and because a rheme need not be new information. This proposal would be beside the point. In order to see this let us return to the *he/she* parallel.

As long as we deal with sequences of the type *A boy fell from a rock. He died immediately*, we can conjecture that the speaker chooses the form *he* because in the context a male referent has occurred. And the sequence *A girl fell from a rock. She died immediately*, can be explained by saying: the speaker chooses *she* because a female referent has been mentioned. But then we come across *A boy met a girl. He blushed*. Now we can no longer explain the choice of *he* by observing that a male referent has been mentioned in the context. Such a referent has been mentioned, of course, but this fact is irrelevant because in the same context *she* can be chosen. We can only say: by choosing the form *he*, the speaker conveys the fact that he is thinking of a male referent which has been mentioned in the context.

Likewise, as long as we assume that a 1-1 relationship obtains between types of context and different accentuations, we can propose that a speaker utters e.g. *The theatre group arrived* and not *The théâtre group arrived* because the theatre group has been mentioned in the preceding context. But since it happens to be the case that in a given context both accentuations may be used, we cannot explain the accentuation of e.g. *The theatre group arrived* by observing that the theatre group has already been mentioned. It has or may have been mentioned, of course, but this fact is irrelevant because it does not exclude *The théâtre group arrived*.

It has sometimes been said that, while a theme may be given or new information, a rheme is always new information, either because the thing involved has not yet been mentioned or because the relation between rheme and theme is asserted for the first time (e.g. Adamec 1966: 22-23; Daneš 1974: 111). The former sense of "new" is irrelevant for the same reason as why "given" is irrelevant for themes (see above). The latter sense, "the connection is new", does not help much either. Consider *We drank tea in the evening*. If the connection between the evening and the tea is new, then the connection between the tea and the evening is also new. Thus, this proposal "explains" not only that all rhemes are new, but also that all themes are new. It

is, of course, intuitively correct to say that in one way or another the connection between rheme and theme is new, but this intuition should be described in a non-empty way.

For these reasons, the differentiation between Given/New and Theme/Rheme is irrelevant to the problem of unpredictability. Since Given/New (in the sense "already mentioned" versus "not yet mentioned") serves no further aim, it can be abolished.

We then proceed to account for a given accentuation with the help of the notions Theme and Rheme, in the sense "the thing spoken about" and "the thing said", respectively. So: a speaker who says *The theatre group arrived* wishes to convey about the theatre group that it arrived. Although the paraphrase uses, itself, the meaning of accentuation (see III.5), it is essentially correct, just as it was in the 19th century, when people said that *the theatre group* is the psychological subject and *arrived* the psychological predicate.

Next, there is one step which must be avoided. We cannot now proceed to account for the fact that the speaker wishes to convey about the theatre group that it arrived by observing that the theatre group has been mentioned in the preceding context. This step would once again introduce the incorrect reasoning from context to accentuation and it would render the differentiation between Given/New and Theme/Rheme senseless. Yet it is precisely this step which is made by e.g. Kovtunova (1976: 56):

Actualization [i.e. the adaptation of a sentence with "normal" intonation to the needs of the given context] gives an utterance the form which is in accordance with the communicative aim of the given message, which aim is, in its turn, dictated by the consituation [context/situation].²²

We can only start anew from where we left off in the 19th century.

Besides the differentiation between Given/New and Theme/Rheme (or other names), yet another proposal exists which seemingly accounts for the unpredictability of accentuation without drawing the conclusions summarized at the beginning of this section. This proposal introduces assumptions made by the speaker about the hearer's state of mind; the assumptions of the speaker rather than the context then determine accentuation; the assumptions are, of course, unpredictable. As an example of this proposal, Chafe's formulation (1976: 30) may be quoted:

Given (or old) information is that knowledge which the speaker assumes to be in the consciousness of the addressee at the time of the utterance. So-called new information is what the speaker assumes he is introducing into the addressee's consciousness by what he says. [...] a speaker who says *I saw your father yesterday* [accent added] is unlikely to assume that the addressee had no previous knowledge of his father, even though by the usual criteria *your father* would be considered new information. The point is that the speaker has assumed that the addressee was not thinking about his father at the moment.

Against Chafe's formulation Reinhart has raised an objection (1982: 18). Reinhart gives the example *Felix praised himself*, and remarks:

It turns out, given the definition of new and old information, that this person [Felix] is simultaneously in and not in the participants' immediate awareness or general consciousness, which is a plain contradiction.

In Reinhart's view, "topichood cannot be defined on referents" (1982: 17) (but Chafe's notion of "referent" does not seem to be the same as Reinhart's (Chafe 1976: 28-29)). A distinction must be made between thoughts and their referents; it is no contradiction to say that the thought "Felix" was already present but the thought "himself" was not. Chafe's formulation must probably be interpreted along these lines.

The following amendments are less obvious.

Let us again consider the *he/she* parallel. Chafe's proposal leads to the following explanation of the sequence *A boy met a girl. He blushed*: the speaker chooses *he* because he assumes that the hearer is thinking about the boy. And in application to *A boy met a girl. She blushed*: the speaker chooses *she* because he assumes that the hearer is thinking about the girl. This is incorrect because a speaker who says *A boy met a girl. He blushed*, does so not because he assumes that the hearer is thinking about the boy but because he is *himself* thinking about the boy and wishes to convey this thought. A speaker who says *I saw your father yesterday* does so, according to Chafe, because he assumes that the hearer is not thinking about his father at the moment. And when he says *I saw your father yesterday* he assumes that the hearer was already

thinking about his father. In reality, however, the speaker conveys that he himself is newly thinking or was already thinking about the father. This is a part of the content conveyed. It is not true that the phenomena of FSP "have to do primarily with how the message is sent and only secondarily with the message itself, just as the packaging of toothpaste can affect sales in partial independence of the quality of the toothpaste inside" (Chafe 1976: 28). Here the abstract *x* pops up ("the message itself"). The sentence *He blushed* and *She blushed* do not convey the same message, accompanied by different assumptions about the state of the hearer's consciousness, but different messages, different thoughts in the mind of the speaker. The sentences *We drank tea in the evening* and *We drank tea in the evening* do not convey the same message in different packings, but different messages. The hearer readily accommodates either message. Chafe's assumption that a hearer can readily accommodate only one accentuation at a time (here we have the 1-1 relationship back) greatly underestimates the possibilities of the mind.

By replacing the context as the determinant of accentuation by the projection in the mind of the speaker of the projection of the context in the mind of the hearer, as Chafe's proposal does, the unpredictability of accentuation has seemingly been accounted for. Indeed, we cannot look into the mind of the speaker. But in reality the problem has only been shifted, because now any accentuation is allowed, which is somewhat too much. Let the context be, for example, the question: What is John doing?, and the answer *John is reading a book*. Here the speaker assumes, paraphrasing Chafe, that the hearer is already thinking about the reading of the book but not about the reader. Even if this were correct, the problem would remain the same; only, it now runs: why is this assumption incoherent in the given context, i.e. which is the relation between the real context and its evaluation by the speaker?

Accentuation is unpredictable not because the speaker's assumptions are unpredictable, but because the speaker can, in a given (real) context, convey more than one message. We cannot know beforehand what the speaker wishes to say, and accentuation conveys a part of what he wishes to say. Otherwise, in fact, ac-

as two different ways of saying the same sentence, but as two different sentences.

Ladd implies the same for e.g. *Jóhn has arrived* and *John has arrived*. I propose to omit the word "perhaps".

The rejection of unaccented "sentences" is not, of course, an innovation, but rather a return to the linguistics of the pre-abstract *x* period.

Nowadays nobody would say that Chinese *chi* is a unit of the 'langue' and that *chi*¹, *chi*², *chi*³ and *chi*⁴ are units of the 'parole', since *chi* does not exist. So we conclude that *chi*¹, *chi*², *chi*³ and *chi*⁴ are units of the langue, and that every pronunciation of these units is a unit of the parole. Likewise, accented sentences are units of the langue because unaccented "sentences" do not exist. Every actual pronunciation of an accented sentence is a unit of the parole, let us say an utterance. Sentences as well as utterances are thus inherently accented. Nowadays, those who hold the view that unaccented sentence-constructs have a right to exist, usually also classify the accented units deriving from the constructs as units of the langue, not because the constructs do not exist, but because the difference between the constructs and the accented units deriving from them can be described in a systematic way, because the difference is not "of an individual and accidental character only" (Daneš 1970 (b): 133). As is well known, Daneš defines an abstract sentence pattern as

[...] a syntactic structure of the kind that it converts a sequence of words into a minimal communicative unit (an utterance) even outside the framework of connected discourse [...]. It is such a structure as is sufficient by itself to signal a given sequence of words as an utterance. Thus from the view-point of its function, the sentence-pattern is a specifically communicative structure, an utterance-making device. (Daneš 1964(b): 230)

Raspopov (1970: 184) correctly observes that Daneš' definition (as formulated in Czech in Daneš 1963) amounts to saying that a sentence-pattern is a sentence-pattern by virtue of the fact that it is an utterance ("sufficient by itself to signal a given sequence of words as an utterance"). Raspopov (ibid.):

[...] if we decide that a sentence has the property of communicativeness, we, logically, lose the right to abstract from that in which this property exhibits itself.²⁴

As mentioned in the introduction (I.2), Mathesius did not share Daneš' opinion but remained inside the traditional conception (without unaccented constructs).

Just as we cannot describe the meaning of *chi*, because there is only the meaning of *chi*¹, the meaning of *chi*², and so on, we cannot describe the meaning of e.g. *John has arrived*, because there is only the meaning of *John has arrived*, the meaning of *Jóhn has arrived*, and so on. Note that this decision is made independently of the fact that e.g. *John has arrived* and *Jóhn has arrived* have all features of meaning in common except for the meanings of their respective accentuations (see section 1 above). Of course, an individual linguist may concentrate on a part of the meaning of a sentence, but such a division in research tasks is not correlated to a division in the object of study itself.

The conclusion that unaccented "sentences" do not exist implies, in my view, the rejection of the opinion that the content of a sentence consists of two levels, a truth-conditional and a non-truth-conditional level, and of the related division in semantics and pragmatics.

Such a division is artificial as far as linguistics is concerned. Linguistic semantics, as I understand the discipline, does not analyze the world but the perception of the world as patterned by language. The question as to which aspects of the percept reflect aspects of the world, the world presumably existing in a certain way independently of human perception, is linguistically irrelevant. Further, I doubt whether the question can be answered by the perceivers themselves.

At present, some (originally) logic-oriented semanticists subscribe to the view that the content side of accentuation belongs to semantics (Smith and Wilson 1979: 148-189; Wilson and Sperber 1979). When pursued further, this reasoning will correctly lead to the abolition of unaccented propositions and of pragmatics in the study of natural language.

Just as *chi*¹, *chi*², and so forth, are not variant occurrences of an invariant *chi* but themselves invariant units, sentences like *John*

has arrived and *Jóhn has arrived*, not being contextual variants of an invariant *John has arrived* (no 1-1 relationship between contexts and accentuations), nor being free variants (not all possible accentuations are coherent in a given context), are different invariant units, with an invariant form and an invariant meaning.

Among linguists who are concerned with describing also non-truth-functional aspects of linguistic meaning, a tendency towards the other extreme can be observed, namely the tendency to include in descriptions all kind of non-linguistic aspects of content. The notion "invariant meaning" used above excludes all features of content which are not conveyed by a form itself but by its context. This point can be illustrated with the help of the following example. De Jong (1981: 90-91) writes:

[...] let us imagine that someone would make out of the blue the following utterance:

(1) *John*

We would not expect the knowledge of the Addressee to be augmented by such a remark, i.e. it would not convey any information. But if the same expression would state the answer to the question

(2) *Whom did Mary visit?*

the knowledge of the Addressee would have increased.

In the remainder of this article, De Jong does not distinguish between the two occurrences of (1) on the one hand, and e.g. *John has arrived* and *Jóhn has arrived* on the other.

If this were correct, I would conclude that FSP does not belong to linguistics (cf. Bondarenko (1974: 51), who correctly decides, on the basis of the literature, that Mathesius and his followers view FSP as what Bondarenko calls a stylistic category).

It is true that (1) may be uttered out of the blue or as an answer to (2). But it is not true that (1) conveys (signals, means, etc.) that it is uttered out of the blue or as an answer to (2). In fact, this would be redundant information, since the Addressee knows that from the fact that (1) is uttered out of the blue or as an answer to (2). In both occurrences (1) conveys exactly the same information, roughly: the speaker is thinking "John" at the moment of speaking. This is the contextually independent, invariant meaning. When the sentence is uttered out of the blue, it is interpreted as a sentence out of the blue, when it is uttered as

an answer to (2) it is interpreted as an answer to (2). The interpretation varies with the context. A sentence does not tell us in which environment it is uttered, it simply is uttered in an environment.

Likewise, if a 1-1 relationship obtained between different contexts and different accentuations, accentuation conveying in which environment the sentence involved is uttered, something which the hearer already knows, accentuation would be redundant and, again, predictable (cf. "In such examples [...] stress is automatic or a matter of habit (maybe difficult to avoid)" (Grice 1978: 122)). However, accentuation is not redundant but meaningful exactly because the difference between e.g. *John has arrived* and *Jóhn has arrived* does not parallel De Jong's example, because accentuation does not convey what is already known by the fact that a sentence is uttered in an environment. Independently of any context these two sentences convey different information. Even if in a given context only a single accentuation seems possible, it is the contextually independent meaning of accentuation which renders the text coherent (besides other things).

A contextually independent meaning may, of course, need a context to be interpretable. For example, when someone says *He* out of the blue, the hearer may fail to understand which person is being referred to. But he understands the meaning conveyed, roughly: "the, in the given context, most obvious male person" (see Ebeling in section 2 above). If the hearer did not understand the meaning, he would not understand that he cannot interpret it. Likewise, the meaning of the accentuation in e.g. *The theatre group arrived* needs a context for its interpretation, because the interpretation involves a pre-existing subframe in memory. The hearer may fail to have such a subframe and he may be unable to construct it in an ad hoc way (which he, being cooperative, tries to do). He then cannot interpret the meaning conveyed and may conclude that the speaker is talking incoherently: a coherent text is one which contains only (contextually independent) meanings which can be interpreted in the given context. But the hearer can draw the conclusion that an accentuation is incoherent by virtue of the fact that he understands which meaning it conveys. It is this meaning which has to be described.

6. We saw in the preceding sections that the relation between the context, and the content and form of accentuation is not:

(On the difference between "content" and "meaning" see the next chapter (esp. V.7).)

Since de Saussure, an indivisible unit of form and meaning is called a sign. Problems concerning the relation between context and accentuation are a consequence of disconnecting form and meaning.

Not only is accentuation not redundant in the sense "predictable on the basis of the context", it is also not redundant in the sense "conveying what is already conveyed by the context".

Before discussing in the next chapter a few other problems connected with the semantic side of accentuation, we must return to the (probable) source of the misconceptions about the relation between accentuation and context. This source is, I think, the reading of unaccented texts.

In chapter III it was argued that Russian, and to a lesser degree English, employs word order as a cue for accentuation in written texts. This cue can always be overruled by the context. The context often narrows down considerably the reasonable guesses about accentuation, because a reader starts from the assumption that the text is coherent, so that he does not consider all possible accentuations of a given string, but only, at most, the accentuations of which the meanings are interpretable in the given context. The fascinating point of the thought processes involved in reading is that they try to do the impossible, that they try to, as Gunter(IV.2) called it, "project things forward". A reader of a written text has to guess what the writer wishes to convey.

Many publications on FSP must be read as studies of these thought processes in order to render them consistent. From a linguistic point of view such studies may be compared to the restoration of old manuscripts in which time has effaced a number of words. Preceding a linguistic analysis of the manuscript the investigator may attempt to re-establish the words which are

missing. Likewise, the study of FSP in a language which at present exists only in written form must be preceded by a reconstruction of the accentuation with which the text was probably meant to be read. During the reconstruction any available information can be used, including arguments of the type: *A boy met a girl.* (tear) *blushed:* I fill in *she* because in this society boys were not supposed to blush (to give an extreme example). As long as the reconstruction is not misunderstood as a linguistic analysis, and as long as it is remembered that the reconstruction is only the most likely guess, no objections can be raised. More specifically, the two senses of the verb "to determine" (Russian: "opredeljat'") pointed out by Dahl (1969: 11) should not be confused:

The expression "A determines B" is clearly ambiguous. It may have the following meanings:

- 1) "A causes B".
- 2) "A makes it possible to draw a conclusion about B".

Let A be: "the context" and B: "accentuation". In the preceding sections I tried to show that 1) does not hold true. As correctly remarked by Dahl, publications on FSP using the expression must be interpreted in sense 2). Of course, this applies to written texts only, because in speech we do not need the context to enable us to hear the accents (leaving aside ambiguous physical signals). The context can never be adduced as the cause of the reconstructed accentuation and thus of the informational content. We can only say: the writer probably wished to convey the message expressed by this accentuation. The subsequent linguistic analysis has then the task of saying what message is expressed by the accentuation.

Besides word order and context, a reader has recourse to lexical and syntactic information to fill in an appropriate accentuation: the type of verb ("existential" versus other verbs), some types of particles, articles (an indefinite article more often than a definite article induces a reader to place an accent on the accompanying noun), pronouns versus nouns (the latter are more likely to be accented than the former), cleft and pseudo-cleft constructions, etc. The context overrules all other cues.

The cues for accentuation have been described as "means of FSP" (e.g. Firbas 1974: 19 ff., 30 ff.), and accentuation is often mentioned as one among these means. This terminology is a consequence

of the idea, mentioned earlier, that written texts directly correlate with content, thus without the mental or actual addition of accents. I propose to update the publications involved by making all other means described in the literature subordinate to accentuation, thus to interpret them as "cues enabling a reader to add the missing accents". Besides their functioning as cues for accentuation, the various forms have, of course, their own meanings. These meanings are still to be described. Svedstedt (1976: 13) adequately summarizes the literature on FSP as follows:

Summing up, it may be said that, when deciding the AB [Actual Bipartition] of a clause, this is done by determining which component will bear the prosodic peak.

Accentuation, which can be studied directly in speech, expresses informational content in the linguistic sense of the word ("being the formal correlate of an aspect of content"). In the next chapter we will see that the term accentuation as it has so far been used covers two different things. Word order will be added in chapter VI.

Interpreting the literature on FSP along these lines, we can say that nowadays we know a great deal more about the way in which a reader places accents on written strings than we knew before Mathesius. If, in contrast, we read it as containing proposals that a speaker distributes accents in a certain way because of the context, because of the order of the words, because of the type of verb, and so on, the greater part of it is inconsistent, as I have tried to show in regard to context in this chapter and in regard to word order in chapter III. A comparable argument might be formulated for the other "means of FSP".

The study of the mental processes gone through by a reader who is engaged in placing accents on given strings of words receives a new impetus by the wish to simulate the procedure in a computer program, in order to construct an "automatic reader" (for Russian see e.g. Korolëv 1972, Matveenko 1969; for Dutch see e.g. Nooteboom et al 1981, Nooteboom and Terken 1982). In Russian the problem is less difficult than in a language with a less flexible word order because of the high correlation between word order

and accent placement in writing mentioned in chapter III (as long as only texts written in formal style are analyzed). There is also some literature discussing the opposite problem, i.e. the automatic generation of word order, given accentuation (for Russian see e.g. Mel'čuk 1965 and the literature mentioned there).

It will be clear from the foregoing that an "automatic reader" program cannot be regarded as a model of a speaker, but only as a model of a reader who has to fill in missing information on the basis of other information. In order to avoid confusion, it might be useful to borrow the Russian terminology, which does not speak of the automatic assignment of accents but of their automatic detection. For this aim, the cues mentioned above, to which undoubtedly others can be added, will probably have to be hierarchically ordered, which may create some problems (see II.4-5). Furthermore, here we encounter the fact that a human reader has a powerful tool which computers do not (yet) possess, namely general knowledge of the world. This factor can to a certain degree be controlled by restricting the scope of the research to relatively simple, closed "worlds", along the lines followed in so-called Artificial Intelligence.

Although the subject is not a linguistic one, I agree with Tor-sueva (1976: 63) that it is interesting to study what she calls the "feedback" from (accentuation to) text to accentuation, because this study can provide useful diagnostic information for the linguistic study of informational content and for the psychological study of the mental processes involved in reading. If the pitfalls of FSP are avoided, the research might well develop into an area of interdisciplinary cooperation.

V. FORM AND CONTENT

1. The so-called question test demonstrates two series of facts. In the first place, it shows that different accentuations of lexically identical strings correspond to different questions. The sentence *John is reading a book*, for example, answers (inter alia) the question: What is John doing?, while *John is reading a book* answers (inter alia) the question: Who is reading a book? In chapter IV we saw that these facts tell us that *John is reading a book* and *John is reading a book* establish different connections with the preceding context. In Ebeling's (1981) terminology, the former sentence (in one of its interpretations) develops a subframe "John" pre-existing in the frame of reference (i.e. the set of projections of the world shared by speaker and listener), while the latter sentence can be interpreted as developing a subframe characterized by the presence of someone reading a book.

The second phenomenon illustrated by the question test is that lexically different strings sometimes have to be accented differently in order to make them correspond to the same question. For example, *John is reading a book*, with an accent on the object, creates the same connection with the context as *John is reading something*, with an accent on the verb (cf. What is John doing?).

This second case presents us with a problem: Should we group together *John is reading a book* and *John is reading something*, on the basis of the fact that they establish the same connection with the context, although they have different accentuations, or should we group together *John is reading a book* and *John is reading something*, on the basis of the fact that they have the same accentuation, although they create different connections with the context? The first alternative results in a classification of sen-

tences on the basis of identical informational content, the second in a classification on the basis of identical form. I shall defend the second possibility.

A classification based on formal identity assumes that it is possible to determine, independently of informational content, which accentuations are the same and which different. Some problems pertaining to this assumption have been discussed in chapters II and III. The alternative classification contains the assumption that it is possible to determine which informational contents are the same and which different, now, of course, without relying on accentuation.

The literature on FSP, which in the main shows a preference for classifications on the basis of identical informational content, illustrates the difficulties raised by this approach from content to form: 1. the classification urges us to draw borderlines which cannot be shown to exist in a discrete way in a continuum of interpretations, and 2. the classification urges us to decide, without relying on accentuation, how delicate the description of informational content should be, which results in drawing both too many and too few borderlines in a continuum of interpretations. I shall discuss in sections 2-7 some examples of these difficulties, and then return in section 8 to the alternative classification, arguing from form to content.

2. In chapter II a distinction between broad and narrow scope interpretations of an accent has been introduced. It was argued that no formally homogeneous class of sentences exist in which the last accent includes the remainder of the sentence in its scope. Those who, for one reason or another, wish to group together sentences which are "basic", "unmarked", "contextually independent", and so forth, inevitably arrive, then, at a classification based on identity of informational content, grouping together sentences with different accentuations. Some problems raised by the assumption that such a classification can be arrived at have already been mentioned in II.4. As a simple example, let us try to determine for some sentences which of the two arrangements S^(^)ubject - Verb and Subject - V^(^)erb is "unmarked" (in

Russian, taking the "objective" arrangement as "normal": V^(^)erb - S^(^)ubject and Subject - V^(^)erb). This problem has received some attention in the literature, for Russian see e.g. Adamec (1962), Benoist (1979: 123-152), Isačenko (1967), Worth (= Uort 1964).

We start with the question: What happened?, and divide sentences into two classes, one class consisting of appropriate answers to this question, the other class containing the remaining sentences.

It soon appears that the type of verb is relevant here. Consequently, we have to postulate the existence of two groups of verbs, one group occurring in sentences which are "unmarked" if the last accent is placed on the subject, the other in sentences where it is a last accent on the verb which renders the sentence contextually independent. The two groups have been given various names, e.g. "existential" versus "process", "presentational" versus "predicative", "static" versus "dynamic", etc. Which verb belongs in which group? I always wonder how authors who make such a distinction find an answer to this question, for personally I am unable to (cf. also Bílý 1981: 39). The verb *byť* (to be) clearly belongs in the first group, also *načínat'sja* (to begin), *prisutstvovat'* (to be present), *moknut'* (to become wet), *stojat'* (to stand). But *čitat'* (to read), *isčeznut'* (to disappear), *odevat'sja* (to dress), *vstrečat'sja* (to meet), *vljubit'sja* (to fall in love), and hundreds of others? Let us suppose that somebody asks: What has happened? Is the answer *vljubilsja kôlja* (Kôlja has fallen in love) or *kôlja vljubilsja* (Kôlja has fallen in love)? *odevaetsja kakoj-to mužčina* (A man is dressing) or *kakoj-to mužčina odevaetsja* (A man is dressing)? *čitâet kakoj-to mâl'-čik* (A boy is reading) or *kakoj-to mâl'-čik čitâet* (A boy is reading)? I would not know.

Instead of deciding now that for some strings both arrangements are "unmarked", we might as well try to eliminate the problem. The lexical meanings of verbs occupy different points on a continuum ranging from "static" to "dynamic" (or other names). But since this is a continuum we can identify only extreme cases on both sides. For verbs in the middle of the continuum an assignment to one group or another is arbitrary. Of course, the sentence *vljubilsja kôlja* (Kôlja has fallen in love) has, with Russian

^(^)VS, a "static" flavour, while ^(^)Kolja v^(^)ljub^(^)il^(^)sja (SV) is more "dynamic". But is this a property of the verb? If we say that the type of verb determines which arrangement is "unmarked", we have to postulate two homonymous verbs here, a "static" one for which ^(^)VS is "unmarked" and a "dynamic" one for which ^(^)SV is "unmarked"; the same applies to all other cases of doubt.

Obviously, the facts show that it is not the lexical meaning of verbs which is responsible for the difference between "static" and "dynamic" but the two arrangements in question. Consequently, we can conclude that the two arrangements do not express the same informational content, the corresponding form to be chosen according to the type of verb used, but different informational contents, the difference being that one arrangement gives the sentence a "static" flavour, while the other arrangement pictures the event more "dynamically". So the question "What happened?" is inadequate, it does not reveal the semantic difference between the two arrangements.

It has been remarked by some authors that the diagnostic questions used in FSP do not classify the data in an adequate way. Why then are these questions still being used for this aim? Adamec (1966: 28-29) adopts a rather fatalistic point of view:

It goes without saying that between the four [question] types a discrete borderline does not always exist. On the contrary, there are gradual transitions, between the individual types a whole range of intermediate cases can be found. However, such a situation can almost always be observed to exist in language in between individual adjoining categories, which in no way diminishes the relevance of the classifications. ²⁵

Sgall et al (1980: 46), on the contrary, regard the question test as one of the most effective means of avoiding vagueness and obscurity in FSP.

Be that as it may, the problem is: does the question test, or any other existing test, supply all necessary distinctions of content and nothing more? (In fact, several question tests exist. Adamec, and other authors writing in Russian, uses the classification proposed by Bally (1944: 39-40), but while Bally classified questions, Adamec classifies, with the help of the questions, the answers to these questions. Sgall and others employ the more

widely known series: What happened, What was John doing, What was John reading, and so on. The resulting groups differ on some points. For a third proposal see Hatcher (1956).)

The question: What happened? (What is the case, What is new, etc.) is blatantly inadequate, as shown by the problems which it creates in analyses of adverbial phrases in sentence-initial position (see note 13) and of the sentences discussed in II.4 and in this section.

3. In II.1 I have mentioned two "schools" in FSP, one acknowledging, besides "Theme" and "Rheme", a third category "Transition", the other using only two categories. The difference between the two schools is not as fundamental as it may seem. Roughly, the Firbas-school, which has three categories, considers it necessary to summarize in a single formulation the different interpretations of a given accentuation, while the Adamec-school, having two categories, does not. The controversy circles around the status of an unaccented verb which can be but need not be included in the scope of a following accent, for example in *He is reading a book* (cf. What is he doing or What is he reading?). According to Firbas, the verb constitutes the transition in such sentences. A transition is characterized by the fact that it carries a degree of Communicative Dynamism (CD) which is higher than the degree of the theme, but lower than that of the rheme. An objection against this view has been formulated by Chafe (1976: 33):

If we identify a low degree of CD with givenness and a high degree with newness, the question arises as to whether there are intermediate degrees of given and new. The implication would be that the speaker can assume something to be in the addressee's consciousness to a greater or lesser degree.

Although Firbas would certainly object to the identification of "low degree of CD" with "givenness", and of "high degree of CD" with "newness", Chafe's point is well taken. It is unclear whether Firbas' formulation conveys more than that the verb, although unaccented, can nevertheless belong to the development of an entry in memory rather than to an entry being developed, i.e. that the verb can fall inside the scope of the last accent.

This is an observation, not an explanation; Firbas suggests, however, that the concept of "Communicative Dynamism" has explanatory value.

Sgall, who belongs to the Firbas-school, is more explicit. He would not say that the verb is transitional in a given context; rather, the verb belongs either to the theme or to the rheme, namely in different contexts (as defined by questions) (e.g. Sgall et al 1973: 52-54). The notion "transition" can then be used to summarize different contexts. There is in this approach no gradual transition from theme to rheme but a discrete borderline, while some sentences are what Sgall calls ambiguous (e.g. 1975: 304). This is also the opinion of the Adamec-school, which, however, does not have a name summarizing different contexts. But Uhlířová, who belongs to the Firbas-school, points out (1976: 312) that in a given context it cannot always be decided which question, the one containing the verb or the one not containing the (specific) verb, is appropriate, which again suggests the idea of a gradual transition. It seems to me that the issue needs further clarification.

Only the following is relevant to my argument: does the existence of two questions corresponding to a single accentuation prove that the sentence is "ambiguous", i.e. that we should assign to it two semantic representations? Jacobs (1977: 80-83) asked this question and answered it in the negative, with which answer I fully concur. In my view, the existence of two questions corresponding to a single accentuation would prove the necessity of assigning two semantic representations only if it had been independently proved that the question test establishes the relevant borderlines in informational content. This not being the case, the existence of two questions corresponding to a single accentuation shows that the questions do not adequately reflect the meaning of the accentuation. The two questions represent two contextually dependent interpretations, not the contextually independent meaning of the accentuation (see IV.5). Sgall and Hajičová's reply to Jacobs (1978: 23-25) is beside the point, because it starts from the assumption that negative sentences in which the interpretation of the scope of negation depends on the context should receive more than a single

semantic representation. This assumption is an example of the same problem as that pointed out by Jacobs. The fact that the various interpretations of such negative sentences have different truth-conditions may be an argument in logical semantics but not in linguistics. The existence of only a single form proves that natural language does not bother with borderlines invented by logicians. Some (originally) logic-oriented semanticists have arrived at the same conclusion (see Atlas (1979) for negation, and Kempson and Cormack (1981) for quantification; there remain to be abolished only unaccented propositions, which do not exist either). The other point discussed by Sgall and Hajičová (*ibid.*), involving cleft sentences, exhibits the same arbitrariness as the application of the question test: it is also based on the assumption that the existence of more than a single interpretation proves that a sentence is ambiguous; this is an arbitrary criterion as long as the relevance of those particular interpretations for establishing the semantic borderlines has not been independently proved.

In general, the problem is to find a formulation which does not meet with the difficulties of Firbas' transition idea, and which accounts for the fact that the borderline between the various interpretations is not always discrete (i.e. we cannot always say which interpretation applies in a given case) (see Uhlířová (1976) and II.4) and for the fact that the choice between the interpretations is contextually dependent (see IV.5). This problem cannot be solved by supplying a list of semantic representations, one for every possible interpretation, since this list tells us only which list of questions the author has used.

4. Various authors have proposed subclassifications of the category "theme". Kuno (1976: 120-121), for example, suggests the following classification (examples abbreviated and accents added).
 Question: What does your brother do for a living?
 Answer: ^(^)*John teaches music.*
John is called a "predictable" theme.
 Question: What do your brothers do for a living?

Answer: *Jóhn teaches música, Bfll is a consúltant, ...*

John is called an "unpredictable" theme.

Question: I understand that John and Bill teach music.

Answer: *Jóhn dóes, but Bfll dóesn't.*

John is called a "contrastive" theme.

To these three types, others might be added, for example:

Question: Who does what?

Answer: *Jóhn teaches música, ...*

John could be called a "new" theme (cf. Grammatika 1980: 193).

How do we know when the list will be complete?

Other authors propose other classifications. Daneš (1974), for example, distinguishes between 1) simple linear thematic progression (where the theme of a following sentence is identical to the rheme of the preceding one), 2) thematic progression with a continuous (constant) theme (the theme remains the same in subsequent sentences), and 3) thematic progression with derived themes (the themes of subsequent sentences are all different but derive from a single "hypertheme").

Is this an alternative or an addition to Kuno's list?

Which criterion decides on the correctness and completeness of a list?

Kuno as well as Daneš overlooks the only relevant distinction, the one consistently made by e.g. Svedstedt (1976):

John teaches música.

Jóhn teaches música.

A theory on FSP must account for the fact that the former sentence can be used in the case called "predictable theme" by Kuno and "thematic progression with a continuous theme" or "simple linear thematic progression" by Daneš, while the second form is appropriate in all cases mentioned by Kuno and the only possibility in Daneš' third type. The fact that the distinction between unaccented and accented themes is relevant can be demonstrated by means of such sequences as *Jóhn came hóme. The rascal was drúnk.* An accented theme in the second sentence would deprive the noun phrase of its "epithet" character. In contrast, the necessity of introducing further distinctions within the categories of accented and unaccented themes cannot be demonstrated, because these dis-

tinctions concern interpretations evoked by the context of the form. A form does not signal in which context it is used (see IV.5).

Lists like those of Kuno and Daneš may be compared with lists such as He_1 = John, He_2 = Peter, He_3 = Bill, Moreover, the lists do not distinguish between He_1 ... He_n on the one hand and She_1 ... She_n on the other. In such an approach, every new confrontation with the form *He* could lead to the postulation of a new meaning, and no provision is made for keeping apart *He* and *She*. Of course, in order to describe the content conveyed by e.g. a non-last accent outside the scope of the last accent, we have to make a list, and a longer one than Kuno and Daneš assume. But such a list is only a prerequisite for arriving at an analysis, not in itself an analysis. If we have to say what a table is, we may start with a list: that brown wooden thing over there is a table, that yellow piece with three legs is a table, and so on. In the end it becomes clear that being blue, being made of metal and having five legs are irrelevant properties for a thing to be a table. The knowledge of a native speaker of the meaning of the word *table* does not consist in a mental list of all the different tables which he has ever seen, for then every new confrontation with a table would add to his linguistic knowledge. His knowledge is such that he recognizes a table which he has never seen before as an appropriate referent of the meaning "table". A description which does not account for this knowledge is inadequate; a description which does not distinguish between tables and chairs is worse. There is no reason to assume that the situation is different when more difficult meanings are described.

5. The most tragic consequence of the tradition of using arbitrary questions for deciding on the relevance or irrelevance of borderlines in content is that the study of the meaning of word order has been seriously hampered by it (putting aside what is called word order but is in fact accentuation (see chapter III)). Some examples of this problem will be discussed in chapter VI.

6. Given the reliance in FSP on questions as an heuristic device, it is no surprise that the analysis of questions has always remained a problem.

A great deal of attention has been paid to questions containing an interrogative word (*wh*-questions). In a nutshell the problem is the following. In a question such as *Where is John?* the interrogative word indicates what the speaker wishes to know. It corresponds to the rheme of the answer, e.g. *John is in his room*. Since the *wh*-word indicates unknown information, Mathesius held the view that it is always the rheme of the question, and that the remainder of the sentence is the theme (e.g. 1941(a); 1947: 336). Since the interrogative is the first word of the sentence, *wh*-questions have, in this view, a "subjective" arrangement, the rheme preceding the theme. In contrast, Trávníček, whose conception of the theme was based on sentence linearity (see note 13), regarded the interrogative word as the theme (e.g. 1951: 891). Later, attention was drawn to the fact that *wh*-questions may be accented in various ways, e.g. *Where is John?* and *Where is Jôhn?* (e.g. Daneš 1957: 81). When the last accent is placed on the interrogative, the latter is nowadays mostly called a rheme, in accordance with the general rule that the last accent signals the rheme. Cases such as *Where is Jôhn?* are more difficult. On the one hand, we would like to call the interrogative word a theme, since it does not bear the last accent. But we can hardly say that it refers to the preceding context; and *is Jôhn* does not convey information about "where" in an intuitively clear sense of the expression.

As a consequence, a wild variety of (not altogether clear) opinions have been adhered to. As far as I understand, Křížková (1968) partly subscribes to Mathesius' view: the interrogative word is the rheme and everything else is the theme, irrespective of accentuation; she argues that the resulting rheme - theme arrangement must be regarded as unmarked if the last accent is placed on the last word of the sentence. In this approach, the last accent need not be placed on the rheme, it may be placed on the theme. That urges us to decide on the basis of the context which elements constitute the theme and which the rheme, which is impossible (see chapter IV). The same view is defended by

Ševjakova (1974).

Křížková (1972) says about the type *Where is Jôhn* that the interrogative word is the rheme from the point of view of the speaker, but she does not maintain that the word with the last accent is the theme. In her opinion, the accent at the end of the sentence is either automatic or a consequence of the new status of the element involved with respect to the preceding context; the difference between the two is neutralized (1972: 255, 261). Sgall et al (1980: 138-139) report that Křížková (1972) does not identify the notions "rheme" and "new information".

Firbas (1972(b): 63) holds the view that an interrogative word which does not bear the last accent belongs to the transition, more specifically, that it can occupy a position in the transitional part of the scale of Communicative Dynamism which is close to the rheme or on the periphery of the rheme (the word with the last accent being the rheme proper).

Sgall et al (1980: 138-141) propose that an interrogative word which does not bear the last accent can occupy any position on the scale of Communicative Dynamism except the position of the rheme proper (the latter called "focus" now (Czech: ohnisko)). They seem to distinguish between accented and unaccented interrogatives (141).

Trávníček's point of view (see above) is defended by Halliday (1967: 212-213). Sgall's reasoning does not exclude the possibility that the interrogative word is the theme.

At present, the discussion is cheerfully continued under other names (e.g. Culicover and Rochemont (1983: 139-144); Hannay (1983: 210-212)). It is a good example of the lack of classificatory criteria in dealing with informational content.

(I would suggest that we need descriptions of 1. the meaning of *wh*-words, 2. the meaning of word order (e.g. *Where is Jôhn* versus ... *where Jôhn is*), and 3. the meaning of accent.)

The discussion about questions without an interrogative word centres upon the informational status of the verb, which in English and often in Czech occupies the first position in the sentences involved. The problems are the same.

In Russian questions without an interrogative word the following issue is more important than the position of the verb:

Ševjakova (1974: 115; 1977: 118) observes that a Russian sentence like *Ty čitál knigu?* (Lit. You read book?), with the Russian type of "interrogative" pitch accent on the verb, in one of its interpretations can be translated into English as *Have you read the book?*, with an accent on the direct object. She makes the interesting remark that the English sentence does not have the accent on the rheme. This remark shows that in the native Russian intuition the verb is felt to be the rheme in such cases (in the interpretation: Did you ever happen to read that book?). An Englishman discussing the Russian language would be inclined to say that the Russian sentence does not have the accent on the rheme, which, in his perception, is the object. (See on this problem also Keijsper (1983(a): 127-128), Ladd (1983: 750), Lake (1982), Šmel'kova (1982), Wenk (1970).) The solution must, in my view, be sought in the semantic difference between the types of pitch accent used in the respective languages, i.e. in intonation. The information conveyed by accent per se is, in my view, identical in the two languages. But when the type of Russian accent involved is placed on the object, the sentence means "Were you reading the book at that time?" (or: "Was it the book you were reading at that time?"), the sentence cannot be interpreted as a question about whether or not there existed a time characterized by the reading of the book (see chapter XII below in this connection). It will be clear that Mathesius' followers are unable to cope with the problem, because they have to show that the context decides in Russian that the rheme is the verb, while the same context decides in English that the rheme (proper) is the object.

7. The question test, reinterpreted along the lines indicated in chapter IV, attempts to group together formally different sentences which establish the (presumably) same connection with the preceding context (e.g. *John is reading a book* and *John is reading something*). This approach fails because it lacks a criterion for deciding which informational contents are the same and which different (the questions themselves being an arbitrary sample which can differ per author).

Gussenhoven (1983(a), (b), (c); all three in 1984) puts forward a proposal which is more sophisticated than the approaches discussed above, but which nevertheless argues from content to form instead of the other way round and therefore ultimately suffers from the same arbitrariness. In addition, I disagree with Gussenhoven about what the main problem is.

The author has recognized the circularity problem discussed in chapter IV; by this step he has considerably advanced the study of accentuation. Gussenhoven "argues for the hypothesis that the location of the nucleus of the intonation contour is rule-governed" (1983(a): 377). He states clearly that the hypothesis is not meant to imply that accentuation is predictable on the basis of the context; the aim is to "predict the position of the nucleus GIVEN A CHOICE FROM A SET OF LINGUISTIC PRIMES" (op.cit.: 379). The choice itself, i.e. WHICH choice is made from the set of primes, is unpredictable:

Even in variationist theory, which goes a long way towards predicting what speakers will do in what circumstances, such a demand would be unheard of. It is tantamount to wanting to predict what people are going to say. (ibidem)

One of the linguistic primes postulated by Gussenhoven is FOCUS ([+focus] and [-focus]).

We will here leave 'focus' semantically undefined, but nevertheless assume that it exists as a formal category available in speakers' grammars. It is important to keep the concept of focus, as a linguistic prime, distinct from, on the one hand, the REASON or REASONS why speakers mark part or all of their sentences as [+focus], and on the other, what such a choice implies for the PHONETIC/SYNTACTIC REALIZATION of those sentences. (op.cit.: 380)

Crucially, the two concepts "focus" and "sentence accent" are only relatable through accent assignment rules [...]. [...] accent assignment rules take focus markings as input and give surface structures with sentence accents on particular words as output. The relation between [+focus] and a sentence accent is thus indirect, and is determined by the form of the sentence accent assignment rule that happens to be applicable. There is, therefore, no a priori reason why, either, a word that is [+focus] should be accented, or, why an accented word should be [+focus]. (1983(b): 61)

Gussenhoven's goal is to account for, or explain, accentuation not in the sense of "'giving a justification of the motives that led the speaker to make certain choices'", but in the sense of "'accounting for the surface structure of sentences in terms of the options postulated'" (1983(c): 132; cited from the translation by the author).

The basic point of my objections to this approach can best be explained by recalling the scheme given in IV.6 above:

Gussenhoven subscribes to the view that the context cannot be regarded as the determinant of informational content: he has correctly eliminated the arrow from context to content. But he maintains the idea which gives rise to that arrow, namely the idea that explaining accentuation means to predict when the various forms will occur. Instead of:

he says:

Therefore, the reasoning remains circular.

In my view, the fact that Gussenhoven needs rules to establish the relation between, on the one hand, [+focus] and [-focus], and, on the other hand, [+accent] and [-accent], proves that FOCUS is not a linguistic prime. I would say that the problem is to find a set of primes which need no rules to relate them to [+accent] and [-accent], i.e. to find the meaning of [+accent] and [-accent].

This seemingly "theoretical" disagreement has important consequences. To begin with, Gussenhoven's problem differs from mine. Consider, for example, the sentences *The prisoners have*

escaped and *Everybody has escaped* (1983(a): 392-393). We observe that the sentences have the same accentuation but in the most obvious case nevertheless different contextual connections (cf. What happened? and How many of them have escaped?, respectively). This fact must be explained. That is to say: given the fact that the sentences have the same accentuation, why are they nevertheless interpreted in a different way? The difference is obviously the consequence of the lexical difference between *The prisoners* and *Everybody*. So in order to explain the different interpretations of the given accentuation we have to describe, besides the meaning of [+accent] and [-accent], the lexical difference involved here. This would be my approach. Gussenhoven's problem is: which accentuation of the string *Everybody has escaped* results in the (presumably) same interpretation as that of *The prisoners have escaped*? His answer is: *Everybody has escaped*. He then has to write a rule predicting the accentuations *The prisoners have escaped* and *Everybody has escaped* when the strings are entirely [+focus] (the former must be [+eventive] additionally). When all rules involved are formulated, the problem of accentuation will be solved, in this conception. From my point of view, this will not be a solution but a formalization of the problem. Suppose that I have a dog called *Everybody*. Yesterday I uttered the sentence *Everybody has escaped*, which, referring to my dog, may be entirely [+focus]. We can then, of course, distinguish between *everybody*₁, referring to my dog and *everybody*₂, referring to all people, and write a rule generating the accentuations corresponding to [+focus] in the two cases. Then we know what the problem is: what difference exists between *everybody*₁ and *everybody*₂, or, if one wishes, between *prisoners* and *everybody*₂, as a result of which we tend to accent the string differently in the two cases? Only the answers to such questions will, in my view, solve the problem of accentuation. I admit immediately that this is a highly unattractive proposal, because it obviously postpones the exhaustive explanation of all facts of accentuation to some time in the future, presupposing as it does a semantic analysis of things other than accentuation itself, in this case an analysis of a lexical difference. But I am convinced that anything else dis-

tracts us from the core problem. Gussenhoven's publications have strengthened me in this view, because they contain non-trivial and subtle observations, but his proposals must nevertheless be rejected. I shall not discuss counter-examples to the specific rules here, because it is my own point of view that a complete treatment would be possible only if we knew the meaning of every word in a sentence, so that we should search, for the time being, for an approach which enables us in principle to handle the facts. Gussenhoven has not, in my view, found such an approach.

From a "theoretical" point of view, what is lacking in Gussenhoven's proposals is a criterion which decides that it is necessary to account for accentuation in terms of the primes proposed and not in terms of other primes: if we postulate other primes, we predict accentuation by means of other rules; the particular primes and rules are arbitrary because the approach allows as many explanations of accentuation as there are primes of which one can think. This is so as long as formal identity is not taken as the criterion for deciding how many and which primes have to be postulated. Only formal identity shows that interpretational differences which at first sight seem very large, such as the difference between a broad and a narrow scope interpretation of a form allowing both, can be irrelevant on the semantic level. On the other hand, only formal differences show that in informational content very subtle distinctions have to be explained, distinctions of which nobody would think if the formal facts did not prove their existence. An example of the latter type is the difference between *I was lying in the garden* and *I was lying in the garden* (see II.4), which sentences can both have a broad scope interpretation in the usual sense, but which then signal different "perspectives" on the situation referred to (the perspective of the person called "I" and the perspective of an outsider (who can be the speaker), respectively). But in Gussenhoven's approach, as in all approaches arguing from content to form, we are urged to decide independently of the formal facts which aspects of informational content are relevant (because the form does not restrict the number and determine the character of the contents proposed). This is, in my view, impossible (on "I" see Gussenhoven 1983(a): 393).

Again as a consequence of the hybrid character of the theoretical standpoint underlying them, Gussenhoven's proposals cannot be regarded as an explanation, because they are circular if we do so. Consider, for example, the difference between "adverbs of proper functioning" and "evaluative adverbs" (1983(a): 400-401). The author observes correctly that an adverb can fall within the scope of an accent on the verb (that the two can form a single focus domain), but that, in my terms, this interpretation is not equally obvious for all adverbs. He therefore distinguishes between two classes of adverbs: for "adverbs of proper functioning" the rules predict *Vêrb - Adverb* when both are [+focus], while the same focus specification results in *Vêrb - Âdverb* when an "evaluative adverb" is involved. Leaving aside the fact that the two accentuations have a different meaning, the problem is the same as that with the verbs in section 2 above, and the same as that with the arguments/adjuncts in II.4: how are we supposed to decide which adverb belongs in which class? Obviously, we use accentuation for this purpose, i.e. we ask ourselves whether or not the accent in *Vêrb - Adverb* can include the adverb in its scope and classify the adverb accordingly. But then the rules predicting the accentuation on the basis of this classification are circular as long as they are claimed to be an explanation. Gussenhoven is aware of the problem:

If we choose to wish a guest good night by using the words *I hope you'll sleep well*, we will probably not treat *well* as an adverb of proper functioning: the guest might think that the house was haunted or that he was supposed to have a guilty conscience. In the morning things are different. *Did you SLEEP well?* can be a perfectly straightforward, polite question. Indeed, an evaluative *well* would now be slightly odd, as it suggests a degree of personal interest that may be too high for comfort. (1983(a): 400).

The observation is correct, it demonstrates clearly that we are dealing with very subtle distinctions. But, as shown by the expression "we will probably not TREAT *well* as an adverb of proper functioning", the facts are that we MAKE *well* into an adverb of proper functioning by not accenting it. It is then impossible to claim that the rules EXPLAIN the fact that *well*

is unaccented: the rules claim that the adverb is unaccented BECAUSE it is an adverb of proper functioning, i.e. that it is such an adverb by virtue of something other than the given accentuation. What we have in reality is two observations, one about accent distribution (the form) and one about its interpretation. However correct an observation may be, it does not make sense to try and explain the occurrence of a form by saying how it is interpreted. If we want to predict how a combination of a verb and an adverb is to be accented, given [+focus] for both, we have to divide all adverbs into (at least) two classes. But this is impossible because many adverbs will be on the borderline (I would, for example, deny that in *The pên writes beautifully* (ibidem) the adverb cannot be included in the scope of the accent on the verb); and because of the fact that the classes of adverbs do not exist in a discrete way, we have to postulate a number of homonyms (such as *well*). All we receive in return is a circular account of the difference between *You'll slêep wêll* and *You'll slêep well*.

The same applies to all other comparable arguments. For example, if it is proposed that a sentence like *Pavla Cherkôva is a man* is derived only when the sentence involved is [+eventive], and that otherwise *Pavla Cherkova is a mân* will result from the rules (1983(a): 406), then how do we know which sentences are [+eventive] without knowing their accentuations? What is probably meant is that we interpret the former sentence in a way we may call [+eventive], and the latter sentence in a different way. That is correct, but why then write a rule which makes things circular by predicting the accentuations on the basis of the interpretations which are the result of the accentuations?

The same observations can be used in a different way, simply by saying: we have here two accentuations; they have different meanings, as shown by the fact that we interpret the sentences in such and such a way (not: the two accentuations have the same meaning, and we have two adverbs *well*, and we have eventive and non-eventive sentences, and so forth). By making this small step we can abolish rules for relating preconceived contents to the existing forms, and can start to investigate instead which meanings are expressed by these forms. These meanings will then be

the semantic primes. They neither account for the occurrences of an accentuation by describing them as a predictable, redundant consequence of the context, nor by predicting them by means of rules which derive the accentuation from its interpretations. What postulating a meaning does is to account for the interpretations which are evoked by the occurrences of the accentuation which has that meaning.

8. An approach arguing from form to content instead of the other way round rigorously classifies the data on the basis of formal identity (here: identity of accentuation). Thus, for example, *John is reading a book* with *John is reading something*. It then proceeds to explain the different connections of these sentences with the preceding context in terms of its cause: the semantic difference between a *book* and *something*; the meaning of the accentuation is assumed to be the same in both cases, because the accentuation is the same. It follows that the meaning of accentuation cannot be described directly in terms of the contextual connections created by it. Rather, these connections have to be viewed as the interpretation of the combination of meanings conveyed. In the example: the meaning of the given accentuation plus the meaning of *book* leads to one contextual connection, and the meaning of the given accentuation plus the meaning of *something* to another. The interpretations are thus derived from the meanings conveyed, while every meaning conveyed is indivisibly correlated to an aspect of form. The essential difference between this Form-Meaning approach and that which derives the forms from the (presumed) meanings (III.5) is that the question: Where does the meaning come from? does not now lead to circular reasoning involving the context as the thing conveying that the meaning is present. We now have the form conveying that the meaning is present and the contextual relations as the interpretation of the meanings conveyed. The question: What does this form mean? is not answered beforehand, the problem is to find the meaning, i.e. to assign to a form exactly the meaning generating its interpretations. This is done by working from the overall interpretations towards the meaning to be postulated,

i.e. by distilling from the interpretations the invariant element of content which cannot be ascribed to other things: to the context, to general knowledge, to the meaning of the word involved, to the meanings of surrounding forms, and so forth. What remains is the meaning we are looking for. In contrast to the approach discussed in the preceding section, there are no rules relating contents to forms: above the phonological level, the building blocks of language are, in my conception, signs, i.e. combinations of a form and a meaning; the relation between the formal and the semantic side of a sign is per definition direct, without any rule. It should be borne in mind that there are also syntactic signs, i.e. meaningful relationships; meaningless syntax does not exist in my approach. Likewise, a given word order is not the consequence of the fact that some meaning is being conveyed, it conveys itself a meaning.

In applying this method I follow Ebeling (e.g. 1978). It is, in my view, the only approach at present available which can hope to solve the problems of information structure. More specifically, a linguistic model which has one or more of the following properties is inherently unable to solve them:

1. A model which derives different prosodic and/or linear arrangements of a given group of syntactically related words from a single underlying source;
2. A model which assigns a meaning only to words but not to word order, accentuation and other suprasegmental phenomena;
3. A model with an asemanitic syntax;
4. A model which takes aspects of content (theme, rheme, given, new, etc.) as the input to rules determining the ultimate forms, and thereby disconnects the two sides of the Saussurian sign.

When we decide to describe the lexical meaning of the verb *to walk* there can be little disagreement about which forms are occurrences of the verb. We can list *walk, walking, walks, walked*, and everyone will agree that these forms contain the word being investigated (*walk* need not be a verb, of course), and that e.g. *sleep, standing, lies, sat*, do not. In such cases the problem is restricted to finding the meaning.

When we are dealing with accentuation, and with information structure in general, the problem is more complex: we also have to find the forms to which we are going to ascribe a meaning.

Having made the basic decision to group together formally identical sentences, sentences with the same accentuation in our case, and then to find the meaning of accentuation, we are again confronted with the question: Which are the formally identical sentences?

In chapter III it was argued that e.g. *SĤ* and *VĤ* do not have an identical but a different accentuation and therefore are not to be grouped together. In the present chapter I proposed that e.g. *John is reading a bôok* and *John is rêading something* have a different accentuation and therefore are not to be grouped together.

There are also less obvious problems. I shall discuss them in the remaining sections of this chapter.

9. Besides the proposal of Ebeling mentioned in IV.2 and that of Gussenhoven discussed in section 7 above in this chapter, yet a third idea exists which enables us to avoid circularity in the description of the relation between accentuation and context (Vardul' 1967; 1977: 247-256).

Vardul' proposes (in my terms) that the last accent of a sentence defines a set of projections from among which the projection conveyed by uttering the sentence is chosen. For example, by uttering *The man was smôking* the speaker conveys that he has chosen the projection "The man was smoking" from a set of projections, each member of which pictures the man while he is engaged in something: "The man was working", "The man was sleeping", "The man was reading a book", etc.

By uttering *The mân was smoking* the speaker conveys (in the narrow scope interpretation) that he has chosen the projection "The man was smoking" from a set of projections, each member of which pictures somebody who was smoking: "John was smoking", "The woman was smoking", and so forth.

In this approach, the functioning of accentuation is an example of the principle that the information contained in a message

I propose that the basic question is not: Is the accent placed on *x* or on *y*? (What meaning is conveyed by the position of the accent?), but: Is *x* accented or unaccented and is *y* accented or unaccented? (What meaning is conveyed by an accent and what meaning is conveyed by the absence of an accent?). In this proposal the minimal pairs are not *xġ* versus *ġy* but *xġ* versus *ġġ* and *ġġ* versus *ġy*.

The proposal, to be sure, is implicitly contained in many publications. But I propose to face its consequences consistently:

1. When we discuss e.g. *xġ*, there are always two problems: what is conveyed by the fact that *y* is accented and what is conveyed by the fact that *x* is unaccented?
2. A new problem is introduced: why must every sentence contain at least one accent? In contrast, the proposal that *xġ* is minimally opposed to *ġy* starts from the assumption that "the" (last) accent comes from heaven and moves around to signal various contextual connections. In my proposal "the" accent does not exist, the last accent does not come from heaven, and accents do not move around.
3. Compare:

John teaches mûsic

Jôhn teaches music

Jôhn teaches mûsic

In a proposal saying that *xġ* versus *ġy* is a minimal pair, the accent on *John* in the second sentence can be described as being the accent which we find on *music* in the first sentence. This raises the question of whether the accent on *John* in the third sentence and the accent on *John* in the second sentence are different accents; this question has, in my view, not been satisfactorily answered in the literature. In my proposal the accent on *John* in the second and third sentences opposes these sentences to the first sentence, where we find no accent on *John*, and the accent on *music* in the first and third sentences opposes these sentences to the second sentence, where an accent on *music* is absent. Between *John teaches mûsic* and *Jôhn teaches music* no direct opposition is thus assumed, both are opposed directly to *Jôhn teaches mûsic*.

4. Dealing with accentuation we have to account for two distinct

phenomena: accentuation per se (accented and unaccented) and the phenomenon called scope.

Consider the following intuitions about what is "new" and what "old" information:

A black cigarêtte : unaccented *black* can be "new" information

A blâck cigarette : unaccented *cigarette* is "old" information

Outside was the dóg : accented *dog* is "new" information

The dóg was outside : accented *dog* is "old" information

To be sure, not everybody discussing accentuation makes a distinction between *dog* in the third sentence and the same word in the fourth sentence, departing thereby from the original Prague approach. This is probably a consequence of an exclusive interest in accentuation (while in the Prague approach word order is a part of the same problem). At any rate, when *dog* in the two sentences is called by the same name, the difference between the sentences remains to be accounted for.

The list shows that both unaccented and accented elements can be "old" as well as "new" information. Whatever "old" and "new" information may be, the intuition about which elements present "old" and which "new" information is thus not the intuition about the meaning of being unaccented and being accented; it is the intuition about the phenomenon called scope (and, as we will see, about the meaning of word order). So one should not attempt to account for the intuition in the description of accentuation per se, it should be accounted for by describing the phenomenon called scope and the meaning of word order. The meaning of being unaccented and being accented has to be described independently of the scope of accents and independently of word order, in such a way that the description applies to accented and unaccented forms in both "old" and "new" information. This is where I depart from the course usually pursued in studies on accentuation.

What is the phenomenon called scope? The scope of an accent reflects the "syntax" of a sentence, in the sense "meaningful organization of meanings". The organizational phenomenon which is relevant to the scope of accents has hitherto remained undescribed because its contribution to the overall meaning of a sentence has not properly been separated from the contribution of accentuation per se. In chapter X below I shall put forward

a hypothesis on the nature of this organization. In chapter XI we shall see that the same type of organization recurs on the lexical level in e.g. *prisoners* versus *everybody* (see section 7 above). The organization is responsible for what Ladd (1979: 116) calls accentability and for what Gussenhoven (1983(a): 391) calls a focus domain.

10. Having separated accentuation (accented and unaccented) from the organizational phenomenon participating in the problem, we can make a first guess at the meaning of accent: instead of applying it to a whole sentence(part), we restrict the idea of a set of projections to accented elements. Thus: the accent in *A black cigarette* signals that "black" has been chosen from among the other members of { "white", "green", "yellow", ... }. The absence of an accent would then signal that no such set is involved.

Implicitly or explicitly, this idea is contained in many publications (e.g. Coulthard and Brazil 1981: 7; Chafe 1970: 224; Enkvist 1980: 136-142). Although it is intuitively not incorrect, it leaves us with three main problems.

Most fundamentally, it is not clear what is meant by the statement that "black" is chosen from among "white", "green", "yellow", etc. "Black" seems to be a meaning, and a meaning is chosen from among, or opposed to, other meanings. We need no accent for that. We can hardly say that an unaccented form has a meaning which is not opposed to other meanings (cf. Knowles 1982: 205).

Secondly, the proposal does not enable us to distinguish between e.g. *little* in *Outside was the little dog* and the same word in *The little dog was outside*. In both cases we observe a contrast between "little" and e.g. "big", but the accent is nevertheless interpreted in a different way (called "rheme" and "theme", respectively). The difference is, to be sure, a consequence of the scope relationships and the order of the words, but besides a formulation covering all accents we also need formulations which express differences.

A problem which has received quite some attention in the

literature is the fact that an accent need not contrast something to something else. Roughly, the problem arises when accents have a broad scope interpretation and when they are what Ladd (1979: 105) calls, default accents, i.e. accents which are placed where they are because some other element is deaccented.

As to broad scope interpretations, a number of solutions has been proposed (not always explicitly). Some authors regard the accents in this case as "automatic" (implied: meaningless) (III.2 ff.); others omit such accents altogether (II.1). More sensible is the idea that the accent in e.g. *John is reading a book* contrasts a book to everything else which John could have been reading; that is, the notion "contrast" is applied not only to items from a closed class but also to items from an open class. To this we have yet to add something, in order to account for the fact that the sentence conveys not only that John could have been doing or reading something else, but also that he is doing (reading) anything at all. Only if it is known beforehand that John is doing something (this knowledge can be introduced, for example, by asking: What is John doing?) is the conveyance of this knowledge redundant.

The notion of default accent has been introduced in application to examples like the following: *We've got lots of books, but we haven't got any bookcases* (Ladd 1979: 120). Ladd proposes that the accent of the usual *bookcases* shifts to *bookcases* because the speaker wishes to deaccent *book-* in order to convey that it has a special contextual relevance. I do not consider this a good idea. It introduces a number of new problems because it fails to solve the original one. The original problem runs: What is conveyed by the accent in *bookcases*? Compare (op.cit.: 118):

In Bolinger's example *This whiskey wasn't exported, it was deported*, there is a real sense in which we are focusing on one syllable (or morpheme) of the word. We are signalling to the hearer that the whole point of the sentence lies in the contrast between these two possible syllables.

No such contrast is found in e.g. *Has John read Slaughterhouse-Five? No, John doesn't read books.*

The noteworthy feature of the accent placement

in this sentence was that it was specifically NOT narrowly focused on *read*; this is why we proposed the notion of default. (op.cit.: 119)

The notion shifts the problem, which was: What is conveyed by the accent in *bookcases* or in *John doesn't read books*? Instead of solving the problem, Ladd tells us something else: what is conveyed by the absence of an accent on *book-* or *books*. What he says about the latter is correct, but the problem remains, because the fact that the absence of an accent conveys something does not exclude the possibility that the presence of an accent elsewhere also conveys something.

It will be clear that we have returned to the question of whether the minimal pairs are *xġ* versus *xy* or *xġ* versus *xy* and *xy* versus *xy* (see section 9). Ladd chooses the former alternative, in which case accents are viewed as things which move from syllable to syllable (cf. "[...] what happens to the accent in sentences with deaccented items" (op.cit.: 105)). This choice enables him to stick to the idea that a "real" accent "should" contrast something to something else: other accents are explained away by (for default accents) describing their position as automatic, given a hierarchy of accentability and a procedure of deaccenting. But accents cannot be explained away so easily. Consider the following example from Oakeshott-Taylor (1981: 21), who subscribes to Ladd's view:

Our reporter XY has been speaking to the Prime Minister.

/In the interview/Mrs. Thatcher repeated/that there was no alternative/.

It would involve very considerable distortion of the facts to maintain that *in* is new, by contrasting, for example, with *before* or *after*. *In* is stressed, simply because if *interview* is not stressed, there is no other word in the tone group to stress.

The explanation does not solve the problem. In the first place, the two readings, *in* not contrasting with e.g. *before* and *after*, and *in* contrasting in this way, are contextually dependent interpretations, and the borderline is not discrete, i.e. we cannot always say whether an element is accented because some other element is deaccented or in order to focus on the element

itself (Ladd 1979: 110).

Secondly, we can also say *in the interview*, i.e. with two accents. This is not the same as *In the interview*, nor the same as *In the interview*. There are consequently two oppositions: *In the interview* versus *In the interview* and *In the interview* versus *In the interview*. The fact that Ladd (1980: 64) is urged to say that "deaccenting and pretonic accent are somehow the same phenomenon" is illustrative in this connection: this proposal is the logical consequence of the idea that the accent in *In the interview* comes from *interview* in *In the interview*: adopting this idea, we cannot account for the accent on *in* in *In the interview* (see the example *John teaches music* in section 9; for the same point see Knowles (1982: 204)).

Moreover, we can also say: *In the interview Mrs. Thatcher repeated* ..., i.e. without an accent on the prepositional phrase. ^(*)

In short, it is not feasible to explain one interpretation of *In the interview*, the contrastive one, by saying that the accent on *in* has a function, and to explain another interpretation, where we do not observe such a clear contrast, by saying that the absence of an accent on *interview* has a function, because both the presence and the absence of accents contribute to informational content. We then have to conclude that accents need not contrast something to something else in the usual sense, i.e. that this cannot be the meaning of accent.

These problems circle around a hard core. Intuitively speaking, it is not incorrect to say that an accent contrasts something to something else, or that it signals that an element is being chosen from among others. But somehow it does not fit. In chapter IX I shall try to add the necessary refinements.

11. In I.6 a proposal has been made concerning the differentiation between accentuation and intonation. A pitch accent establishes, in my view, an opposition along two dimensions: it is opposed to the absence of an accent, and it is opposed to other types of accent. It is, therefore, a combination of two meanings: the meaning of accent per se (opposed to the absence of accent)

and the meaning of the particular type of accent used (opposed to the other types in the language involved). For example, consider the following sentence

His father will leave tomorrow

Two syllables of the sentence are perceived to be prominent, *fa-* of *father* and *-mo* of *tomorrow*. To this perceived prominence I assign a meaning under the heading of accentuation. Under the heading of intonation I would assign a meaning to the rise on *fa-*, to the fall on *-mo-*, and to the (non-prominence-lending) rise on *-row* (three different meanings).

Syllables which are perceived to be prominent without containing a pitch movement have only the meaning of accent per se. Further, I recognize one type of pitch accent which is special in that it receives an intonational implication only when it is the last accent in a chunk of information (see IX.6). Utterances which differ from each other only in accentuation and/or intonation are occurrences of different sentences (see chapter IV). Since accentuation deals with perceived prominence, perceptually ambiguous utterances are analyzed as representatives of as many sentences as there are perceptions. Thus, if, e.g., a pitch-fall is placed in such a way that (whether or not depending on the context) the syllable preceding the fall can be perceived as prominent, or the syllable following the fall, or both, I list three sentences. The same holds true for intonational ambiguity. The problem is irrelevant here, because the accent marks on the examples indicate which perception is being discussed, but it should be noted that the descriptions are meant to apply only to the perception indicated by the accent marks.

I have not yet found it necessary to introduce in accentuation more oppositions than the presence versus absence of accent. This is not to say that one accent cannot be "more an accent" than another. The differences between accents can have various sources, for example: 1. It is not clear whether or not we hear an accent somewhere; in this case I recognize two sentences, one for each perception (see above) (unless it is a case of neutralization instead of ambiguity; this refinement is not relevant

here); 2. Prominent syllables which do not contain a pitch movement are in general less prominent than prominent syllables with a pitch movement; here I assign only the meaning of accent in the former case and the meaning of accent plus an intonational meaning in the latter case (see above); 3. Types of accent exist which make the syllables involved less prominent than syllables containing other pitch movements; this concerns mainly "half" pitch movements; this case is dealt with under the corresponding intonational meanings; 4. Whole stretches of speech can be subordinated to others by having a narrow pitch span; this is also a matter of intonation; 5. Accents can be subordinated to others as a consequence of the scope relationships involved; this is dealt with by the description of the scope relationships.

The separation of accentuation and intonation in the way proposed above is made on the basis of linguistic oppositions. It does not imply that the physical or perceptual cues involved are independent of each other. More specifically, I am not proposing that syllables containing a pitch movement in a well-defined place are prominent by some cue other than the pitch movement; but it would not affect my analysis of accentuation if they were. Thus, I do not participate in the discussion about whether "sentence stress" is a stress phenomenon which is accompanied by a pitch movement, whether the "nucleus" of a sentence is an intonational phenomenon which is associated with a prominent syllable, whether it is the pitch movement itself which makes the syllables involved prominent, and so forth. I simply call a syllable accented if it is perceptually prominent, by whatever cue.

Although the present study is not devoted to intonational meanings, my proposals on intonation published elsewhere (1980; 1983(a); 1984) form a part of the proposed analysis of the same complex of problems because the decision to describe some of the problems under the heading of intonation and others under the heading of accentuation is itself an analytic decision; the distinction is not given in the "raw" data and is therefore open to criticism. For example, the sentence *John is reading a book*, when spoken with a particular type of pitch accent, may lead to the conclusion that e.g. *John is reading the newspaper* is not true (a so-called "contrastive accent"). I regard this conclusion

as an inference based on the meaning of accent per se plus the contribution of the particular type of accent plus the additional assumption that John is reading only one thing (see XI.6). Those who do not agree with my view that the last-mentioned assumption is not encoded in the form of the sentence (and therefore does not belong to its meaning) can propose not only that this aspect should be incorporated in the meaning of accent per se, but also that it belongs to the meaning of the type of accent involved, or that the contribution of accent per se to the content of the sentence cannot be separated from the contribution of the type of accent, or that the two should be separated in a different way.

12. The distinctions introduced in the sections 9 through 11, viz. a. accentuation (accented and unaccented), b. the organizational phenomenon responsible for scope, and c. types of accent (intonation) constitute, together with word order (see the next chapter), the basis for the semantic analysis to be presented in Part Two. At the same time, they are the outcome of the analysis: it is impossible to decide which formal distinctions are relevant without having an idea of the relevant semantic distinctions. Ultimately, the classification of the forms depends on the semantic analysis.

It may seem, then, that we have returned to the approach rejected in the beginning of this chapter, the approach which groups together forms on the basis of their (presumed) semantic identity. There is, however, an essential difference. In the Form-Meaning approach advocated here, one can use semantic criteria for deciding which forms belong together or are opposed to each other, but the forms involved should be defined as identical or different by applying some *formal* criterion; but the criterion can be chosen on the basis of semantic considerations. In this approach, one would not, for example, group together *John is reading a book* and *John is reading something*, because there is no common formal feature on the basis of which we can say that the sentences have the same accentuation. But, for example, the question of whether *John is reading a book* and *John is reading a*

book are minimally opposed to each other (the classificatory criterion being the place of the accent) or are each minimally opposed to *John is reading a book* (the classificatory criterion being the presence versus absence of an accent in a given place), is an empirical question, whose answer can only be found by semantic analysis.

The fact that several formal criteria can be applied to classify the forms, introduces the hypothetical possibility of two equivalent Form-Meaning analyses of the same body of facts, different classifications of forms resulting in different meaning-postulates. In that case we could choose the simplest analysis. I have never seen two analyses which are equivalent in this sense, but it is a theoretical possibility. I can only say that the other things which I tried did not work.

VI. OBJECTIVE AND SUBJECTIVE ARRANGEMENTS

1. In chapter III it was argued that, assuming that the difference between "objective" and "subjective" arrangements is a matter of style, what is often called the contribution to informational content of word order is in reality the contribution of accentuation. In V.9 the latter was split up into accentuation *per se* (accented and unaccented) and the phenomenon responsible for scope. We can now turn to word order.

Mathesius called "objective" the arrangements where the theme precedes the rheme, i.e. strings which have the last accent on the last element of the sentence. As "subjective" he classified arrangements 'rheme - theme', i.e. where the last accent is followed by another part of the sentence (see I.1). Mathesius mainly studied written texts, i.e. objective arrangements, and he did not say much about the difference between the two types of arrangement.

At present, the study of word order is still only in its infancy.

In the Soviet Union, the dominant school in FSP (the line Adamec (1966) - Kovtunova (1976) - Grammatika (1980)) adopted Mathesius' view that the difference between objective and subjective arrangements is a matter of style. Krylova and Khavronina (1976: 134), for example, claim that "stylistics" is involved in the following cases:

- (1) when the objective sequence of the theme and the rheme is changed [e.g. *Poezd prišël* (TR) versus *Prišël poezd* (RT) - The train arrived (SV versus VS)];
- (2) when the sequence of the components of the

phrases within the theme and the rheme is changed [e.g. Adjective - Noun versus Noun - Adjective, SVÖ versus SÖV];

- (3) when the order of the parts of the sentence in indivisible utterances with a zero theme [see II.1] is changed [e.g. VS versus ŠV, broad scope interpretation].

An arrangement $x\dot{y}$ is considered to be stylistically unmarked or neutral, an arrangement $\dot{y}x$ stylistically marked or expressive. The three cases quoted do not coincide with those of Mathesius; sentences with a part of the theme preceding and a part of the theme following the rheme, i.e. with the last accent in mid-position, were called "objective" by Mathesius, although not of a "pure" sort (Mathesius 1930; 1947: 357). Such arrangements, e.g. SÖV, are sometimes called "partially inverted".

Before we can look somewhat closer into the differences called "stylistic" it must be mentioned that there can be no doubt that word order in Russian makes an important contribution to style. Consider the following statistics about the position of the object with respect to the verb. The figures imply that in many sentences the object bears the last accent.

In fifty pages of text written by Tolstoj, Sirotinina found no arrangements with the object preceding the verb. In dialogues in works by the same author, a difference could be observed between different social classes: persons belonging to the upper-class placed the object before the verb in 35% of all cases, farmers and servants chose this arrangement in ca. 80% of all cases. In plays by Simonov the figures for objects preposed to the verb ranged from ca. 90% to 14%, the latter extreme occurring in the speech of scholars, who thus talk in the way they write (Sirotinina 1961(a): 204-205). In language produced by a single person, Sirotinina counted 10% OV in written scientific articles, 29% in spoken (prepared) lectures, and 63% in spontaneous informal speech (Sirotinina 1963(a): 130; 1965: 47). The imitation of "low style" by writers in literary works is, by and large, correct, since among dialect speakers (implied: without much school education) 75% and even 87% OV was found (Sirotinina 1974(a): 37-38; 1961(a): 205).

Confronted with this type of diversity, nobody can deny that arrangements $x\dot{y}$ are more "bookish" than arrangements $\dot{y}x$. It may

be called scandalous that Sirotinina's work is largely ignored by authors from the Mathesius school, who attach such a value to stylistic factors; as a result, the figures quoted above have neither been corroborated nor refuted.

The Mathesius school studies written texts. The "subjective" arrangements occurring in such texts may be regarded as violations of the "rule" for accentuation in writing (III.3). It is undoubtedly correct that such "subjective" arrangements give a written text the "colour" of the type of speech or text where the arrangements in question are normal, e.g. a colloquial or poetic colour (e.g. Kovtunova 1967: 136). This must be stressed because the way in which Kovtunova defends her point of view is unacceptable. According to Kovtunova (e.g. 1965: 167-168; 1967: 129), the "expressiveness" of $\dot{y}x$ in writing is a consequence of a shift (smeščenje) in the relation between form and function: the order of the words is in disagreement with the information structure of the sentence, which results in, or is compensated for by, a special intonation (accentuation) (see also Raspopov 1961: 123). Lapteva (1970: 124-125) remarked, more politely than I could have, that this is incomprehensible. Interpreted favourably, Kovtunova argues that the meaning of the order of the words in $\dot{y}x$ tries, so to speak, to make y the theme and x the rheme (formulated by Kovtunova in another way, as a consequence of the incorrect assumption that in $x\dot{y}$ it is the order of the words which expresses the fact that x is the theme and y the rheme (see III.2)), but this attempt is annihilated by the position of the last accent, which turns y into the rheme (see chapter XII). Anyhow, it is correct to say that an arrangement $y\dot{x}$ which is obviously intended to be read with an accent on y and no accent on x deviates in most cases from the normal reading pattern. From her point of view, Kovtunova is therefore correct in strictly distinguishing between formally written Russian, where violations of the accentuation "rule" may be perceived as a stylistic device, and normally spoken Russian; she does not regard "subjective" arrangements occurring in speech as expressive or stylistically marked, because here such arrangements are the rule rather than the exception (see also Benoist 1979: 93-94). Not all authors from the Mathesius school make this strict division between writing and speech, or monologue and dialogue. Kry-

lova and Khavronina (1976), for example, in an attempt to simplify FSP for foreign students, present all occurrences of $\acute{g}x$ as "emotive". It must be a funny experience for a student who has gained information about word order only from this book to hear Russians talking ("How emotional they are, these Russians!").

2. Granted that word order may be perceived as a stylistic device, the linguistic problem remains: Do arrangements $x\acute{g}$ have the same meaning as arrangements $\acute{g}x$? The answer depends, of course, on what we call meaning.

The criterion applied by those saying that the arrangements under discussion have the same meaning, is often openly circular: when two arrangements answer the same question, they are regarded as semantically identical (e.g. Krylova and Khavronina 1976: 136). This is a useless criterion because it presupposes that the questions employed cover all semantically relevant distinctions, which remains to be proved. We saw in chapter V that the questions fail to draw the relevant borderlines in accentuation. They discover in practice almost no distinctions conveyed by word order, so that almost the whole subject is relegated to stylistics.

A criterion applied by logic-oriented linguists is truth value. In that case, pairs like the following are sometimes adduced in support of the view that FSP is at least partially a semantic phenomenon:

In New Zealand one speaks English
One speaks English in New Zealand

(Sgall et al 1973: 43; note that the authors do not separate word order from accentuation).

A third criterion, which seems to be applied implicitly, is subtlety. The difference between $x\acute{g}$ and $\acute{g}x$ is more subtle than that between $x\acute{g}$ and $\acute{g}y$. But subtlety can never be taken as a criterion for deciding whether or not a difference is semantic, because it is entirely subjective. Some people have a better semantic intuition than others, and that intuition can, moreover, be developed; we cannot categorize linguistic phenomena on that basis.

The only legitimate linguistic criterion is, in my view: Do

the different forms occur in exactly the same range of contexts without conveying a different content? If they do not, the difference is semantic, whatever it consists of. Otherwise, the forms are in free variation.

When we apply this criterion to word order, the difference between "objective" and "subjective" arrangements belongs to semantics. I shall discuss some examples of the three "stylistic" cases mentioned in section 1.

The view that Theme - Rheme and Rheme - Theme are stylistic variants is incorrect on a trivial level for all accented themes, which is the majority. Consider the following sentence: *She was born (T) in Moscow (R), went to school (T) in Leningrad (R), and died (T) in Amsterdam (R)*. The sentence cannot be replaced by *In Moscow (R) she was born (T), in Leningrad (R) she went to school (T), in Amsterdam (R) she died (T)*. We can, of course, add an accent on the theme in RT, but then we arrive again at an arrangement TR: *In Moscow (T) she was born (R), in Leningrad (T) she went to school (R), and in Amsterdam (T) she died (R)*.

The difference between accented and unaccented themes remains unnoticed if sentences are analyzed with the help of questions containing the theme. Such questions supply precisely the only type of context where both accented and unaccented themes can be appropriately used (without conveying the same content). The same applies to other sentences with more than one accent, that is, in the majority of cases. An arrangement $\acute{x}\acute{g}$ is not the same as $x\acute{g}$, let alone the same as $\acute{g}x$. Some sentence types where the differences are often overlooked are the following:

"topicalisation": *John I like* versus *I like John*;

"dislocation" : *John, I like him* versus *I like him, John*;

"(pseudo)cleft" : *The one I like is John* versus *It is John I like*.

In such cases, only the sentence with two accents can be continued with an opposition, for example: *John I like but Peter I hate*. The strange sentence *I like John but I hate Peter* involves a more complicated context: it conveys that, given John and Peter, and given the relations of liking and hating, the correct pairings are "like-John" and "hate-Peter", and not "hate-John" and "like-

Peter". The cause of the fact that these things keep recurring in the scholarly literature is the custom of discussing accentuation and word order without putting accent marks on the examples.

3. Leaving aside trivial cases, the difference between unaccented Theme - Rheme and Rheme - Theme is subtle. An example showing that they are different is the following. When somebody remarks: *I am looking for a chair*, we can hardly react with: *A chair is over there*, while *Over there is a chair* is appropriate. The same holds true in Russian, with an extra complication. The sentence *Stul tam* (Lit. Chair there) is an appropriate reaction in the given context, but it must be translated as: *The chair is there*. The sentence *Tam stul* (Lit. There chair) corresponds in the given context to both *There is a chair* and *There is the chair*. In section 6 below I shall return to this problem, because it is often suggested that Russian employs word order to express the distinctions conveyed in other languages by means of articles.

As to the difference between Verb - Subject and Subject - Verb in Russian, Bonnot and Fougeron show, in two articles (1982; 1983), that native speakers systematically keep them apart, and not for "stylistic" reasons. In some contexts, their informants accepted only *SV*, namely when the sentence was obviously meant as a commentary on the preceding sentence. For example (1982: 310): *Ty uchodiš'?* *Ne забуд' zont: dožd' pošel* (Are you going? Don't forget your umbrella: it's raining (Lit. Rain started to go)). The authors remark that one might add *potomu što* (because) preceding the sentences *SV*; but when the conjunction is added in fact, the *VŠ* arrangement becomes acceptable (1982: 313). While *SV* is oriented towards the left context, *VŠ* points towards the right: it is preferred in e.g. descriptions and enumerations (1982: 314-315). For example (314): *Posle oběda pogoda sovsëm ispořtilas'. Pošel dožd', podul vëter, i my rešili nikudä ne chodit'* (After lunch the weather became worse. It started to rain (*VŠ*), the wind rose (*VŠ*), and we decided not to go anywhere). The verb preceding the subject may but need not be accented. Pointing towards the right, *VŠ* is often spoken with a "continuation" type of intonation (op.cit.: 315-317).

Furthermore, the authors established that the aspect of the verb is relevant here (Russian verbs distinguish between imperfective and perfective aspect). With a perfective aspect, *VŠ* conveys a strange message in the sequence: *Gde-to okolo časa on prosnulsja. zazvonil telefon*. [...] (At about one o'clock he awoke. The telephone (had) started to ring (*VŠ*)). This arrangement was rejected by the informants because they interpreted it as saying that the telephone started to ring after his awakening. With *SV* the sentence more appropriately says that he awoke as a consequence of the ringing of the telephone. *VŠ* is sensible in the given context only with an imperfective aspect (because in that case the verb "remains inside the left context" by virtue of the aspect) (op.cit.: 319-320).

Although the examples of Bonnot and Fougeron have to be checked for accentuation (among the *VŠ* cases there are probably examples with an additionally accented verb), their experiment confirms the observations of other authors (e.g. Ebeling 1958: 12-15; Nikolaeva 1981; Šmelëv 1976: 101 ff.).

As an example of word order distinctions inside a theme or a rheme the difference between Adjective - Noun and Noun - Adjective may be mentioned.

In Sirotinina's formulation (1961(a): 209-211), a phrase *AN* forms "a single, although divided concept" (edinoe, chotja rasčlenënoe ponjatie), while in *NA* the unity of the concept is destroyed (razrušenie slovosočëtanija, edinstva ponjatija). Furthermore, she observes in various places that, in general, *gx* is almost equivalent to *g* alone, while *xg* is not (see also Mel'ničuk 1958: 39-40). Most examples are untranslatable, but the following may give an impression of what is meant.

The phrase *železnaja doroga* (*AN*) says literally: an iron road, but the combination normally means "railway". When one postpones the adjective to the noun, *Doroga železnaja* (*NA*), one mainly introduces the idea "road", adding by the way that the road meant is, of course, the railway. This is to say that here the adjective is added to the noun more or less as an afterthought: a road, by the way an iron one (but in Russian the adjective is unaccented and it forms a single prosodic whole with the noun). Likewise, in combinations which do not normally occur without an

adjective, for example *She wept bitter tears*, Russian $\hat{N}\hat{A}$ gives first the same information as $\hat{N}$ alone (*She wept tears*), adding afterwards that the tears were bitter; this effect is absent in $\hat{A}\hat{N}$ (in the latter arrangement $\hat{A}$ will often also be accented; this can be the main reason for preposing the adjective to the noun). Therefore, one can hardly say *Ráz poslednij* ($\hat{N}\hat{A}$) (The last time) or *Na vzgljád moj* (Preposition $\hat{N}\hat{A}$) (In my view), and the sentence *On v klásse pervom* (Preposition $\hat{N}\hat{A}$) (He is in the first class) oddly remarks that he is in a (the) class, adding by the way that it is the first class.

These few examples may suffice to show that the problem of word order cannot be solved by calling it stylistics. Unfortunately, valuable observations on the meaning of Russian word order are extremely scarce (although many books and articles bear the title "Word order in contemporary standard Russian"). Gunter remarked in 1966 (: 162):

Finally, there is a kind of explanation [...] that employs the word *STYLE*. This word in American linguistic discussion serves as a kind of wastebasket into which one puts language data that do not fit into the scheme of the moment.

The same can be said about the Soviet Union. Before Mathesius, the entire subject of FSP was considered to belong to stylistics; at present the "scheme of the moment" deals with accentuation (called word order), and word order is not taken seriously, except by Sirotinina and a few other students of spoken language.

4. In the beginning of chapter III I remarked that the question of when two sentences have the same word order does not give rise to any controversy. I now have to introduce such a controversy: On what basis is it assumed that the opposition between "objective" and "subjective" arrangements, whether or not it is a stylistic opposition, is an opposition between different word orders?

Consider the "objective" arrangements $V\hat{S}$ and $S\hat{V}$. In chapter III it was argued that such sentences do not have the same but a different accentuation. I now propose that they do not have the same but a different word order, as everyone can see immediately. So

on what basis are they grouped together?

Likewise, the "subjective" arrangements $\hat{S}\hat{V}$ and $\hat{V}\hat{S}$ have a different accentuation as well as a different word order. How is it possible that they have something in common?

While some authors have said sensible things about the difference between "objective" and "subjective" arrangements, this other problem, which is at least as important, has been forgotten altogether. Obviously, the formal feature shared by the "objective" arrangements $V\hat{S}$ and $S\hat{V}$ is not the order of the words but the final position of the last accent; the formal feature shared by the "subjective" arrangements $\hat{S}\hat{V}$ and $\hat{V}\hat{S}$ is not the order of the words but the initial position of the last accent. So if "objective" arrangements share a semantic feature, and if "subjective" arrangements share a semantic feature, these features are not the meanings of the order of the words in these arrangements.

How is it possible that the difference between "objective" and "subjective" arrangements came to be described as a word order opposition? In Soviet linguistics, this question has its own history.

At the time when the phenomena of information structure had not yet been incorporated into standard descriptions of Russian, it was the common point of view that every sentence type had a single normal, so-called "straight" (*prjamoj*) linear arrangement. For example, the "straight" arrangement of sentences consisting of a subject and a verb was SV , of sentences consisting of a subject, a verb and an object: SVO , etc. Other word orders were described as examples of "inversion". The notions "straight" and "inverted" were thus defined independently of accentuation. This traditional conception is still present in early publications on FSP (e.g. Krušel'nickaja 1956). The rise of Mathesius' theory was accompanied by a reinterpretation of the phenomenon of inversion (e.g. Kovtunova 1965); this other idea is also contained in Krušel'nickaja (1956: 62-66), but there it is called "normal" versus "emphatic", and distinguished from "straight" versus "inverted" (see also Mel'ničuk 1958: 26-27). At present, "straight" arrangements can be both SV and VS , both SVO and SOV , etc.: as long as the word with the last accent is placed in final position, the arrangement tends to be called "straight" ($S\hat{V}$; $V\hat{S}$; $SV\hat{O}$; $SO\hat{V}$):

arrangements having the last accented element elsewhere tend to be called "inverted".²⁶ In other words, the notions "subjective word order" and "inversion" coincide (e.g. Krylova and Khavronina 1976: 134: "Deviation from the standards of objective word order leads to *subjective word order* or *inversion*. It is subjective word order (inversion) that makes speech expressive").

It is, of course, not the application of a name that is important, but the idea underlying its application. The present use of the term "inversion" defines one variable, namely word order, in terms of another variable, accentuation: first it is decided which lexical item is going to be accented, and then a choice is made between an "unmarked" and a "marked" arrangement. This assumption that accentuation is chosen earlier than word order, leads to a classification along the following lines:

1. Accent on x versus accent on y : $\acute{x}y/y\acute{x}$ versus $x\acute{y}/\acute{y}x$;
2. Accented item following versus preceding unaccented item:
 $y\acute{x}/x\acute{y}$ versus $\acute{x}y/\acute{y}x$.

Whether or not the second opposition is regarded as merely stylistic, it is an opposition concerning the position of accented and unaccented items with respect to each other. By postulating this hierarchy between accentuation and word order, the classification does not detect an opposition $\acute{x}y/x\acute{y}$ versus $\acute{y}x/y\acute{x}$. In other words, the question of whether $\acute{x}y$ and $x\acute{y}$ have something in common, and the question of whether $\acute{y}x$ and $y\acute{x}$ have something in common, does not even arise: the question as to what meaning is conveyed by the order of the words, independently of accentuation, is eliminated.

Note that a definition of the notion "same word order" in terms of accentuation is incompatible with the view that $x\acute{y}$ and $y\acute{x}$ have the same accentuation, which is a view defining the notion "same accentuation" in terms of word order (see III.1 ff.). It may seem strange that these incompatible views are being defended by the same persons, but this becomes understandable if one realizes that a writer may well choose word order on the basis of accentuation (in order to get the last accented item in final position), while a reader chooses accentuation partly on the basis of the word order supplied by the writer

(see chapter III). Neither hierarchy is a necessary or sensible hypothesis about what a speaker does. They can be eliminated by applying the notions "same" and "different" in the following way:

1. The sentences $x\acute{y}$ and $y\acute{x}$ have a different accentuation; the sentences $\acute{x}y$ and $\acute{y}x$ have a different accentuation (chapter III);
the sentences $x\acute{y}$ and $\acute{y}x$ have the same accentuation: x is unaccented and y is accented;
the sentences $y\acute{x}$ and $\acute{x}y$ have the same accentuation: x is accented and y is unaccented (V.9).
2. The sentences $x\acute{y}$ and $y\acute{x}$ have a different word order; the sentences $\acute{y}x$ and $\acute{x}y$ have a different word order; the sentences $x\acute{y}$ and $\acute{x}y$ have the same word order: x comes first and y comes last;
the sentences $y\acute{x}$ and $\acute{y}x$ have the same word order: y comes first and x comes last (this section).

When we apply the notions "same" and "different" in this way, it is not obvious that the "objective" arrangements $x\acute{y}$ and $y\acute{x}$ should be grouped together, since the two sentences have neither the same accentuation nor the same word order; the same holds true for the "subjective" arrangements $\acute{y}x$ and $\acute{x}y$. Although I reject the view that the difference between "objective" and "subjective" arrangements is merely stylistic (see section 3), and the view that the difference is a word order opposition (this section), I agree with Mathesian approaches that at least some "objective" arrangements share a semantic feature, and that at least some "subjective" arrangements share a semantic feature. As can be deduced from the discussion in the foregoing, the agreement on this point implies that I hold the view that in such cases the meaning expressed by the formal feature of being the first element is the same in xy and yx , and that the meaning expressed by the formal feature of being the last element is the same in xy and yx . Only in this way can it be explained why sentences with different accentuations and different word orders share a semantic feature if the last accent is placed on a lexically different element in the same linear position. In other words, I shall propose that in such cases the meanings expressed by the sentence

positions are independent of the lexical meanings which fill those positions. In this way, the fact that "objective" arrangements share a semantic feature, and the fact that "subjective" arrangements share a semantic feature, will be described as a consequence of the meaning of word order (instead of: the shared feature is itself the meaning of word order). The proposal will be formulated in chapter XII; we shall see that the same meanings of sentence positions are responsible for the fact that an element which would be the "rheme" if no further accent followed in the same sentence (as in a "subjective" arrangement) becomes the "theme" under the influence of the next accent, given the appropriate scope relationships.

Returning now to the notion of "inversion", it should be noted that the present application of this term in Soviet linguistics is not only inconsistent but also deceptive. An innocent reader may, at least, tend to think that "inverted" arrangements are less "normal" than non-inverted arrangements, for example by being less frequent. But if any arrangements are to be called "normal" in Russian on the basis of frequency, these will be mainly grammatically defined arrangements. For example, a subject mostly precedes the verb, irrespective of accentuation; a non-agreeing attributive adjunct mostly follows its head, irrespective of accentuation. In this sense, the pre-Mathesian conception of "inversion" was closer to the facts than the present one. Any definition of "normal" arrangement which is based on the position of the last accented element in the sentence can apply only to formally written Russian.

5. Formally written Russian deviates from spontaneously spoken Russian not only in the position of the last accented item, but also because it allows in most cases only so-called projective arrangements. A projective arrangement is one in which "two constituents of the same syntagm [syntactic group] of a sentence either follow immediately after one another in the sentence (the contact position) or they are separated by such constituents which directly or indirectly depend on one of the two (the distant position)". (Uhlířová 1972: 171)

Spontaneously spoken Russian is characterized by the abundant occurrence of non-projective arrangements. As an illustration of the difference, consider the following string (Zemskaja ed. 1973: 383):

This is regarded as normative Russian. In contrast, an arrangement with crossing arrows is not allowed in formal writing:

There are some exceptions to the rule of projectivity (for Russian see e.g. Benoist 1979: 46-55 and the literature mentioned there; for Czech see Uhlířová 1972). Moreover, whether an arrangement is projective or not depends in certain cases on the syntactic analysis chosen (Zemskaja ed. 1973: 385-386; cf. Benoist 1979: 55-62).

I shall not go into this problem since it is not my aim to write a normative grammar. Some further examples of normative and non-normative arrangements are the following (Zemskaja ed. 1973: 383-402; I have added an appropriate accentuation):

On kupil sebe strážno učenuju knigu (normative)
He bought himself (an) awfully learned book

On strážno knigu sebe kupil učenuju (non-normative)
He awfully book himself bought learned

(.) vse ustáli potomu čto bylo žárko (normative)
(~) All were-tired because (it) was hōt

(.)
Vse ustáli bylo žárko potomu čto (non-normative)
(~)
All were-tired was hōt because

(.)
Vse ustáli bylo potomu čto žárko (non-normative)
(~)
All were-tired was because hōt

(.)
Vse ustáli žárko potomu čto bylo (non-normative)
(~)
All were-tired hōt because was

(The same can be repeated when the dependent clause comes first.)

Dajte požalujsta sobačku s krásnen'kim bantikom
(~) (the) little-dog with (the) rēd ribbon
(~) (normative)

S krásnen'kim sobačku požalujsta bantikom dajte (non-norm.)
With rēd little-dog please ribbon give

(.)
I oni sdělali kakie-to óčen' prostýe sčētčiki (normative)
(~)
And they māde a-sort-of vĕry simple meters

(.)
I oni óčen' prostýe kakie-to sdelali sčētčiki (non-normative)
(~)
And they vĕry simple a-sort-of made meters

It should be noticed that all the non-normative arrangements have been found in normal colloquial Russian.

The high flexibility of word order does not imply that anything is possible. Although the borderlines have not yet been described (systematic studies of spoken Russian started only in the sixties), it can be said that arrangements in which adjacent words cannot be combined into a group (not necessarily syntactic) are atypical. For example, the following is atypical (op.cit.: 400):

Kátju ty za čto isključili dogodâlas'?

Kátja you for what (they) excluded gŭessed

This is because the words *Katju ty za čto* do not make sense together. In contrast, the following would be possible (my guess):

Kátju ty dogodâlas' za čto isključili?

Kátja you gŭessed for what excluded

Here, *you* can be linked up with *guessed*; although *Katja* (in the accusative case) is syntactically the direct object of *excluded*, it also forms a sense group with *you guessed*; we might paraphrase the sentence by: About Kátja, did you gŭess why they excluded her?

This linking up of adjacent, not necessarily syntactically related words is the phenomenon which made Mel'ničuk say (see I.4):

The main role of word order in the Slavic languages amounts to the expression of sense relations between lexical formations in a sentence: lexical formations which enter into direct sense relations are, irrespective of their strict syntactic function, in contact position, the remaining lexical formations are placed at a distance from each other. (1974: 208)

(I would propose to reverse the statement: lexical formations which are in contact position enter into direct sense relations.) The phenomenon implies that words in a sentence can be related to more than a single other word. For example:

Posýlku videli kak zapakovali? (Zemskaja ed. 1973: 399)
Pârcel (you?) sâw how (they?) packed-up

Parcel is the direct object of *packed-up*. But long before we come to *packed-up*, *parcel* functions as the direct object of *saw*: *The pârcel, did you sêe (it) how they packed (it) up?* The resumptive pronouns are absent in the Russian sentence.

The description of this Russian falls entirely outside the scope of Mathesian approaches to FSP.

Normative grammar also has a decisive influence on school education in the Soviet Union. Sirotinina (1965: 159-166) gives some examples of word order "mistakes" made by (Russian) pupils and students in their essays. For example (op.cit.: 160):

Beschozjâjstvennost' mešaet strôit' nam kommunizm
Mismânagement hinders to-build us cōmmunism

This is a "mistake" in the sense: mismanagement hinders us to build communism; the same string is "correct" in the sense: mismanagement hinders (somebody) to build for us communism. Teachers are reproached for not always correcting such "errors", which they do not do because they cannot always explain what is wrong (op.cit.: 161). This is hardly a surprise, for Sirotinina stresses that all examples of "errors" are perfectly possible in speech (op.cit.: 163). The policy is to not adapt the obviously sterile norms to the normal language but to adapt students and teachers to the norms.

Illustrative in this connection is the fact that Sirotinina, in a recently published booklet (1983), comes to the aid of teachers, who "struggle with the natural force of the colloquial language" (pomoč' v bor'be s razgovornoj stichiej) (Sirotinina 1983: 4). She reports that the inclusion of some of the word order conventions in the school programme (see III.3) has already resulted in a decrease in the number of mistakes in children's essays, although other rules are still to be added to the schoolbooks in order to eliminate yet another type of mistake, on an issue which is at present not explicitly taught (op.cit.: 59-63).

The consequences of this policy are that written Russian is becoming a dead language and that educated Russians tend to give incorrect information about (in this case) word order. One should be aware of the fact that most publications on Russian word order describe a very restricted code of the language. Comrie (1973: 294-295) remarks correctly that the sentences which he marks as ungrammatical are impossible only in writing (some are indeed ungrammatical); I would propose that no linguistic conclusions be drawn on this basis. I. Thomson (1977) reports on an interesting experiment aimed at finding out what mistakes in Russian word order are made by American students. Unfortunately, the examples are not accented, so that the reader can only guess what the problem is. The main point is, as far as I can see, that the students have not been taught the "rule" for accentuation in writing: to place the last accented element in sentence-final position (the element involved can be found by inviting the student to read aloud e.g. an English translation, excepting sentences with the Russian type of "question" intonation). Such

mistakes must, of course, be corrected, but only for what they are: violations of normative writing rules.

6. An issue often discussed under the heading of word order is the translation into Russian of sentences which in the original contain (in)definite articles, or the translation the other way round (e.g. Birkenmaier 1979; Gladrow 1979). In studies on this problem a number of different things are not always kept apart.

In the first place, the fact that the issue is discussed as a word order problem is mainly the consequence of the confusion between accentuation and word order discussed in chapter III and section 4 above. For example, S. Thompson (1978: 26) states, referring to Firbas, that sentences like the following are impossible in Russian:

A loaf of bread was sitting on the table

The point made is about English Subject - Predicate arrangements with an indefinite subject. It is not true that a Russian translation cannot have the same word order here. When the subject bears the last accent there is no problem (elsewhere there is a problem but no impossibility). For example, the first sentence of the Communist Manifesto runs in the German original: *Ein Gespēnst geht um in Europa - das Gespēnst des Kommunismus*. It has been translated into Russian with exactly the same arrangement: *Prizrak brodit po Evrope - prizrak kommunizma* (e.g. Krušel'nickaja 1961: 246). (Interestingly, the Czech translation chooses *VŠ: Evropu obchází strašidlo - strašidlo komunismu* (Restan 1981: 153), but the Czech sentence contains an object, not a prepositional phrase.) It is, then, the position of the last accent rather than the choice between Sūbject - Predicate and Predicate - Sūbject which is relevant here.

Secondly, as correctly remarked by Restan (1981: 156), it is not true that a Russian subject bearing the last accent (with Restan: VS) corresponds only to an (accented) indefinite subject in, e.g., English. It can also be a definite subject. Thus, *Pōezd prisěl (ŠV)/Prisěl pōezd (VŠ)* is both *The train arrived* and *A train arrived*.

Next, starting from a language with articles, it has been shown by comparing translations, that Russian translators sometimes choose an arrangement different from that in the original; this concerns mainly arrangements where the original has an indefinite subject preceding the predicate, with the last accent not on the subject:

A mán came around the córner: Iz-za uglá (corner) ^(.) vyšel (came)
 čelovék (man)
 Une fêmm^(.)e sortit de la châmbre: Iz kómnaty (room) ^(.) vyšla (went out)
 žénščina (woman)

(Fëdorov 1953: 167)

Ein Gást kam verspâtet heréin: Vošël (entered) zapozdávšij (belated)
 góst' (guest)

(Gladrow 1979: 118).

This is not a rule, however:

Eine âlte Frâu in Nâchtjacke ôffnete die gegenüberliegende Tûr,
 frâgte ihn, wên er sùche:
 Starûcha (old woman) v nočnôj kôfte otkrýla (opened) protivopolôž-
 nuju dvér' (door) i sprosila, kogó emu núžno (Fëdorov 1953: 220).

In general, an attributive adjunct in the subject (the more adjuncts the better) is enough to retain the original arrangement in Russian without problems.

On the other hand, starting from Russian, it is not true that sentences like čelovék (man) ^(.) vyšel (left) iz kómnaty (room), thus with a subject without adjuncts not bearing the last accent, cannot be translated with an indefinite article in the subject. For example, first sentences of texts must often be translated in this way:

Starík sažal jábloni: An ôld man was ^(.)plánting ^(.)âpple trees ("old man" corresponds to a single Russian word)

Mál'čik igrál i razbíl nečájanno dorogûju čâsku: A bôy was plâying
 and (he) uninténtionally brôke an expénsive cúp (Restan 1981: 148;
 Restan cites the sentences from Tolstoj).

Elsewhere, of course, the same Russian sentences may have to be translated with a definite article.

A somewhat different example, taken from the middle of a text:

Naskol'ko emu pozvoljali dviženija ruk i golovy, on vmeste s tem
 ogljadyval komnatu. Dvâ molodých čelovêka (two young men)
 [...] vychodili (left) iz kómnaty (room). Starûška (old woman)
 stojála (was standing) nepodvížno (motionless). I dâma so strânno
 pôdnjatymi brovjâmi (lady with strangely raised eyebrows) čto-to
 govorila ej šêpotom (told her something in a whisper) (Jelitte
 1978: 12; discussed in another connection).
 Jelitte translates correctly:

Gleichzeitig blickte er sich, soweit ihm dies die Bewegungen
 seiner Hände und des Kopfes gestatteten, im Zimmer um. Zwei jûnge
 Mênschen [...] verliefen [...] das Zimmer. Eine âlte Frâu stand
 régungslos dâ. Eine Dâme mit sônderbar hôchgezogenen Âugenbrauen
 râunte ihr etwas ins ôhr.

Jelitte adds the remark: "Die Geschehnisse, die sich im Zimmer abspielen, werden vom Standpunkt des Betrachters geschildert. [...]" A translation without definite articles in the subjects is the only sensible one in the given context: the observer has not yet seen the persons involved before the moment described by the sentences.

It is a fact, however, and this is where word order comes in, that Jelitte's example quoted above is more obviously translated using definite articles when the specific context is absent. The given context makes it clear that the sentences describe the world as it is perceived at a given moment. The meanings of the sentences themselves, however, involve more than one moment: we understand that the persons perceived are caught in the midst of what they are doing, and that they have been doing or will be doing something else at other moments. It is, therefore, strange to include in the sequence a sentence like: Stâl stojal okolo okná (A châir was standing near the window), because this sentence suggests then that the chair has been or will be moved around at other moments.

Without a specific context conveying that the other moments are not perceived we tend to react to the changing time conveyed by the sentence itself and choose a definite article because we conclude that we recognize the chair from the other moments.

In contrast, the sentence *Okolo oknâ stojal stûl* (Near the window stood a chair (the chair)) does not picture the chair at a time when it is not standing near the window, therefore, we easily choose an indefinite article here. This has to do with word order rather than with accentuation because the sentence *Tâm stul* (There is a/the chair) does not picture the chair when it is elsewhere either. It is therefore an appropriate answer to *I am looking for a chair*: the sentence allows the interpretation that the chair which is there is one among other chairs which others are elsewhere at the same moment. It is also word order which is responsible for the fact that Russian Subject - Predicate more often than Predicate - Subject must be translated using a definite article in the subject.

To sum up, it is not true that Russian employs word order to express what other languages express by means of articles. Russian does not have articles, so it cannot express their meanings. It does, however, express other meanings, of course.

7. Because of the deplorable situation in the study of word order for Russian sketched above, I will have to confine myself in Part Two to some initial observations. In chapter XII I shall try to combine three things. The first is the point which I have been making throughout Part One: that an accented element which is the "rheme" if no further accent follows in the same sentence, becomes the "theme" under the influence of the next accent, given the appropriate scope relationships. The second issue is the difference between "objective" and "subjective" arrangements; these terms oppose sentences having the last accented element in final position to sentences having the last accented element elsewhere. The third point is the meaning of word order, which, together with the meaning of accent and of the phenomenon responsible for scope, has to account for the first two points. The chapter will be the last part of the story about the relation between word order and accentuation which started in chapter III. Running ahead, the story may be summarized as follows.

Current theories on information structure defend the view that in e.g. Russian Subject - Predicate it is the order of the words

which expresses the fact that the subject is the "theme" and the predicate the "rheme", and the view that the difference between the "objective" word order Subject - Predicate and the "subjective" word order Predicate - Subject is a matter of style (I.1 ff.).

In chapter III it was proposed that, assuming the correctness of the idea that e.g. Subject - Predicate and Predicate - Subject differ only stylistically, it is accentuation and not word order which is responsible for the informational content, because Subject - Predicate and Predicate - Subject, and Subject - Predicate and Predicate - Subject, do not have the same, but a different accentuation. In V.9 I argued that accentuation per se (accented and unaccented) should be separated from the organizational phenomenon which is responsible for the scope of accents. In application to Subject - Predicate this will result in the recognition that the first element here is converted into a "theme" because it cannot be included in the scope of the next accent if the sentence is to be a combination of a subject and a predicate (see chapter X). In VI.2-3 we saw that the difference between "objective" and "subjective" word orders is not (only) stylistic but (also) semantic, and in VI.4 we observed that it is not a difference of word order, since e.g. Subject - Predicate and Predicate - Subject (both "objective") do not have the same but a different word order.

Chapter XII says that, once we have put things in their proper place, we can conclude that what has been called "theme" and "rheme", and "objective" and "subjective", is the interpretation resulting from 1. the meaning of accent (chapter IX), 2. the scope relationships obtaining in a sentence (chapters X and XI), and 3. the meaning of the order of the words (chapter XII).

8. Finally, it seems appropriate to repeat the point of II.1. When dealing with information structure, it is essential to indicate the accentuation of the sentences discussed. Books are being published on the function of accentuation which do not contain a single accent mark on the examples, probably because the

authors are not aware that they are talking mainly about accentuation. This is just as peculiar as hypothetical books discussing the tones of tone languages while leaving out all the tones, so that the reader has to guess what is being talked about. The same holds true when the subject of investigation is word order. In this field, large-scale typological research is being conducted. When some language is classified as e.g. an SOV-language, it should at least be indicated whether and how the language involved translates an opposition such as that between *John is reading a book* and *John is reading a book*: not only e.g. $S\hat{O}V$ and $SV\hat{O}$ are different, $S\hat{O}V$ and $SO\hat{V}$ are different as well. What I have indicated here by "~" may, of course, be something else, for example a modification of a lexical tone (e.g. Sasse 1981: 266-267, 271-272). If there is no comparable suprasegmental phenomenon, this is very relevant information. It is quite possible that a language renders e.g. *John is reading a book* as $SO\hat{V}$, but such information should be made available; otherwise, we cannot say anything about word order in general. Whatever "theory" one wishes to adhere to, if basic descriptive information is omitted, a lot of work on word order, it must be feared, will end in the waste-basket.

VII. CONCLUSION

In Part One I argued that the theory on Functional Sentence Perspective as it was devised by Mathesius and developed by his followers fails to account for the phenomena it studies. It calls word order what would have to be called accentuation if the remainder of the theory were correct (III), it describes accentuation as a redundant, automatic consequence of the context of a sentence (IV), it does not bring to light the phenomenon responsible for scope (V), it eliminates the problem of word order by defining it on the basis of accentuation (VI), and it places a phenomenon which it describes as word order outside linguistics by calling it stylistics (VI), to summarize only the most glaring inadequacies.

Mathesius' theory was originally meant as a linguistic alternative to the psychological approaches prevailing at the time. Since it cannot be regarded as such an alternative we could start anew with another question: Why were the approaches of Mathesius' forerunners linguistically unacceptable?

The most striking fact in the history of the theme-rheme problem is that the primitive status of the notions used has never been scrutinized. These notions travelled from Aristotle straight to modern linguistics, turning from philosophical into logical, psychological, semantic and pragmatic primitives; only their names changed every now and then. But are they really primitives?

The essential difference between philosophy, logic, psychology on the one hand, and linguistics on the other, is that the latter but not the former studies language in order to understand the functioning of language. We use language for many things, for ex-

ample, for the communication of thoughts. Thoughts are communicated by uttering words, sentences and longer stretches of speech. To understand the functioning of language means to understand how the speech uttered (the forms) manages to communicate the thoughts it does communicate (the content). Having observed that part of the content conveyed by an utterance is the information that something is a theme and something else a rheme (whatever that may be, and whatever name we give it), we, wishing to understand the functioning of language, have to answer the question: What, in an utterance, conveys this content? And then we have to draw an embarrassing conclusion: this question has never been answered.

Let us take a simple sentence: *The dog was outside*. Almost everybody would agree that the sentence conveys about the dog (the theme) that it was outside (the rheme). What is it that conveys this information?

Is it the accentuation? Both the theme-part and the rheme-part contain an accented word; both parts contain an unaccented word. Moreover, the theme-part can be entirely unaccented: *The dog was outside*. Thus, we cannot say: an accent means "this is the rheme", nor: the absence of an accent means "this is the theme".

Is it the order of the words? In *The dog was outside* and *Outside was the dog* the theme-part precedes the rheme-part. But in *The dog was outside*, in one of its interpretations, and in *Outside was the dog* the rheme-part precedes the theme-part. So we cannot say: being the last phrase means "this is the rheme", nor: being the first phrase means "this is the theme".

All we can say is the following: the theme-part may be an accented or an unaccented phrase, in the former case it precedes the rheme-part, in the latter case it may precede or follow the rheme-part; the rheme-part may contain unaccented words, provided that it contains the last accent (some people would deny even this); it may precede or follow the theme-part.

This statement can hardly be regarded as a sign of understanding how the formal means manage to convey the content. It is a typical example of reasoning from content to form instead of the other way round (V). It is based on the assumptions 1. that the division of the content of a sentence into a theme-part and a rheme-part is a primitive division, and 2. that its formal corre-

late is accentuation and/or word order. Neither is correct. Accentuation does not convey the information that something is a theme and something else a rheme; nor does word order (see above). Since the notions of content, theme and rheme, have no direct formal correlates, they cannot be linguistic semantic primitives. If we wish to understand how the forms manage to convey the content, we have to start from the forms: What is it that accentuation conveys? What is it that word order conveys? Given the information conveyed by accentuation and word order, how do we manage to draw the conclusion that something is a theme and something else a rheme? When we put the problem in this way, we inevitably arrive at the conclusion that the informational content of a sentence cannot be accounted for by describing the meaning of accentuation and word order alone. A third meaningful phenomenon contributes to the informational content, the phenomenon which ensures that accents have a certain scope. The interpretation resulting from the interaction of the three contributing factors has been given the names theme and rheme.

Mathesius' idea that he was proposing a linguistic alternative to the approaches of his forerunners was wrong from the outset. He adopted their primitives 'psychological subject' and 'psychological predicate', under other names, without ever asking the question of whether they could be taken over as linguistic primitives. They cannot. The approaches of Mathesius' forerunners were linguistically unacceptable not because they used confusing names (I.1), for less confusing names can easily be chosen, but because they analyzed the content of a sentence in terms of categories other than those expressed by language.

Nowadays we know more about informational content than Mathesius did. But somewhere we seem to have lost the problem.

PART TWO:

THE INFORMATION STRUCTURE OF A SENTENCE

VIII. OUTLINE OF PART TWO

1. In Part One it was argued that current treatments of information structure fail to answer the basic questions raised by the data: What is the meaning of accentuation? What is the meaning of word order? What is it that we call scope? How do these things account for the interpretations which we call "theme" and "rheme", "topic" and "comment", "given" and "new", "subjective" and "objective", or otherwise?

Part Two proposes an answer to these and a number of related questions. The present chapter summarizes the discussion with the help of a simple example.

The word *Poezd* means "train", i.e. it evokes the thought of a train. I shall call this thought a projection, I shall call the train a referent of the projection.

By adding to *Poezd* an accent, we create the sentence *Póezd*. This sentence means "not not train", i.e. it evokes a projection "not train" and negates this projection, so that a projection of a train results.

The sentence *Póezd* has two interpretations, i.e. contextually dependent readings (see e.g. IV.5, V.7-8). These interpretations may be paraphrased as "Look, there is a train" and "The thing you are thinking of is a train", respectively (but see IX.6 on the differentiation between accentuation and intonation). In the reading "Look, there is a train", the train is construed as a FIGURE, the world in which the train is perceived is the GROUND. In the reading "The thing you are thinking of is a train", the property of being a train is construed as a PART,

the entity to which this property is being assigned is construed as a WHOLE.

The difference between the two interpretations of *Pôezd* is a difference of attention: in the interpretation "Look, there is a train", the sentence focuses attention on a train, in the interpretation "The thing you are thinking of is a train", the sentence adds information about something on which attention has already been focused.

Both interpretations derive from the meaning "not not train" conveyed by *Pôezd*. The projection "not train" evoked and negated by the accent is a projection of the absence of the referent of "train". In effect, the sentence does one of two things: either it evokes a projection of a ground without a figure and replaces this projection by a projection of a ground with a figure, or it evokes a projection of a whole without a part and replaces this projection by a projection of a complete whole.

Projections are ordered in time: two projections either follow each other or are present simultaneously. Projections which follow each other will be called NON-CONCURRENT PROJECTIONS, projections which are present simultaneously will be called CONCURRENT PROJECTIONS. The time in which projections exist will be called PROJECTION TIME.

The last accent of a sentence always negates a NON-CONCURRENT NEGATION: in both interpretations of *Pôezd*, the projection "not train" negated by the accent precedes the projection "train". This property of last accents has given rise to the name "rheme" for the sentence element involved.

The reading "Look, there is a train" makes no distinction between the entity referred to and its property of being a train: the projection of the entity and the projection of its property COINCIDE; together, they supply a projection of a figure (the train). The projection of the ground of that figure ("the world") precedes the projection of the figure. In this case, we observe a hierarchy between two elements: 1. the world (a ground) and 2. the train (a figure).

The reading "The thing you are thinking of is a train" spreads the projection of the train over two moments of projection time: first there is a projection of an entity, then a projection of

its property of being a train; this is an example of NON-COINCIDING PROJECTIONS. The entity, besides being a whole of which the property of being a train is a part, is a figure with respect to the world in which the entity is perceived. Thus, in this case we observe a hierarchy between three elements: 1. the world (a ground), 2. the entity (a figure with respect to the world and a whole with respect to the property of being a train), and 3. the property of being a train (a part with respect to the entity).

By ordering our projections in projection time, we impose a hierarchy upon the referents of these projections. The hierarchies are of the figure-ground or of the part-whole type. When a projection of one member of a figure-ground organization is spread over two moments of projection time, a projection of a part and a projection of a whole result. Conversely, when a projection of a part and a projection of a whole coincide, the result is a projection of one member of a figure-ground organization.

2. By adding to *Pôezd* the word *prišël* (arrived), we create the sentence *Pôezd prišël* (The/a train arrived).

The absence of an accent has no meaning, i.e. *prišël* evokes the thought "arrived" and no other thought. The effect of the absence of an accent is that the projection involved, here "arrived", is present simultaneously with another projection (concurr with another projection); if the unaccented element conveys a projection of a part, the absence of an accent ensures that the corresponding whole is not projected without its part (there is no projection of the absence of the part); if the unaccented element conveys a projection of a figure, the absence of an accent ensures that the corresponding ground is not projected without the figure (there is no projection of the absence of the figure). In the example *Pôezd prišël*, "arrived" is a projection of the property of having arrived, which property is construed as a figure with respect to the entity which arrived, the entity being the ground; the absence of an accent on *prišël* ensures that the projection of the property (the figure) concurs with the projection of the entity (the ground). The sentence has two interpretations, corresponding to the two interpretations of *Pôezd* pointed out in sec-

the entity to which this property is being assigned is construed as a WHOLE.

The difference between the two interpretations of *Póezd* is a difference of attention: in the interpretation "Look, there is a train", the sentence focuses attention on a train, in the interpretation "The thing you are thinking of is a train", the sentence adds information about something on which attention has already been focused.

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The reading "The thing you are thinking of is a train" spreads the projection of the train over two moments of projection time: first there is a projection of an entity, then a projection of

its property of being a train; this is an example of NON-COINCIDING PROJECTIONS. The entity, besides being a whole of which the property of being a train is a part, is a figure with respect to the world in which the entity is perceived. Thus, in this case we observe a hierarchy between three elements: 1. the world (a ground), 2. the entity (a figure with respect to the world and a whole with respect to the property of being a train), and 3. the property of being a train (a part with respect to the entity).

By ordering our projections in projection time, we impose a hierarchy upon the referents of these projections. The hierarchies are of the figure-ground or of the part-whole type. When a projection of one member of a figure-ground organization is spread over two moments of projection time, a projection of a part and a projection of a whole result. Conversely, when a projection of a part and a projection of a whole coincide, the result is a projection of one member of a figure-ground organization.

2. By adding to *Póezd* the word *prišěl* (arrived), we create the sentence *Póezd prišěl* (The/a train arrived).

The absence of an accent has no meaning, i.e. *prišěl* evokes the thought "arrived" and no other thought. The effect of the absence of an accent is that the projection involved, here "arrived", is present simultaneously with another projection (concur with another projection): if the unaccented element conveys a projection of a part, the absence of an accent ensures that the corresponding whole is not projected without its part (there is no projection of the absence of the part); if the unaccented element conveys a projection of a figure, the absence of an accent ensures that the corresponding ground is not projected without the figure (there is no projection of the absence of the figure). In the example *Póezd prišěl*, "arrived" is a projection of the property of having arrived, which property is construed as a figure with respect to the entity which arrived, the entity being the ground; the absence of an accent on *prišěl* ensures that the projection of the property (the figure) concurs with the projection of the entity (the ground). The sentence has two interpretations, corresponding to the two interpretations of *Póezd* pointed out in sec-

tion 1. In both interpretations, "arrived" projects a property of the thing which is the focus of attention.

If *Póezd* says "Look, there is a train", the sentence focusing attention on the train, the corresponding *Póezd prišěl* conveys that the train must not be thought of without its property of having arrived (in contrast to *Póezd prišěl*, see section 3). Here, the projection "train" provides the projection of the ground for the property of having arrived. Since the train is, in its turn, a figure with respect to the world in which it is perceived, we have the following hierarchy: 1. the world (a ground with respect to the train), 2. the train (a figure with respect to the world and a ground with respect to the property of having arrived), and 3. the property of having arrived (a figure with respect to the train). In Part One this interpretation has been called: the "broad scope interpretation", i.e. not only *póezd* but also *prišěl* is interpreted as "new" information (cf. What happened?). The rule operating here is: an unaccented element projecting a figure is included in the scope of an accent on an element which projects the ground of that figure. In other words: at the moment when "not train" is there (a projection of the absence of the train), the projection "arrived" is absent, and at the moment when "train" is there, "arrived" is also there; "arrived" thus concurs with "train".

If *Póezd* says: "The thing you are thinking of is a train", the sentence adding information about an entity on which attention has already been focused, the corresponding *Póezd prišěl* conveys that the entity which turns out to be a train must not be thought of without its property of having arrived. Here also, the absence of an accent on *prišěl* ensures that "arrived" concurs with the projection of the entity. But now, the projection of the entity is not "train". As a result, we have the following hierarchy: 1. the world (a ground with respect to the entity), 2. the entity (a figure with respect to the world, a whole with respect to the property of being a train, and a ground with respect to the property of having arrived), 3. the property of being a train (a part with respect to the entity), and 4. the property of having arrived (a figure with respect to the entity).

In Part One this interpretation has been called: the "narrow scope interpretation", i.e. *póezd* is "new" information but *pri-*

šěl is "old" information (cf. What thing arrived?). In this case, the accent on *póezd* does not include *prišěl* in its scope since "train" does not provide the ground for the property of having arrived; instead, that ground is supplied by the projection of the entity (which turns out to be a train). Since the projection of the entity precedes the projection "train" (see section 1), and since "arrived" is present simultaneously with the projection of the entity (by virtue of the absence of an accent on *prišěl*), we have the impression that "arrived" comes "from the context" (together with the projection of the entity).

The choice between the two interpretations of *Póezd prišěl* depends on the context in which the sentence is spoken; in general, accents can always be interpreted as having a narrower scope than the maximal one for the given type of sentence. This possibility is introduced by the trick of non-coinciding projections mentioned in section 1, i.e. by spreading a projection of a figure or a ground over two moments of projection time, so that a part-whole relationship results. If a projection of a figure is added to a projection of a part and a projection of a whole, it is the whole which serves as the ground for the figure: a part in a part-whole relationship cannot be the ground in a figure-ground relationship. In terms of attention, this rule states that conflicting foci of attention are excluded.

While in *Póezd prišěl* the choice between the two interpretations depends on the context, elsewhere the choice may be influenced or determined by the lexical (inherent) meaning of the accented and/or unaccented element. For example, the accent in *Mnógie prišli* (Many (of them) arrived) will probably be interpreted as having narrow scope (How many of them arrived?, rather than What happened?). This is because "many" inherently projects a part of a part-whole combination; this fact is reflected in the name "quantifier". The part projected by "many" cannot serve as the ground for the referent of "arrived" (see the rule given above); instead, "arrived" is mapped onto the whole of which "many" projects a part. Since that whole has no formal correlate in the sentence *Mnógie prišli*, there is no sentence element which could be accented in order to include *prišli* in the scope of the accent.

3. Starting from *Póezd prišél*, we add an accent on *prišél*: *Póezd prišél* (The/a train arrived, ŠV versus ŠŮ). The accent on *prišél* evokes and negates a projection of the absence of the property of having arrived. In effect, there is first a projection of a ground without a figure, then a projection of a ground with a figure. The ground onto which "arrived" is mapped is supplied by "train": in this case, there is no interpretation in which "train" projects a part of a whole, the whole functioning as the ground for "arrived". The latter interpretation, involving non-coinciding projections, is allowed with non-last accents in some negative sentences only, for example *Póezd ne prišél* (Lit. Train not arrived) in the reading "The thing which arrived is not a train" (see section 5 below).

The accent on *prišél* in *Póezd prišél* leads to a reinterpretation of the accent on *póezd*: *póezd* is converted into what is called a "theme". In my terminology, this reinterpretation consists in a shift from a negation of a non-concurrent negation to a negation of a CONCURRENT NEGATION: in the sentences *Póezd* and *Póezd prišél*, the accent negates "not train" preceding "train", but in *Póezd prišél*, the accent on *póezd* negates "not train" which is present simultaneously with "train". The referent of this concurrent "not train" is something which exists simultaneously with the train or something which is mentally brought into the world of the same moment as the train. The interpretational effect of the negation of a concurrent "not train" is the impression that the train is being selected from among other things: the accent evokes and negates a projection of things other than the train and thereby chooses the train.

The shift to a negation of a concurrent negation is, with the given accentuation and the given hierarchy between the referent of "train" and the referent of "arrived", a consequence of the meaning of the order of words. The order of the words means, I propose, that the first element of the sentence and its negation belong to the same moment, and that the last element of the sentence and its negation belong to different moments. In *Póezd prišél*, the "same moment" prescribed by the order of the words for the first element, is the same moment in projection time.

Póezd prišél has the same word order as *Póezd prišél*. In both

sentences, the meaning of the order of the words is that the first element and its negation belong to the same moment. But only in *Póezd prišél* does this meaning lead to a reinterpretation of the accent on *póezd* as a negation of a concurrent negation. In *Póezd prišél*, such a reinterpretation is impossible, since the accent is the last one, and a last accent always negates a non-concurrent negation. If, as in *Póezd prišél*, an element must have a negation belonging to the same moment by virtue of the order of the words, while the accent involved negates a non-concurrent negation by virtue of the fact that it is the last accent, the "same moment" prescribed by the order of the words is not the same moment in projection time, but the same moment in the time in which the world is conceived to exist. Thus, while the projections "not train" and "train" follow each other, the referents of these projections must be looked for in the world of the same moment. That is to say, in *Póezd prišél*, the absence of the train and the train are pictured in the world of the same moment (for simplicity's sake, I take the broad scope interpretation of the accent). As a result, the sentence replaces one projection of the world of a given moment by another projection of that world. This feature has been called "subjective" (see chapter VI). It can be detected by comparing *Póezd prišél* (ŠV) with *Prišél póezd* (VŠ, "there arrived a train"). In the VŠ arrangement, *póezd* is the last element; the meaning of the order of the words is that the last element and its negation belong to different moments. Here, the subsequent projections "not train" and "train" refer to the world of different moments. That is, the absence of the train must be looked for in a world preceding the world in which the train is pictured. This is a so-called "existential" sentence, because it introduces, besides a projection of a train, a projection of the world of a time when it contains the train. This feature has been called "objective". In contrast, *Póezd prišél* (ŠV) gives the impression that the train is unexpected, since this sentence conveys essentially that, although the projection of the absence of the train is still to be replaced by the projection of the train, the train is in reality already there.

Thus, I propose that the interpretation of *Póezd prišél*,

where *poezd* is or belongs to the "rheme", and where the arrangement is "subjective", has the same source as the interpretation of *Pôezd prišël*, where *poezd* is the "theme". In both cases, the train and its negation belong to the same moment by virtue of the meaning of word order, but in *Pôezd prišël* this meaning is applied to the time in which the world is conceived to exist, while in *Pôezd prišël* it is applied to the time in which projections exist (projection time). The meaning of word order itself does not specify which sort of time is involved.

4. Figure-ground and part-whole organizations divide into two categories. Consider, for example, the two interpretations of *Pôezd prišël* mentioned in section 2. The hierarchies may be schematically represented as follows:

A. (What happened?) *The/a train arrived* (broad scope interpretation):

B. (What thing arrived?) *The/a train arrived* (narrow scope interpretation):

In these configurations, the underlined elements are referred to by *train* and *arrived*, respectively. The other elements indicated have no separate formal correlate in the sentence. This difference is important because the underlined elements are expressed one after the other, while the other elements only participate in a hierarchical organization. For example, the relationship between the train and the world in A. is a hierarchical relationship, but since the projection of the world has no separate formal correlate, we cannot say that it is uttered before or that it is uttered after *train*:

there is no linear arrangement here. In contrast, the relationship in A. between the train and its property of having arrived is a hierarchical relationship between the referents of projections which are expressed one after the other: the word referring to the ground is spoken before the word which refers to the figure; here, we have a hierarchical relationship as well as a linear arrangement. Likewise, the word *train* in B. indirectly supplies the ground onto which "arrived" is mapped, and *train* precedes *arrived* in the speech chain. In general, when the two members of a figure-ground or a part-whole relationship are directly or indirectly related to different sentence elements, the order of these elements in the speech chain is relevant, not only the hierarchical organization.

Hierarchical organization is responsible for the scope of accents: an unaccented sentence element which projects a figure is included in the scope of an accent on a sentence element which directly projects the ground of that figure; an unaccented sentence element which projects a part is included in the scope of an accent on a sentence element which directly projects the whole of which that part is a part; a part cannot function as a ground.

Since a sentence element which projects e.g. a figure can precede as well as follow the sentence element projecting the corresponding ground, an accent may include in its scope sentence elements which precede as well as sentence elements which follow the accented element.

When we examine the data pertaining the scope, we observe that all sentences in which some element can be included in the scope of an accent on a subsequent element, share a semantic feature. The relevant feature is: the subsequent element, when accented, specifies which referent of the meaning of the preceding element is meant by the speaker. For example, in *Prišël poezd* (VŠ, "there arrived a train"), *poezd* specifies which of a number of entities that may have arrived is meant: only an entity which not only arrived but which is also a train. Likewise, in *Poezd metrô* (Lit. A train of the Underground), *metrô* specifies that, among various types of train, it is a train of the Underground which is meant.

This feature will be described by introducing a procedure of SPLITTING A PROJECTION: while in e.g. *Pôezd* only a single projec-

tion of a train is involved, a combination like *Poezd metro* involves a number of projections of trains, the projection of a train of the Underground being one among other projections of trains; thus, the projection "train" is split into a number of projections "train". The subsequent accent includes in its scope only the train which is meant, a train of the Underground.

The relevant semantic feature of a split projection can be found in a number of traditionally described syntactic constructions, for example in Verb - Subject (*Prišël pëad*) as well as in Noun - Genitive (*Poezd metro*). Therefore, such constructions are, I suggest, identical on the level which is relevant to information structure. The syntactic operation which is responsible for the semantic feature of a split projection I propose to call a FORWARD LINK. This name indicates that the first element of the construction is linked to the second element (rather than the other way round), e.g. "*prišël poezd*" and "*poezd metro*".

Forward links divide into two subtypes, which correspond to so-called "modifier - head" and "head - modifier" combinations, respectively (but only combinations with a forward link; this excludes, e.g., combinations with a verb in second position). The two subtypes have a different hierarchical organization. "Modifier - head", e.g. *John's wife*, is:

"Head - modifier" combinations with a forward link, e.g. *The wife of John*, are organized:

The difference can be detected by comparing, for example, *John's something* and *Something of John's*, or *A real nobody* and *Nobody real*, or *A new something* and *Something new*, etc. (cf. II.5, III.6).

All sentences in which some element cannot be included in the scope of an accent on a subsequent element also share a semantic feature: when the subsequent element is accented, the referent of the preceding element is pictured twice: when it is not a referent of the subsequent element and when it is. For example, in *Poezd prišël* (SV), a single train is pictured when it lacks the property of having arrived and when it has this property. I shall call the syntactic operation which is responsible for this meaning a BACKWARD LINK, i.e. the second element of the construction is linked to the first element: "*poezd prišël*". Here, the second element projects a figure, the first element provides the ground for that figure, either directly or indirectly.

It follows that a sentence element can only be included in the scope of an accent on a sentence element to which it is linked (the arrow of a link points from a figure to a ground or from a part to a whole). This is not to say that a sentence element necessarily is included in the scope of an accent on an element to which it is linked, since the context or inherent meaning (as opposed to syntactic meaning) may lead to a narrow scope interpretation (non-coinciding projections, see sections 1-2). Thus, I am proposing that the syntax of a sentence determines the maximal scope of a given accent (but not the occurrence of an accent).

5. The distinctions introduced in the preceding section give rise to three basic oppositions:

- A. "x" → "y" versus "y" → "x"
figure ground versus part whole/ground + figure
(same link, different hierarchical organization, different word order)
- B. "y" → "x" versus "y" ← "x"
part whole/ground + figure versus ground figure
(different link, different hierarchical organization, same word order)

I suggest that this classification provides a better basis for the description of word order oppositions than classifications in terms of "modifier" and "head", or "function" and "argument", since it takes into account the facts of accentuation and the semantic differences between the various possibilities. For example, the classification reveals that subjects or objects cannot be linked forwards to conjugated verbs, because a verb cannot specify which referent of the meaning of the subject or object is meant, as a consequence of the fact that a verb inherently involves a reference of time.

The introduction of forward and backward links amounts to the proposal that traditional descriptions of the constituent structure of sentences be expanded with a specification of the direction in which the elements are combined to form constituents. For example, I would describe the constituent structure of *The man hit the ball* as follows:

Besides forward and backward links, a PARALLEL LINK is postulated in some types of negative sentence. The application of a parallel link gives the impression that the negation occurring in the sentence "belongs elsewhere" than where it is placed in reality. For example, *Póezd ne prižél* (Lit. Train not arrived) allows the reading "The thing which arrived is not the/a train"; this is the effect of a parallel link. The same sentence has the reading "The train did not arrive", which interpretation results from linking "ne prižél" backwards to "poezd". The exceptional status of parallel links stems from the fact that they contain non-coinciding projections in application to non-last accents (see sections 1 and 3).

When the three types of link are put to use in sentences which

contain words of the type we call "quantifiers", a further complication enters: these words exhibit, on the interpretational or semantic level, an additional opposition of the type "x and its negation belong to the same moment" versus "x and its negation belong to different moments". In application to "quantifiers", this gives rise to a distinction between CONCURRENT and NON-CONCURRENT PARTS.

6. The following chapters discuss the details of the proposals summarized above.

Chapter IX introduces coinciding and non-coinciding projections, concurrent and non-concurrent negations, my differentiation between accentuation and intonation, three types of link, and the linguistically relevant notions of time.

After the introduction of figure-ground and part-whole organizations, chapter X concentrates on the difference between forward and backward links, as they appear in the three types of opposition mentioned in III.6 and section 5 above in this chapter. It is suggested that the distinctions can be applied to account for the location of prosodic boundaries. The discussion of non-coinciding projections is postponed until chapter XI.

Chapter XI is concerned with part-whole organizations resulting from non-coinciding projections, whether or not accompanied by a parallel type of link. The examples demonstrate that the choice between an interpretation involving coinciding projections and one involving non-coinciding projections (and thus between a broad and narrow interpretation of a given accent) is a matter of degree, different types of context and lexical meaning favouring one interpretation or the other. From XI.4 onwards, the examples contain quantifiers and/or negations; five types of inference are regularly derived from given accentuations and intonations. The discussion of quantifiers and negation is meant as an illustration of the applicability of the framework developed here; it does not exhaust the subject. Most importantly, I attempt to show that notions like "the scope of quantifiers" and "the scope of negation" are misconceptions, the meaning of accent and intonation, inherent word-meanings and syntactic

meaning (type of link) being responsible for the phenomena which are often treated under the heading of "scope" of quantifiers and negation. In order not to complicate the illustration, word order is kept constant as far as possible. The technical details can be skipped by those who wish to follow the "theme-rheme problem" in a strict sense only.

Chapter XII demonstrates how the meaning of word order gives rise to interpretations like that of *Póezd prišēl* (ŠV, "subjective"), *Prišēl póezd* (VŠ, "objective"), and *Póezd prišēl* (ŠV, "theme" plus "rheme", "objective"). The same meaning is detected in a number of other sentence types. A rough sketch is given of how the principles described function in longer sentences. The chapter concludes with some observations concerning the position of verbal elements in Dutch.

Chapter XIII draws a general conclusion.

The behaviour of words which we call "nouns" and "verbs" is examined recurrently. The main observations are the following.

Basically, the name "noun" reflects the possibility of construing the referents of the words involved as figures in a figure-ground relationship, the ground being "the world" (or: "space"). If a referent is construed in this way, it can serve as the ground for the referent of another word, so that an accent on a "noun" may include other elements in its scope. This fact is reflected in descriptions saying that nouns are more "accentable" than other word-types (see II.5). However, the same words can be employed in other ways. Firstly, if a noun is used as a so-called "epithet", its referent is a figure which takes (what we call) an entity as its ground. As is well-known, the "epithet" application of nouns affects their accentability (see XI.1). Secondly, the referent of a noun may be construed as a part in a part-whole relationship on the interpretational level, as indicated by the example *Póezd* in section 1 above. In that case, an accent on a noun does not include other elements in its scope (see section 2 above and IX.1-2, XI.1 ff.). Thirdly, the referent of a noun can be a part in a part-whole relationship by virtue of a syntactic meaning, namely when it is the "head" of a "head - modifier" combination with a forward link.

In that case, the noun may be included in the scope of an accent on the "modifier", which supplies the corresponding whole (see X.4 ff.). Finally, an interesting transformation may take place when a Dutch preposition/particle follows a noun: a referent which is basically construed as a figure in space is "thought into space", so that it becomes a part of space. This shows up in pronominalizations. For example, the pronominalization of *Ze praatten over het boek* (They talked about the book) is: *Ze praatten erover* (They talked about it), where *er*, which means "there", refers to the book: the book becomes a part of space, as shown by the fact that it is referred to by means of a word which is also used to refer to places, i.e. referents which are construed as parts of space from the outset. This transformation serves to immobilize the referent, so that the subsequent preposition (particle) cannot affect that referent by conveying its movement to another place: *Ze praatten het over* (het = it) would mean that the book was moved to another place by talking. Persons are not normally transformed into parts of space, so that in the pronominalization of e.g. *Ze praatten over de jongen* (They talked about the boy) the preposition must precede the element referring to the boy: *Ze praatten over hem* (hem = him) (see XII.7).

As to verbs, their behaviour is determined by the fact that they inherently refer to time. A consequence of this is that e.g. a subject or an object cannot be linked forwards to a verb. In contrast, in the three languages considered here (Russian, English and Dutch), a finite verb can be linked forwards to a subject or an object. This is remarkable because in predicative sentences which do not contain a verb (a frequent sentence type in Russian) comparable elements cannot be linked forwards without the sentence losing its predicative meaning (see X.7-9). In Dutch, non-finite verbal elements cannot be linked forwards (see XII.7). Observations on the borderline between verbs and other words can be found in X.9, XII.4 and XII.7. In general, languages can be expected to exhibit restrictions on the forward linking of verbs. Such restrictions, together with the meaning of word order as described in chapter XII, logically lead to a consistent end-position of verbs, or, if the word involved is not a verb

inherently, to a "verbal" interpretation of the word when it is placed in end-position.

7. Finally, I summarize here the notational conventions which will be adopted in the following chapters, so that this section can be consulted when the need arises.

My notations give three types of information: about word order, about the type of link, and about the order of projections in projection time (hierarchical organization, but without a specification of whether a figure-ground or a part-whole relationship is involved).

Word order will be symbolized by means of the left to right order on the page. For example, a sentence $\dot{x}y$ (x precedes y) may occur in the following schemes:

The following notations symbolize a sentence $\dot{y}x$ (y precedes x):

Where projections are added which have no formal correlate in the sentence studied, their location to the left or to the right of the other projections is irrelevant, since in that case there is no linear arrangement (see section 4 above and X.1,3).

Among the notations just listed, the following two indicate a forward link:

The following notations symbolize a backward link:

A parallel link is given as follows:

Since the arrow of the link indicates which referent is "mapped onto" which other referent, the lowest projection comes first in projection time. Basically, an accent replaces a projection by the one written over it:

Thus, projection time proceeds from bottom to top, for example:

Here, "not y" precedes "y", "y" concurs with "not x", "not x" precedes "x". It follows that "x" projects a figure or a part and "y" a ground or a whole.

The following notation symbolizes the same order of projections in projection time (but a different word order and a different type of link):

Here also, "not y" precedes "y", "y" concurs with "not x", and "not x" precedes "x" in projection time.

Likewise, the following two notations indicate that "not x" precedes "x", that "x" concurs with "not y", and that "not y" precedes "y":

In the parallel links, "not x" concurs with "not y", and "x" concurs with "y", and "not x" "not y" precedes "x" "y":

In the corresponding unaccented cases, a negation disappears. If this concerns the highest projection, that projection is lowered by one level. For example, starting from $\&y$ with a forward link:

the corresponding sentence $x\dot{y}$ (one accent, on the second element) is:

and the corresponding sentence $\&y$ (one accent, on the first element) is:

(forward link, $\hat{x}y$)

With a backward link, the sentences $\hat{x}\hat{y}$, $x\hat{y}$ and $\hat{x}y$ appear as follows:

(backward link, $\hat{x}\hat{y}$) (backward link, $x\hat{y}$) (backward link, $\hat{x}y$)

The corresponding series for $y\hat{x}$ runs as follows:

(forward link, $y\hat{x}$) (forward link, $y\hat{x}$) (forward link, $\hat{y}x$) (backward link, $y\hat{x}$) (backward link, $\hat{y}x$) (backward link, $\hat{y}x$)

With a parallel link, the omission of an accent results in simple non-coinciding projections (see XI.2).

The scope of an accent can be read from the schemes as follows: if "not x" is placed lower than "y", the accent on x includes y in its scope; if "not y" is placed lower than "x", the accent on y includes x in its scope.

There is one case where a conflict arises between the notation of word order and the flow of projection time, namely when we wish to indicate that an accent negates a concurrent negation. When reading the word order from a scheme, the negation of an element must be taken together with the element itself. For example, *The train arrived* may be represented by:

		"arrived"	2	↑ projection time
"the"	"not train" "train"	"not arrived"	1	
1	2	3		
→ word order				

Because of this inconvenience, the reinterpretation of an accent as a negation of a concurrent negation will be indicated only where it is relevant to the point under discussion. When non-concurrent negations are represented, no conflict arises. For example, the location of "not arrived" and "arrived" in the same vertical row (row 3) indicates that these projections are expressed at the same moment, when *arrived* is uttered.

As a result of these conventions, the projections expressed by the words spoken emerge at the top of the vertical rows; the projections under them are negated by the accents. For example $\hat{x}\hat{y}$, forward link:

--- expressed by the words spoken
--- negated by the accents

IX. THE MEANING OF ACCENT

1. A mother and her little son are walking along a road. The boy is discovering the world. Every now and then he points at something he sees, whereupon his mother says what it is. For example, the mother answers the pointing of her son by saying: *A flower*, that is: "the thing you are pointing at is a flower".

This scene exemplifies the mental procedures which have to be described in order to account for accentuation. But here, some of them take place pre-linguistically. I shall try to make them explicit.

The story consists of a number of phases. First, the boy and his mother perceive their environment without paying special attention to anything in particular. Then the boy becomes aware of the presence of one particular thing and points to it in order to fix his mother's attention on the thing. Up to this moment no language is involved. The mother adds the linguistic phase by uttering *A flower*.

Let us call the thing pointed at: entity *A*, and the other things around: *not A*. The other things are represented here by one such thing. *A* and *not A* are perceived, i.e. the boy and his mother have projections of them: "A" and "not A":

Note that A and not A are perceived simultaneously. In the picture this is indicated by the location of "A" and "not A" at the same horizontal level.

Then, the boy becomes aware of the presence of entity A: he focuses his attention on entity A. This awareness is, I propose, the recognition that entity A could have been absent but is not absent. The thought that entity A could have been absent involves a projection: a projection of the absence of entity A, in short: a projection "not A". The recognition that entity A is not absent consists in the replacement of the projection of the absence of entity A by a projection of entity A:

The location of the two projections at different horizontal levels indicates that they follow each other, the lower projection preceding the one above.

Adding now the projections of the other things, I propose that the act of becoming aware of entity A consists in inserting, among the projections of the other things, the projection of the absence of entity A and replacing the latter by the projection of entity A:

This picture represents the phenomenon which lies at the basis of information structure: a single mental act is split up into two phases, one phase preceding the other. The recognition that entity A could have been absent but is not absent is a single mental act, but it involves two subsequent projections, roughly: "first I did not realize that entity A is here, but now I do".

The time in which projections exist will henceforth be called: projection time. In the pictures, projection time proceeds from bottom to top. Two projections existing at the same moment of projection time will be called: concurrent projections; two projections belonging to different moments of projection time will be called: non-concurrent projections. The projection of the absence of entity A and the projection of entity A are non-concurrent projections. Focusing attention on entity A involves two phases: first the projection of the other things concurs with the projection of the absence of entity A, and then, when the projection of entity A replaces the projection of the absence of entity A, the projection of the other things concurs with the projection of entity A. The result is the same as the overall perception with which we started, but now the boy is aware of entity A.

Next, the boy points at entity A in order to elicit the same mental procedure in his mother's mind. As a result, the mother also focuses attention on entity A.

Finally, the mother adds a linguistic phase: A flower. Besides seeing entity A, she has stored in her memory the meanings of the English language. Meanings are also projections, although the term "meaning" is a generalization which does not take into account the actual use of the projection at a given moment; in information structure we are dealing with the latter (the difference accounts for the first problem mentioned in V.10). Uttering her sentence, the mother selects from her memory the meaning "flower": in the story, the meaning is applied to entity A.

We now have to distinguish between the projection "A" and the projection "flower". The two can be distinguished only because they belong to different moments of projection time: the projection of entity A per se precedes the projection of entity A as a flower. As soon as the time difference is eliminated, the two projections coincide (see section 2 below).

In order to supply the information needed by her son, the mother has to become aware that entity A can be projected without being a flower, but that the speakers of the English language project it as a flower. That is, she knows, unlike her son,

that entity A has the property that the meaning "flower" can be used to refer to it: that the entity is an appropriate referent of the meaning of "flower" (for the notion "appropriate referent" see Ebeling 1978: 40-42). In order to convey the message that entity A is a flower, the mother has to become aware that the entity can be projected without having the property of being an appropriate referent of the meaning "flower", but that it should be projected with this property. As before, this awareness consists of two projections: a projection of the absence of the property involved and a projection of the property, the latter projection replacing the former. Abbreviating the notion "appropriate referent" as: apref, and the property of being an apref of "flower" as: /apref "flower"/, this awareness is:

"flower" ←
 "not flower" ← is replaced by
 (absence of /apref "flower"/)

This constellation is linked up with the preceding projection, which was the projection "A". Omitting the entities which have been excluded from the span of attention by the act of pointing, we arrive at:

is replaced by ["A"
 "not A"
 (absence of A)]

"flower" ←
 "not flower" ← is replaced by
 (absence of /apref "flower"/)

entity A

This scheme represents the act of identifying entity A as a flower: given the projection of the entity ("A"), a projection of the absence of the property /apref "flower"/ is replaced by the projection "flower". In real time, the projection "A" precedes the projection "not flower": the boy and his mother were already thinking of entity A before the sentence was uttered.

But the essence of the sentence is that the mother uses the non-linguistic perception of the entity in the linguistic phase: "in the projection you have (projection "A") the entity lacks the property of being a flower; replace the projection of the absence of the property by the projection "flower" while retaining the projection of the entity".

I propose that "not flower", just as "flower", has a referent. In the scene described, the referent of "not flower" is the absence of the property /apref "flower"/. The negation of "flower" introduced here will henceforth be called: a non-concurrent negation.

The accent in A *flower* negates (replaces) the non-concurrent negation of "flower".

2. The sentence described in section 1 is an example of what is called a "rheme". But it is a complicated example: the entity meant had already been thought of before "flower" entered the story. In such a case the sentence, when spoken with the appropriate type of accent (see section 6), identifies the entity: "The thing you are thinking of is a flower".

We can also use the sentence A *flower* in the sense: "Look, there is a flower". The latter use is much simpler because the linguistic phase now coincides with the pre-linguistic phase of section 1: the awareness that some entity is not absent does not precede the awareness that a property of the entity is not absent, the entity is projected as a flower at the moment when we become aware of it. In the latter case the sentence itself focuses attention on the entity.

The difference between the two interpretations is entirely a matter of (projection) time. Leaving out the phases not relevant here, the scene of section 1 involves subsequently: a projection of the absence of entity A, a projection of entity A, a projection of the absence of the property of being a flower, and a projection "flower". Schematically:

is replaced by [projection of A
 proj. of the absence of A]

"flower" ← is replaced by
 "not flower" ←

In this configuration, "not flower" refers to the absence of the property /apref "flower"/. It does so because the projection of the absence of entity A already belongs to the past at the moment when "not flower" enters. The sentence then conveys: "The thing you are thinking of is a flower".

In the other interpretation, viz. "Look, there is a flower", the projections involved coincide pairwise:

is replaced by → projection of A = "flower" ← is replaced by
 [proj. of the absence of A = "not flower"]

If, as in this case, no time difference exists between the non-linguistic and the linguistic projections, we do not distinguish between the two, and the sentence *A flower* focuses attention on the entity. Using the same type of picture as before, this is:

This scheme represents the act of focusing attention on an entity A by becoming aware that the entity could have been absent (by forming a projection of its absence) but is not absent (replacing "not flower₂" by "flower") (but see section 6). Again, "not flower₂" is the non-concurrent negation of "flower", and the accent negates "not flower₂". But the referent of "not flower₂" is now the absence of the entity because the entity has not yet been focused upon, and the non-linguistic and linguistic projections coincide pairwise. These two always go together: either the sentence focuses attention on the entity (coinciding non-linguistic and linguistic projections) and "not x₂" refers to the absence of the entity, or attention has already been focused on the entity (non-coinciding projections, as in section 1) and "not x₂" refers to the absence of the identifying property of the entity. The difference will be clear if you realize what would have happened in the two cases if instead of the sentence A

flower the sentence *A house* had been uttered. When *A flower* is used in the sense "Look, there is a flower", the uttering of *A house* instead of *A flower* focuses attention on another entity (not A). But in the circumstances of section 1, where the persons are already thinking of entity A at the moment when the sentence is uttered, if the mother had uttered *A house* instead of *A flower*, she would have misled the boy: he would have concluded that entity A is called a house (assuming that his knowledge of English is indeed that poor).

The difference between the two cases discussed is obviously interpretational rather than semantic, the interpretation depending on the circumstances in which the sentence is spoken. Nevertheless, I shall keep them apart, because they correspond to different interpretations of the scope of an accent, and because we will meet the same distinction elsewhere: in the following chapters, the difference will be recognized as an example of the difference between a figure-ground and a part-whole organization. As to the correspondence with scope, consider the sentence *Look, the flower is beautiful this morning*. Here, *is beautiful* may be just as "new" as *the flower* (cf. What is the case?). We are then dealing with the interpretation where *flower* focuses attention on the entity (coinciding projections). The sentence *The flower is beautiful* may also be understood with the accent having narrow scope (cf. What thing is beautiful?). In that case *flower* identifies some beautiful entity as the flower (or, if more than a single entity is involved, one among other beautiful entities).

The choice between the two interpretation depends not only on the context but also on the inherent meaning of the words used. For example, the sentence *I am beautiful* is most obviously understood with the accent having narrow scope (cf. Who is beautiful?). This is because one does not normally focus attention on oneself. A broad scope interpretation involves a specific context, for example (see II.4): *Grandma was lying in the garden when suddenly I came out of the house*. In this sentence the accent in the second part easily includes the remainder of the sentence in its scope (cf. What happened?) because we understand the scene as being narrated from Grandma's point of view, and Grandma does

focus attention on the entity called "I".

I shall return to this difference in chapter XI. For the time being, we will be mainly concerned with the easier of the two, i.e. when non-linguistic and linguistic projections coincide (as in this section), giving the accents their broadest possible scope.

3. The sentence discussed in sections 1 and 2 illustrates what an accent does in what is called a "rheme".

In what is called a "theme" (more precisely, in one of the cases which have been given this name), an accent serves to select a projection from among others:

I shall call the "not flower₁" here: a concurrent negation.

This interpretation applies when a further accent in the same sentence repeats the phase described in sections 1 and 2. Consider what happens when we expand *flower* into *The flower is beautiful*. Omitting all unaccented elements here, the latter sentence consists of two identical steps. First, the accent on *flower* negates a projection of the absence of the flower among other projections:

Next, the accent on *beautiful* does the same: it inserts a projection of the absence of an apref "beautiful" among projections of other properties of the flower and replaces the former by "beautiful". By this act a new moment is introduced, because the projection of the absence of an apref "beautiful" precedes the projection "beautiful" (see section 1). At this new moment, the accent on *flower* has already negated the projection of the absence of the flower, i.e. "flower" has already replaced non-con-

current "not flower" ("not flower₂"). But the accent has to negate a negation during the whole sentence. When the absence of the flower is no longer available as the referent of "not flower", the accent on *flower* is reinterpreted as negating the projections which now concur with "flower". Schematically:

This is how a "rheme" turns into a "theme" under the influence of the next accent: an accent first negates a non-concurrent negation, and then, when the referent of this negation is no longer available, a concurrent negation. As a consequence, *The flower is beautiful* gives the instruction: "Select a projection of the flower from among other projections and replace a projection of the absence of the property of being beautiful by a projection of this property". In the terminology of Ebeling (1981 - see IV.2), "flower" is the subframe in the frame of reference which is developed (a projection chosen from among concurrent other projections), and "beautiful" is the development of that subframe (a projection introduced among non-concurrent other projections by replacing its negation among the other projections).

In chapter XII I shall return to this shift from a negation of a non-concurrent negation to a negation of a concurrent negation, because, in order to understand why it happens, one factor is still to be added, the meaning of the order of the words.

4. Before we proceed, an essential fact must be made explicit: that a projection is evoked by negating it. In all cases discussed, we necessarily think that the accent negates something which was already there. This is an illusion. The illusion is the cause of the circularity pointed out in chapter IV.

When we hear the sentence *The train arrived*, we cannot fail to think that the train is "new" in the given context and that it is the context which is responsible for the accent. In reality, the train becomes "new" by the accent. The accent negates a projection of the absence of the train and thereby evokes this projection.

According to the proposal formulated in the foregoing, the projection of the absence of the train precedes the projection of the train in projection time: the act of becoming aware of the train involves two projections, one being placed before the other. This amounts to saying that the projection of the absence of the train is inserted into the preceding context at the moment of speaking. We then necessarily think that it was already there, but if there is no accent saying that it was there, it is not remembered.

Likewise, we cannot fail to think that the accent on *train* in *The train arrived* selects the train from among things which had already been thought of. In reality, the accent evokes the thought of the other things, namely by negating this thought. Moreover, we have the illusion that the train is selected rather than introduced because it was already there, waiting to be selected. In reality, the train is selected rather than introduced as a consequence of the accent on *arrived*; if there is no accent on *arrived*, as in *The train arrived*, the train is not selected but introduced. This holds true independently of any context. Therefore, accentuation, and intonation and word order, belong to the 'langue'. A text is coherent if the independently conveyed content makes sense in the given context.

As soon as we let the tricks played on us by accentuation lead us into thinking that the illusions are reality, the description become circular in the manner explained in chapter IV.

5. The sentence *The flower is beautiful* is minimally opposed to, on the one hand, *The flower is beautiful*, and to, on the other hand, *The flower is beautiful* (see V.9). When there is no accent, no negation is negated (and thus evoked). When *flower* is unaccented, no concurrent negation is negated: the sentence *The flower is beautiful* does not evoke the thought of things other

than the flower because there is no accent which would evoke this thought by negating it. We interpret the absence of an accent on *flower* as conveying that the flower has already been selected from among other things, that it is not opposed to e.g. the house. Omitting the projections not actually being negated, the corresponding scheme is:

When *beautiful* is unaccented, as in *The flower is beautiful*, no non-concurrent negation of "beautiful" is negated (and thus evoked). Since it was the accent on *beautiful* in *The flower is beautiful* which caused the accent on *flower* to be reinterpreted (see section 3), the absence of an accent on *beautiful* in *The flower is beautiful* implies that the accent on *flower* retains its initial interpretation:

Being unaccented, *beautiful* does not introduce a new moment of projection time with respect to "flower": "beautiful" is simply added to "flower", without first inserting and negating its negation. The scheme adduced is meant to be applied only to the broad scope interpretation of the sentence (cf. *Look, the flower is beautiful this morning*), i.e. when non-linguistic and linguistic projections coincide (see section 2). We will see in chapter XI that the narrow scope interpretation (cf. *What thing is beautiful?*) corresponds to the scheme:

This is because "beautiful" concurs in both cases with the projection of the entity involved, which projection in the latter case does not concur with "flower" but with "not flower" (see section 2 above).

The interpretational effect of the absence of an accent on

flower in *The flower is beautiful* is quite different from that of the absence of an accent on *beautiful* in *The flower is beautiful*: in the former case *flower* is "old" information, while in the latter case *beautiful* may be "new" information (in the broad scope interpretation). This interpretational difference has nothing directly to do with being unaccented, in fact, accented *flower* in *The flower is beautiful* has also been called "old" information, and accented *beautiful* in the same sentence has also been called "new" information. What is reflected in the names "old" and "new" information is the intuition about the order of the parts of the complex projection in projection time; this order is responsible for the scope of accents. In the example, an accent on *flower* may include *beautiful* in its scope, while an accent on *beautiful* cannot include *flower* in its scope. This will be discussed in the next chapter. The scope of accents can be read from the schemes: when an "x" is placed at the same horizontal level as a "not y", "x" does not fall inside the scope of the accent on *y*, and when "x" is placed at the same horizontal level as "y" above "not y", "x" falls inside the scope of the accent on *y*. For examples see the schemes of *The flower is beautiful* and *The flower is beautiful* given above.

6. In the preceding sections it was proposed that an accent negates a negation. Instead of using the expression: the accent in *Flower* negates "not flower", we can also say: *Flower* means "not not flower". When we leave out the meaning of the element bearing the accent, we arrive at the meaning of accent: "not not". This meaning applies to whatever is conveyed by the element bearing the accent.²⁷

The absence of an accent has no meaning. That is: *Flower* means "flower".

Flower is a word, *Flower* is a sentence (we can hardly pronounce the word in isolation without making it a sentence). The difference between a word and a one-word sentence is an accent.

In section 1 the act of becoming aware of the presence of an entity has been described as the recognition that the entity could have been absent but is not absent. When in section 2 the

same was repeated for the sentence *A flower* in the sense "Look, there is a flower", a further complication was silently introduced. If the accent signalled that the speaker becomes aware of the presence of a flower, the correct formulation of its meaning would be: the accent negates the absence of a flower. Instead of this, I have used the expression: the accent negates a projection of the absence of a flower. The complication concerns the differentiation between accentuation and intonation (see V.11).

An accent is an accent, and as such opposed to the absence of an accent. All accents share the meaning "not not", which is opposed to the absence of this meaning. In application to the flower, an accent per se conveys only: "I have a projection "flower" and not a projection "not flower"". By evoking, besides "flower", a projection "not flower", an accented form enables us to raise the issue as to which of the two projections, "flower" or "not flower", is correct. The issue itself is dealt with by intonational meanings.

Besides being an accent, a pitch accent is also a particular type of accent, and as such opposed to other types of accent in the language involved. Among the various types of accent in (at least) Dutch, English and Russian, one type plays a special role. It has the form: or ²⁸ This accent does not add a further meaning to the meaning of accent per se. The use of the accent as the last accent in a chunk of information (this notion will become clear in the course of the discussion) gives an extra implication to the meaning of accent per se. Instead of: "I have a projection "flower" and not a projection "not flower"", the speaker is then understood to convey: "There is a flower and not not a flower". That is, the accent does not only negate a projection of the absence of a flower, but also the absence of a flower. In other words, the speaker presents the thing he says as true (the question of whether or not it is true is linguistically irrelevant).

Other types of pitch accent add something to the meaning of accent per se, and thereby prevent the accent from conveying more than "I have a projection "flower" and not a projection "not flower"". Consider, for example, the type ²⁹ This

type of accent announces the next thought. This information may be interpreted in various ways, but most illustrative here is its interpretation as a "question". Suppose that the child in our initial story has heard the word *flower* before, but is in doubt whether it can be used in application to the entity perceived. The child says: *Flower*. The interpretation of this sentence as a "question" derives in the following way. The accent, abstracting from the type, says: "I have a projection 'flower' and not a projection 'not flower'". The type of accent announces the next thought, which in the given context is to be put into words by the mother. By announcing the next thought the boy conveys that he cannot yet decide the issue of whether "flower" or "not flower" is correct, i.e. whether the entity he sees is indeed a flower or lacks this property (or whether or not there is indeed a flower, if non-linguistic and linguistic projections coincide). He thereby asks his mother to decide the issue, i.e. to utter for example: *Flower*.

The interpretation of the non-falling type of accent as a "question" is possible only as long as the accent negates a non-concurrent negation. Consider the sentence: *The flower is beautiful*. Here, *flower* is spoken with the same type of non-falling accent as before, but it cannot now be interpreted as a "question" because the accent now negates a concurrent negation: the boy cannot ask any longer whether or not the entity perceived is the flower, it now *is* the flower. The entity is defined by its projection "flower" because the negation of that projection refers to other entities. The sentence can, of course, be stated as a question, we can ask: *Is the flower beautiful?* But this question pertains to the issue of whether the flower has the property of being beautiful (whether "beautiful" or non-concurrent "not beautiful" is correct); furthermore, it is possible that the selection of the projection of the flower rather than that of another entity is also being questioned. But the issue of whether the entity referred to is the flower (or, in the coinciding case, the issue of whether the flower is there) already belongs to the past. In these circumstances, the thought announced by the non-falling

type of accent on *flower* in the sentence *The flower is beautiful* is most obviously the thought expressed in the second part of the sentence. In this position the type of accent is again opposed to : the (early) rising & falling type separately introduces the flower (by negating its absence) before the projection of the flower is selected from among other projections: the non-falling type of accent, being unable to negate the absence of the flower, leaves out the first step (see Keijsper 1984: 31-36 for examples).

Summarizing, it is necessary to distinguish between "I have a projection 'flower' and not a projection 'not flower'" and "There is a flower and not not a flower" because only the former is conveyed by all types of accent.³⁰

7. The sentence *The flower is beautiful* consists syntactically of a subject and a predicate. This is a way of saying that the meaning of the sentence refers to time: to a stretch of time characterized by the fact that the flower is beautiful (see Ebeling 1978: 238 ff.). In contrast, the meaning of a sentence like *The beautiful flower* does not refer to time but to what we think of as an entity.

The notion time we meet here is different from the notion "projection time" used in the foregoing. Projection time is the time in which thoughts exist. The sentence *The flower is beautiful* involves, besides projection time, also a projection of time, i.e. time as a referent.

Projection time and projections of time have behind them a long history of confusion, the names "subject" and "predicate" have been used for divisions in both. Mathesius' original idea, which in its turn gave rise to the problems discussed in Part One, was to clarify things by distinguishing between the "actual division" of a sentence, where the former notions "psychological subject" and "psychological predicate" found a place under other names, and the "formal division" of a sentence, where the grammatical subject and predicate belonged (see I.1). In the sentence *The flower is beautiful* the two divisions draw the same borderline: the accent on *beautiful* introduces a new moment of projec-

tion time with respect to "the flower", negating as it does a non-concurrent negation and relegating the negation to a preceding moment. The part *is beautiful* also introduces the thought of the time which is the referent of the meaning of the sentence. The two divisions may also be different. Consider, for example, *The flower is beautiful in the morning* (note that we have here yet another time). In the XIXth century the part *in the morning* was called the psychological predicate, the accent negating a non-concurrent negation and introducing a new moment of projection time with respect to "is beautiful". But the grammatical predicate remains *is beautiful*. Since the part of the sentence having a non-concurrent negation and the part introducing the thought of the time referred to by the subject - predicate combination is not always the same, the two notions of time have to be kept apart.

The two notions of time, although different, are not independent of each other. We will see in the next chapter that *flower* in *The flower is beautiful* cannot be included in the scope of the accent on *beautiful* because "is beautiful" introduces the thought of time. In the same way, *lay down* in *He lay down for a minute* (see II.3) cannot fall inside the scope of the accent on *minute* because "for a minute" refers to time (cf. *He is lying in the garden*).

Not only are the two notions of time not independent of each other, they may also come very close in interpretation. Consider, for example, Russian *Knigu on čitaet chorošuju*.

book he reads good

An appropriate translation of the sentence would be: *The book he is reading is a good one*. In Russian, however, the adjective *chorošuju* is an attributive adjective to *knigu*, while *čitaet* is the only (main) verb. But the accent on the adjective introduces a new moment of projection time with respect to the preceding part of the sentence (*on čitaet* groups with *knigu*), which is to say that the book is pictured first without having the property /good/ and then with property. Moreover, the grouping of *on čitaet* with the preceding accented *knigu* ensures that the time referred to by "on čitaet" is neither introduced nor selected, it

is "old" information in the narrowest sense of the word (it has already been selected). Together, this comes very close to the idea that it is the combination of the noun and the adjective which refers to time, as indicated by the roughly equivalent English translation. The adjective is sometimes called "half-predicative" in such cases.

Besides projection time and projections of time, yet a third application of time is relevant in information structure. When a sentence, or a part of a sentence, refers to e.g. an entity, we imagine this entity as existing in time. We will see in the following chapters that it is sometimes necessary to use expressions like "this projection refers to that entity as it is at a time t_1 ", as opposed to a projection of the entity as it is at another time. In general, this notion of time is the idea that the world about which we are talking changes through time.

Next, different moments of time are not present simultaneously, they follow one another (that is how we think time is). However, projections of (the world at) different moments of time need not follow one another, they may concur. We saw in the foregoing that the accent on *beautiful* in *The flower is beautiful* causes the accent on *flower* to be reinterpreted as a negation of a concurrent negation (see section 3). The accent on *morning* in *The flower is beautiful in the morning* does the same for the accent on *beautiful*: after having negated a projection of the absence of the property of being beautiful, the accent on *beautiful* negates other projections, selecting one projection from among others. The other projections may be projections of properties carried by the flower at other moments: the projections of the various properties concur, but the properties referred to need not. The given sentence is most obviously interpreted as saying (with the appropriate type of pitch accent) that the flower, although beautiful in the morning, e.g. withers at other moments.³¹ The combinations "The flower is beautiful" and "The flower withers" then define different stretches of time. But the projections of these times are present simultaneously: the interpretation involves a view over e.g. a whole day of the flower's life, so that we can select a part of it at the moment of speaking. In short, we can have concurrent projections of things which in reality do

not concur. The example of the flower discussed in the foregoing illustrates only the simplest possible relationships.

Finally, we have to take into account the fact that the words of a sentence are spoken one after the other (word order).

Summarizing, the following notions of time have to be kept apart:

1. "Real" time. This is the idea that one moment follows another. The idea is itself irrelevant, but it provides the basis for the other distinctions. Its closest linguistic application is the order in which the words of a sentence are spoken.
2. Projection time. This is the time in which thoughts exist. It is the general idea that one chunk of information follows another. The idea involves a reorganization or stylization of "real" time, since thoughts which are evoked simultaneously in "real" time may follow each other in projection time, and thoughts which follow each other in "real" time may concur in projection time. For example, *Flower* means "not not flower", the complex thought being evoked as a single whole. However, a part of the complex, the projection of the absence of the flower, is split off and interpreted to precede the projection of the flower, so that we have the idea that "flower" replaces its negation which was already there. On the other hand, in *The flower is beautiful* four words are spoken one after the other. In order to process the information, it is divided into two parts, "the flower" preceding "is beautiful". The impression that "is beautiful" adds information to "the flower" which was already there, is created by making the negation of "beautiful" concur with "flower", although this negation is in "real" time evoked simultaneously with "beautiful". Thus, the stylization of "real" time which I call projection time is the general idea that a chunk of information follows its (non-concurrent) negation, the negation concurring with the preceding chunk. It is a stylization because the negation of a chunk is in reality evoked simultaneously with the chunk itself.

Both 1. and 2. must be kept apart from the realm of referents, where time is relevant in two ways:

3. Projections of time. This is time as a referent. For example:

the time referred to by a (grammatical) subject - predicate combination, or the time referred to by "in the morning" in *The flower is beautiful in the morning* (but not by "morning"³²).

4. The time in which referents are conceived to exist. For example, an entity may be referred to as it is at a time t_1 or as it is at a time t_2 .

The study of information structure is the study of time and negation.

8. In the preceding sections a schematic representation of "theme - rheme" sentences has been introduced, with *The flower is beautiful* as an example. The procedure consisted of two steps. First, for *(The) flower* alone:

Next, when *(is) beautiful* is added:

Leaving out the statement "is replaced by", which is henceforth implied wherever a "not x" appears, and leaving out the reinterpretation of the accent on *flower* as a negation of a concurrent negation, to which I shall return in chapter XII, the example illustrates the basic scheme:

That is, the non-concurrent negation of "x" precedes the non-concurrent negation of "y" in projection time, and "x" concurs with the non-concurrent negation of "y". This is another way of saying that the complex projection "xy" is formed by concatenating "y"

to the "x" preceding it:

Yet another way of saying this is that *x* must be there before we can raise the issue of whether *y* is there (the flower must be there before we can ask whether it is beautiful). I shall call this scheme: the backward linking scheme.

Deriving from the basic scheme we obtained, when the first element is unaccented:

and when the second element is unaccented:

(broad scope interpretation).

The backward linking scheme, with the organizations deriving from it, is only one of the possibilities. Consider the sentence *The beautiful flower*. In this case, we have no phase:

"beautiful" is replaced by
"not beautiful"

which subsequently becomes:

is replaced by "flower" is replaced by
"not beautiful" "beautiful" "not flower"

That is to say, the sentence does not mean: "Select the projec-

tion "beautiful" from among other projections and replace a projection of the absence of the flower by a projection of the flower". The sentence is not a "theme - rheme" sentence, it consists of a single "rheme". The concatenation proceeds the other way round:

"Beautiful" and its negation have to be kept in memory until "flower" has occurred. Only when the flower is there can we ask whether or not it is beautiful. In general:

Here, the complex projection "xy" is formed by concatenating the preceding "x" to the "y" following it. I shall call the scheme: the forward linking scheme.

From the scheme we obtain, when the first element is unaccented (*The beautiful flower*):

and, when the second element is unaccented (*The beautiful flower*):

Besides the forward and backward linking schemes, a third one exists:

I shall call this scheme: the parallel linking scheme. It represents the case when two issues can be raised only simultaneously. For example: *He doesn't beat his wife because he loves her*, in the sense "if he beats his wife it is not because he loves her". Here, the question of whether he beats his wife cannot be answered independently of the question of whether he does so because he loves her.

With only one accented element we arrive at the narrow scope interpretation of sentences which can in principle also have a broad scope interpretation.

When both elements are unaccented simultaneously, we have not a sentence, but a string of words.

The following two chapters discuss these three linking schemes. Before we come to that, I shall return for a moment to some of the problems mentioned in V.9-11.

9. There has been some discussion in the literature about pairs such as *John died* versus *Jóhn died*. Schmerling (1976), for example, used such a pair as a counter-example against Bolinger's (1972) view that accented words are points of information focus. Schmerling (1976: 41-42):

In December of 1972 former president Truman was hospitalized in critical condition. He remained in the hospital for some time, and daily reports concerning his now critical, now serious, condition were given in the news media. Because of the seriousness of Truman's condition and his advanced age, it could reasonably be assumed that he would not survive this crisis and that it was just a matter of time before he would die. At the time when Truman finally did die, I was visiting my parents; one morning I came downstairs to breakfast, and my mother, who had gotten up earlier and listened to the news, announced to me:

(91) *Trúman died* [i.e. here: *Truman died*]

A few weeks later I was back at my job at the University of Texas. One afternoon my husband drove to the campus to pick me up when I was finished working for the day, and as I got into the car he announced:

(92) *Jóhnson died* [i.e. here: *Johnson died*]

Though Johnson's health had been in the news some time previously, he was apparently recovering from the heart attack he had had, and his condition had ceased to be newsworthy. (In fact, the most recent news concerning Johnson had been his attendance at a civil rights conference at the LBJ Library in Austin.) Johnson's health was not on people's minds as Truman's had been, and when his death came it was a surprise.

What is significant for the present discussion is the difference in the contexts in which these reports were uttered: Truman's death was expected; Johnson's was not. Bolinger's theory would appear to suggest, however, that the mention of Truman in the relevant context should have suggested "death" and, therefore, that *died* in (91) should not be stressed. On the other hand, the mention of Johnson in the relevant context should not have suggested "death" any more than anything else one might have wanted to say about him, and therefore *died* in (92) should be stressed. Bolinger's theory would thus appear to predict stress contours opposite to the ones which actually occurred.

Next, Ladd (1979) discussed the examples and applied to them his notion of a "default accent". Ladd (1979: 127):

When her [i.e. Schmerling's] mother announced *Truman died* [*Truman died*], the deaccenting of *Truman* said: "This noun has some special relevance to the context". Since (on Schmerling's account) this was the first thing her mother said to her in the morning, the reference to the context had to be something other than any immediately preceding discourse. But since Truman's illness had been in the news, any hearer who had been listening to the news would, in Schmerling's situation, assume that that was the contextual reference. Her mother was in effect saying: "I know that you know that Truman has been critically ill; well, he died". Speaker and hearer were thus able to make sure that their fund of common assumptions was still operative.

But suppose that Schmerling had been busy finishing her dissertation and had not been following the news; then she might have been unaware of Truman's condition. Then when her mother said *Truman died* [*Truman died*], Schmerling's reaction might have been "Oh, was he expected to?" or "Was something wrong

with him?" or (depending on how early in the morning it was) perhaps just "Huh?". Schmerling would have interpreted *Truman* as deaccented but would have been unable to figure out what its special contextual relevance was. Her mother, seeing her puzzlement, would have realized that she had presupposed too great a common context between herself and her daughter and would have backed up one square: "You knew he was sick, didn't you?"

My contribution to this serial is the following.

The discussion started from the assumption that the sentences *Truman died* and *Johnson died* constitute a minimal pair (as far as accentuation is involved) (Gussenhoven (1983(a): 390) indeed uses this term in application to the same examples, but elsewhere in the same article he takes my point of view). This assumption prevents the problem from being solved. The minimal pairs are, in my view, *Truman died* versus *Truman died* and *Truman died* versus *Truman died* (or with *Johnson* instead of *Truman*). While it is unclear whether Schmerling is talking about *Truman died* or about *Truman died* (maybe about both), Ladd discusses the function of deaccenting *Truman*, thus *Truman died* (or again both, since non-last accents are, in Ladd's view, a sort of deaccenting). At any rate, while Schmerling discusses the function of the accent on *died*, Ladd tells us what is the function of the absence of an accent on *Truman* (or what is signalled by the fact that *Truman* does not bear the last accent). He does so because of a second assumption: that a "real" accent contrasts something to something else. Since the accent on *died* does not contrast something to something else, it cannot, in this view, be a "real" accent, so it has to be explained by saying that it is placed where it is because *Truman* is deaccented. In my view, the accent on *died* itself has a function, and when *died* is accented *Truman* can also be accented, so we must say something about both. The meaning of the accent on *died* is what Ladd calls "I know that you know that Truman has been critically ill; well, he died": the accent negates, and thereby evokes, a projection of the absence of the property /died/, relegating the projection of the absence of the property to the preceding context; in short, the accent negates a non-concurrent negation. In *Truman died* there is no such thought of the absence of /died/ since there is no

accent which would evoke this thought by negating it. This holds true independently of any context; the quotations aduced above clearly demonstrate the danger of circularity. Schmerling's puzzled reaction to *Truman died* in the dissertation context provided by Ladd can only partly be ascribed to the absence of an accent on *Truman* (assuming that it is absent); the accent on *died* must also be taken into account: *Truman died* would have been only slightly better. Schmerling's puzzlement is the consequence of the fact that in the given circumstances she is unable to interpret the meaning conveyed: she is instructed to search her memory for a projection of the absence of /died/ (so that the accent can negate this projection), but she cannot find it. So she says "Huh?", as a sign of a complicated train of thought early in the morning: we do not normally entertain the idea that somebody did not die, we have no projection about the issue at all; a projection of the absence of something is also a projection, not the absence of a projection. Finally, *Truman* in both *Truman died* and *Truman died* has a "special contextual relevance", although a different one in the two cases. Consequently, this contextual connection has nothing to do with the presence or absence of an accent on *Truman*. It is created by the fact that *Truman* cannot be included in the scope of the accent on *died*. When, besides *died*, *Truman* is also accented, the accent negates a concurrent negation: the projection of *Truman* is selected from among other projections, all projections "coming from the context" because we can select something only if there are things which can be selected; the negation of a concurrent negation has the interpretational effect that we "know" the things involved. When *Truman* is unaccented, the projection is not selected from among others, it has already been selected. This is the interpretational effect of the absence of an accent if the element involved does not fall inside the scope of an accent on another element. If an unaccented element falls inside the scope of an accent on another element it is just as "new" as the accented element (if the latter is "new"). For example: *Truman died*.

In examples like *We've got lots of books, but we haven't got any bookcases* (Ladd 1979: 120) the accent on *-cases* does not

specify whether it opposes "bookcases" to e.g. "bookshelves" or to "books" alone, - the difference is interpretational. According to my proposal, the absence of an accent on *book-* signals that no negation of "book" is being negated, and the accent on *-cases* signals that a projection of the absence of an *apref* "cases" is being negated. The projections among which this projection is being negated may include "books" and "bookshelves"; they all contain the element "book" because *book-* is unaccented while *book-cases* is the lexically determined stress of the word. The lexically determined stress position of a word is the position in which an accent includes the whole word in its scope; an accent elsewhere in the same word mostly has a narrower scope (see XI.9 for some deviating examples). The latter often serves a meta-linguistic aim: the accent negates a projection of the absence of the syllable(s) involved and/or of the meaning expressed by them (if any) (as elements of the code), rather than a projection of the absence of a referent of their meaning. The meaning of accent itself does not distinguish between these interpretations.

The scope of an accent on the lexical level does not normally reflect the direction of the link between the constituting parts of the word: there is no reason to assume that the meaning of a word is not evoked as a single whole. Only in those cases where accent oppositions exist which reflect semantic distinctions of the type to be discussed in the following chapters, which is probably the case in some compounds, is it useful to introduce a notation expressing a hierarchy between the constituting parts. When the lexical stress position is semantically arbitrary, we may simply indicate where an accent must be placed if it should include in its scope the whole word; the introduction of a hierarchical notation which says the same, as is nowadays fashionable, serves no aim.

10. Lieb (1983(a): 11) arrives at a formulation of an interpretation of an (early) rising & falling type of accent which is close to mine (see also e.g. Brazil et al 1980; Gussenhoven 1983(a): 387):

Der Mann ist gekommen [i.e. here: *Der Mann ist gekommen*]

- a. Der Sprecher glaubt: es gibt einen Nicht-Mann, dessen Kommen der Hörer in Erwägung zieht.
- b. Der Sprecher glaubt: es gibt keinen Nicht-Mann, der gekommen ist.

As correctly remarked by Lieb (ibid.), this is not the only interpretation (with Lieb: *Bedeutung*) of the given sentence.

In the foregoing, I have proposed the following refinements:

1. A distinction must be made between a "Nicht-Mann" referring to the absence of the man and a "Nicht-Mann" referring to entities other than the man. The accent in Lieb's sentence negates the former, while the first accent in e.g. *Der Mann ist gekommen* negates the latter. In Lieb's sentence, the "Nicht-Mann" referring to entities other than the man constitutes the environment where the "Nicht-Mann" referring to the absence of the man is negated; in *Der Mann ist gekommen* the projection of the man is selected from the environment (by negating this environment and thereby introducing it) (see sections 2 and 3 above).
2. A distinction must be made between the narrow and broad scope interpretations of the accent. Lieb's formulation applies to the former; the projections among which a projection of the absence of the man is being negated, and the projection of the man, are all projections of an entity (entities) with the property of having come; this implies that the entity (entities) is (are) projected independently (see sections 1 and 2 above and chapter XI below).
3. A distinction must be made between the contribution of the accent per se and the contribution of the type of accent. As correctly mentioned by Lieb (ibid.), his formulation applies to what he calls a "falling contrastive" type of accent (see section 6 above).
4. A distinction must be made between, on the one hand, the contribution of the accent per se and that of the type of accent, and, on the other hand, conclusions drawn on the basis of these contributions. Lieb's formulation applies to what in chapter XI will be called an inference: the conclusion (Lieb's b.) that sentences of the form: "Entities other than the man

have come" are conveyed to be not true, involves, besides the meaning of the accent per se and the contribution of the type of accent, the additional assumption that only one entity has come. This assumption is not encoded in the sentence and, therefore, does not belong to its meaning; even with an assertive type of accent, the sentence conveys the correctness of the projection "Der Mann ist gekommen" only: the issue of whether the truth of the sentence spoken excludes the truth of "Entities other than the man have come", is entirely a matter of interpretation. In other words, I do not recognize as semantic a "contrastive" accent in the sense in which this notion is usually applied: the truth of *x* excludes the truth of *y*; since the same type of accent allows the interpretation that both *x* and *y* are true. It is possible, of course, that the interpretation is determined by the meanings of surrounding forms, e.g. particles (cf. Lieb op.cit.: 10-11), but in the example quoted above this is not the case.

11. Since proposals that an accent signals "new" information and the absence of an accent "old" information are being made so persistently, it may be useful to formulate in yet another way how the problems created by such proposals can be avoided. The idea that in *x*ȳ, *x* conveys "old" information and *y* "new" information, is the idea (in my terms) that "x" was already present in the context (frame of reference), and that "y" was not yet contained in the context (frame of reference). A simple formulation which does not lead to problems is: the accent on *y* signals that the negation of "y", i.e. "not y", was already contained in the context. Instead of: "y" is "new", I have proposed: "not y" is "old" (but the fact that it is "old" is again "new", i.e. unpredictable and conveyed by the accent itself). My formulation does not say anything about "y" itself: it may be "new" (roughly: last accents) or "old" (roughly: non-last accents which do not fall inside the scope of the last accent).

The proposal that the absence of an accent has no meaning should not be interpreted as saying that unaccented *x* does not

signal whether or not "x" was already contained in the context (whether "x" is "old" or "new"). About this issue the proposal says nothing. It says that no "not x" is negated, i.e. that no projections other than "x" are evoked. The absence of a meaning is not, then, the same as an "unmarked" meaning in the sense of Jakobson, i.e. where the "unmarked" member of an opposition can signal anything, including that which is signalled by the "marked" member of the opposition. Instead, the absence of an accent excludes that which is signalled by an accent. In fact, the interpretation of the absence of an accent amounts to organizing the sentence in such a way that the span of attention does not include referents of "not x", the projection of which referents would have to be negated by putting an accent on *x*. The meaning of accent is not opposed to another meaning but only to its own absence.³³

X. COMBINING PROJECTIONS

1. Consider the following picture (cf. Langacker 1983: 126-127):

This picture can be perceived in a number of ways. First, the page may contain a rectangle with a circle on top of it. In that case, the circle is a figure with respect to the rectangle, and the rectangle is the ground; simultaneously, the rectangle is a figure with respect to the page on which it is placed. This perception is, in my view, the idea that the circle may be removed without affecting the rectangle, while the rectangle cannot be removed without also removing the circle. That is, if we mentally lift up the circle, we see a rectangle:

But if, starting from the entire picture, we mentally lift up the rectangle, the circle also disappears, and we are left with the empty page.

Starting from this figure-ground perception, we can "think the circle into the rectangle", so that the circle becomes a part of the rectangle. The latter perception is the idea that the removal of the circle leaves behind a rectangle with a round hole in the middle:

This is an example of a part-whole combination. The circle is a part of the rectangle, the rectangle being the whole; simultaneously, the rectangle may be perceived as a figure with respect to the page: the removal of the rectangle then does not leave us with a gap in the page but with the unaffected empty page.

Finally, we can "lower the circle" still further: the picture may represent a rectangle with a round hole which is placed on top of some object which is partially visible through the hole. This is again a figure-ground combination, but now the rectangle with the hole is a figure, and the underlying object is its ground. That is, the removal of the rectangle with the hole leaves us with the underlying object, and the underlying object cannot be removed without also removing the rectangle with the hole.

Let us first examine figure-ground organizations. Imagine that the circle is placed on top of the rectangle:

Let us call the rectangle: an appropriate referent (apref) of the meaning "rectangle", and the circle: an apref of the meaning "circle". The perception of the circle as lying on top of the rectangle is then defined by the following statement:

The projection "not circle" (a projection of the absence of an apref "circle") is a projection of an apref "rectangle" without a circle;

The projection "not rectangle" (a projection of the absence of an apref "rectangle") is a projection of the page without a rectangle and without a circle;

If there is a projection of an apref "not circle" there is a projection of an apref "rectangle";

If there is a projection of an apref "not rectangle" there is no projection of an apref "circle" nor a projection of an apref "not circle".

The same can be expressed by means of a scheme of the type introduced in the preceding chapter. When we compose the picture in this perception by placing its constituting parts on the page, we have subsequently: the empty page ("not rectangle"), the rectangle ("rectangle", "not circle"), and the circle ("circle"). In short:

These two notations are equivalent here, because the example is a visual one: only the vertical order is relevant.

During the composition, we may leave out a phase. For example:

That is, we start with the rectangle without the circle, omitting the phase of the empty page, and then proceed to place the circle on top of the rectangle.

We may leave out a different phase:

Here we start with the empty page, and then place the rectangle and the circle on the page in a single act. There is no phase with the rectangle but without the circle.

If we were discussing accentuation, we would say that unaccented *circle* is included in the scope of an accent on *rectangle*. The picture would represent sentences like *John died* (no phase left out), *John died* (starting with the rectangle on the page), *John died* (starting with the empty page and placing the picture on it in a single act). However, the sentences introduce an additional complication: *John* is spoken before *died*, so that e.g. *John died* is only:

and not:

Likewise, *Jóhn's wife* is only:

and not:

In this section, we will be concerned with hierarchical organization (vertical order) only: linear arrangement (horizontal order) will be added in section 3 below; linear arrangement makes it necessary to distinguish between forward and backward types of link.

The picture illustrates how it is possible that accents have a certain scope: the elements of the complex projection "John died" are ordered in projection time, and this order imposes a hierarchy upon the referents of the elements: the referent of "John" provides the ground for the referent of "died"; simultaneously, the referent of "John" is a figure with respect to the

world in which it is perceived. Likewise, the order of the elements of "John's wife" in projection time ensures that the referent of "wife" provides the ground for the referent of "John's"; simultaneously, the referent of "wife" is a figure with respect to the world in which it is perceived. When a ground is absent, a figure on that ground is also absent, while the reverse does not hold true: an accent on an element projecting the ground of the referent of another element includes that other element in its scope, but an accent on an element projecting a figure does not include in its scope the element projecting the corresponding ground.

Unaccented *John* in *John died*, and unaccented *wife* in *Jóhn's wife* are felt to be "old" information, while unaccented *died* in *Jóhn died*, and unaccented *John's* in *John's wife*, may be just as "new" as the accented elements. In terms of the picture we can say that the terms "old" and "new" information are defined with respect to the page: in e.g. *John died*, we start with a rectangle lying on the page, so that the rectangle is "old" with respect to the page. In *Jóhn died*, we start with the empty page and then simultaneously place the rectangle and the circle on the page, so that the circle is just as "new" with respect to the page as the rectangle. By distinguishing between accentuation per se (accented and unaccented) and organizational phenomena (see V.9) it is made explicit that the absence of an accent does exactly the same in *John died* and *Jóhn died*: no phrase "not x" precedes "x". This information is always interpreted according to its effect in a given organization. In *John died* and *Jóhn died*, the interpretation of unaccented *John* as "old" information, and of unaccented *died* as "new" information, is the consequence of the ground-figure hierarchy between the referents of "John" and "died".

Next, consider again the same picture:

We now turn to the figure-ground perception saying that a rectangle with a hole is placed on top of some object which is par-

ially visible through the hole. That is, by lifting up the rectangle with the hole we arrive at the underlying object, e.g.

But if, starting from the entire picture, we lift up the underlying square, the rectangle with the hole also disappears, because we were imagining the latter as lying on top of the former. In other words:

The projection "not square" (a projection of the absence of the underlying square) is a projection of the page without a square and without a rectangle with a hole;

The projection "not rectangle" (a projection of the absence of the rectangle with the hole) is a projection of an apref "square" without a rectangle with a hole;

If there is a projection of an apref "not square" there is no projection of an apref "rectangle" nor a projection of an apref "not rectangle";

If there is a projection of an apref "not rectangle" there is a projection of an apref "square".

In short:

Again, only the vertical order is relevant, since in visual examples there is no linear arrangement.

As before, we may omit one of the phases, e.g.:

This represents the case when we start with the underlying square, omitting the phase of the empty page, and then proceed to place the rectangle with the hole on top of the square.

Or:

"square"	"not rectangle"	↑
"not square"		

Here we start with the empty page and then place the picture on it in a single act.

When we apply this to accentuation, we can say that *rectangle* is included in the scope of an accent on *square*. In this case the rectangle with the hole is a figure and the square is its ground.

In sentences, complete reversals to the effect that a figure becomes a ground and a ground a figure, are uncommon; it happens when a "modifier - head" combination is reinterpreted as a "head - modifier" combination with a backward link. For example, in Dutch *Piet's boek* (Peter's book) may be reinterpreted as *Piet z'n boek* (Peter his book); this is accompanied by the fact that the accent in both *Piet's boek* (figure-ground) and *Piet z'n boek* (ground-figure) may include the unaccented elements in its scope (see section 6 below). More often, we observe an opposition between a figure-ground organization and a part-whole organization. In terms of the picture, this is the difference between a circle on top of a rectangle and a circle which is part of the rectangle.

Since we will be dealing with complex configurations containing both figure-ground and part-whole organizations, I now introduce a picture which represents the relevant configurations simultaneously. Consider the following:

Here, we see a large rectangle and a small rectangle. The picture is meant to be viewed in such a way that the removal of the small rectangle leaves behind the remainder of the large rectangle (part-whole organization):

Next, we place a circle on top of the large rectangle (figure-ground):

Here the large rectangle is simultaneously a whole with respect to the small rectangle and a ground with respect to the circle (and a figure with respect to the page). The picture represents the organization of "head - modifier" combinations with a forward link: the head supplies a rectangle:

Then, the modifier embeds the rectangle in a larger rectangle and adds a circle:

In this case, an accent on the modifier includes the head in its scope, since the modifier introduces the whole of which the referent of the head is a part: an accent on an element projecting a whole includes in its scope an element projecting a part of that whole.

We will see in sections 5-6 below that such configurations are opposed to simple ground-figure combinations, the head supplying the ground, the modifier the figure (the modifier adds a circle on top of the rectangle projected by the head). In the latter case, an accent on the head includes the modifier in its scope.

The organizations mentioned so far will be discussed in the present chapter. Every now and then examples will be mentioned in which accents have a narrower scope than the maximal one for the given type of organization. Such examples involve the phenomenon of non-coinciding projections (see IX.1-2), which will be discussed in more detail in chapter XI. Here, it may be useful to give a visual parallel of this phenomenon.

Consider the following:

The left-hand picture represents a part-whole combination: the small rectangles add up to a large rectangle. Simultaneously, the large rectangle, which is a whole with respect to the small rectangles, is a figure with respect to the page (is placed on top of the page). In the picture to the right, four independent rectangles are placed on the page. Every rectangle is a figure with respect to the page; there is no intervening whole. In terms of projection time, the difference is one moment. Imagine that we start with

and remove the picture in two steps. First, we lift up a small rectangle; this leaves us with

Secondly, we remove the remainder of the picture, so that we arrive at the empty page. Schematically (linear order irrelevant).

Thus, a part-whole organization is the idea that two steps are needed to arrive from a part to the empty page (or vice versa). If the time distinction between a projection of a part and a projection of a whole is eliminated, i.e. if the projections coin-

cide, we arrive at the picture:

The idea that this picture consists of four independent rectangles is the idea that one step is enough to pass from a rectangle to the page: there is no intervening whole. In terms of projection time, the shift from four rectangles which make up a whole to four independent rectangles consists in the elimination of one moment of projection time (one horizontal level of a scheme). Conversely, the shift from four independent rectangles to four rectangles which make up a whole corresponds to the addition of one moment of projection time.

In this way, figure-ground combinations can be converted into part-whole combinations and vice versa: when the projection of one member of a figure-ground combination is spread over two moments of projection time, the result is a projection of a whole and a projection of a part; conversely, when a projection of a whole and a projection of a part coincide, the result is a projection of one member of a figure-ground combination.

Finally, an important rule of scope can be stated. Imagine that we add a circle on top of a rectangle (figure-ground):

These combinations are possible. However, in the linguistic parallels to the pictures the following is excluded:

That is, a part in a part-whole organization cannot be a ground

in a figure-ground organization. If a projection of a figure is added to a projection of a part and a projection of a whole, it is the whole which functions as the ground for the figure; alternatively, the whole may be eliminated, so that the former part becomes an independent figure which can serve as the ground for another figure. Examples of this rule will be discussed in chapter XI.

2. The meaning of the sentence *Peter's book* consists of, besides the meaning of the accent and of the type of accent, the meaning "Peter's", projecting an apref "Peter's", the meaning "book", projecting an apref "book", and a syntactic relation between "Peter's" and "book", projecting a relation between an apref "Peter's" and an apref "book" (see Ebeling 1978: 172 ff.). The meaning of the complex is such that the uttering of *Peter's book* evokes the thought of something which belongs to Peter and which is a book. The notation

"Peter's" "book"
"not book"

specifies which of the two elements introduces the thought of the thing which belongs to Peter and which is a book, i.e. the negation of which element projects the absence of this thing. In the example, the element is "book": when the negation of "book" is there, the question of whether the thing involved belongs to Peter cannot be raised at all; the accent on *book* negates a projection of the absence of an apref "book", and when there is a projection of the absence of an apref "book" there is no projection of an apref "Peter's" nor of an apref "not Peter's". In contrast, when the negation of "Peter's" is there (*Peter's book*), the thought of an apref "book" is also there; the accent negates a projection of the absence of an apref "Peter's", but it does not have the power to remove the projection of the book.

This may seem too obvious to mention. Indeed, it corresponds here to the accepted view that "Peter's" refers to a property of an entity, while "book" refers to an entity, and when the entity is absent

its properties are also absent, while the reverse does not hold true. However, names such as "property" and "entity" cannot be regarded as explanations, because they are themselves part of the problem. This will be clear if one realizes that in *A real nobody*, "nobody" refers to an entity, while in *Nobody real* it refers to an empty part of a whole of real things. We cannot then explain these arrangements by saying: in the former case the adjective precedes *nobody* because "nobody" refers to an entity, and in the latter case the adjective follows *nobody* because "nobody" refers to an empty part. Instead, we observe that one aspect of the meanings of the arrangements is that "nobody" has a different type of referent in the two cases, so that we have to describe this aspect of the meanings of the arrangements, not as an explanation of the arrangements but as a part of their meanings (cf. V.7-8). When we try to do so, it soon turns out that terms like "property" and "entity" are of little help. Consider, for example, attributive adjectives in French. They can precede as well as follow a noun. In both cases we would say that the adjective refers to a property and the noun to an entity. Although this may be intuitively correct, it is not very useful when we are talking about the difference between the two arrangements. Moreover, terms such as "adjective" and "noun" are often not very helpful either. We may say, of course, that in *A real nobody*, *nobody* is a noun, while in *Nobody real* it is not, but this statement is again only another way of formulating the semantic problem: What is it that we call a noun, and what is it that we call an entity? The same applies to terms like "modifier" and "head". In my view, all these terms are part of the same problem, which is syntactic as well as lexical, but entirely semantic.

This view makes the problem too extensive to deal with all at once. Rather than discussing questions like: What is it that we call a noun?, I will simply use the established terminology during the discussion, in which I hope to suggest by which terms I would propose to replace it. It should be borne in mind that the established terms are not meant as an explanation of what I am discussing, nor as a set of primitives.

Thus, a statement like: in *A real nobody*, the modifier, or the

adjective, precedes the head, or the noun, is to be viewed as an abbreviation of: in this arrangement, *real* is what we call a modifier, or an adjective, referring to what we think of as a property, and *nobody* is here what we call a head, or a noun, referring to what we think of as an entity. I am trying to discuss the nature of what we call by these names.

3. Two important aspects of sentences have no parallel in the pictures of section I. The first is the shift from a negation of a non-concurrent negation to a negation of a concurrent negation which may take place when a further accent follows in the same sentence (see IX.3 and chapter XII). Secondly, sentence elements are linearly ordered. The perception of the ground - figure picture of section I as a rectangle with a circle on top of it, can be described by either

The other figure-ground perception of the same picture can be described by either

In other words, the pictures illustrate only how a hierarchical organization between referents correlates with the order of their projections in projection time (vertical), not a linear arrangement (horizontal). Sentences differ from each other in both respects.

Therefore, in sentences different types of link appear (IX.8). For example, Russian Subject - Verb is:

and Russian Verb - Subject is:

The identical order of the projections in projection time is covered by a Mathesian approach saying that e.g. VŠ and ŠV have the same informational content; the semantic distinction expressed by the linear arrangement, in such an approach, is regarded as "stylistic" (see chapter VI).

The three variables indicated in the schemes give rise to a number of oppositions. In this chapter I shall discuss the three oppositions mentioned in III.6 and VIII.5, which I now repeat with the corresponding schemes. An "x" represents what is called a modifier, a "y" stands for a head.

1. Two sentences have

- the same linking scheme (here: forward)
- a different order of projections in projection time
- a different linear arrangement

Thus, basically:

As indicated in the schemes, an accent on the last element will include the preceding element in its scope. The example mentioned in III.6 was *John's wife* versus *The wife of John*. At that point in the discussion, it was a problem that the accent on the last element includes the other element in its scope, since chapter III argued that $x\hat{y}$ and $\hat{y}x$, and not $x\hat{y}$ and $y\hat{x}$, have the same accentuation. I now propose that the scope relationships are the consequence of the different order of the projections in projection time, in other words the consequence of the fact that both modifier - head and head - modifier have a forward linking scheme here. In terms of the picture of section 1 above, the modifier - head combination is a figure - ground organization (cf. *John's something*, *A real nobody*), while the head - modifier combination is a part - whole/ground + figure type (cf. *Something of John's*, *Nobody real*). More examples of this opposition will be discussed in section 4.

Both members of the first opposition participate in another opposition as well, the head - modifier combination in the second type, the modifier - head group in the third type.

2. Two sentences have

- a different linking scheme (forward versus backward)
- a different order of projections in projection time
- the same linear arrangement

Basically:

As indicated in the schemes, in the lefthand member of the opposition an accent on x includes y in its scope, in the other member an accent on y includes x in its scope. The examples mentioned in III.6 were: *She left directions for him to follow*

versus *She left directions for him to follow, This is the doctor I was telling you about* versus *This is the doctor I was telling you about*, and *On snjal furažku zelenog cveta* (Lit. He took off his hat of a green colour - NG) versus *On snjal furažku zelenog cveta* (NG).

In terms of the pictures of section 1 above, the head - modifier combination is a part - whole/ground + figure organization (see the second member of the first opposition), the head - modifier combination is a ground - figure type. The opposition will be discussed in sections 5-6.

3. Two sentences have

- a different linking scheme (forward versus backward)
- the same order of projections in projection time
- a different linear arrangement

Basically:

These schemes oppose the first member of the first opposition to the second member of the second opposition. An accent on *y* includes *x* in its scope.

The third type of opposition also obtains in combinations of a subject or an object with a verb (*y* = verb):

An accent on *x* includes *y* in its scope. The righthand scheme is new here. Although the lefthand scheme has the same form as the second member of the first opposition and thus the first member of the second opposition, it does not participate in these

other oppositions when *y* is a verb (in terms of the pictures: a verb cannot provide the ground for the referent of the subject or the object). The cause of this will become clear in the course of the discussion (see sections 5-9). In chapter III, the opposition of the type *VŠ* versus *ŠV* (*Prišel pōezd* versus *Pōezd prišel* - The/A train arrived), or *VŮ* versus *ŮV*, served as the example in the argument that *y*₁ and *x*₂ have the same accentuation.

The combinations: 4. same linking scheme, same order of projections in projection time, same linear arrangement; 5. same linking scheme, different order of projections in projection time, same linear arrangement; 6. same linking scheme, same order of projections in projection time, different linear arrangement; 7. different linking scheme, same order of projections in projection time, same linear arrangement; 8. different linking scheme, different order of projections in projection time, different linear arrangement, are excluded, as will become clear by trying to write the corresponding schemes without writing the same sentence twice. In other words, the three oppositions mentioned above are the only logical possibilities with the three variables involved. They do not exhaust the possibilities, however, because in few other variables have yet to be added.

In the first place, there exists a phenomenon to be discussed in section 10 below which consists in strategies to restrict the depth of a complex projection: there is at least a tendency to restrict the depth to what are two horizontal levels (two moments of projection time) in the schemes. The reduction of depth is brought about by, among other things, processing the negation of the first element of a forward linking scheme separately. In order not to introduce this complicating factor in the discussion of the three basic types of opposition mentioned above, most examples of these oppositions will be non-minimal accentuation pairs. For example, the pair Adjective - Noun versus Noun - Adjective is not a minimal accentuation pair: both are minimally opposed to *ĀN/NĀ* (see V.9).

Secondly, although during the discussion some examples will be mentioned in which an accent has a narrower scope than the maximal possible one for the type involved, the phenomenon of

non-coinciding projections (see VIII.1-2, IX.1-2, and section 1 above), which is the phenomenon involved in such cases, will not be taken up until the next chapter. Also in the next chapter, we will see examples of the parallel linking scheme (see VIII.5 and IX.8) with two accents.

In the third place, when more than two elements are combined, a change of word order may be accompanied by a hierarchical re-ordering of the elements to the effect that the three basic oppositions are resumed at another level. For example, in Russian SVO the verb is linked forwards to the object, and the VO-group backwards to the subject, but in Russian SOV the verb is linked backwards to the SO-group: in SVO the direct links are those between S on the one hand and VO on the other (and, within VO, between V and O), but in SOV the direct links are those between SO on the one hand (and, within this group, between S and O), and V on the other. These relationships are an example of a basic procedure for building longer sentences; the procedure will be sketched in chapter XII (see also section 8 below). Elsewhere in the present chapter, only combinations of two elements will be discussed, although more elements may appear in the schemes.

Thus, the three oppositions listed above isolate a part of the problem; this seems to me a reasonable step to begin with.

In the beginning of this section I mentioned two aspects of sentences which do not have a parallel in the pictures of section 1: the shift from a negation of a non-concurrent negation to a negation of a concurrent negation, and the linear arrangement of sentence elements. These two aspects are not unrelated. If they were, we would expect that the accent on V in both $\hat{S}\hat{V}$ and $\hat{V}\hat{S}$ has the same effect on the interpretation of the accent on S, since the order of the projections in projection time is the same (see above). However, this is not what we find: while the accent on V in e.g. *Iván ůmer* (John died - $\hat{S}\hat{V}$) turns *Ivan* into a "theme" in the way described in IX.3, the accent on V in *Ůmer iván* ($\hat{V}\hat{S}$) does not have this effect on *Ivan*: when the accented subject follows the verb it cannot be a "theme". On the contrary, the accent on S may turn V into a "theme" despite the forward linking scheme: the last accent of a sentence always ne-

gates a non-concurrent negation, while non-last accents exhibit some indeterminacy. This point will be discussed in section 10 below and in chapter XII. We will see that there is a fundamental reason why sentences having the last accent in final position are persistently reported to be more "normal" or "neutral" than sentences having the last accent elsewhere (see Part One). In chapter XII it will be suggested that the difference between e.g. $\hat{S}\hat{V}$ ("subjective") and $\hat{V}\hat{S}$ ("objective") in Russian may be regarded as a difference of scope, although on a somewhat different level than that usually dealt with in studies on accentuation (whether or not called word order). Until then, the view that a final position of the last accent is "normal" seems to be corroborated only by the first type of opposition mentioned above, where an accent on the last element includes the other element in its scope.

4. As remarked in section 2 above, attributive adjectives in French can precede as well as follow their head noun, e.g. *Furieux menteur* ($\hat{A}\hat{N}$) and *Menteur furieux* ($\hat{N}\hat{A}$). In both cases the first element is linked forwards to the second. That is, for $\hat{A}\hat{N}$:

and for $\hat{N}\hat{A}$:

In other words, the last element introduces the thought of the referent of the complex (the negation of that element projects the absence of the referent of the complex - see section 2). In the $\hat{N}\hat{A}$ case the adjective consequently refers to more than a property, it evokes the thought of an entity carrying this property. The preceding unaccented N conveys that the entity introduced by the adjective is not pictured without being an *apref* of the meaning of the noun. In terms of the pictures of section 1, the

entity introduced by the adjective is a whole of which the referent of the meaning of the noun is a part, and the absence of an accent on the noun ensures that the whole is not viewed without its part; simultaneously, the whole serves as the ground for the property.

In contrast, in *AN* the entity involved is introduced by the noun itself, while the adjective projects a property of that entity (in terms of the pictures: a figure - ground organization, in this order). In the example *Menteur furieux/Furieux menteur* the result is in both cases a furious liar. The semantic difference has been beautifully described by L.R. Waugh (1977). In application to our example, the author says: "in postposition the adjective qualifies the individual as a person in general, whereas in preposition it characterizes him specifically in so far as he is a 'liar'" (1977: 88). This is in accordance with what I am proposing. In postposition the adjective introduces the thought of some furious entity; the unaccented noun says that this entity does not fail to be a liar, but if he were not a liar he would be furious in the same way: the property /*furieux*/ is mapped not directly onto an apref "menteur" but onto some entity which is also an apref "menteur" (if the property were mapped directly onto an apref "menteur", the combination *NA* would have a backward link). As a result, the entity is characterized as an apref "furieux" independently of its being an apref "menteur", although it does not fail to be an apref "menteur". In contrast, the proposed adjective projects the property /*furieux*/ carried not by some entity in general but by an apref "menteur", so that it characterizes not a person in general but a liar: the *AN* combination refers to a type of liar (a terrible liar), not to a furious person who happens to be a liar (an angry liar).

A head - modifier combination with a forward link always involves, in my view, the indirect link indicated above for the French example: the modifier maps a property onto a whole of which the head projects a part. The accentuation signals whether or not a projection of the absence of the whole/ground + figure is being negated, and whether or not a projection of the absence of the part is being negated. In *Menteur furieux* no furious persons other than a liar enter the picture because *menteur* is un-

unaccented: furious persons other than liars are excluded from the span of attention; otherwise, we would need an accent to negate a projection of the absence of a liar among these persons. The fact that the entity involved is not pictured without being a liar, means that it is difficult to become aware of the fact that the adjective introduces a more general category than an apref of the meaning of the noun; it can be brought to light only by subtle observations like those of Waugh and, in other languages, by the accentuation head - modifier, retaining the same hierarchical organization.

Another aspect of the same arrangement is more directly observable: in head - modifier combinations, the modifier specifies which apref of the meaning of the head is meant by the speaker. Thus, in *Menteur furieux* it is conveyed that furious and non-furious liars exist, and that the liar meant is a furious one. In modifier - head combinations with a forward link the same probably holds true: the second element, here the head, specifies which apref of the meaning of the first element, here the modifier, is meant. This specification aspect of combinations of which the first element is linked forwards to the second, involves a procedure to be described in the next section.

The terms "part" and "whole" used here for head - modifier combinations (forward type) have the technical sense explained in section 1 by means of pictures: the terms are abbreviations for organizations of projections and their negations; they are not meant to imply that in e.g. *Menteur furieux*, the adjective introduces the thought of more than a single entity. Strange as it may seem, the number of entities involved is in general not encoded. Thus, we may say in the case of the example: the adjective introduces the thought of an entity which is not pictured without being an apref "menteur" (without the property /apref "menteur"/), or: the adjective introduces the thought of furious entities among which an apref "menteur" is not absent, the combination referring to an entity which is an apref of both meanings. The same indeterminacy can be observed elsewhere. For example, the sentence *The man has come* discussed in IX.10 may in its narrow scope interpretation be interpreted as: the accent negates a projection of the absence of /apref "man"/ among other projections of the entity having come, or: the accent negates a pro-

jection of the absence of an entity apref "man" among other projections of entities having come. Logically speaking, this indeterminacy is somewhat awkward, because my formulation here is another way of saying that the truth-value of the projections among which a projection of the absence of an apref "x" is being negated by an accent, is a matter of interpretation: if more than one entity is involved, the coming of the man does not exclude that e.g. the woman also came; but if only a single entity is involved, then, if it is the man, it cannot be the woman, so that the truth of *The man has come* excludes the truth of *The woman has come*. Linguistically speaking, the indeterminacy implies that terms such as "entity" and "property" have no linguistic status, the relevant point being that in the narrow scope interpretation of the example, the referents of "man" and "woman" are parts in the sense of section 1 above, while in the broad scope interpretation they are construed as independent figures in space (see also the next chapter).

The fact that attributive head - modifier and modifier - head combinations may both have a forward link does not imply, of course, that both head - modifier and modifier - head occur everywhere. In modern Russian, for example, a difference can be observed between non-agreeing and agreeing attributive adjuncts. Roughly, the former tend to follow their head, while the latter tend to precede them (insofar as forward links are involved - see section 6). Thus, $\bar{G}\bar{N}$ is of restricted occurrence as compared with $\bar{N}\bar{G}$, while the reverse holds true for $\bar{A}\bar{N}$ as compared with $\bar{N}\bar{A}$. An attributive dependent genitive precedes the noun in a few fixed combinations like *ġardii majôr* (Lit. Of-the-guard (a) major), and often in combinations with ... *roda* (Of ... sort) (Bivon 1971: 83). Further, it is written when the noun is also preceded by an agreeing attributive adjunct, e.g. *Krasivyy, vysokogo rosta ġelovák* (Lit. (A) beautiful, of-high-posture man); here, the arrangement resolves the problem of how to combine into pairs the elements of ANG. Thirdly, $\bar{G}\bar{N}$ is written when the specification aspect of $\bar{N}\bar{G}$ (see above and the next section) is undesirable; for example, one may prefer *On snjal zelénogo cveta furáġku* (Lit. He took off (his) of-a-green-colour cap) ($\bar{G}\bar{N}$) to *On snjal furáġku zelénogo cvéta* ($\bar{N}\bar{G}$), because the latter suggests

that he has more than one cap to take off (see II.4) (this is, in my view, the rationale behind the $\bar{G}\bar{N}$ cases mentioned in Grammatika (1980: 198)); spoken Russian would prefer $\bar{N}\bar{G}$ here, with the dependent genitive linked backwards (see sections 5-6). Fourthly, Lønstrup (1978: 238) mentions that, while *Priglaġenie učitelja* (The invitation of the teacher) can be understood in two ways, the teacher being either the person invited or the person inviting, the corresponding *Ego priglaġenie* (Lit. Of-him (the) invitation) means only that the teacher is the subject of the inviting, so that one can hardly transform *Stroenie domöv* (The building of the houses) into *Ich stroenie* (Lit. Of-them (the) building); this observation, if it is correct,³⁴ implies that one will often use *Stroenie ich* (Lit. (The) building of-them) even in writing, since $\bar{G}\bar{N}$ is, according to Lønstrup, excluded in the relevant sense.

On the whole, $\bar{N}\bar{G}$ is clearly more "normal" than $\bar{G}\bar{N}$ where both are possible semantically; the latter has an archaic or, in general, a "high style" flavour (but not $\bar{G}\bar{N}$ in speech).

In contrast, agreeing attributive adjectives in Russian tend to precede the noun (indeclinable adjectives almost always follow the noun), as far as the opposition between AN and NA with a forward linking scheme in both cases is involved (for $\bar{N}\bar{A}$ with a backward linking scheme, which is regular in speech, see section 6). The $\bar{N}\bar{A}$ arrangement with a forward link is found in a restricted number of cases (Sirotnina et al 1968: 89-92), among which only one has a high frequency: $\bar{N}\bar{A}$ is often used when the meaning of the noun is such that there can be only a small difference between an apref of this meaning and the entity introduced by the adjective following the noun; roughly, these are cases where the adjective alone would convey approximately the same idea as the combination of the noun and the adjective, while the noun alone would not make sense. For example (ibid.): *veġġ' choróġaja* (Lit. Thing good), *ġelovek bogátyj* (Lit. Man rich), *ġenġġina krasivaja* (Lit. Woman beautiful), and, already less typical, *Vpeġatlenie glubókoe* (Lit. Impression deep), *slova grjáznye* (Lit. Words dirty), and the like. The semantic difference between $\bar{A}\bar{N}$ and $\bar{N}\bar{A}$ is hinted at by Sirotnina (1965: 149), when she observes that one may say: *Prenebreġenie k tak nazyvae-*

ym banal'nyĭ istinam (Contempt for so-called banal truths), while the adjective cannot be preceded by *tak nazývayemyĭ* (so-called) when it follows the noun; I would suggest that this difference is identical to that in the French example above: in *NĀ* the truths are characterized in a way applicable only to truths (cf. *Furieux menteur* for a type of liar), while in *NĀ* they are banal in the same way as other things can be banal (cf. *Menteur furieux* for a liar who is angry in the same way as other people can be angry).

In Russian, the type *NĀ* with a forward link is, moreover, restricted to a single adjective; when a second (third etc.) adjective follows the noun, these further adjectives are linked backwards, in the way of a nonrestrictive attributive clause (see e.g. Sirotinina 1963(b): 26). Thus, while in *bol'shoj kamennyj dom* (Lit. Big stone house) the first adjective may be linked forwards to the combination of the second adjective and the noun, the second adjective also being linked forwards, *dom bol'shoj kamennyj* cannot mean "A big house which is made of stone" or "A stone house which is big" (restrictive), but only "A big house, made of stone"/"A house made of stone, big". In writing two postposed adjectives are separated by a comma (*odnorodnye opredelenija*). Besides this, the combination may be predicative (see section 7).

Understandably, attributive modifiers follow their head when the latter is an indefinite pronoun, e.g. *čto-to novoĕ* (Something new). Just as in English, the arrangement *Novoe čto-to* (A new something) turns *čto-to* into what we call a noun: in something new, "something" refers to a part of a whole of new things, while in *A new something* it refers to what we think of as an entity (a separate figure in space). Quantifier-like meanings such as "something" will be discussed in the next chapter. In Russian, nouns like *vešč'* (thing), *čelovek* (man), *ženščina* (woman), when occurring in *NĀ* arrangements, have been called "pronominalized" (Sirotinina et al 1968: 91); in my view, this name alludes to the part-whole organization of these combinations.

In all cases mentioned, the first element of the combination may be accented alone or in addition to the last element (with

the scope distinctions according to the corresponding schemes in section 3), but a combination head - modifier strongly tends to receive a backward linking scheme, giving the accent a broad scope instead of the narrow scope which it has in the forward linking scheme. This brings us to the second type of opposition mentioned in section 3.

5. Consider the following sentences: *Peter had plans for dinner*, *Peter had clams for dinner* (Bresnan 1971: 274). To be precise, Bresnan contrasts *Peter had plans for dinner* with *Peter had clams for dinner*, but in order to explain why we tend to place the last accent on a different word in the two cases, we have to say first why the sentences are different if they have the same accentuation. The difference is that we tend to link "plans" forwards to "for dinner", while the clams-example is more obviously understood in accordance with a backward link between "for dinner" and "clams". That is, for *Peter had plans for dinner*:

and for *Peter had clams for dinner*:

As a consequence, *plans* (and the verb) is included in the scope of the accent on *dinner*, while *clams* is not (in this interpretation). The clams-example preferring a backward linking scheme, the accentuation *Peter had clams for dinner* is more obvious, since in that case the accent includes *for dinner* in its scope:

The relevant difference between the two strings is, roughly, that if Peter has plans for e.g. supper, he has other plans than the plans he has for dinner, while if he has clams for supper, he has the same clams as the clams he has for dinner. This is the specification aspect mentioned in the preceding section: in the plans-example, "for dinner" specifies which *apref* "plans" the speaker has in mind. This type of specification is absent in a backward linking scheme. Of course, if one is willing to view clams as coming in types: clams for dinner, clams for supper, clams for breakfast, and so forth, *for dinner* specifies which clams Peter had. Then we are linking "clams" forwards to "for dinner", so that *clams* falls inside the scope of an accent on *dinner*.

In order to describe these perceptions somewhat more precisely, I have to introduce a procedure which I shall call "splitting a projection".

This procedure starts from the observation that a forward type of link is in conflict with the chronological order in which the words are spoken. Following the sentence *Peter had plans for dinner* from left to right, we first arrive at *plans*, and only after that at *for dinner*. It would thus be easiest to simply add every subsequent projection to those preceding it, i.e. by a backward type of link (when the preceding "x" is there, there is "not y", which is then replaced by "y"). In order nevertheless to link "plans" forwards to "for dinner", a simple trick is used: the element which comes first in the speech chain is split into two distinct projections, belonging to different moments of projection time:

The "plans₁" would be the only one in a backward linking scheme. Here, it is left behind as a copy of the "plans₂" which is linked forwards; "plans₂" refers to the plans meant by the speaker, "plans₁" to other *apref*'s of the same meaning (which need not be other entities, see the end of this section).

When *plans* is accented in addition to *dinner*, the sentence *He had plans for dinner* may be processed in two steps: the accent on *plans* first negates "not plans" (unspecified by an index), "plans" is split, and one of the "plans" is linked forwards:

Next, recall that in chapter IX, we started with two negations of "flower" in the sentence *Flower*:

That is, the accent negates a projection of the absence of the flower among other projections; the "not flower₁" constitutes the environment where "not flower₂" is being negated by the accent. Although I started to leave out the environment in IX.5, in order to keep the schemes readable, we now have to add it again for a moment. Thus, for *Peter had plans for dinner*:

(in order not to repeat the same story, I write "not for dinner₁" instead of "for" and "dinner" separately). The "plans₁ not for dinner₁" projects plans for supper, plans for breakfast, and so on; the "plans₂ for dinner" projects the plans meant by the speaker, the plans for dinner. The accent on *dinner*, including in its scope "plans₂" and "for" ("for₂"), negates a projection of the absence of plans for dinner among other projections of plans, i.e. introduces the thought of the plans meant. This formulation does not take into account the verb, to which the same procedure applies.

Splitting projections has the effect that during the processing

of a sentence a number of projections are formed as the environment for the complex introduced by the accent; the projections formed during the processing of the sentences are 1. copies of the elements falling within the scope of the accent, and 2. two negations of the meaning of the accented element. One of these negations, the one projecting the absence of the thing referred to by the accented element, is the projection being replaced by the projection corresponding to the accented element, the other negation belongs to the environment. At the moment of speaking, a projection is added to the projections formed during the processing of the sentence (by negating the non-concurrent negation of the accented element among the projections formed). Although we have the illusion that the projections to which a projection is added were already there before the sentence was spoken, they are in reality formed during the processing of the sentence. This will be clear if one realizes that in *Peter had plans* no thought of various plans is evoked; the other projections of plans come into being by adding *for dinner*.

The two negations of the accented element offer another example of the splitting procedure (see XI.10).

Turning now to *Peter had clams for dinner*, we may put aside the view that clams exist in types, since in that case the example is identical to the plans-sentence. In the more obvious reading, "clams" is not split into two distinct projections:

This is a backward linking scheme, expanded with "not for dinner₁". The "clams" in the scheme refers to the clams meant by the speaker, which are the only clams involved. The "clams" is combined with all other projections in the scheme. We have, then, clams for supper and breakfast ("clams not for dinner₁"), clams viewed without being an apref "for dinner" ("clams not for dinner₂"), and clams for dinner. But these are the same apref "clams" throughout. They can be the same apref by virtue of the fact that in a backward linking scheme with an accented second element, time plays a role. The clams which Peter had for dinner are first projected without their property of being an

apref "for dinner" and then with this property; the correlating perception is the idea that the clams are not an apref "for dinner" during their whole existence: when they are not eaten for dinner they may be an apref "for supper", or an apref "for breakfast", and the like. In contrast, in *Peter had plans for dinner*, the forward link between "plans₂" and "for dinner" ensures that "plans₂" does not concur with "not for dinner" (see the schemes given earlier); the correlating perception is the idea that the plans which Peter had for dinner cannot be projected without being an apref "for dinner", plans without this property being other plans.

In both cases we can say that *for dinner* specifies the preceding part of the sentence, but only in the case of the plans does this specification concern the question as to which plans are meant; in the clams-case the specification concerns the reference to the clams at the moment when they are an apref "for dinner".

Just as *Peter had plans for dinner*, the sentence *Peter had clams for dinner* may be processed in two steps, the difference with the plans-example being that no "clams" is taken up into the next chunk:

The difference between the two sentences is accompanied by the illusion that plans in *Peter had plans for dinner* is "new" information, while clams in *Peter had clams for dinner* is "old" information. This illusion is created by the fact that "plans₁" refers to apref's "plans" other than the plans for dinner: what is "new" in the plans is not the projection "plans" per se but only the projection of the plans meant. The clams, in contrast, are "old" information because we recognize them as belonging to the projections among which "dinner" is being introduced by negating its non-concurrent negation.

The scope relations in *Peter had plans for dinner* and *Peter had clams for dinner* can be read from the forward and backward linking schemes. Leaving aside the reading that Peter is a plan-

eater, in which case the sentence has a backward link, the organization of *Peter had plans for dinner* is:

This is a forward linking scheme with an accented first element and an unaccented second element. As before, the sentence is a part - whole/ground + figure type; this is to say that the accent negates a projection of the absence of an apref "plans" among other projections of an apref "for dinner" (a single thing or more things for dinner may be involved). As indicated in the scheme, *for dinner* is not included in the scope of the accent; this comes to light by realizing that the sentence does not answer the question What about Peter? without "dinner" being implied in the context.

Retaining for the clams the same perception as before, the scheme for *Peter had clams for dinner* is:

This is a backward linking scheme with an accented first element and an unaccented second element. The unaccented element falls inside the scope of the accent (cf. What about Peter?). In such a configuration, the unaccented element following the last accent has the character of an "afterthought", because it adds information about the referent of the accented element without introducing the thought of apref's of the meaning of the accented element which are not apref's of the meaning of the unaccented element and without introducing the thought of the referent of the accented element at moments of its existence other than that referred to by the unaccented element. *Peter had clams for dinner* conveys basically that Peter had clams (assuming an assertive type of accent), adding by the way that he had them for dinner; the addition makes explicit what is already contained in (con-curs with) the preceding element (or what the speaker would have liked to have included if he had thought of it at the appropriate

moment).

In terms of the pictures of section 1, the shift from the plans to the clams is a shift from a part - whole/ground + figure type of perception to a ground - figure type (in this order). It will be clear that the two organizations of the strings, just like the pictures in section 1, project the same "reality" in different ways, namely a "reality" without coordinates in time and space.

In order to avoid confusion, it must be made explicit that the expression "other apref's of the same meaning" does not imply that more than a single entity is involved (taking "entity" as a clear example). Consider, for example, the sentence *He loves the girl of the morning*, which could be a poetic expression. The forward link between "girl" and "of the morning" (attributive) involves the splitting procedure described in the foregoing, so that more than a single apref "girl" is pictured. The sentence does not convey, however, whether or not these apref's "girl" are the same entity. Although the forward linking scheme involves in the most obvious cases more than a single entity, it does not exclude the possibility that the girl of the morning is the same girl as the girl of the evening. The relevant point is that this girl is perceived as a number of girls, so that the accent focuses attention on one apref "girl" among others. This splitting is absent in e.g. *He loves the girl in the morning* (adverbial reading), where, due to the backward link, only a single apref "girl" is perceived.

6. The difference between *Peter had plans for dinner* (forward link, the modifier specifying which apref of the meaning of the head is meant) and *Peter had clams for dinner* (backward link, the modifier adding an afterthought to the preceding head), is a widespread one. Some further examples are the following.

English:

(.)
Helen left directions for George to follow, Helen left directions for George to follow (Bresnan 1971: 258) (in the former case (a) follow specifies which directions Helen left, namely only apref's "something to follow"; in the latter case the directions which Helen left are additionally characterized as an apref

"something to follow"); I have instructions to leave, I have instructions to leave (Newman 1946: 179) (What type of instructions do I have versus I have instructions, i.e. something to leave); Where can I find a girl to strangle, Where can I find a girl to strangle (Bolinger 1972: 634); This is the doctor I was telling you about, This is the doctor I was telling you about (Schmerling 1976: 67).

Russian:

On snjal furážku zelenogo cvěta (NG), On snjal furážku zelenogo cvěta (NG) (Lit. He took off his cap of a green colour) (the former suggests that he might have taken off a different cap since the modifier specifies which cap is meant); Čto što takoe? Dom bez kryši, Dom bez kryši (Mel'ničuk 1958: 41) (What is that? A house without a roof), On učenyj krupnyj, On učenyj krupnyj (He is a great scholar, NĀ versus NĀ); and, in general, any postposed attributive adjunct.

Dutch:

Zie je die nieuwe jurk van Marie gezien, Heb je die nieuwe jurk van Marie gezien (Did you see that new dress of Mary's); Ze hebben die gescheurde gordijnen uit de slaapkamer weggegooid. Ze hebben die gescheurde gordijnen uit de slaapkamer weggegooid (They threw away those torn curtains from the bedroom); and so forth.

In the longer sentences it is more natural to have accents preceding the last one (see the preceding section and section 10 below).

The discussion about pairs like He has plans to leave and He has plans to leave (e.g. Bresnan 1971; Bolinger 1972) concerned the question of whether or not accent placement is determined by syntax. The implicit assumption seemed to be that, if the sentences have different syntactic structures, then accentuation cannot be chosen independently. As I see it, this connection does not exist. I have nothing against calling the difference between forward and backward links syntactic, but then in the sense "meaningful organization of meanings"; with a different link, the strings have a different meaning, and the given accents have, with different links, a different scope. The view that the accentuations of the two sentences are the consequence of syntactic

relationships specifying that in He has plans to leave he is the one who plans to leave, while in He has plans to leave he is the one who leaves the plans, strikes me as a good example of how "theoretical" blinkers lead people into endless circularities. As remarked by Knowles (1982: 203), "[...] the idea that accent placement is determined by syntax [...] is quickly refuted by listening to some accents. To argue the point [...] is to give it a respectability it does not deserve". Accents and syntax are both meaningful, i.e. their choice is determined by no other thing than the wish to convey the correlating meanings. The scope of a given accent, but not the occurrence of the accent, depends on the organization of the sentence. Since hearers tend to interpret a string in such a way that the given accents have the broadest possible scope, a given accent distribution is one of the factors influencing their decision to organize a string in one way or another, i.e. their decision that one meaning rather than another is being conveyed.

As we saw in the plans/clams example, lexical meaning (together with knowledge of the world) is another factor. A further example of the lexical influence on a hearer's choice of organization (and thus of the correlating meaning), is the following (Bolinger 1972: 636): I need a tool to write with, I need a pencil to write with. The tool-example is most obviously linked forwards, so that the accentuation indicated is the one with the broadest possible scope. The part to write with then specifies which tool I need (splitting "tool"):

The same organization is strange with a pencil instead of a tool, because the sentence I need a pencil to write with suggests in that case that there are pencils to write with and other pencils, the accent negating a projection of the absence of a pencil to write with among other projections of pencils. This sentence prefers a backward link:

Cf.: What do you need a pencil for? (a pencil can be viewed without being an apref "something to write with", e.g. when it is in your pocket). Because of the preference for a backward link, the accentuation *I need a pencil to write with* is more obvious when the sentence is uttered "out of the blue":

In this case the sentence conveys essentially that I need a pencil, adding that the projection "(something) to write with" is implied in (concurrs with) the projection "pencil" (that the pencil is not viewed without being an apref "to write with"). The same organization is odd for *I need a tool to write with* because it is not obvious that, when I need a tool, I am implying that I need something to write with. As a consequence, this sentence retains the forward linking scheme which is also chosen for *I need a tool to write with*, i.e. (with accented *tool* and unaccented *write*):

In this case the accent negates a projection of the absence of an apref "tool" ("not tool₂") among other projections ("not tool₁") of (an) apref('s) "to write with". As observed by Bolinger (ibid.), the lexical meaning of *tool* is interpreted differently in the accented and unaccented cases (see also Ladd 1979: 96, 124). In *I need a tool to write with* a tool is in general "an implement" (a thing to write with, not opposed to other things because of the absence of an accent on *tool*); in *I need a tool to write with* the word is understood in a narrower sense (cf. hammer, screwdriver); otherwise, something to write with could not be not a tool, while the accent in the given organization says that it can be.

The fact that oppositions between (attributive) head ~ modifier and (attributive) head - modifier (second type of opposition mentioned in section 3) frequently occur, illustrates that at some points in a string of information more than a single proces-

sing decision can be made. When we hear *He saw a liar*, this string is completely understandable; it can be expanded into e.g. *He saw a liar who was furious*, but this is not necessary. Therefore, such head - modifier combinations allow in principle two strategies: either the head is linked up with the foregoing string (if any), after which the modifier is added (backwards), or the head is first linked up with the modifier following it (forwards), after which the head - modifier group is linked as a constituent. In the last-mentioned example, the two possibilities give rise to the difference between what is called a non-restrictive versus a restrictive relative clause.

A modifier - head arrangement can be expected to be more stable than a head - modifier group, because, to give a simplifying example, when we hear *He saw a furious*, we know that something is yet to follow: that the article and the adjective will have to be combined with an element which is yet to come before the verb can be linked up with the group as a whole.³⁵ Therefore, a group Adjective - Noun, for example, will in general have a forward link irrespective of its accentuation, so that the accent in Adjective - Noun does not include the noun in its scope. An alternative possibility is the one regularly occurring in spoken Russian: the accented adjective refers to a property of a referent present in the speech situation, after which the unaccented noun makes explicit which referent was meant. For example (see VI.5):

S krásnen'kim sobačku požalujste bantikom dajte (Lit. With red little-dog please ribbon give).

Here, "red" is meant to be applied to a ribbon as an obvious interpretation in the given situation; after that, *ribbon* makes explicit that this was indeed the thing to be done.

This case has not been included in the second type of opposition as formulated in section 3, which was stated for head - modifier; it may be viewed as an application of the same principle (but I would not say that *ribbon* is included in the scope of the accent on *red*; rather, "ribbon" refers for a second time to the thing of which a property is referred to by "red").

Another way of arriving at a backward linking scheme in modifier - head consists in reinterpreting the combination as a head - modi-

lier group. For example, a preposed "Genitive" in Dutch is written: 's, e.g. *Piet's boek* (Peter's book). As long as we pronounce the combination in the way it is written, the accentuation *Piet's boek* has the broadest possible scope (forward link, as is regular for modifier - head). Normally, however, the combination is pronounced *Piet z'n boek* (Peter his book), i.e. the "Genitive" element is taken to be a modifier to the following noun; then, "z'n boek" may be linked backwards to "Piet". In that case, an accent on *Piet* has a broad scope interpretation, e.g. *Heb je Piet z'n nieuwe boek al gelezen* (Lit. Have you already read Peter his new book).

Putting aside these cases where an attributive modifier - head combination follows the pattern of attributive head - modifier combinations, the former participates, besides in the first type of opposition mentioned in section 3 (see section 4), in the third type of opposition. Thus, for example, an adjective linked forwards to a noun following it versus an adjective linked backwards to a noun preceding it, so that in both cases an accent on the noun includes the adjective in its scope. The organization "head - modifier" is regular in Russian, although it is avoided in writing (see section 4).

As to the semantic difference between "modifier - head" and "head - modifier" in Russian, here we may repeat the formulation of Sirotnia quoted in VI.3: in e.g. $\hat{A}\hat{N}$ the combination conveys "a single, although divided concept", while in $\hat{N}\hat{A}$ the unity of the concept is destroyed. As a more or less translatable example, the difference between *železnaja doroga* (The iron road, railway) and *doroga železnaja* (A road, by the way the iron one) has been mentioned. In terms of my schemes, this says that in $\hat{A}\hat{N}$ the adjective is linked up with the noun before the accent negates the negation of the projection expressed by the noun, while in $\hat{N}\hat{A}$ the same negation is negated before the adjective is added:

In other words, only in the $\hat{N}\hat{A}$ type do we find the "afterthought"

effect mentioned in section 5: in the example, the accent on *doroga* negates a projection of the absence of an apref "road", and the adjective adds that, given a projection of an apref "road", there is also a projection "iron", i.e. that "iron" was implied in the preceding projection.

In terms of the pictures of section 1, the $\hat{A}\hat{N}$ type is a figure - ground combination, the $\hat{N}\hat{A}$ type a ground - figure combination; the difference is confined to the order in which the operations are performed, so that it is not spectacular. The main factor leading to the choice of $\hat{A}\hat{N}$ in speech might well be the wish to accent the adjective in addition to the noun (in the other arrangement, $\hat{N}\hat{A}$, an accent on the adjective, when retaining a backward link, adds at least a "half-predicative" aspect - see IX.7). There exists some disagreement about the frequency of the backward $\hat{N}\hat{A}$ type (see Lapteva 1976: 207), but it occurs with any type of noun and adjective (in contrast to $\hat{N}\hat{A}$ with a forward link - see section 4).

7. In the foregoing, I have elaborated somewhat on the plans/claims type of example because it shows the difference between forward and backward links in pure form. Often, a difference of concatenation type is accompanied by syntactic differences in a more traditional sense. Consider, for example, the string *He saw the table in the living room*. The two readings of *in the living room* would, probably by everyone, be called attributive and adverbial. In the attributive reading *in the living room* specifies which table he saw (forward linking scheme). The adverbial reading has a backward linking scheme, *in the living room* conveying where he saw the (single) table:

This scheme expresses only the fact that "in the living room" is linked backwards; it leaves open the question with which preceding elements the chunk is linked up. In the adverbial reading, it is probably linked up with "(He) saw the table" as a whole. If this

correct, the attributive and adverbial readings of the string differ in more respects than the plans/clams type of example, involving as they do more than a choice between a forward and a backward linking scheme for concatenating two elements. Namely, for the attributive reading (broadest possible scope): "saw the table in the living room" linked backwards to "he", "saw" forwards to "the table in the living room", "the table" forwards to "in the living room", and the remaining elements also forwards. Adverbial reading: "saw the table" backwards to "he", "saw" forwards to "the table", "in the living room" backwards to "(he) saw the table", and the remaining elements forwards. In other words, higher level concatenations are still to be added to the schemes given here for parts of sentences.

The sense of grouping together the clams-example with the adverbial reading of the string now under discussion, as two examples of a backward linking scheme, is that this classification shows how the time-element present in both sentences comes into being. In the adverbial case: He saw the table *when* he and/or the table were in the living room.

In Russian, no present tense of a verb *to be* is expressed. (normally). As a consequence, many strings have an attributive as well as a predicative reading. For example, *Stol v kómnate* is either *The table in the room*, or *The table is in the room*. Again, the attributive reading has a forward linking scheme, the predicative reading a backward linking scheme. The latter is consequently classified with the clams-example and with the adverbial reading of *He saw the table in the living room*. The notation

does not specify that the combination is a predicative one. It says that "stol" and "v komnate" at first do not concur in projection time and then, when "komnate" replaces its negation, they do concur, i.e. that the table is viewed first in the absence of an apref "v komnate" and then in its presence. This predicts that in one way or another time will be involved, but not in which way

precisely. It may be involved in the way of the clams-examples, or in the way of the adverbial phrase in the English example above, or the combination may itself refer to time, as in the predicative reading of *Stol v kómnate*. There is also the possibility, discussed in the next chapter, that the non-linguistic and linguistic projections of the place referred to by "v komnate" do not coincide; in that case, the expanded scheme is:

This is the only way in which the given vertical order of "stol" and "v komnate" can be an attributive combination: the option of non-coinciding projections is available as a general emergency strategy which resolves conflicts between the relationships of projections in projection time and the time relationships between the referents of these projections.

When sentences are viewed as strings of information which are to be processed, which, in my view, is the most obvious standpoint to take when dealing with accentuation, intonation and word order, it appears that the choice of a syntactic relation is sometimes contextually dependent (context = remainder of the same string). Thus, in *On uvidel stol v kómnate* (He saw the table in the room), *v komnate* may be an attributive phrase or an adverbial phrase, but it does not have a predicative reading. On the other hand, when *On uvidel* does not precede it, *Stol v kómnate* is either an attributive or a predicative combination, but *v komnate* does not have an adverbial reading. The contextual dependence of the choice of a syntactic relation can be accounted for by viewing these relations as further specifications, given a choice from a smaller number of basic types of link. This seems to me the simplest possible way in which we can account for accentuation, intonation and word order in the framework of a semiotactic theory like that of Ebeling (1978). My proposal amounts to superimposing on the framework a relatively simple

parsing-system, to the effect that a decision in this system makes available a number of syntactic possibilities in the sense of Ebeling (1978), all options being meaningful.

8. In III.6 attention has been called to the fact that a description of word order oppositions which lumps together all arrangements head-modifier in one group, and all arrangements modifier-head in another, is not very revealing: while Russian *Kniga Ivana* (NG) can be translated into English as *The/a book of John's* (NG) and as *John's book* (GN), English *John is reading a book* (SVÖ) corresponds to Russian *Ivan čitaet knigu* (SVÖ) and *Ivan knigu čitaet* (SÖV). We should account, I have argued, for the fact that in the "Noun plus Genitive" combinations the accent includes the other element in its scope in both head-modifier and modifier-head, while in the "Verb plus Object" combinations an accent, in order to include the whole combination in its scope, must be placed on the modifier in both cases: head-modifier and modifier-head.

In section 4 above I proposed that attributive modifier-head and head-modifier combinations may both have a forward link; this accounts for the GN versus NG type of contrast (first type of section 3). In sections 5 and 6 we saw that attributive head-modifier combinations may also have a backward scheme; this gives rise to a NG versus NG type of contrast, the accent including the other element in its scope in both cases (second type of section 3). It was suggested that, although attributive modifier-head groups tend to approach the same pattern by reinterpreting the modifier as a head (*Piet z'n boek*) or by processing the modifier separately (Russian dog-example in section 6), they regularly link the modifier forwards to the head, which results in an opposition modifier-head versus head-modifier, the accent including the other element in its scope in both cases (third type of section 3, attributive subtype).

Turning now to combinations containing a verb, we see that the VÖ/ÖV pair mentioned above patterns in another way, the accent in both head-modifier and modifier-head including the other element in its scope. Expressed in schemes:

Likewise, as we saw in chapter III, an accent on the subject in both *Prišel pëezd* (VŜ) and *Pëezd prišel* (ŜV) (The train arrived) includes the other element in its scope:

I shall not go into the question of whether combinations of a verb and a subject are modifier/head combinations (in whatever order), because these categories are not very substantial anyhow.

The cause of the deviating behaviour of combinations containing a verb is that a (conjugated) verb brings into the sentence the projection of the time which is the referent of the subject-verb combination. This property of verbs excludes the possibility that verbs specify which apref of the meaning of a preceding subject or object is meant by the speaker, i.e. such combinations cannot have a forward link. Consider, for example, *John died*. A hypothetical forward link between "John" and "died" would result in the scheme:

Here, "John₁ not died₁" would refer to apref's "John" other than the John meant; the accent on *died* would introduce a projection of a John having died among other projections of Johns; the sentence would refer to an entity. This is not the meaning of the sentence. Even if John is doing a number of things simultaneously, e.g. *John is sitting in a chair and reading*, the John who is sitting in a chair and the John who is reading are perceived as a single apref "John". The perception is prescribed by the meaning of the verb and the perception prescribes a backward type of

link.

This case is fundamentally different from a string like *Stol v kômnate* (The table (is) in the room), which may have a predicative reading but need not have it: in the table-example, a predicative reading is one of the possibilities when a backward link is chosen (besides, in a larger context, an adverbial reading), while a combination involving a (conjugated) verb has only a predicative reading, which causes a backward link to be chosen in SV and OV.

Thus: a subject or an object cannot be linked forwards to a verb because a verb cannot specify which apref of the meaning of the subject or object is meant, as a consequence of the fact that a verb refers to time, and if some element which is not a verb is linked forwards, the resulting combination cannot be a predicative combination.

While a subject or an object cannot be linked forwards to a verb following them, a verb can be linked forwards to a subject or an object following them (see the schemes given above). In this case the same two aspects can be observed as in attributive head - modifier combinations with a forward link: when accented, the last element specifies which apref of the meaning of the preceding element is meant, and the last element introduces a projection of something of which the referent of the preceding element is a part (see section 4). This may be illustrated by giving some examples in which these aspects lead to difficulties, so that preference is given to

These schemes do not specify whether a backward link or a forward link with non-coinciding projections is involved. Instead of an object one may also take another potential complement of the verb (others call it an argument).

In the first place, sentences like *Idět ktô-to* (Coming is somebody) and *On čitaet čtô-to* (He is reading something) are uncommon for the same reason that *The wife of somebody* is uncommon: we can hardly interpret the verb (or *The wife*) as being included in the scope of the accent. This is because the meanings "somebody" and "something" normally project parts of wholes (of people and

things respectively), and an unaccented element preceding these meanings then concurs with the projection of the whole, which does not coincide with the projection of the part (see the next chapter). Here, it is enough to realize that there are no people and things which are not an apref "somebody" or "something", so that the subject or the object cannot be taken to specify which person coming or which thing read is meant by the speaker.

Another group of potential complements which, when accented, do not normally include the verb in the scope of the accent consists of expressions referring to time. Thus, while *He is lying in the garden* may answer the question Where is John?, the accent in *He lay down for a minute* does not normally include the verb in its scope (see II.3-4). Not all phrases which are traditionally described as time-expressions belong in this group, however: in e.g. *He lived in the XVIIIth century*, his living is presented as a way of being in the XVIIIth century, which idea includes the verb in the scope of the accent (see below). Within the group of expressions not referring to time, a further distinction can be made between expressions referring to locations and those referring to directions: an accent on the latter more easily includes the verb in its scope (see e.g. Gussenhoven 1983(a): 401-402). The cause of this will become clear in chapter XII; the difference between time on the one hand and location/direction on the other, is, however, more clear-cut. Note that "explanations" saying that the accent in *He lay down for a minute* does not include the verb in its scope BECAUSE for a minute is not a complement, are circular, since what we are doing is trying to say what it is that we call a complement or an argument: the latter notions cannot be defined independently. Furthermore, we do have attributive combinations like *A play for ten minutes*, where e.g. *A play for five hours* is viewed as a different play, along the lines of the example *He loves the girl of the morning* in section 5. Such a perception seems to be highly unlikely, however, when the element preceding the time expression is a verb; but as far as one is willing to imagine his lying down for a minute as a task to be performed, lying down for five hours being a different task, the verb in *He lay down for a minute* can be linked forwards, so that the accent includes

the verb in its scope; this reading is at least uncommon.

The examples mentioned so far show that a forward link between a verb and a subsequent accented element involves the splitting procedure described in section 5, the accented element specifying which aspect of the meaning of the verb is meant. Just as in e.g. *NĀ* (section 4), it is more difficult to become aware of the other aspect of forward concatenations in head - modifier, viz. the larger category introduced by the modifier, of which the referent of the preceding element is a part. With verbs, this other aspect comes to light in (see II.3-4) *He is lying in the garden* versus *He is jogging in the garden* versus *He jogs in the garden*. In these examples, it becomes progressively more difficult to include the verb in the scope of the accent (to link the verb forwards). The phrase *in the garden* introduces the thought of his being in the garden. In order to include the verb in the scope of the accent, one has to view the referent of the verb as a way of being in the garden (as a part of being in the garden); moreover, since the verb is unaccented in our examples, one has to imagine that, given his being in the garden, the referent of the meaning of the verb is not absent. This is easier to imagine with a relatively "empty" verb like *to lie* than with *to jog*, although the meaning of the progressive form helps materially in the latter case. With jogging, we are inclined to think that his being in the garden is a prerequisite for raising the issue of whether or not he jogs there; this idea is expressed by *He jogs in the garden*. In order to interpret a given accentuation *He jogs in the garden*, one must either be willing to view jogging as a way of being in the garden, in which case one is linking forwards "jogs" to the remainder of the sentence, so that the verb falls inside the scope of the accent (the sentence conveying where he is), or one divides the sentence up into "He jogs" and "in the garden" and links "in the garden" backwards; in the latter case the sentence conveys where he does his jogging (which is there anyway), and *jogs* is "old" information because it is not included in the scope of the accent; the jogging can then be introduced separately: *He jogs, in the garden*. The choice between the possibilities, with a given accentuation, is a matter of degree and flexibility of imagination, but once a choice has been made, the perceptions

are different in a clear-cut way (see V.3).

Likewise, the sentence *He lost his wallet* more easily includes the verb in the scope of the accent than *He lost the game*: our "normal" picture of the world induces us to think that he must have a relation to the game, namely by playing it, before we can ask whether or not he lost it. The accentuation *He lost the game* agrees with this "normal" picture. The interpretation of *He lost the game* involves a choice between 1. a forward link between "lost" and "the game" (cf. *Why is he crying?*), and 2. a backward link between the same two elements (cf. *What did he lose?*) (or a forward link with non-coinciding projections for "the game", which results in the same scope).

The same mechanism is at work in pairs like *The magician amused the crowd* (by doing tricks) versus *The show amused the crowd* (Berman and Szamosi 1972: 315). The former conveys, when we include the verb in the scope of the accent on the object, that the amusing act of the magician is a way to establish a relation between the magician and the crowd, other possible ways falling outside the picture because of the absence of an accent on the verb. The latter says that a relation between the show and the crowd exists, whether or not the show is amusing (the crowd sees the show anyway).

In application to Russian, the same problem has been discussed by e.g. Matveenko (1969: 166) and Šmel'ev (1976: 130-131). Šmel'ev gives, as the most obvious accentuations for the lexical meanings involved, among others: *On ljubil stichi* (He loved poems) versus *On ljubil brata* (He loved his brother) (whether or not he loves his brother, he has some feeling for him since a relation cannot be absent), *Ona vspomnila o koncerte* (She thought of the concert) versus *Ona zabyla o koncerte* (She forgot about the concert) (if she had not forgotten about the concert, she would have remembered it, while the concert is not there unless she thinks of it), *On uspagalsja posleǔstvij* (He was afraid of the consequences) versus *On ispagalsja ugrozy* (He was afraid of the threat) (the threat is there whether or not he is afraid of it, while he is afraid that there will be consequences (which do not necessarily materialize)). And so forth. It is, of course, useless to try and decide which is "the" "normal" accentuation, because this amounts to deciding which world is "normal"; this

issue cannot be decided once and for all, because my world differs somewhat from that of my neighbour.

It has been mentioned in section 3 that the links in Russian SOV differ from those in SVO. Since in OV the object cannot be linked forwards to the verb, $\hat{O}V$ is (see above):

And thus, with a preceding subject:

Compare $\hat{S}\hat{V}\hat{O}$ (broadest possible scope):

As long as the verb is unaccented in SOV, the reorganization is not so obvious, but in $\hat{S}\hat{O}\hat{V}$ the grouping of S and O emerges more clearly:

Although Braun (1962: 294-295) states that the subject and the object "keine semantische Affinität zueinander haben und keine sinnvolle Sinneinheit ergeben", I propose that this is exactly what happens in SOV. In $\hat{S}\hat{O}\hat{V}$ we find the same type of organization as in e.g. *Knihu on čitaet chorôšuju* (see IX.7 (Lit. Bōok he reads good), where the main boundary comes after "reads", disrupting the constituent "book good". In application to $\hat{S}\hat{O}\hat{V}$ this says that the referents of "S" and "O" are first viewed together with an apref "not V", and then with an apref "V". For example,

$\hat{O}n\ \hat{o}š\ nenavidit$ (Lit. He her hates): "thinking of a relation between him and her which is suggested by putting them together, a projection of the absence of hating is negated". The subject and the object form a prosodic group, the object, if unaccented, is enclitic to the subject (when O is accented $\hat{O}\hat{S}\hat{V}$ is more common). The grouping of S and O leads to the perception of an accent on S , not necessarily a full pitch accent but possibly a rhythmic accent. Thus, Svedstedt (1976: 169) counted in $\hat{S}\hat{O}\hat{V}$, for pronominal objects, 85% sentences where the subject undoubtedly had to be accented (in addition to the accent on the verb, taking into account the context), against 83% unaccented subjects in $\hat{S}\hat{V}\hat{O}$, also with pronominal objects (in the latter arrangement O is also enclitic, but now to the verb). Likewise, Adamec (1959: 39) observes that when, starting from $\hat{O}š\ vas\ ostávlju$ (Lit. I you leave-behind), we omit the subject, we most naturally shift to $ostávlju\ vas$ ($\hat{V}\hat{O}$), not $\hat{O}\hat{V}$ (unless, of course, the object is also to be accented). (See also e.g. Sirotnina 1961(b): 168.) In accordance with the regrouping, the sentence $\hat{O}na\ ego\ nēt$ (Lit. She him not) is normal (e.g. in $\hat{O}n\ eš\ ljūbit$; $\hat{O}nā\ ego\ nēt$ (Lit. Hē her loves; shē him not)); $\hat{O}na\ nēt\ ego$ (Lit. She not him) is incoherent. $\hat{O}nā\ ego\ nēt$ conveys that, given an independently conceived relationship between her and him, this relationship does not exist (assertive type of accent), while $\hat{O}na\ nēt\ ego$ conveys that some relation which was first viewed as an apref "da" (yes) is now to be viewed as an apref "net", i.e. "da" and "net" would define relationships, which is uninterpretable.

The reorganization, involving three elements, brings the discussion to another level; it will be taken up in chapter XII. Possibly, the relatively frequent occurrence of $\hat{S}\hat{V}\hat{O}$ in writing (see note 26) can be regarded as an example of the general rule that syntactic constituents may not be disrupted in formal writing (see VI.5); in this case this rule contradicts another rule for writing, namely the rule saying that the last accented element must be placed in sentence-final position (see III.3); the latter rule would favour $\hat{S}\hat{O}\hat{V}$, but then the direct link between O and V is lost. It seems to me that the norm has no answer to this situation.

9. The observation made in the preceding section, that a subject or an object cannot be linked forwards to a verb because a verb refers to time, does not imply that more than a single entity, apref of the meaning of the subject or object, cannot be brought into the picture by other means, nor that a forward type of link always involves more than a single entity. The last point has already been mentioned in the example *He loves the girl of the morning* (section 5). In this section I shall discuss some further issues which are related to this problem.

Consider the sentence *The victim was a woman*. This sentence conveys either that a single person was a woman but is now e.g. a man (imagine a sex-changing operation), or, more obviously, that the victim of e.g. some accident was a woman and not a man. The latter case is the relevant one here because, if the victim had been a man, it would have been a different person. This is so by virtue of the fact that the projections "The victim was a woman" and "The victim was a man" may be projections of some state of affairs perceived in the world at a given moment. The apref "victim" perceived in the world of that moment can be either a man or a woman. The other, sex-changing reading involves projections of the world of at least two moments, since a single person cannot be a man and a woman simultaneously (excluding cases where one has some doubts): here, we follow a fixed entity through time. If, in contrast, the time is fixed, the state of affairs pictured may contain a man or a woman (different persons); if it is a woman, she may, of course, become a man afterwards. This case does not affect the general property of verbs because, although the victim may be a man or a woman, there is only a single apref "victim": the elements *was a woman* do not specify which of a number of apref's "victim" the speaker has in mind.

A Russian example where a comparable distinction is encoded in different forms concerns predicative adjectives and participles. With a copula in the past tense, the adjective or participle may be in the so-called "long form" nominative case, the "long form" instrumental case, and the so-called "short form". Leaving aside the instrumental here, let us consider *den' byl prazdnichnyj* (approximately: The day was a festive one - the

Russian sentence contains an adjective in the "long form") and *lošadi byli zaprjaženy* (The horses were harnessed - "short form" of a participle). Mel'ničuk (1958: 49-50) has already remarked of these sentences that the copula groups with the subject in the former sentence, but with the participle (or adjective) in the latter case (see also Propokova 1981: 211). This indicates that the two sentences are organized in a different way:

versus:

That is, "byl" in the former sentence is linked backwards to "den'", after which the adjective is added (backwards), while "byli" in the latter sentence is linked forwards to "zaprjaženy", after which "byli zaprjaženy" is added to "lošadi" (backwards). The group "den' byl" which is formed in the first sentence is an *SV* type of combination. We will see in chapter XII that this word order differs from *VŠ*: in *SV*, both "S" and "not S" refer to the world at a given time. The sentence as a whole conveys that the day perceived in the world of that time is a festive day: it could have been, e.g., a normal working day, i.e. a different day, but only a single day is involved. This roughly corresponds to *The victim was a woman* in the reading that a single victim may be a man or a woman at a given time.³⁶ In contrast, the horses example follows the (fixed) horses through time: first they were not harnessed, now they are (cf. *The victim was a woman* in the sex-changing reading).

A type of predicative sentence which may involve more than a single apref of the meaning of the subject is the type mentioned in VI.3 and VI.6: as an answer to the remark *I am looking for a*

chair, one can say *tam stul* (Over there is a chair), implying that the chair over there is one among other chairs, the other chairs being elsewhere at the same time. Although this type of sentence may be questionable with a verb instead of *tam* (the Russian sentence does not contain a verb), I do not think it is excluded with verbs. At any rate, it is the meaning of the order of the words which is responsible for the fact that more than a single chair may be involved (because the world being projected is, also in this case, restricted to that of a single time), and the predicate (verb or otherwise) does not introduce a projection of one chair among others, it refers to a property of a chair (which may be one among others). The specification aspect characteristic of forward links can be arrived at only with the arrangement *stul tam* (The chair over there), but with a forward link this sentence is not a predicative sentence, and a forward link is excluded with a verb instead of *tam*.

On the other hand, there are forward links which involve only a single entity. While in the example *He loves the girl of the morning* the difference between more than a single entity and a single entity is entirely a matter of interpretation, the meaning of the sentence conveying only that more than a single apref "girl" is perceived, the same distinction may well be encoded in the form elsewhere, retaining nevertheless a forward type of link.

Consider, for example, Russian postposed attributive adjectives. They may agree with the preceding noun, but they can also take the instrumental case irrespective of the case of the noun. For example, a story by Čechov bears the title *Volodja bol'soj i Volodja malen'kij* (Volodja major and Volodja minor, nominative case throughout). The agreeing adjectives ensure that two Volodja's (two persons) are being referred to; the splitting procedure results in different projections of different entities. When we put the adjectives in the instrumental case, *Volodja bol'sim i Volodja malen'kim* (Volodja big and Volodja small) most obviously a single entity is involved; it is split into a number of apref's "Volodja". The fact that only a single entity is (may be) perceived is a consequence of the inherent meaning of the

instrumental case, which (here) refers to an entity at some moment of its existence. As far as concatenation is involved, the examples are identical: in both cases a forward type of link between the noun and the adjective, with the usual splitting of "Volodja", the accent focusing attention on one apref "Volodja" among others. The fact that these apref's "Volodja" are different entities when the adjective is in the nominative, and (most obviously) a single entity when the instrumental case is chosen, has nothing to do with the type of link: it is brought about by the inherent meaning of the case forms. The forward link only ensures that, even when a single Volodja is involved, he is perceived as a number of referents, although we know at the same time (by virtue of the instrumental) that there is (may be) only a single entity in reality. It will be no surprise that an adjective in the instrumental case (non-agreeing) cannot precede the noun.

English postposed attributive adjectives have a somewhat mixed character on this point. They clearly involve the splitting procedure, but it is not always clear whether the splitting results in different projections of different entities or in different projections of a single entity at different moments of its existence. Sometimes it is both: *The members présent* (Bolinger 1965: 293 (originally 1952)) conveys that the members meant are the members who are present and not the other members who are absent at the same time, but also that the members who are present now may be absent at other moments. *John présent* has only the latter aspect, which must at least partially be ascribed to the absence of an article, since *The John présent* has both aspects, in contrast to a hypothetical *John the Présent*, where only different Johns are perceived. This mixed picture might be the outcome of two tendencies (a diachronic investigation would be necessary to elucidate this point). On the one hand, a forward link between a noun and an adjective involves the splitting procedure, which in the simplest case results in different projections of different entities. But on the other hand, the position of an element in the sentence is relevant to the issue of how many moments are involved. This will be discussed in chapter XII. In accordance with the latter factor,

the sentence *The présent members* only projects members who at some fixed time are either the present members or the former members or the future members; these are thus different persons or a single person perceived as a number of referents (cf. *The présent John*, as compared with the John of ten years ago). If we want the accent on the adjective but without this fixed time, the only way out is to postpone the adjective, which then results in a meaning combining two factors.

Summarizing:

1. A forward link between "x" and "y" always involves a splitting procedure, introducing more than a single apref "x", accented "y" specifying which apref "x" is being referred to. The splitting procedure itself does not decide the issue of whether the apref's "x" are different entities (*Volodja bol'sěj, John the Présent*), a single entity at different moments of its existence (*Volodja bol'sim, John présent*), both *The John présent*), or undecided (*Volodja bol'sim?, He loves the girl of the mórning*).
2. If "x" is linked forwards to "y", "xy" cannot be a projection of time unless "x" is a verb. Consequently, if "y" inherently refers to time by containing or being a conjugated verb, the combination "xy" necessarily has a backward link, involving only a single apref "x"; in this case, accented "y" may, but need not, specify which entity apref "x" is the one contained in the time referred to (*The victim was a wóman*).
3. If "y" does not refer to time inherently, the combination "xy" may have a forward or a backward link; if it has a forward link, the combination refers to time only if "x" is a verb; if it has a backward link, the combination may, but need not, refer to time (*Stoi v kómnate, On uvidel stoi v kómnate*).

10. Most sentences contain more than a single accent. The last accented form always occupies two horizontal levels of a scheme, i.e. the accent always negates a non-concurrent negation. If it did not, the sentence would not contain any "new" information, i.e. it would not be a development of a subframe in memory, or a new subframe. The interpretation of accents preceding the last

one depends on the question of whether a forward or a backward link is involved, and, within both groups, on the question of whether the negations of the elements not bearing the last accent remain available during the processing of the sentence or are simply forgotten during this time.

The distinctions introduced by the possible answers to the latter question are, as far as I can see, interpretational rather than semantic; the borderlines are not discrete. In all cases, however, the interpretation seems to be governed by what may be called a "two-moments" restriction. This is probably a restriction on the span of short-term memory to the effect that this span does not embrace more than two moments of projection time (two horizontal levels of the schemes).

Tentatively, the following possibilities may be mentioned.

1. In a backward linking scheme, the negation of "x" in §9 may either shift to a concurrent negation in the way described in IX.3 or be excluded from the span of short-term memory at the moment when $\dot{y}$ is added. Thus, a backward linking scheme is basically:

In this scheme, accented $\dot{y}$ occupies two horizontal levels. The third level, that of "not x", can be eliminated in two ways. Either the accent on x is reinterpreted as a negation of a concurrent negation:

or "not x" is simply forgotten, in the sense: "removed from short-term memory".

This provision must be made in the first place for long, complicated sentences. Although the literature on FSP tends to leave such sentences out of consideration, an adequate treat-

ment of information structure must be able to analyze running speech rather than constructed simplifications like *The flower is beautiful*. We will then have to recognize that not every sentence can be neatly divided into a "theme" part and a "rheme" part, because it is not always clear whether a given element is converted into a "theme" by the next accent (cf. Zolotova's opinion mentioned in I.4). I think that the indeterminacy is created by the two possibilities mentioned above.

These two possibilities can also be observed in relatively simple sentences, for example in the distinction between what Gussenhoven (1983(a): 392-395, 403-406) calls "topicalization" and "non-eventive sentences": *Doris had left* versus *Thieves will be prosecuted* (ibid.). The latter example clearly has a conditional flavour: "if there are thieves (not not thieves), they will be prosecuted (not not prosecuted)". Such a paraphrase is hardly possible for the former example; more obviously, Doris is selected from among others present "on the scene". The Doris-example would in my terminology be a negation of a concurrent negation, the thieves-example would be a case of separately introducing the thieves (by negating their absence), i.e. a non-concurrent negation which does not link up with an element in the remainder of the sentence. I do not think the borderline is discrete, the interpretation depending on the lexical meanings involved and the context.

We will see in chapter XII (XII.5) that the accent on *prosecuted* is responsible for the fact that the sentence may have the "conditional" flavour indicated: if no further accent follows to the right, as in *Thieves will be prosecuted*, the accent on *thieves* cannot be interpreted in this way.

In a forward linking scheme, three possibilities of restricting a complex projection to two moments of projection time come to mind; the borderlines are not discrete. Starting from the basic scheme:

the depth of the combination can be reduced by A. choosing as the last accent a merely falling type of accent (early fall, low fall), retaining for the accent on *x* a negation of a non-concurrent negation (but see chapter XII); B. reinterpreting the accent on *x* as a negation of a concurrent negation; C. separately processing *x*, to the effect that "not *x*" on the one hand, and "y" and "not y" on the other, belong to different chunks of information.

A. A merely falling type of accent has a meaning saying that the absence of the referent involved has already been excluded earlier, although the accent, being an accent, conveys that a projection of the absence is negated at the moment of speaking. Examples have been discussed in Keijsper (1984: 26-28, 33). It is the closest intonational approximation to "old" information for last accents. We find it in sentences like *She drank three bottles of wine*, or *He knows everything about it*. By choosing as the last accent a merely falling type and almost swallowing it, the information conveyed by the element bearing the preceding accent can be made into the most important information contained in the sentence. Nevertheless, the last accent cannot be left out without arriving at a very different message: in *She drank three bottles of wine* and *He knows everything about it*, the projections "drank bottles of wine" and "knows about it" are not introduced (by negating their negations), they are interpreted to "come from the context" since the corresponding forms do not fall inside the scope of the accents on *three* and *everything*, respectively. In order to avoid such an interpretation, *wine* and *about* have to be accented, but these accents can be made "less important" than the preceding one (subjectively) by choosing a merely falling type of last accent. The sentences then introduce two projections: "drank (bottles of) wine" and "three", and "knows about (it)" and "everything". The element "bottles" is simultaneously the second element of "three bottles" (here it does not fall inside the scope of the accent) and the first element of "bottles of wine" (here it does); a prosodic boundary (if any) comes after *bottles*.

B. Non-last accents in a forward linking scheme may be rein-

terpreted as negations of concurrent negations under the influence of the last accent:

For example, in *He writes books but he reads comic strips*, "writes" and "reads" are simultaneously available projections of various activities. This sentence involves a type of inference to be discussed in XI.8. In such cases it is not always possible to decide whether the first element and its negation are processed separately or included in the chunk negated by the last accent. The scheme given above is for the second possibility; the notation for the first possibility would lower "not x" and "x" by one horizontal level.

C. Probably the most important strategy in running speech consists in separately processing the first element of a forward linking scheme, so that the negation of this element does not belong to the chunk with the forward linking scheme. An example of this has been mentioned in section 5: *He had plans for dinner*, with the scheme:

The necessity of such a strategy is clear in long chains of forward concatenations, e.g. *He saw the flower under the tree in the garden of the monastery*. The reading of this string answering the question: Where did he see the flower?, has a scheme in which the part following *flower* is linked backwards to " (He) saw the flower"; the string also has a reading in which everything except "He" is linked forwards (cf. What did he do?). If the parts of the complex projection had to be kept in memory until the last accent, the sentence would have a depth of five moments of projection time (five horizontal levels):

This is clearly not the way we process the sentence. Instead, we divide it into a number of chunks, in such a way that a final element of a chunk is resumed as the first element of the next chunk, leaving behind its negation and a copy (see section 5): (He saw the flower) (the flower under the tree) (the tree in the garden) (the garden of the monastery). This restricts the depth of every chunk to two moments of projection time. As indicated in section 5 for the plans/clams example, the difference with a backward linking scheme is that in the latter case the final element of a chunk is not resumed in the next one. Thus, the reading of the string answering the question: Where did he see the flower? would be: (He saw the flower) (under the tree) (the tree in the garden) (the garden of the monastery).

The location of prosodic boundaries directly reflects, in my view, how complex sentences are processed. This location indicates that a chunk ends with a head, not a modifier (unless an embedded chunk follows - see below). For example, (He saw the beautiful) (beautiful flower) (...) is impossible, which can be concluded from the fact that a prosodic boundary following *beautiful* is incoherent.

In what is called a nonrestrictive clause a chunk is, as it were, repeated in other words (the two chunks refer to the same thing, and the second does not involve a splitting of the first). For example: *He saw the flower, which is under the tree, in the garden of the monastery*. This may be represented as:

Such an embedded chunk may also occur in between a modifier and

a head, e.g. *He saw the beautiful, I mean the most beautiful, flower under ...*. Here, a prosodic boundary following *beautiful* is coherent. In an embedded chunk, a prosodic boundary signals the end of the entire embedded chunk, not of a separately processed part of it, unless the next chunk is also an embedded chunk. Consider, for example (omitting the commas present in writing): *He saw the flower which is under the tree in the garden of the monastery early in the morning*. In order to arrive at the interpretation saying that *which ... monastery* is a single embedded chunk, this part must be spoken without prosodic boundaries. If prosodic boundaries follow *flower* and *tree*, the sentence is divided into either: (He saw the flower) (which is under the tree-embedded) (in the garden of the monastery-embedded) (early in the morning); or: (He saw the flower) (which is under the tree-embedded) (in the garden of the monastery) (early in the morning). The latter is incoherent, unless (early in the morning) is a separate sentence, because it puts (in the garden of the monastery) in the moment of projection time in which, as appears further on, (early in the morning) has to be placed. That is, the sentence answers the question: Where did he see the flower (which is under the tree)? by: (in the garden of the monastery), but further on it becomes clear that the sentence in reality answers the question: When did he see the flower (which is under the tree, in the garden of the monastery)? For more examples of this see Keijsper (1984: 114-122).³⁷

The fact that sentences may be processed in smaller or larger chunks, and that negations of chunks may stop being relevant as the sentence proceeds, ensures that non-last accents often seem rather uninformative. For example, the difference between *Umer Ivan* and *Umer Ivan* (John died, ^(~)VS) may be confined to the difference between two chunks in the former case and one chunk in the latter:

"umer"	"Ivan"		"umer"	"Ivan"
	"not Ivan"	versus		"not Ivan"
"not umer"				
chunk 1	chunk 2		chunk 1	

The sentence with two accents then conveys separately first, that somebody died (negating a projection of the absence of an apref "umer") and secondly, that the person involved is John (specifying which apref "umer" is meant). The sentence with one accent leaves out the first step. Since *umer* is in both cases included in the scope of the accent on *Ivan* (but only the apref "umer" meant), the difference may go almost unnoticed; in this particular example, an accent on the verb affects, moreover, the first syllable of the sentence, and in that case the opposition between the presence and absence of an accent may be neutralized altogether (depending on the type of accent on *ivan*).

However, accents which go almost unnoticed in some contexts can be highly relevant in others. As an example, consider the following sentences (cf. Gussenhoven 1983(b): 67):

He has a peaceful life: he wakes up in the morning, goes to his department, teaches linguistics, reads a book, ...
He has a peaceful life: he wakes up in the morning, goes to his department, teaches linguistics, reads a book, ...
Does he teach literature? No, he teaches linguistics.
Does he teach literature? No, he teaches linguistics.
Whatever she thinks he teaches, he teaches linguistics.
Whatever she thinks he teaches, he teaches linguistics.

In all cases, a semantic distinction exists between *He teaches linguistics* and *He teaches linguistics*, which does not exclude the possibility that in some contexts both may be coherent (so that untrained judges may be unable to explain or even observe the difference). The accent on *teaches* negates the absence of teaching (taking, for simplicity's sake, assertive types of accent), the accent on *linguistics* negates the absence of teaching linguistics among other things he does. The exact interpretation of this information depends on the context. In the first sentence given above the accent on *teaches* conveys the same information as the accent in *He teaches linguistics* following e.g. *Why doesn't he teach linguistics?*; but an additional accent on *linguistics*, as in *He teaches linguistics*, makes the teaching of linguistics one among other things he does. If there is no ac-

cent on *teaches*, the separate negation of "not-teaches linguistics" is absent.

As an answer to Does he teach literature?, the sentence *Nó, he teaches linguistics* receives obviously a narrow scope interpretation. An additional accent on *teaches* leads in these circumstances to an inference (involving a concurrent negation of "teaches" - see XI.8): "if you are interested in his teaching you must choose "linguistics", but if you select some other activity, e.g. "writes about", you may combine it with the "literature" which you mistakenly combine with "teaches"". This additional information is absent if *teaches* is unaccented.

Following *Whatever she thinks he teaches*, the sentence *He teaches linguistics* is even somewhat incoherent, because the context makes the following message more appropriate: "since her thought is wrong, you may think that an apref "teaches" is in reality absent ("not teaches"); it is, however, not absent ("not not teaches"); what is wrong in her thought is that she combines "teaches" with e.g. "literature", while it should be combined with "linguistics", so if she thinks "literature", you may combine it with "not teaches"". This message can only be conveyed by *He téaches linguistics*.

II. Although the forward and backward linking schemes, of which some examples have been discussed in the foregoing, are the most frequent ones, yet a third type exists, basically:

This parallel linking scheme is found in negative sentences. Consider, for example, the well-known sentence *He doesn't beat his wife because he loves her*. This string has two readings, one of which can be paraphrased as: Because he loves her, he doesn't beat his wife; the other as: It isn't because he loves her that he beats his wife. The former reading results from a backward link between the two sentence-parts, the latter from a parallel link. With a backward link, the accentuation *he*

doesn't beat his wife because he loves her is more obvious, and there may be a prosodic boundary between *wife* and *because*. With the appropriate type of accents, the sentence with the backward link conveys that he does not beat his wife, and that the reason for the not-beating is his love. In other words, both "because he loves her" and its negation link up with "he doesn't beat his wife": the accent on *loves* negates in effect a projection of the absence of the reason apref "because he loves her" among other projections of reasons which the not-beating might have. At the moment when the possible reasons enter the picture, the negation of "he doesn't beat his wife", i.e. roughly "he beats his wife", already belongs to the past, the reasons being reasons for the not-beating.

With the parallel linking scheme, the negation of "he doesn't beat his wife", i.e. roughly "he beats his wife" is not relegated to the past by the accent on the second part of the sentence; it remains available as an alternative projection of the state of affairs referred to, and it links up inferentially with the negation of the second part of the sentence: he may beat his wife, but if he does so the reason for it is not his presumed love.

As an example of the difference between the forward and the parallel linking schemes, consider Russian *Éto speciál'no ne izučálos'* (Lit. That especially not was-studied). With an assertive type of last accent, the string conveys either that it was not studied, and that the not-studying was done especially (cf. on purpose), or that, if it was studied, it was done not especially (cf. superficially). The former has a forward link, the latter a parallel link. With a forward link, i.e.

both "x" ("special'no") and "not x" ("not special'no") link up with "y" ("ne izučalos'"), while "not y" ("izučalos'") has no relation to "x" and "not x": the issue of whether or not the not-studying was done especially is raised only given the fact

that it was not studied.

With the parallel scheme, "x" ("special'no") links up with "y" ("ne izučalos"), and "not x" ("not special'no") with "not y" ("izučalos"), both combinations "xy" and "not x not y" being projections of the state of affairs referred to.

In the next chapter, I shall discuss the parallel scheme, some important types of inference, and quantifier-type meanings. Since a detailed discussion of negative sentences could fill another book it cannot be undertaken here. In the next chapter it will be assumed throughout that e.g. *doesn't beat* has no internal structure, so that the differences between *doesn't beat*, *does not beat*, *doesn't beat*, *doesn't beat*, etc., are excluded from the discussion. Moreover, I shall assume, as I have done in the examples given above, that e.g. "beats" is the negation of "doesn't beat" and vice versa, so that, if "x" is "doesn't beat", "not x" is "beats". In XI.10 I shall indicate why this assumption is inadequate on closer inspection. Finally, I shall use assertive types of accent.

XI. PART-WHOLE ORGANIZATIONS AND INFERENCES

1. In order to reintroduce the phenomenon of non-coinciding projections, I return for a moment to the story of the boy, his mother and the flower (IX.1). The boy points at something he sees, and his mother identifies that thing as an *apref* "flower" by uttering the sentence *A flōwer*. Since the perception of the entity precedes the uttering of the sentence, the accent in *A flōwer* can no longer affect the perception of the entity. I used the following notation for these relationships (IX.2):

In X.1 it was suggested that this is an example of a part-whole organization. Representing the resulting picture as a rectangle:

We can say that in this case the negation of "flower" does not project the absence of the entire rectangle (the empty page) but only of a part of the rectangle:

What remains is the entity without its identifying property, the property that it is an *apref* of the meaning "flower".

Later on in chapter IX we discussed the sentence *The flower is beautiful*, with the representation (leaving out the reinterpretation of the first accent):

Although the two cases are applications of the same principle, i.e. that projections and their negations are ordered in projection time, they are not identical. In the story of the boy, the projection of entity *A* and "flower" can be distinguished only because they belong to different moments of projection time. In other contextual circumstances, the accent in the same sentence *A flower* may be interpreted as negating a projection of the absence of the entire entity, including its property of being an *apref* "flower" (IX.2). In the latter case the two pairs of projections coincide pairwise:

In terms of the pictures, this is the perception of the rectangle as a single indivisible thing, so that "not flower" projects the absence of the entire rectangle (the empty page). Thus, the coincidence of the two pairs of projections eliminates a whole (see the pictures in X.1).

The sentence *The flower is beautiful* is a different case. Here, we cannot arrive at an organization:

The projection of the flower and the projection of its beauty inherently belong to different moments. We can arrive at an organization in which "flower" and "beautiful" belong to the same moment

of projection time, namely by not accenting *beautiful*:

Here, "beautiful" concurs with "flower", but they do not coincide. In terms of the pictures, the sentence is a ground - figure organization, a rectangle with a circle on top of it: although the two components of the picture can be placed on the page simultaneously (*The flower is beautiful*), the removal of the circle (*The flower is beautiful*) cannot affect the rectangle.

The difference between the two applications of the time principle will become clear if one realizes that the projection *per se* of the property referred to by "beautiful", and "beautiful" itself, can be made to belong to different moments of projection time, namely by thinking of the flower with some unidentified property and then identifying this property as an *apref* "beautiful". This would be:

Here, the referent of "beautiful" is construed as a part of the property /x/, the latter being a figure with respect to the flower (which, in its turn, is a figure with respect to space).

An example illustrating three different uses of a meaning is the following. Imagine that you see a man torturing a dog. You say: *The butcher*, meaning not that the man is your butcher but that he has properties (thought to be) characteristic of a butcher; the noun is used as an epithet. Note that *butcher* is accented here. We would not say, referring to the same scene: *Look, somebody is torturing a dog, I'd like to strangle the butcher* (Ladd 1980: 65). In order to be interpretable as an epithet, the noun must in this case be unaccented: *I'd like to strangle the butcher*. Likewise, *The butcher is torturing a dog* does not allow an

epithet interpretation, as far as *butcher* is involved. Note that this holds true for both the broad and narrow scope interpretation of the accent (cf. What is happening and Who is torturing a dog, respectively).

The sentence *The butcher* can be understood in three ways. It may focus attention on an entity; in that case the projection of the entity and "butcher" coincide, and the accent has broad scope (cf. *Look, the butcher is coming*). Secondly, the sentence may be used to identify a given entity ("The entity you are thinking of is the butcher"); the projections of the entity and "butcher" then do not coincide, the referent of "butcher" is construed as a part of the entity, and the accent has narrow scope ("The one who is coming is the butcher"); "not butcher" projects the absence of the identifying property. Thirdly, in its epithet application, "butcher" projects a property construed as a figure with respect to the entity (so that the projection of the entity precedes inherently), i.e. "not butcher" projects the absence of the property, but without affecting the identity of the entity. Just like the adjective in *The flower is beautiful*, "butcher" in its epithet application can be made to concur with the projection of the entity, namely by not accenting it, but "butcher" and the projection of the entity do not then coincide. This is what happens in *I'd like to strangle the butcher*. The concurrence of the projection of the entity and "butcher", which is what the absence of an accent brings about here, is sufficient to make the remainder of the sentence apply to the entity rather than to its property. Note that *butcher*, although unaccented, may be "new" information: the projection "coming from the context" is the projection of the entity, the epithet itself may be applied newly (but, of course, since "butcher" concurs with the projection of the entity, we have the impression that the epithet was implied in the context).

In *I'd like to strangle the butcher* and *The butcher is torturing a dog*, an epithet interpretation is excluded, because the other meanings in the sentence make it necessary that "butcher" refers to something on the level of what we think of as an entity (whether or not the projections involved coincide); otherwise, we would be strangling a property of an entity, i.e. the sentence

would convey that the strangled property of the entity is the property *apref* "butcher" (and not e.g. some other property of the same entity); this is incoherent.

With non-last accents, the borderlines are less clear-cut. According to Ladd (1980: 65), *The butcher charged me a thousand bucks* excludes an epithet reading when on *butcher* a rising & falling type of accent is used (with Ladd: A accent), but allows it with a merely rising type of accent (B₁). If this is correct,³⁸ it has to be viewed as a consequence of the fact that the first part of the sentence first behaves like *The butcher* alone (see IX.3) (where an epithet reading is possible anyway), in combination with the meaning of the merely rising type of accent, which excludes an interpretation that the absence of the thing referred to is negated (see IX.6).

Sentences like *He is beating about the bush* have an epithet reading as a whole. Internally, the projections are organized in the same way as in the literal application, but the combination as a whole refers to a property of a state of affairs, the property being construed as a figure with respect to the state of affairs, i.e. the negation of the projection projects a fully identified state of affairs without the property referred to by the sentence. In the literal readings, the sentence negates either a projection of the absence of the state of affairs involved (coinciding projections) or a projection of the absence of the identifying property of the state of affairs, the property that the state of affairs is an *apref* of the meaning of the sentence (non-coinciding projections, part-whole organization).

2. The difference between coinciding and non-coinciding projections is a difference of attention: when the accent in *A flower* negates a projection of the absence of the entity concerned (coinciding projections), the sentence focuses attention on the entity; when the accent negates a projection of the absence of the property *apref* "flower" (non-coinciding projections), attention has already been focused on the entity (is interpreted as having already been focused); in the latter case the span of attention is not narrowed further to the property

(in fact, if this happens, the property becomes a separate figure). The difference of attention results in a different scope of the accent in the two cases. This is so because the absence of an accent on some *x* instructs us not to include referents of "not *x*" in the span of attention, the projection of which referents would have to be negated by putting an accent on *x* (see IX.11). So far, we have met with two possibilities of obeying this instruction. First, consider *John died*. When the accent on *John* negates a projection of the absence of the entity, i.e. focuses attention on the entity, this entity defines the span of attention for "died" linked backwards to the projection of the entity. For unaccented *died* we kept out a potential referent "not died" by adding "died" to "John" in the same moment of projection time:

In other words, we do not think of John without his property of having died.

Secondly, in *John died* we cannot add "John" to "died" in the same moment of projection time, because it is obligatory to link "died" backwards to "John" (X.8). We then keep referents of "not John" out by not thinking of persons other than John (IX.5). We now have to add a third case. When in *John died* the span of attention has already been narrowed to the entity involved, we have to interpret the sentence in this given span of attention. We do so, for *John*, by thinking of the entity without the property of being an apref "John" (so that we have an apref "not John"), and, for *died*, by not thinking of the entity without the property of having died (so that there is no apref "not died"). In other words, we make "died" concur with the projection of the entity:

To be sure, in the other interpretation of the sentence, "died" also concurs with the projection of the entity, but the latter then coincides with "John", so that "died" concurs with "John":

The effect of this is that in the interpretation with non-coinciding projections "died" is understood to "come from the context" (and vice versa), while in the interpretation with coinciding projections "died" is just as "new" as "John". In terms of the pictures of X.1 this says that the ground for the referent of "died" is either the whole of which "John" projects a part (non-coinciding projections) or the referent of "John" itself (coinciding projections):

At various places in the foregoing it has been mentioned that the number of entities involved is not specified. In the non-coinciding case we have therefore two possibilities: either John is the only entity pictured as having died ("John" refers to the property /apref "John"/ construed as a part of the entity), or John is one among other entities pictured as having died ("John" refers to an apref "John" construed as a part of a whole of entities). In terms of the pictures this says that the size of the whole is not specified:

As shown by the schemes given above, the non-coincidence of the projections concerning the accented element has the effect of "lowering" by one horizontal level the projections corresponding to the unaccented elements. Thus, when we start with the full backward linking scheme:

and leave out the accent on *y*, we first arrive at:

Next, we can lower "y" further by disconnecting "x" and the non-linguistic perception of its referent (by making these into non-coinciding projections):

For example, starting from *John died*, the accent in *John died* includes *died* in its scope (coinciding projections, concurrent "x" and "y"). The accent need not include *died* in its scope, however; it does not include it when "John" does not coincide with the projection of the entity involved (and the other way round).

It will be clear that we can arrive at the same vertical order of "x" and "y" in a different way, namely by starting from a forward linking scheme:

and leaving out the accent on *y*:

For example: from *Peter's book* to *Peter's book*.

The difference is that, when the result is obtained starting from the backward linking scheme, the sentence involved cannot be interpreted in such a way that the accent in *xg* includes *x* in its scope, while this is possible when we start from a forward linking scheme. Thus, while *John died* may have a broad scope interpretation but need not have it, we cannot interpret the sentence in such a way that the accent in *John died* includes *John* in its scope.

The same holds true if we start from the forward linking scheme (*Peter's book*):

We first obtain, for *Peter's book*:

This is the broad scope interpretation. Next, we lower "x" further by disconnecting "book" and the non-linguistic perception of its referent:

Here, the scope of the accent is the same as in *xg* with a backward link, although the combination has a forward link. However, if we add "not x":

the result is a backward linking scheme, so that an accent on *x* includes unaccented *y* in its scope.

The latter is what happens when we reinterpret the construction

Piet's book (Peter's book) as *Piet z'n boek* (Pêter his book) (see X.6). It is a creation of a new sentence type, with an organization which can no longer be regarded as an interpretational variant of the organization of *Piet's book*.³⁹

From the discussion up to now it could be concluded that non-coinciding projections are possible only for last accents. This is indeed generally the case. However, in at least some negative sentences we may, starting from either

with non-coinciding "x", or from

with non-coinciding "y", add a second accent. The result is a configuration in which "x" concurs with "y", and "not x" with "not y", and where the combination "not x not y" does not project the absence of the state of affairs concerned:

These are sentences of the type *He doesn't beat his wife because he loves her*, in the sense "if he beats his wife he does so for some reason other than because he loves her" ("x" = "doesn't beat"), and *Êto speciál'no no izučálos'*, in the sense "if it was studied then not especially" ("y" = "ne izučálos'") (see X.11).

I have called this the parallel linking scheme. We will see further on in this chapter that it also occurs with coinciding projections (see section 10).

The phenomenon of non-coinciding projections can be found both on the interpretational and on the semantic level. In the examples discussed so far it is purely interpretational. It is semantic in some examples to be discussed below, where lexical meanings are used which ensure that the sentences in question can hardly be interpreted with coinciding projections. I must say that the borderline between lexical meaning and interpretation on the sentential level is not clear, because some cases can be described either as interpretations of a single lexical meaning on the sentential level or as involving different lexical meanings (so that the words involved have to be regarded as homonyms). As a third possibility, one may opt for a description of lexical meanings which specifies which interpretation is preferred to a higher or lower degree. This descriptive problem will not be discussed; it seems to me that it is mainly a matter of taste.

3. The choice between an interpretation with coinciding projections and one with non-coinciding projections is influenced by a number of factors. In this section I shall discuss some examples of the *John died* type, i.e. where we have a choice between

and

In the first place, of course, the context may determine the choice. If somebody has just asked Who died?, the sentence *Jóhn died* will be interpreted as an answer to this question, "John" identifying the person having died (non-coinciding projections).

More interesting is the role of the inherent meanings of the words used, which, together with general knowledge, may tip the scales to one side or the other. The meanings of both the accented and unaccented elements are relevant. As to the latter, let us consider the sentence *Jóhn survived*, which, according to Schmerling (1976: 90), can hardly be interpreted as a sentence spoken out of the blue. The cause of this intuition is the fact that to survive means roughly "fail to die". This inherent meaning ensures that, at first sight, we expect that *survived* will be accented, because the accent then negates "not survived", i.e. roughly "died". This is the same sort of inherent negation which induces people to read *He lost his wallet* as *He lost his wállet* and *He lost the game* as *He lóst the game*, or *Ona vspomnila o koncerte* as *Ona vspomnila o koncérte* (She thought of the cóncert) and *Ona zabyla o koncerte* as *Ona zabýla o koncertu* (She forgót about the concert) (see X.8). In general, this concerns meanings of which the negation requires, in our "normal" picture of the world, another negation in order to eliminate the whole idea of the referent. Thus, for *He lost the game*: if he did lose the game he played it, so in order to remove the idea of a relation between him and the game the playing has also to be negated. In contrast, if he did not lose his wallet, there is no projection of a relation between him and his wallet; in that case he possesses, of course, his wallet, but this is the "normal" situation, so that we have no longer a projection about the issue (see IX.9). Words which have meanings of the former type, i.e. where two negations are necessary for arriving at the "normal" picture of the world without additional knowledge, are most obviously accented, because we normally use the meanings involved

in circumstances in which additional knowledge has already been added to the "normal" picture (when the first negation has already been negated). Thus, we are inclined to say *He lóst the game* because the string is normally used when the knowledge that he played the game has already been acquired. If words like *lost* here are unaccented we can do two things to accommodate the message conveyed thereby: either we conclude that the speaker has, for one reason or another, an "abnormal" picture of the world and we adopt his picture of the world, or we shift to non-coinciding projections for the accented form and retain our "normal" picture of the world. In either case we try to make sense of the meaning conveyed.

In application to dying and surviving this works out as follows. Our "normal" picture of the world is such that the presence of life is not projected. Therefore, *Jóhn died* is most obviously a sentence spoken out of the blue (coinciding projections); *John died* negates a preceding projection that John did not die, which preceding projection adds knowledge to our "normal" picture (see IX.9). The chain from the idea of survival to the "normal" picture consists of two negations: the absence of survival is (roughly) the presence of death, the absence of death is normally the presence of life, and the latter is not projected. Therefore, *John survived* is the most obvious accentuation of the string *John survived*: we use the meaning "to survive" in circumstances in which the presence of life has already been replaced by the idea of death. The accent on *survived* then replaces the projection of death ("not survived") by a projection of survival. When we are confronted with *Jóhn survived*, we have to keep out the projection "not survived" (roughly: "died") which is suggested by the inherent meaning of to survive, given our "normal" picture of the world, because the absence of an accent on *survived* instructs us not to introduce "not survived". In order to carry out the instruction we may then change our "normal" picture of the world, to the effect that, when people die, we have no projection of this fact. This would be the case in a world where people constantly die, for example during a nuclear war. In this case the accent on *John* includes *survived* in its scope (coinciding projections). Alternatively, we gather that the bomb has

not yet fallen, but that the speaker nevertheless says *John survived* because he is alluding to an earlier projection of somebody who survived: "you have a projection of someone (or more than one person) who survived; replace this projection by a projection in which this person is John (in which John is one among these persons)". The accent then does not include the verb in its scope (non-coinciding projections).

The accentuation of *John died* has exactly the same meaning as that of *John survived*, and the accentuation of *John died* has exactly the same meaning as that of *John survived*, but the interpretation of a meaning depends on the world in which we are living.

Turning now to an example of the influence of the meaning of the accented element on interpretation, consider the sentence *Who died?*. Independently of any context we take the sentence to convey that a thought of somebody's death has already occurred. This is because the meaning "who" resists the interpretation that the accent serves to focus attention on the entity (entities) involved. We may interpret the sentence in this way, but then we are talking, for example, about a Chinese called *Hu*. The sentence is not a question then (unless the intonation makes it a question). The meaning of the English word *who* conveys (roughly) that the identity of the entity referred to is to be established by adding other information, i.e. the meaning projects an entity carrying the property that it has not yet been identified. An accent on the word negates a projection of the absence of this property, i.e. it replaces a projection of a fully identified entity by a projection of the entity carrying the property that it has not yet been identified. Although the projection of the entity is supplied by "who" itself (by implication), the negation of "who" projects only the absence of the property, not the absence of the entity; the negation of the latter inherently precedes the negation of the former (there must be an entity before we can say that we do not know who it is). In *Who died*, "died" concurs with the projection of the entity, so that *died* is not included in the scope of the accent.

As to personal pronouns, accented third person pronouns are sometimes called "deictic" when the accent is not interpreted

as a "contrastive" accent. For example: *I cannot go with you because he is coming to dinner tonight* (accompanied by a pointing gesture). The accent focuses attention on the person involved; the pointing serves to make this person simultaneously an *apref* of the meaning "he" (otherwise, we would have to use e.g. a noun). Statements to the effect that the presence or absence of an accent on the pronoun is the consequence of the deictic or anaphoric character of the pronoun have to be reversed, because the pronoun has these interpretations as a consequence of the accentuation (there is only a single pronoun *he*, not a deictic pronoun *he* and an anaphoric pronoun *he*). For more examples see e.g. Bardovi-Harlig (1983).

With first and second person pronouns all kinds of tricks are possible to create the circumstances in which an accent on the pronouns has a broad scope interpretation. In such an interpretation the accent negates a projection of the absence of the entity involved (focuses attention on the entity). So the interpretation can be arrived at by introducing a context which makes it acceptable that there is a projection of the absence of the entity involved in somebody's mind at some moment. For example: *I had just fallen asleep when you phoned* (the person called "you" enters the consciousness of the person called "I" at the moment when the latter has fallen asleep); *You were having a confidential talk with your friend when suddenly I came in* (the person called "you" becomes aware of the presence of the person called "I" at the time of the conversation); *He opened the door of the garage and saw that I was sitting among the potatoes* (he did not know I was there). The meanings of the unaccented elements are also important because they have to make it acceptable that these elements are unaccented; otherwise, we shift to non-coinciding projections for this reason (see *John survived*). In the examples here, this amounts to making it acceptable that the sentences remain inside the world of the time introduced by the context (see chapter XII). There is no projection of the absence of the speaker and the hearer in the mind of the speaker at the moment of speaking.

4. The inherent meanings of words which are called "quantifiers" in logic-oriented semantics normally refer to parts of wholes. This makes them an interesting object of study because they raise the difference between coinciding and non-coinciding projections to a second level: on the first level we are confronted with the feature which makes us call the words quantifiers, and on the second level a projection of a part may, but need not, coincide with the non-linguistic projection of the quantity involved.

Suppose we have bought a pie:

We cut it into pieces:

and put the pieces at a little distance from each other:

What makes us think that these objects are pieces of a pie is a projection of the pie. If we do not know that there was a pie, the objects are not parts of a whole but separate things. The perception of the picture as representing pieces of a pie is the idea that two negations are needed in order to arrive from one of the objects to space: the removal of a part of the pie leaves us with the remainder of the pie, and only the removal of the remainder of the pie brings us to the empty page. Basically:

"part" ↑
 "whole minus part" "not part"
 "not whole"

The perception of the same picture as representing a number of unrelated things is the idea that one step is enough to arrive at the page: there is no projection which keeps together the objects as pieces of a pie (the two levels coincide, there is no whole).

Since we have started with cutting up the pie into identical parts we may take this case first. We find it in e.g. *John is reading something*. The absence of an accent on *something* conveys that no projection of the absence of an apref "something" is being negated. We form a picture corresponding to this instruction by dividing the whole of all existing and imaginable things into identical parts apref "something", so that an apref "something" cannot be absent. The projection of the whole upon which we perform this operation is supplied by "something" itself, therefore we have the impression that we need no context for the interpretation of the sentence (leaving aside "John"). Compare:

How is your thesis going?

Well, I have just written a chapter.

Here we do essentially the same: we imagine the thesis as consisting entirely of chapters, so that a chapter cannot be absent. But in this example it is the context which supplies the thesis which can be divided in this way. There exist, of course, things other than chapters, but by thinking of the thesis we exclude them from the span of attention.

We may, of course, also say: *Well, I have just written a chapter*, but then we are imagining the thesis as consisting of heterogeneous things, so that we can focus attention on a chapter among the other things. The latter is more obvious with a different word, for example:

How is your thesis going?

Well, I have just written the introduction.

Here also, the context ensures that we relate the introduction

to the thesis. The relevant point is that we look for an environment where the introduction can be absent, so that the accent can negate a projection of this absence.

Note that an apref "chapter" and an apref "introduction" are construed as separate things, as what we think of as entities. Although the example illustrates the relevant mental operation, the technical sense in which I am using the notion "part" does not include *chapter* and *introduction* as used in the example.

Dutch has a class of words which illustrates in pure form the difference between a figure-ground and a part-whole organization on the lexical level: *bordje* ((small) plate), *glasje* (glass), *hapje* (bite), *kopje* (cup), *schoteltje* (saucer), *stukje* (piece), and so forth. The words (often used with a diminutive suffix) refer either to an object called by the name involved or to a quantity. For example, *Hij nam een kopje/Hij nam een kopje* (He took a cup) conveys either that he took, for example, a cup from the cupboard in order to pour himself a cup of coffee, or that he poured himself a cup of coffee, i.e. that he took from the coffee a quantity which fills a cup. In the former case *kopje* is most obviously accented, the accent negating a projection of the absence of a cup among other projections of things in the cupboard (unaccented *kopje* creates the same idea as that in *I have just written a chapter*). In the quantity-sense *kopje* is most obviously unaccented, the absence of an accent instructing us to imagine the coffee as consisting of identical parts (an accent on *kopje* here introduces non-identical parts, see below). The things in the cupboard are perceived as separate figures, with space as their ground: there is no projection which keeps the things together as parts of a larger whole, and their relation to space is such that the removal of e.g. a cup does not leave behind a gap in space, it does not affect space. In the quantity-sense, the referent of "kopje" is a part with (here) the coffee as the whole: the removal of a cup takes away a part of the coffee, and the cup is related to space indirectly, via the coffee which is a figure in space. This difference, which is an organization imposed upon the world by language, is responsible for our intuitive idea about what is the most obvious accentuation in the two cases.

A comparable English example is the following: *I gave my horse a bit to chew* versus *I gave my horse a bit to chew* (e.g. Rnkvist 1980: 147). As we saw in X.5, the accents in such sentences have the broadest possible scope if "a bit" is linked forwards to "to chew" in the first case, and "to chew" backwards to "a bit" in the second case, i.e.

The forward type is a part - whole/ground + figure configuration, the backward type a ground-figure configuration (in this order). Further, the word *bit* has incorporated two types of hierarchy into its lexical meanings: "bit_a" refers to a quantity (part-whole type), "bit_b" refers to a part of the harness (construed as a figure in space).

Both types of inherent meaning can on the sentential level be used as a part in a part - whole/ground + figure configuration (cf. *Something of John's, The wife of John*). The "bit" in the forward linking scheme given above can therefore be both "bit_a" and "bit_b". "Bit_a" is clearly preferred, because the organization on the sentential level conveys that there are bits to chew and other bits (splitting "bit"), and this idea deviates from what we regard as "normal" for a bit which is a part of the harness; but it is not impossible to imagine it in this way. The backward linking scheme as adduced, on the other hand, is incompatible with "bit_a", because if we take "bit_a", "to chew" projects a property of the whole of which "bit_a" projects a part (see sections 1-2 above), i.e.

In other words, the last accent in *I gave my horse a bit to chew* may include *to chew* in its scope when we take "bit_b", but not when we take "bit_a".

5. For your birthday party your wife has baked a pie:

The first guest arrives and eats some of the pie, leaving for the other guests the remainder:

The next guest takes the next piece, leaving:

And so on, until nothing is left.

We now make a picture of the pie as it is at different moments during the party:

This picture represents what I shall call the non-concurrent parts of the pie. Note that the pieces add up to more than a single pie: although every piece is (can be) a part of the pie, the parts together do not make up a whole. In this example, your wife has baked only a single pie. We can arrive at the same picture when we start with a number of pies, every guest eating a part of a different pie:

pie 1 guest 1 leaves:

pie 2 guest 2 leaves:

pie 3 guest 3 leaves:

pie 4 guest 4 leaves:

And so forth. The picture of the non-identical parts of different pies is the same as that of the non-identical parts of a single pie. In both cases I use the name non-concurrent parts. (The difference is needed for Russian *ves' tort* (The whole pie, opposed to other parts of the same pie) versus *Celyj tort* (A whole pie, opposed to other parts of other pies).)

Concurrent parts add up to the original whole:

Thus, concurrent parts are each other's complement.

In this picture, we see non-identical concurrent parts. In section 4, examples of identical concurrent parts have been discussed. The complement of an apref "everything" is an apref "nothing" and vice versa.

Abstracting from the number of pies we need for it in reality, a pie consists at every moment of its existence of concurrent parts, while we have to follow the pie through time in order to collect its non-concurrent parts.

To give an example with numbers, let us imagine five books:

We can divide the books in several ways. In the first place:

This illustrates the notion of concurrent parts (complements).
Alternatively:

These are non-concurrent parts, because they are samples from the same whole: we take one book from the shelf, put it back, then take two books, put them back, then take three books, and so forth. The books which we choose as an apref "three" may be, but need not be, the same books as those which function as an apref "two", plus one. The difference is irrelevant. In the same way as in the pie-example, the non-concurrent parts add up to more than the original whole: one book plus two books plus three

books plus four books plus five books makes fifteen books.

Oppositions involving non-concurrent parts are characteristic of the type of meaning under discussion.

Next, consider again the non-concurrent parts of a pie:

As indicated by the name non-concurrent parts, these parts do not exist at the same moment. More precisely, if these objects exist at the same moment, they are not parts of a whole but separate things, what we think of as entities. Therefore, if we focus attention on one of the things by negating a projection of its absence, the things are perceived as entities. Such a perception is possible, but its acceptability is low, except for negative quantifiers. For example, while *John's something* adduced in III.6 can hardly be called acceptable English,⁴⁰ and while I had to introduce my dog Everybody in order to maintain that *Everybody has escaped* has a broad scope interpretation (V.7), writers do sometimes make combinations like *An Empty Nothing*. The interpretation of *I saw nobody* where "nobody" refers to an entity apref "nobody", the accent negating a projection of the absence of this entity, clearly belongs to the competence of a language-user who is able to read Homer and Carroll.

The picture shows what happens in these cases: the referents of the meanings are perceived as independent entities. This happens necessarily in *John's something* and *An Empty Nothing* because these combinations have on the sentential level a figure-ground organization with a forward linking scheme (see X.3 ff.); it is the consequence of splitting the modifier over the referent of the head and one of the negations of the latter (cf. section 10 below).

What may be called the normal or most obvious use of the

meanings under discussion for last accents is the one we find in the following example.

At some moment during the pie-party you wonder if the pie your wife baked is big enough to feed all the guests. So you ask your wife how much of the pie has been eaten. She looks and says: *Nothing has been eaten*. Here, you have a projection of the pie as it is at that moment, viewed in abstraction from the part which is actually there, and your wife identifies the quantity you have in mind as an apref "nothing".

The accent in this example negates a projection of the absence of an apref "nothing" among projections of other parts of the pie, and all projections are projections of the pie as it is at a given moment. This interpretation involves non-coinciding projections; in the terminology introduced earlier, the given quantity is first pictured without the property of being an apref "nothing", and then with this property. This is the second level of non-coincidence mentioned at the beginning of section 4 above; we introduce a new whole (the pie at a given moment) in order to prevent projections of non-concurrent parts from becoming projections of separate things.

This is the normal interpretation of the meanings under discussion for last accents (see section 6); with non-last accents it involves the parallel linking scheme with two accents (see section 9).

Last accents on quantifier-like words do not normally involve concurrent parts; this is because we have a remainder of the pie only after we have eaten a part of it; otherwise, there is only the whole pie. So it is difficult to negate a projection of the absence of a part of the pie among (a) projection(s) of the remainder of the pie. Borderline-cases are probably all-quantifiers; a Dutch example will be mentioned in section 9.

Accents negating a concurrent negation may involve both concurrent and non-concurrent parts, the latter by virtue of the fact that we can have concurrent projections of things which in reality do not concur (see IX.7). Concurrent parts are often more obvious, but examples with non-concurrent parts can easily be found, especially with numbers (see section 8). Non-concurrent parts figuring in a backward linking scheme must be distin-

guished from the same parts in a parallel linking scheme: in the former case the projections coincide on the second level, while in the latter case they do not (see sections 8 and 9). Negative quantifiers involving concurrent parts will be discussed separately (section 10), because they already need the parallel linking scheme on a level where other quantifiers do not, which gives rise to an additional opposition. Russian *ni*-words, such as *nikto* (nobody) are also a special case (section 10).

6. The main things to be aware of while studying quantifier-like meanings is the functioning of what I call inferences. An inference is a conclusion about the truth or falsehood of something which is drawn on the basis of the conveyed truth of falsehood of something else. For example, if John and Bill are expected to arrive, the uttering of *John arrived* may lead to the conclusion that Bill did not arrive. This is not actually said, but it is a sensible guess as to why the speaker takes the trouble to inform us about John and not about Bill. Likewise, if we have five books, the sentence *Three of the books are blue* may lead to the conclusion that the remaining books, i.e. two books, are not blue.

In logic-oriented semantics it would be relevant to distinguish between things which are necessarily true or false when something else is true or false, and things of which the truth or falsehood is only not excluded by the truth of falsehood of something else. For example, if all the books are blue it is necessarily the case that the remaining books, i.e. none of the books, are not blue. But if three of the five books are blue, the remaining two books may be not blue, but they can be blue as well. Since this difference follows automatically from the lexical meanings of the words, it need not concern us here. Linguistically more important is the fact that the conclusions are arrived at in the same way, whether or not they are necessarily true. Therefore, I shall not make this distinction in the examples of the types of inference which follow below.

Three main types of inference will be discussed: for expository reasons I have split up the last one into three separate types (because of the complications with linking schemes and negations).

The first type of inference is for last accents. It is the interpretation which is often called a "contrastive" accent (see V.11 and IX.10).

If it is known that somebody is sick, the utterance *John is sick*, with an assertive type of accent (see IX.6), identifies the person involved: "the person you are thinking of is John". We have here a case of non-coinciding projections, the identification of a given entity, so that the accent has narrow scope (see IX.1-2 and XI.1-2). If there is the additional assumption that only a single person is sick, the uttering of the sentence may lead to the conclusion that the combination of 1. the projections among which a projection of the absence of an apref "John" is negated by the accent, and 2. the projection(s) expressed by the unaccented part of the sentence, is not true.

In general form, this type of sentence conveys:

"entity/quantity referred to" "x" is replaced by "y"
 "absence of entity/quantity referred to" "not x_1 " "not x_2 "

By replacing "not x_2 " (a projection of the absence of an apref "x", see IX.2 ff.) by "x", with the appropriate type of pitch accent, the sentence conveys the truth of the content of the box in:

conveyed to be true
 "x"
 "entity/quantity referred to" "not x_1 " "not x_2 " "y"
 "absence of entity/quantity referred to"

The inference is:

"x"
 "entity/quantity referred to" "not x_1 " "not x_2 " "y"
 "absence of entity/quantity referred to" inferred to be not true

First type of inference, last accents

Thus, in the example *John is sick*, "x" = "John", "not x_2 " is a projection of the sick entity without this entity having the property that it is John, "not x_1 " is, for example, "Bill", "y" = "is sick", so that the inference runs: "Bill is sick" is not true.

With quantifier-like meanings, "not x_1 " stands for projections of non-concurrent parts (non-coinciding projections on the second level - see the preceding section).

For example:

Three of the books are blue; inferences: "Five of the books are blue" is not true, "Only one of the books is blue" is not true, etc.

Nothing has been eaten; inferences: "Everything has been eaten" is not true, "Much has been eaten" is not true, etc.

The inference is also possible in negative sentences. For example, *John isn't sick* may lead to the inference: "Bill isn't sick" is not true. In this case the sentence spoken identifies the entity which is not sick ("y" = "isn't sick").

Likewise:

Many of the arrows didn't hit the target; inference: "All the arrows didn't hit the target" is not true, "None of the arrows didn't hit the target" is not true, etc.

All the men didn't go; inference: "Many of the men didn't go" is not true, "None of the men didn't go" is not true, etc.

In contrast to the second type of inference, to be discussed in the next section, the first type of inference does not involve a pitch-rise in the last syllable of the sentence.

When the "x" of the scheme is "not", "not x_1 " is the corresponding positive expression.

For example:

It is not true that John will leave tomorrow; inference: "It is true that John will leave tomorrow" is not true.

7. The first type of inference is a conclusion that something is not true. It is an inference involving only the last accent. When at least two accents participate in an inference, conclusions are conclusions that something is true. There is one case where a last accent leads to a conclusion that something is true. This is the second type of inference. It is based on the first type of inference plus the meaning of a non-prominence-lending pitch-rise in the last syllable (late rise). This rise does not exist in Russian. The second type of inference seems to occur only in negative sentences.

For example:

John isn't sick

The uttering of this sentence may lead to the inference: "Bill is sick" is true.

The inference consists of a number of steps. Most importantly, it is not derived from the sentence spoken but from a projection understood to be present in the preceding context (whether or not it has been put into words).

First, consider the same string without a rising fall:

John isn't sick

To this sentence the first type of inference applies: "Bill isn't sick" is not true (without final rise).

Secondly, the meaning of the final rise says (roughly) that a further thought is to follow in which the thought expressed by the sentence spoken plays a role. This meaning can be interpreted in a number of ways.

For example:

John isn't sick, and Bill is sober, it will be an awful party

Here, the thought announced by the final rise in the first part of the sentence is simply the next thought of the speaker himself. The second type of inference is absent then.

The interpretation of the final rise which is relevant to the second type of inference requires circumstances in which the hearer is supposed to believe that "John is sick" (with any accentuation) is true. By his utterance (with a final rise) the speaker conveys: "John isn't sick is true (type of pitch accent), and a further thought is to follow in which this information plays a role (final rise)". The hearer then starts arguing on the basis of his own projection "John is sick". The sentence spoken and his own projection cannot be both correct. The hearer believes the speaker, i.e. he accepts the truth of the sentence spoken. But he retains his own projection as far as possible, namely for the part "Some person is sick", i.e. he forms a projection which differs from his earlier one in the property that the identification of the person involved is absent. Since the sentence spoken allows the inference that "Bill isn't sick" is not true, the hearer is free to take "Bill" as the projection which identifies the person involved. Together, this results in: "Bill is sick" is true.

The interesting point is that the hearer uses the accentuation of the sentence actually spoken to decide which element of his own projection needs revision.

For this inference I cannot give a scheme, because it is an operation upon a projection other than the one actually expressed in the sentence. Its general form is:

There is a presupposition which differs from the sentence actually spoken in the property that the negation of the latter is absent; further, if the presupposition was put into words earlier, it may have a different accentuation. The element in the presupposition which is the same as the accented element of the sentence spoken is replaced by another element; the replacing element is one of the projections among which the accent of the sentence spoken negates its non-concurrent negation (the replacing element is "not x," of the scheme in section 5).

For example:

I don't think John will leave tomorrow; inference: "My wife thinks that John will leave tomorrow" is true.

I don't think John will leave tomorrow; inference: "I know for sure that John will leave tomorrow" is true.
(Or: "John may quite possibly leave tomorrow" is true.)

I don't think John will leave tomorrow; inference: "I think Bill will leave tomorrow" is true.

I don't think John will leave tomorrow; inference: "I think John will arrive tomorrow" is true.

I don't think John will leave tomorrow; inference: "I think John will leave the day after tomorrow" is true.

Many of the arrows didn't hit the target; inference: "A different number of arrows hit the target" is true (non-concurrent parts).

All the men didn't go; inference: "A different number of men went" is true (non-concurrent parts)

Note that the sentence *I do not think John will leave tomorrow* does not allow the inference; the presupposition would be "I do think John will leave tomorrow", so that there is no element in the presupposition which is the same as the accented element of the sentence spoken. In contrast;

I do not think John will leave tomorrow allows the inference: "I did think John will leave tomorrow" is true: the presupposition is: "I do think John will leave tomorrow", in which the

element "do" is the same as the accented element of the sentence spoken; in order to arrive at the inference this element must be replaced.

9. The third type of inference requires at least two accents. It is a conclusion that, besides what is actually said, something else is also true. It consists of the concurrent negation of the first accented element and the non-concurrent negation of the second accented element (or, instead of the non-concurrent negation, one of the projections among which the non-concurrent negation is being negated). For example, the sentence *John arrived* may lead to the conclusions: "Bill did not arrive" is true, or: "Bill went away" is true.

The third type of inference is found in the backward linking scheme with two accents, the first accent negating a concurrent negation; the forward linking scheme exhibits the indeterminacy mentioned in X.10, but does not exclude the inference. The inference occurs in positive as well as in negative sentences, but sentences containing a negative quantifier will be discussed separately (section 10); essentially the same inference using the parallel linking scheme will also be dealt with separately (section 9; there, the inference seems to be possible only in negative sentences). With quantifier-like meanings, the third type of inference occurs with both concurrent and non-concurrent parts.

As indicated in chapter IX, the shift from *The flower* to *The flower is beautiful* consists of the step from:

"x" is
"not x₁" "not x₂" replaced
 by

to:

is replaced by "y" is
"not x₁" "x" "not y₁" "not y₂" replaced
 by

That is: "I choose 'x' and not another projection, I project the

referent of "x" first as a referent of "not y_2 " and then as a referent of "y". With an assertive type of last accent the sentence consequently conveys: "if we combine "x" and "y" the sentence is true":

The inference is that a combination of "not x_1 " and "not y_2 ", or a combination of "not x_1 " and "not y_1 " is also true:

Third type of inference, at least two accents

When "x" is a quantifier-like meaning, "not x_1 " projects a concurrent or non-concurrent part. When "x" or "y" is or contains "not", one may read for "not x_1 " or "not $y_{1/2}$ " the corresponding positive expression (in accordance with the simplifications mentioned in X.11).

Examples:

John is sick; inference: "Bill is not sick" is true.

John is not sick; inference: "Bill is sick" is true.

Three of the books are blue; inference: "The remaining books are not blue" is true (concurrent parts).

Three of the books are not blue; inference: "The remaining books are blue" is true (concurrent parts).

Many of the arrows didn't hit the target; inference: "The remaining arrows hit the target" is true (concurrent parts).

All the men didn't go; inference: "None of the men went" is true (concurrent parts).

Often he doesn't come; inference: "The remaining times he comes" is true (concurrent parts).

Three books I'll buy; inference: "The remaining books I will not buy" is true (concurrent parts);

inference: "(When you offer me) a number of books other than three I will not buy (them)" is true (non-concurrent parts).

(.) *One swallow doesn't make a summer*; inference: "The remaining swallows do make a summer" is true (concurrent parts);

inference: "A number of swallows other than one makes a summer" is true (non-concurrent parts).

Však kômt hij (Lit. Often comes he); inference: "The remaining times he does not come" is true (concurrent parts);

Však kômt hij niet (Lit. Often comes he not); inference: "The remaining times he comes" is true (concurrent parts).

Všel varkens maken de spöeling dún (Lit. Many pigs make the swill thin, i.e. where many have to share nobody will get much); inference: "The remaining pigs do not make the swill thin" is true (concurrent parts);
inference: "A different number of pigs does not make the swill thin" is true (non-concurrent parts).

Všel přišli (Everybody came); inference: "Nobody did not come" is true (concurrent parts).

Všel ne přišli (Lit. Everybody not came); inference: "Nobody came" is true (concurrent parts).

Russian "mnogie" (many) always projects a part opposed to concurrent parts, in contrast to "mnogo" (much, many), which projects a part opposed to non-concurrent parts. Therefore, *mnogie* does not normally bear the last accent or an accent inside the scope of the last accent. Thus, the most obvious pattern is: *v magazinach prodajetsja mnogo tovarov* (In the shops many articles are sold) versus *Mnogie tovary prodajutsja v magazinach* (Many (of the) articles are sold in the shops). A similar distinction is expressed by "nekotorye" versus "neskol'ko" (some).

9. While the third type of inference is possible in positive as well as in negative sentences, with concurrent as well as with non-concurrent parts, the slightly different inference classified here as the fourth type seems to occur only in negative sentences, and, when quantifier-like meanings are involved, with non-concurrent parts (including negative quantifiers; such examples then contain, besides a negative quantifier, a negation).

The fourth type of inference may be viewed as a combination of the first and the third type: just like the first type, it has non-coinciding projections, and just as in the third type, at least two accents are needed. The result is a parallel linking scheme with two accents, and an inference that, besides what is actually said, something else is also true.

In a parallel linking scheme, basically:

the relevant point is that "x" is not combined with "not y". With the appropriate type of last pitch accent, the combination "xy" is conveyed to be a correct projection of the state of affairs referred to; this combination does not coincide with the non-linguistic projection of the state of affairs involved: there is also a projection of this state of affairs without the property of being an apref "xy"; the latter is the row "not x not y" indicated in the scheme.

While it is conveyed that "xy" is a correct projection of the state of affairs, the inference is: "if you project the state of affairs without the property of being an apref "xy", this state of affairs also exists". I have some difficulty with providing a scheme for this inference on a two-dimensional page, because a concurrent negation of "x" may be involved, in the sense: "if you select "x" and combine it with "y", the resulting projection is a correct projection of the state of affairs involved, but if you select another projection and combine it with "not y", the resulting projection is also a correct projection of the

state of affairs involved".

Tentatively:

and/or:

Fourth type of inference, negative sentences, at least two accents.

In examples with quantifiers, "not x₁" stands for non-concurrent parts. As to "not y", this may be "not y₁" or "not y₂".

Examples:

I don't think John will leave tomorrow; inference: "I think Bill will leave tomorrow" is true.

I don't think John will leave tomorrow; inference: "I think John will not leave tomorrow (or: will arrive tomorrow)" is true.

I don't think John will leave tomorrow; inference: "I think John will leave the day after tomorrow" is true.

It is not true that John will leave tomorrow; inference: "It is true that Bill will leave tomorrow" is true.

It is not true that John will leave tomorrow; inference: "It is true that John will not leave tomorrow (or: will arrive tomorrow)" is true.

It is not true that John will leave tomorrow; inference: "It

is true that John will leave the day after tomorrow" is true.

All that glitters isn't gold; inference: "The number of glittering things that are gold is an apref of some meaning other than "all" is true (non-concurrent parts).

En meisje is het niet (Lit. A girl is it not); inference: "The entity referred to is an apref of some meaning other than "girl" is true.

Vaak komt hij niet (Lit. Often comes he not); inference: "The number of times that he comes is an apref of some meaning other than "often" is true (non-concurrent parts).

Nooit komt hij niet (Lit. Never comes he not); inference: "The number of times that he comes is an apref of some meaning other than "never" is true (non-concurrent parts).

Geen boeken leest hij niet (Lit. No books reads he not); inference: "The number of books he reads is an apref of some meaning other than "no" is true (non-concurrent parts).

Eto special'no ne izučalos' (Lit. That especially not was-studied); inference: "The way in which it was studied is an apref of some meaning other than "special'no" is true.

Vsë ne prišel (Lit. Everybody not came); inference: "Not everybody came" is true.

Dolgo ne razdûmyvaja (Lit. Long not thinking; inference: "Thinking not long" is true (Without thinking long).

A few remarks must be added here.

As indicated by the strings *It is not true that John will leave tomorrow*, the custom in studies on negation of paraphrasing a so-called "sentence negation" by means of the expression *It is not true/it is not the case that* is utterly unrevealing, because we cannot read the paraphrase without adding to it the meaning of some accentuation, and with every different accentuation the meaning of the paraphrase changes. The use of the paraphrase is an ex-

ample of the endless regress mentioned in III.5: *He said about he said about ... & that &*. Likewise: *He didn't arrive - It is not true that he arrived - It is not true that it is true that he arrived - and so forth.*⁴¹

As a consequence of the custom of discussing negation and quantification without indicating the accents which give rise to the inferences, it is not clear to me when the fourth type of inference is possible in English. While the inference is the first interpretation that comes to mind for a Dutch sentence like *Vaak komt hij niet* (Lit. Often comes he not), it is almost absent in discussions about English sentences of the type *Often he doesn't come*. As far as I understand, the inference is possible with *All* and *Every* (e.g. Jespersen 1966: 87-88 (originally 1917); Lasnik 1975: 308); further, Lakoff (1971: 246) mentions *Fond of many boys, Sarah Weinstein isn't*, which sentence, "needless to say, [...] is not grammatical in all American dialects" (ibidem); Apeldoorn (1980: 182) gives the example *Many arrows can't have hit the target*, in the sense "Not many arrows can have hit the target".

The issue is highly relevant because English can be expected to differ from Dutch here: while in Dutch *Vaak komt hij niet* the order of the verb and the subject cannot be reversed, there may in English be some conceptual difficulty over the choice between Auxiliary - Subject and Subject - Auxiliary here (cf. section 10 below). Not surprisingly, the examples with *All* and *Every* given in the literature have the preposed quantifier in the subject, so that the problem does not arise. At any rate, so far as the inference is possible in English elsewhere, the sentences can be expected to have a Subject - Auxiliary order following the quantifier, also if the latter is negative. Because of this uncertainty, it may be useful to indicate the relevant difference between the third and fourth type of inference in a somewhat different way.

A sentence like *One swallow doesn't make a summer* allows two inferences of the third type: "The remaining swallows do make a summer" is true (concurrent parts) and "A different number of swallows will make a summer" is true (non-concurrent parts). In both cases the backward linking scheme is applied, which is to

say that "one swallow" coincides with the non-linguistic projection of the part it refers to. In somewhat different terms this means that the inference with the concurrent part is a projection of the world of the same moment as the sentence itself: "while the other swallows are busy making a summer, one swallow does not participate"; the inference with a non-concurrent part is a projection of the world of some moment other than the world referred to by the sentence itself: "at this moment there is only one swallow, so it is not yet summer, but at some later moment there will be more swallows, and then it will be summer". The fourth type of inference (if any), in contrast, involves non-coinciding projections (on the second level - see section 5): all projections of non-concurrent parts of swallows are projections of a number of swallows which are there at a given time: "the number of swallows that are making a summer at this moment is a number other than one". Thus: "if you project the given number as "one", we may say: "it does not make a summer", but if you project it as e.g. "ten", we may say: "they make a summer"; both combinations are correct projections of the world of the same moment. Needless to say, this particular example has only a single conventional interpretation, but hopefully it demonstrates what an inference of the fourth type would be.

For a Dutch sentence with an adverb to allow the fourth type of inference, the adverb must be placed in initial position, as in the example *Vaak komt hij niet*. With the arrangement *Hij komt vaak niet* (Lit. He comes often not) only the third type of inference is possible (but the adverb *zo* (so) behaves in a somewhat idiosyncratic way).

As to Russian, both *Éto speciál'no ne izučálos'* (Lit. That especially not was-studied) and *Speciál'no éto ne izučálos'* (Lit. Especially that not was-studied) seem to allow the fourth type of inference. Between these two adverb positions an as yet unclear semantic difference exists which ensures that the adverbs *vsegda* (always), *nikogda* (never), *uže* (already), *ещё* (still, yet), *srazu* (immediately), *snova* (again) are seldom found in sentence-initial position. To a lesser degree the preverbal position is characteristic of *vsjudu* (everywhere), *vezde* (everywhere), *nigde* (nowhere) (Sirotnina et al 1968: 92-94;

Sirotnina et al 1970: 147; see also Bivon 1971: 56-75). The meanings of the various positions of adverbs and adverbial phrases is one of the most urgent problems of Russian word order.

Finally, the following Dutch phenomenon is worth mentioning (cf. Gussenhoven 1983(b): 77; 1983(d): 317 ff.). A number of forms occur with two different accentuations: *állemaal/allemáal* (all, the whole lot), *áltijd/altíjd* (always), *hèleboel/helebóel* (a lot of), *íedereen/iederéén* (everybody), and others (probably, *dáarom/daaróm* (therefore), *wáarom/waaróm* (why), *dáarvoor/daarvoor* (for that), and the like, come under the same heading). The two accentuations have a different meaning: the *állemaal* type refers to a part with a concurrent part, the *allemáal* type refers to a part and opposes it to non-concurrent parts.⁴² Therefore, the *állemaal* type is frequently used as the non-last accent in the sentence, the *allemáal* type as the last accent, for example:

We gaan állemaal slápen (We are all going to sléep)
We gaan allemáal slapen (We are all going to sleep)
íedereen gaat naar hûis (Éverybody is going hôme)
Iederéén gaat naar huis (Êverybody is going home)

This is the normal picture because non-last accents most obviously lead to the third type of inference with concurrent parts (see section 8) and last accents to the first type of inference with non-concurrent parts (section 6). But other combinations also occur. For example:

Íedereen valt me hier ook áltíjd lastig! (Lit. Êverybody is always annoying me here!)

This sentence says only that nobody can be found here who does not annoy me; it does not introduce the idea that the number of annoying people could have been different. In contrast,

Iederéén valt me hier áltíjd lastig (same translation)

answers the question: How many people here are annoying you? The sentence conveys that the number of annoying people could have been e.g. an apref "many" (non-concurrent parts). The *íedereen* sentence is an example of a last accent involving a concurrent

part (the complement of an apref "iedereen", i.e. an apref "niet-
mand" (nobody)).

Likewise:

iedereen is me te veel (Lit. Everybody is too much for me)

Iederêen is me te veel (idem)

The *federeen* sentence conveys that nobody can be found whom I can stand (I am tired of everybody) (third type of inference, concurrent parts). The *iederêen* example could be an answer to a suggestion to invite everybody: a smaller group I can stand, but the whole lot is too much (third type of inference, non-concurrent parts).

- *federeen* gaat naar huis (Everybody is going home)

- *Nôu, iederêen* gaat niet naar huis. (Lit. Well, everybody is
not going home)

The last sentence has the fourth type of inference; since this type uses non-concurrent parts, *federeen* is distinctly odd here, if not impossible (without shifting to the third type).

Further, the *federeen* type freely occurs as the last accent with the type of intonation announcing the next thought (see IX.6), and in expressions like *Altijd en eeuwig* (Always and eternally).

10. At first sight, the sentence *Nobody is sick* can in all respects be compared with *Everybody is sick*: while the latter allows the (third type of) inference that nobody is not sick, the former allows the inference that everybody is not sick, the referents of "nobody" and "everybody" being each other's complement. And in the same way as *One swallow doesn't make a summer* allows two inferences (of the third type), one with concurrent parts ("The remaining swallows make a summer") and one with non-concurrent parts ("A different number of swallows will make a summer"), the sentence *No swallow doesn't make a summer*, if it occurred, could allow two inferences, one with the complement ("All swallows are busy making a summer") and one with non-concurrent parts ("It takes a number of swallows larger than zero to make a summer"). Nevertheless, negative quanti-

fiers introduce an extra complication. In English, this comes to light in the fact that the single sentence *With many children she would be happy* has both the inference with concurrent parts ("With the remaining children, i.e. with the children she has, she is not happy") and the one with non-concurrent parts ("With a smaller number of children, i.e. with the number of children she has, she is not happy"). It takes two sentences to do the same with negative quantifiers: *With no children would she be happy* and *With no children she would be happy*. Of course, one can also say: *With many children, would she be happy!*, but this possibility also exists with negative quantifiers: *With no children, would she be happy!*. Putting aside the last-mentioned case, where we apply a backward linking scheme despite the Auxiliary - Subject order, the sentence *With many children she would be happy* has a backward linking scheme irrespective of the question of whether the part referred to is opposed to a concurrent or to a non-concurrent part. The backward scheme applied to negative quantifiers under the first accent leads to non-concurrent parts, as in *With no children she would be happy*, or to a referent of the type we call an entity, e.g. *Nobody arrived*, in the (strange) sense: "Some person apref "nobody" arrived". In order to arrive at an opposition with the complement of an empty part, the parallel linking scheme must be applied. The meaning of the Auxiliary - Subject order is closely related to the parallel linking scheme, but this meaning is not the instruction that the parallel scheme must be applied, since in *With no children, would she be happy!* we find the same meaning with a backward linking scheme.

The cause of this complication is the following. Imagine that there are three guests in the living room:

The sentence *Two of the guests walked out of the living room* involves the following operation:

That is, we single out two guests from among the guests in the room, and view these two guests first without the property of having walked out of the living room and then with this property.

The identical operation for *None of the guests walked out of the living room* would be:

It is not impossible to imagine things in this way, but it changes the perception of the referent of "none of the guests" into something which can move to another place, like a figure in space. In order to prevent this from happening, the empty part apref "none of the guests" should not be singled out from among the guests in the room without the part having the property of having walked out of the room: without this property, the empty part does not exist, without it we have only the whole. In other words, "none of the guests" must not be combined with the negation of the remainder of the sentence, i.e. instead of the backward scheme, the parallel scheme must be applied. When we do so, two combinations result: if we take the whole group, its elements have the property of not having walked out of the room, and if we take an empty part, it has the property of having walked out of the room, so that the complement has the property of not having walked out of the room:

Fifth type of inference, negative quantifiers, at least two accents

Here, "not x_1 " projects the complement of the empty part apref "x" (concurrent parts). In contrast, in the fourth type of inference, "not x_1 " stands for non-concurrent parts. Since the third type of inference may also use the complement of "x", the difference between the third and the fifth types is not immediately obvious. In the fifth type, the parallel scheme serves to prevent an emptiness from walking out of the living room: the scheme precludes the combination "x" "not y"; to this aim, "not x_2 " is employed; it is a projection of the whole of which "x" projects an empty part.

Essentially the same reasoning applies to sentences which contain *not* plus a quantifier under the first accent; but in this case the parallel scheme is needed to prevent the combination *not*+quantifier from defining a part. As remarked by Kempson (1975: 20-22), the following sentence is strange: *Not many of the arrows hit the target but many of them did hit it*. This sentence tries to give an example of the third type of inference, which is impossible because "not many" does not define a part (in fact, the third type would be: ... *but many of them didn't hit it*, but this is irrelevant here). Compare: *Not far away he built a house*, or: *Not long ago he lost his job*. Here, we select a projection of one place and time, respectively, from among projections of other places and times, and think of these referents first without there being an apref of the meaning of the remainder of the sentences, and then with such an apref. As a result, a place apref "not far away" and a time apref "not long ago" become a place and time like any other, although they are defined with

respect to another place and time. The sentence *Not always he comes* is strange because the backward linking scheme applied here urges us to construct a part apref "not always", which is unacceptable in English. Parts are apref's "never", "sometimes", "often", "always", and the like. All parts except an apref "always" lack the property of being an apref "always", but there is no part with the identifying property of being an apref "not always". We have to apply the parallel linking scheme, and thus the arrangement *Not always does he come*, in order to prevent "not always" from defining a part. With the parallel scheme, the sentence conveys that some part lacks the property of being an apref "always" given that he comes that number of times, but without the latter the former is also absent. The same holds true for the arrow-example, although in this case the negated quantifier is a part of the subject, so that there is no Auxiliary - Subject order to make us aware of the difference from a sentence having a positive quantifier in the subject.

It may be useful to formulate in a somewhat more general way the conceptual problem which is solved by the parallel scheme in sentences with a negative or a negated quantifier. It is essentially the same issue as that of *John survived* discussed in section 3 above, namely the number of negations needed in order to arrive at a picture of the world without a referent. Consider the idea of whiteness. We can imagine whiteness as being the absence of colour. If we do so, a projection of the absence of whiteness is a projection of colour:

"whiteness"
 ↑
 "not whiteness" = colour

In this conceptualization, the chain from "whiteness" to the absence of any referent consists of two negations, since the "colour" which is the non-concurrent negation of "whiteness" has itself to be negated. Here, "whiteness" is a negative idea.

Next, we can also imagine the referent of "white" as being one colour among others. By doing so we shorten the chain from "whiteness" to the absence of a referent, and turn "white"

into a positive idea. The shortening is brought about by splitting the negation of "whiteness":

"white"
 ↑
 "other colours" "absence of white"

Here, the non-concurrent negation of "white" is not a projection of colour but a projection of the absence of the colour white. The same idea is contained in "not far away" or "not long ago". The statement that these combinations project a place and time like any other is another way of saying that the non-concurrent negations of "not far away" and "not long ago" project the absence of a place and time, respectively, rather than a place and time.

The two expressions convey positive ideas.

In general, a negative idea "x" is turned into a positive idea by splitting "not x":

"x"
 ↑
 "not x"

becomes:

"x"
 ↑
 "not x₁" "not x₂"

where "not x₁" is the former "not x". Thus, as long as "not far away" is a negative idea, its non-concurrent negation is "far away"; "not far away" becomes a projection of one place among others by making "far away" into a projection of a place other than that projected by "not far away" and giving "not far away" a new non-concurrent negation ("not x₂"), namely a projection of the absence of the place apref "not far away". This is why a negative sentence denies a positive sentence, while the reverse does not hold true.

Splitting the negation of "x" is a prerequisite for an accent to be interpretable as a negation of a concurrent negation because, as we saw in chapter IX, the shift from a negation of a non-concurrent negation to a negation of a concurrent negation is the step from:

"x" is replaced by
 "not x₁" "not x₂"

to:

is replaced by
 "not x₁" "x"

Although the latter scheme does not contain a 'not x₂', the existence of such a projection is implied in the scheme. This explains why a sentence like *Not always he comes* is strange: the application of a backward linking scheme gives "not always" a concurrent negation, which implies that "not always" defines a part. Normally, "not always" is a negative idea, i.e. its non-concurrent negation defines a part:

"not always" ↑
 "always" = part

In *Not always he comes*, however, "not always" becomes a positive idea, in the same way as "whiteness" discussed above: first, the negation of "not always" is split:

"not always" = part ↑
 "always" = part "absence of part"

Next, "not always" is selected from among concurrent other projections:

"always" = part "not always" = part ↑

Likewise, in *With no children she would be happy*, the state of being without children is a state like any other, although it is defined by the absence of something.

The parallel linking scheme, as in *With no children would she be happy* and *Not always does he come*, prevents this from happening: by combining the negation of the second part of the sentence with the non-concurrent negation of the first part of the sentence, instead of with the first part of the sentence itself,

the first part retains its negative character.

Although the basic principle is the same in *With no children would she be happy* and *Not always does he come*, there is also a difference: "no children" defines an empty part, which is also a part, while "not always" does not define a part at all: the referent of "no children" has a complement, while only the referent of the non-concurrent negation of "not always" has a complement. In Dutch, these two cases behave differently. As remarked in the preceding section, Dutch has no formal opposition of the type *With no children would she be happy* versus *With no children she would be happy*. When the Dutch arrangement Verb - Subject follows a constituent containing a fused negation (no, nowhere, never, etc.), the sentence has in principle the readings of both English sentences. For example, *Geen werk vindt hij vervelend* (Lit. No work considers he dull/annoying) is both "No job does he consider dull/annoying" and "The state of being without a job he considers dull/annoying". In other words, here a parallel as well as a backward linking scheme is possible (with the fifth and the third type of inference, respectively). But when the Dutch Verb - Subject order follows a constituent containing *niet* (not), the sentence strongly tends to the reading corresponding to English Subject - Auxiliary (backward linking scheme). Thus, the sentence *Niet altijd komt hij* (Lit. Not always comes he) is strange in the same way as English *Not Always he comes*, although possibly less so.

With *niet* in a subject containing a quantifier there is no problem: *Niet veel pijlen raakten het doel* seems to be equivalent to *Not many arrows hit the target*. (Elsewhere, just as in English, the acceptability depends on accentuation: *Niet Piet komt* can be interpreted only by first combining "Piet" and "komt" and then adding "niet", just as the doubtfully acceptable *Nót Peter comes*; this is because the referent of "niet Piet" is not an entity concurring with Piet; *Niet Piet komt* (*Nót Pêter comes*) is o.k. because here we can have recourse to non-coinciding projections, *komt* being unaccented.)

As to Russian, sentences containing *ni*-words are totally different from English and Dutch sentences with *no*-words (fused negation). A sentence like *Nikto prišel* is hardly acceptable, because it has only the reading which is unlikely for English

Nobody arrived: it says that some person apref "nobody" ("nikto") arrived. This interpretation is acceptable elsewhere, e.g. *On nam nikto* (Lit. He (is) for-us nobody), in the sense "he is no relative of ours", or *Bez nich on byl ničto* (Lit. Without them he was nothing) (Grammatika 1980: 413). But in order to convey approximately the same idea as *Nobody arrived* in its normal interpretation, the Russian sentence needs, in addition to the *ni*-word, the negative particle *ne* preceding the verb: *Nikto ne prišël* (Lit. Nobody not arrived); the same sentence has in principle the reading "Some person apref "nikto" did not arrive". As a consequence, a sentence like *Nobody didn't arrive* (fifth type of inference: "Everybody arrived" is true) is impossible in Russian.

If the whole sentence is to be negative, the *ni*-element must be repeated in every quantifier, so that *Nobody ever said anything* roughly corresponds to *Nikto nikogdá ničegó ne govoril*. As a consequence, a sentence like *On nikogó ni za čto ne blagodaril* is ambiguous between *He does not thank anybody for anything* and *He does not thank anybody for nothing*. On the other hand, an ambiguity like that in *They quarrelled about nothing* is absent in Russian, since the readings "They did not quarrel about anything" and "They quarrelled about trivialities" will be distinguished by the presence and absence, respectively, of *ne* preceding the verb (and possibly by the position of the preposition).

From these facts it can, in my view, be concluded that Russian *ni*-words do not refer to empty parts. While in English and Dutch fused negations follow the pattern of other quantifiers, although with the complications sketched above, Russian *ni*-words are opposed to all other quantifiers. If they were not, we would expect for e.g. *Nikto ne prišël* the same types of inference as for *Vsô ne prišli* (Everybody did not arrive), but this is not what we find. The latter sentence allows the inferences: "Nobody arrived" is true (third type, concurrent parts) and "The number of people that arrived is an apref of some meaning other than "everybody"" is true (fourth type, non-concurrent parts). But the former sentence allows neither: "Everybody arrived" is true (fifth type, concurrent parts), nor: "The number of people that arrived is an apref of some meaning

other than "nobody" is true (fourth type, non-concurrent parts). On the contrary, the sentence conveys that "Everybody arrived" is not true. (The fourth type should in principle be possible in the sense: "The person that arrived is a person other than an apref "nikto"" is true, but this is too complicated to be realistic.)

Since *Nikto prišël*, without *ne*, necessarily turns the referent of "nikto" into what we think of as an entity, we can say that *ne* prevents this from happening: it leads to the application of the parallel linking scheme (leaving aside the strange interpretation "Some person apref "nikto" did not arrive"). But while in English and Dutch this scheme enables us to arrive at a projection of an empty part with a complement, an empty part also being a part, in Russian the scheme leads to a projection of the absence of the whole (of any part):

"absence of state of affairs" = "nikto"	"ne prišël"	↑
"state of affairs"	= "not nikto" "prišël"	
("absence of state of affairs")		

In other words, the upper level does not replace a projection of some state of affairs by another projection of the same state of affairs, it introduces a projection of the absence of the state of affairs referred to by the combination of the negations of the two sentence parts.

Since the fourth and fifth types of inference, with the parallel linking scheme, are based on the idea that the two levels of the scheme are alternative projections of the same state of affairs (non-coinciding projections), and since the lexical meanings of Russian *ni*-words exclude this idea, referring as they do to the absence of any part, although they need the parallel scheme in order to remain negatives, these types of inference do not apply when Russian *ni*-words are involved. While in English and Dutch the two levels are projections which are true about the world of the same moment (so that, besides what is said, something else is also true), in Russian the two levels are projections which can be true only at different moments, so that at a given

moment only one of the two can be true; that is, in the usual terminology, the upper level negates the truth of the lower level.

11. The survey given in the foregoing is not meant to be an exhaustive treatment of quantifier-like meanings, but rather a suggestion as to how the problem could be dealt with starting from the meanings of the words themselves instead of from the accidental properties of logical operators which give a distorted picture of the meanings of natural language. The exact possibilities have to be specified for every language and quantifier-like meaning separately. There is, in my view, no reason to treat quantifier-like meanings and other meanings differently, because they exhibit the same pattern; however, quantifier-like meanings exploit the pattern on a number of levels, which yield rather complicated configurations.

From a linguistic point of view, no less important than the distinctions discussed in the foregoing is the difference between e.g. *Nobody was there* and *There was nobody*: while the former follows a whole through time, the latter follows a place through time. I have left this difference out of consideration; it brings us to the problems of word order. In the next chapter, just as in the present chapter, I shall be using assertive types of last accent.

XII. REMARKS ON WORD ORDER

1. In the heyday of anticommunism, Dutch developed a standard sentence expressing the fear of the Soviets: *De Rùssen komen* (The Russians are coming). When we translate the sentence into Russian a choice must be made between *Rùsskie idut* ($\hat{S}\hat{V}$) and *idut Rùsskie* ($V\hat{S}$). The former must be preferred. It has often been remarked that a "subjective", $\hat{S}\hat{V}$ arrangement expresses the suddenness and unexpectedness of an event, while the "objective" $V\hat{S}$ arrangement has a quieter, more "existential" flavour. In both cases, the verb can be included in the scope of the accent, $\hat{S}\hat{V}$ then having a backward type of link:

and $V\hat{S}$ a forward type:

(see X.3 and 8).

As indicated by the numbers 1 and 2, the order in which the operations are performed differs, in my view, in the two cases. In $\hat{S}\hat{V}$ the verb gets more or less the character of an afterthought, the sentence conveys roughly: (Look), the Russians (they are coming). The $V\hat{S}$ arrangement, in contrast, can more appropriately be paraphrased as: There is somebody coming (there are persons coming),

more specifically the Russians; here, the accented subject specifies which aspect of the meaning of the verb is meant, and the verb can be processed separately ($\hat{V}\hat{S}$) before a copy is taken up and linked forwards to the subject (see X.10).

The terms "objective" and "subjective" apply to an opposition between sentences with the last accent in final position and sentences with the last accent elsewhere (see VI.4); under the heading "objective" are grouped together e.g. $\hat{V}\hat{S}$ and $\hat{S}\hat{V}$, while $\hat{V}\hat{S}$ and $\hat{S}\hat{V}$ are called "subjective". What semantic difference is correlated to the different position of the last accent? Although I do not claim that in all types of sentence a final versus non-final position of the last accent expresses the same semantic difference, I intend to show in this chapter that the semantic difference between Russian $\hat{V}\hat{S}/\hat{S}\hat{V}$ and $\hat{V}\hat{S}/\hat{S}\hat{V}$ is an example of a fundamental distinction which runs like a red thread through a number of seemingly unrelated phenomena. The distinction has to do, not surprisingly, with time.

In the preceding chapters I have had to pretend in many instances that, during our mental operations upon the world, the world itself remains the same. Matters are more complicated than that, because the world happens to change. It seems to me that the two basic possibilities for coping with the changing world are the following. Either we mentally follow the world through time, so that subsequent projections are projections of the world of different moments (first there was "not x", now there is "x", and first the world was such that it contained a referent of "not x", now it is such that it contains a referent of "x"), or we are confronted with the world of a certain time and realize what is not absent in the world of that moment (first I thought that the world of this moment contained a referent of "not x", but now I view it as containing a referent of "x"). The former is consistently correlated to last accents in final position, the latter to last accents elsewhere in a string. If one is willing to imagine the changing world as a sausage, every slice of the sausage corresponding to the world of some time, then the former is the idea that "not x" refers to the absence of the slice containing the referent of "x", so that the sentence introduces the thought of the slice containing a referent

of "x", while the latter is the idea that a sentence starts from a given slice, i.e. that both "not x" and "x" refer to the same slice, so that the sentence replaces one projection of the slice by another projection of it. Thus, for *Idut russkie* ($\hat{V}\hat{S}$): "I am thinking of the world of a time when it contains the coming of the Russians, the absence of the Russians belonging to the world of another time"; and for *Russkie idut* ($\hat{S}\hat{V}$): "I first thought that the world of this time contained the absence of the Russians (and thus of their coming), but I now view it as containing the Russians (and thus their coming)". The former is an "existential" idea because the sentence introduces the thought of the world of a time when it contains the coming of the Russians, so that the sentence, with an assertive type of accent, conveys that there exists such a world. The latter gives the impression of "unexpectedness" because, spoken with an assertive type of accent, the sentence conveys essentially: "While I was still thinking that the Russians were absent, they were in reality already there".

The difference may be called a difference of scope: in $\hat{V}\hat{S}$ the projection of the world of a time when it contains a referent of the sentence is introduced by the accent, while in $\hat{S}\hat{V}$ it is not.

A conceptual difference exists between projections of the absence of e.g. an entity, and projections of the absence of (the world of) a certain time: when what we think of as an entity is absent, there is not necessarily another entity in its stead, but when (the world of) a certain time is absent we have (the world of) another time. I do not think it is a linguistic issue whether we should say: this accent negates a projection of the absence of the world of a time when it contains a referent of "x", among projections of the world of other times, or: this accent negates a projection of the absence of the referent of "x", the absence of the referent belonging to the world of another time, or even: this accent negates a projection of the absence of a world containing a referent of "x", among projections of other worlds (i.e. defining the world of different times as different worlds). At any rate, I have not yet come across examples for which such distinctions would be relevant, so I assume that

these formulations are equivalent ways of saying that the sentence introduces the thought of the world of a certain time.

In order to think of the world of a given time both without and with a referent "x", the world of this time has to be projected independently. So sentences like *Rússkie idut* urge us to form such an independent projection. If no further information is available, the sentence is taken to refer to the world as it is at the moment of speaking. (The moment of speaking is a notion of projection time, the world at the same moment belongs to the realm of referents.) The world of the time involved may also be provided by the linguistic context. In VI.3 we met an example of this: *Gdâ-to okolo časa on prosnûsja. Telefôn zazvonil* (At about one o'clock he awoke. The telephone (had) started to ring - ŠV). As established by Bonnot and Fougeron (1982: 319-320), this ŠV sentence is most obviously interpreted as conveying that he awoke as a consequence of the ringing of the telephone. Moreover, the story adopts the view-point of the person awakening (ibid.): he first does not realize what disturbed him and then becomes aware of the ringing telephone, i.e. he has two projections of the world of a single moment: he first projects it without the ringing telephone, then with his referent; he revises his projection of the world of a preceding moment in retrospect. When in the same context a ^(~)VS arrangement is chosen, *Zazvonil telefôn*, the meaning of the arrangement, together with the meaning of the perfective aspect, leads most obviously to the interpretation that the ringing of the telephone follows his awakening (ibid.). This is because the sentence means that the absence of the ringing of the telephone must be looked for in the world of a preceding moment, and this preceding moment is taken to be the time of his awakening introduced by the preceding sentence.

The VS arrangement itself does not specify with respect to which preceding moment a new time is being introduced. This is a matter of interpretation. For example, in the following sentence the rain and the wind are probably present simultaneously: *Posle oběda pogoda sovšem isporučilas'. Pošël dôžd', podul vëter, i my rešili nikudâ ne chodit'* (After lunch the weather became (had become) worse. It (had) started to rain (VS), the wind rose (had

risen) ^(~)VS), and we decided not to go anywhere) (op.cit.: 314). The ^(~)VS arrangements themselves say only: "the world arrived in a time with rain, the world arrived in a time with wind"; here, this is the same time, the introduction being made with respect to the same preceding time (before lunch); the relevant point is that the absence of the rain and the wind is viewed in the world of a time other than the world containing the rain and the wind. Likewise, with an imperfective aspect (ibid.): *Za oknom i'jet, a v kvartire teplo i ticho. Spit bābuška, zani-maetsja Kika* (Outside it is pouring, but in the apartment, it is warm and quiet. Grandma is sleeping ^(~)VS: "there is sleeping Grandma"), Kika is working ^(~)VS: "there is working of Kika"). All these sentences describe the world of the same time. The arrangement has a "static" effect (see section 3) because the absence of the events belongs to the world of another time, so that the world of the time when it contains the sleeping and the working is not viewed without these things. Compare (op.cit.: 329): *Vëčerom pozvonju, sejčas ne mogu: bābuška spit* (In the evening I'll call, at this moment I can't: Grandma is sleeping (ŠV)). The last sentence explains why the speaker cannot use the telephone: "you may think that the world of this moment contains the absence of the sleeping of Grandma, but it does not"; both the absence and the presence of the event are viewed in the world of the same time, so that the sentence revises an earlier projection of the world of the same time, introducing itself that earlier projection (see IX.4). Likewise (ibid.): *Vy čtô? Pianino kupili? - Nu dā: Kika zani-maetsja* (What? Have you bought a piano? Yes, Kika practices (ŠV)). The last sentence conveys that in the world of the time defined by the piano having been bought, the practising of Kika is not absent.

The same difference obtains in negative sentences. For example: *Ne zvenel telefôn* and *Telefôn ne zvenel* (The telephone did not ring - ^(~)VS and ŠV). Altermark (1977: 25) places the ^(~)VS sentence in a description of a day without exciting events: this day is characterized by the absence of the ringing of the telephone; at other days the ringing of the telephone was probably there every now and then. The ŠV arrangement would be appropriate in a context defining the "normal" picture of the

world as one with a constantly ringing telephone, so that the issue is no longer thought of (see IX.9 and XI.3); the sentence could be spoken by someone who becomes aware that for a given moment the "normal" picture must be revised, because the telephone fails to ring at that moment.

The difference between the two arrangements is, of course, subtle enough for both to be appropriate in many contexts, so that one of the two can be preferred in writing and "high style" (see III). Thus, it would be out of style if the radio announcement ran *Moskvá govorit* instead of *Govorit Moskva* (Moscow (is) speaking versus Speaking is Moscow), and, on the other hand, on the telephone one may prefer *Nataša govorit* (Nataša (is) speaking) to *Govorit Nataša*, but the stylistic difference is a consequence of the semantic difference, because the radio announces that the world arrives in a time defined by the speaking of Moscow, while Nataša is satisfied with inserting herself into a time which is there anyway.

Turning now to some examples of "objective" and "subjective" arrangements in which the last accent does not include in its scope the other element of the sentence, we find the same difference.

As an answer to the question: Is dinner ready? (*Obéd gotôv?*), the sentence *Obéd na stolé* (Lit. Dinner is on the table) is more adequate than *Na stolé obéd* (Lit. On the table is dinner). Both sentences tell us where dinner is. Nevertheless, *Obéd na stolé* is more appropriate in the given context because it introduces, besides the thought of the place where dinner is, also the thought of the world at a time when dinner is in that place: the combination "obéd not na stole" has a referent in the world of another time, for example when dinner was still cooking in the kitchen. Therefore, the sentence links up the idea of the place where dinner is with a phase in the preparation of dinner, its being on the table implying that it is ready. This link is absent in *Na stolé obéd*; the latter sentence could be an answer to the question: Where is my dinner?: in the world of the time in which the speaker is interested, his dinner could have been cooking in the kitchen, but it happens to be on the table; the sentence does not follow dinner from the time it was cooking in the

kitchen to the time it is on the table, attention is focused on its being on the table which could have been absent at the given time, but is not absent.

The same mechanism is at work in sentences of the type *Stul tam* versus *Tám stul* (The chair is over there versus Over there is the/a chair) (see VI.3 and 6). In both cases the accent negates a projection of the absence of an apref "tam" among other projections of places, all projections involving an apref "stul" because the accent does not include in its scope *stul* (predicative reading), but in *Stul tam*, "not tam" pictures an apref "stul" at a time other than when it is over there, while in *Tám stul* only a single time is involved, the (assertive) accent negating that an apref "stul" is not over there at a given time. The correlation with articles in the English translation stems from this difference, and from the fact that the number of chairs involved is not conveyed. *Tám stul* may be translated both with a definite and with an indefinite article in the subject (cf. Have you seen that chair somewhere, and I am looking for a chair). If only a single chair is involved, it can be either over there or elsewhere at the given time; this is the translation with a definite article: the truth of *Tám stul* is interpreted as excluding the truth of the projections "other places - chair", among which the accent negates the projection "absence of tam - chair" (see XI.6). If both "over there - chair" and "other places - chair" are taken to be correct, more than a single chair is involved, because we have only a single time; this is the translation with an indefinite article. With *Stul tam*, in contrast, we need no more than a single chair for both "chair - over there" and "chair - other places" to be correct, because at the time when the chair was not over there, it may have been elsewhere. As we saw in VI.6, this arrangement does not exclude a translation with an indefinite article, but it involves the view that, although the sentence itself evokes the thought of the chair at a time when it was not there, we do not perceive the chair before the time when it was there. A definite article here corresponds to the idea that the chair which is there is distinguished from other chairs by the fact that we have pictured it when it did not have the property of being there; an indefinite article conveys the idea that the

chair which is there is distinguished from other chairs by its property of being there. The choice of a translation depends on the context. In VI.6 I quoted an example which can only be translated with an indefinite article; it involved a context which makes it clear that the perceiver has been cut off from the outside world by, for example, sleep or unconsciousness. When he comes to he looks around and describes what happens at that moment: [...] *Dvâ mladých žen [...] vychodili z komnaty* (Two young men [...] were leaving the room). *Stará žena stoja nepodvážno* (An old woman was standing motionless) [...]. The old woman is distinguished from other old women by the fact that she is standing motionless. We cannot choose a definite article here because the perceiver had not seen the old woman at a time when she was not standing motionless, although the sentence itself conveys that there is such a time.

Although the semantic difference between *Tám stul* and *Stul* *tám* may in English lead to a translation with a different article, the difference itself has nothing to do with the meaning of articles. In Dutch, for example, the same difference exists between *Er is iemand* (There is somebody) and *Iemand is er* (Somebody is there), neither of which contains an article. The former sentence conveys that the speaker becomes aware of the presence of somebody: the person involved was already there before the speaker realized it, so that the replacement of the absence of the person by his presence precedes the replacement of the projection of his absence by the projection of his presence. The other sentence follows a person from the time he was absent to the time he is present, the projections keeping in pace with the changing world.

The examples *Obed na stolě/Na stolě obed* and *Stul tám/Tám stul* do not contain a verb. Although I suppose that the difference between Russian *SŮ* and *ŮS* is the same as that in the examples of predicative sentences without a verb, the striking absence in the literature on FSP of observations by native speakers about the rather subtle difference induces me to refrain from pursuing the issue. The following remark on Polish may be relevant (Szwe-dek 1976: 61). Szwe-dek observes that, as an answer to the question *Czy on przyszedł?* (Did he arrive?), one may say *On przyszedł*

(He arrived), although the answer is awkward in comparison with *Przyszedł* alone (without a subject); *Przyszedł* on (Lit. Arrived he), however, is altogether bad. (Unfortunately, the author does not indicate the accentuation, but I infer from the context that he is indeed discussing *ŮS* and not *SŮ*; otherwise, the remark would be too trivial.) This type of context may be relevant because the question seems to be, essentially, about whether or not the time of his arrival has already come, *SŮ* presumably conveying that the time has indeed come, and *ŮS* that at some given time his arrival is not absent.

In IX.7 I proposed that a distinction be made between referents existing in time and referents which are themselves time. In the present chapter we are concerned with the former, also when the referent is of the latter type. For example, when someone is reading, we may refer to the person: *The man who is reading*, or to the time characterized by his reading: *The man is reading*; this distinction is not the one under discussion here. What is relevant here is that both the man and his reading are conceived to exist during a certain time; for example, in the world of 1850 the man was absent, but in the world of 1950 he was there, or today at one o'clock his reading was absent, but at two o'clock it was there. The difference we are talking about is the difference between 1. first thinking of the world of 1850, without the man, and then of the world of 1950, with the man, or first thinking of the world of one o'clock, without the reading, and then of the world of two o'clock, with the reading; and 2. thinking of the world of 1950 and becoming aware that it contains the man (not his absence), or thinking of the world of two o'clock and becoming aware that it contains the reading (not the absence of it).

2. The distinction introduced in section 1 is an opposition between, on the one hand, *Idut rússkie* and *Obed na stolě*, and, on the other hand, *Rússkie idut* and *Na stolě obed*. In a standard Mathesian approach, the former two are called "objective", the latter two "subjective". I agree with these treatments that "ob-

jective" arrangements have something in common, and that subjective" arrangements have something in common, but I do not regard the difference between the two groups as a stylistic difference; the difference is semantic because it correlates with the formal difference between sentences having the last accent in final position and sentences having the last accent elsewhere. In subsequent sections, more examples of the same difference will be discussed. But before we come to that, we have to link up the meaning of the position of the last accent in these examples with two other issues mentioned in VI.7: the fact that an accented element which would be the "rheme" if no further accent followed in the same sentence becomes the "theme" under the influence of the next accent, i.e. the shift from a negation of a non-concurrent negation to a negation of a concurrent negation described in IX.3, and the fact that neither the sentences grouped together as "objective" arrangements nor the sentences grouped together as "subjective" arrangements, have the same word order. In VI.4 it was suggested that a meaning is to be ascribed to sentence positions, irrespective of which lexical items fill these positions.

I now propose that the following has to be said about Russian sentences consisting of a subject and a predicate: the first element and its negation belong to the same moment, the second element and its negation belong to different moments. From this, the difference between "objective" and "subjective" arrangements, and the shift from a negation of a non-concurrent to a negation of a concurrent negation can be derived.

Two notions of time are involved: projection time and the time in which the world is conceived to exist (types 2 and 4 of IX.7). Further, the last accent of a sentence always negates a non-concurrent negation, i.e. the projection involved has a negation in another moment of projection time. This is another way of saying that a sentence contains information; this fact cannot be derived from any other fact; it is, in my view, a primitive observation about language.

The various combinations are the following:

1. *Idut rússkie* and *Obed na stolé* ("objective").

The accents negate a non-concurrent negation by virtue of the fact that they are the last accents, i.e. "russkie" and "na

stole", respectively, have a negation in another moment of projection time. We are talking about the second element of the sentences, so that "russkie" and "na stole", respectively, must have a negation belonging to a different moment. In what I have called the forward and backward linking schemes, this is, besides being a negation in another moment of projection time, also a negation in the world of another moment; in the examples: the absence of the Russians and the Russians, and the absence of being on the table and being on the table, respectively, are pictured in the world of different moments. So the accented elements in these sentences have a negation belonging to a different moment for both times involved. The examples in XI.9-10 of what I have called the parallel linking scheme (all examples in XI.9 are negative sentences) illustrate the other possibility here: the last accented elements and their negations belong to different moments of projection time, but they are projections of the world of the same moment.

The other combination, viz. a negation in the same moment of projection time which has a referent in the world of a different moment is impossible here because we are talking about last accents.

2. *Rússkie idut* and *Na stolé obed* ("subjective")

The accents negate a non-concurrent negation by virtue of the fact that they are last accents; this is the same as in point 1. But now we are dealing with the first element of the sentences, so that "russkie" and "na stole", respectively, must have a negation belonging to the same moment as "russkie" and "na stole" themselves. This cannot be the same moment of projection time (last accents), so it must be the world of the same moment: the world of a given moment is first viewed as containing a referent of "not russkie" and "not na stole", respectively, then as containing a referent of "russkie" and "na stole", respectively (see the examples in section 1 above).

3. *Rússkie idút* and *Obéd na stolé* ("objective").

To the last accents point 1. applies.

The first elements, "russkie" and "obed", respectively, must have a negation in the same moment. The sentences are examples

of what I have called the backward linking scheme. In such sentences, the next accent relegates the referent of the non-concurrent negation of the first element to the world of a preceding moment; it does so because the negation of the second element, which has a referent in the world of another moment than the second element itself, links up with the first element. Thus, from *Rússkie idut* to *Rússkie idút* we make the following step:

Next, because *russkie* is the first element, it must have a negation in the same moment. In *Rússkie idut* this is a negation in the world of the same moment, but in *Rússkie idút* this is made impossible by the remainder of the sentence. *Russkie* then gets a negation in the same moment of projection time, i.e. here we observe the shift from a negation of a non-concurrent negation to a negation of a concurrent negation indicated in IX.3. We saw in the foregoing that a concurrent negation "not x" and "x" itself often have referents in the world of the same moment, i.e. not only the projections but also their referents concur; but concurrent "not x" and "x" may have referents in the world of different moments, for example when "not x" and "x" project non-concurrent parts (see XI.8). Just as concurrent projections may have referents in the world of the same or different moments, non-concurrent projections may have referents in the world of the same or different moments. An example of the former is *One swallow doesn't make a summer*, with the two readings described in XI.8, an example of the latter is *Rússkie idut* versus *Idut rússkie*.

The examples discussed in XI.9-10 illustrate the other possibility here: in what I have called the parallel linking scheme, the negation of the second element links up with the non-concurrent negation of the first element, thereby pre-

venting this non-concurrent negation from getting a referent in the world of a different moment; the step indicated above for *Rússkie idut/Rússkie idút* does not take place then. As we saw in XI.9-10, the first element may nevertheless also have a negation in the same moment of projection time; in that case, the first element has a negation in the same moment for both sorts of time involved.

4. *Idút rússkie* and *Na stolé obéd* ("objective").

To the last accents point 1. applies.

Both sentences are predicative sentences, but only *Idút rússkie* contains a verb. In X.8-9 I have suggested that the two cases should be dealt with separately because a verb can be linked forwards to a subject following it, while other elements cannot be linked forwards if the combination is to be a predicative one. In *Idút rússkie* we observe the indeterminacy mentioned in X.10, i.e. the accent on *idut* may be interpreted as a negation of a concurrent negation (giving the first element a negation in the same moment of projection time), or the first element may be processed separately; in the latter case the non-concurrent negation of "idut" and "idut" itself are given a referent in the world of different moments (see *Rússkie idút* in point 3.), and the non-concurrent negation of "idut" does not play a part in the remainder of the sentence, i.e. it does not link up with "russkie". If my proposal is correct, *Idút rússkie* should exclude an interpretation saying that "not idut" and "idut" project the Russians at different moments of their existence (in contrast to *Rússkie idút*).

The sentence *Na stolé obéd* has a backward linking scheme, so that *Na stolé* can at first sight be equated with *Rússkie* and *obéd* in point 3. above. The difference comes to light when a different accentuation is chosen: the accent in *Rússkie idut* and *Obéd na stole* may include the remainder of the sentence in its scope, while the accent in *Na stolé obéd* cannot (just as the accent in *Idút rússkie*). In non-predicative constructions, a scope as that in *Na stolé obéd* reflects either a forward linking scheme or a backward linking scheme with non-coinciding projections (see XI.1-3), but the former is

incompatible with a predicative reading unless a verb is involved (see X.8-9). In the example, "obed" is mapped onto the whole of places of which the referent of "na stole" is a part (i.e. onto "space"); in general, predicative sentences of this type exclude the perception of the referent of the first element as a separate "figure" in space.

Summarizing, I propose that the meanings "x and its negation belong to the same moment" and "x and its negation belong to different moments" are correlated to non-final and final positions, respectively. These meanings underlie both the interpretation of an element as a "theme" or a "rheme", i.e. as an element with a negation in the same or a different moment of projection time, and the opposition between "subjective" and "objective" arrangements, i.e. between non-concurrent projections having a referent in the world of the same or a different moment; the latter is an opposition between sentences having the last accent in non-final position and sentences having the last accent in final position. We will see in the following sections that a sentence position may be "non-final" in one opposition and "final" in another, i.e. that the names "non-final" and "final" used here stand for the positions of an element with respect to the element with which it exhibits a word order opposition in the language involved.

3. Most treatments of word order in Russian discuss the non-minimal pair ^(V)SV versus ^(V)VŜ. The former is called "dynamic", the latter, "static" or "existential" (see V.2). This characterization is appropriate as far as the referent of the subject is concerned. The subject in ^(V)SV cannot be included in the scope of the accent on the verb (see X.8), i.e. the accent on the verb replaces "S not V" by "SV". Since "not V" has a referent in the world of a time other than that where "V" has a referent (see sections 1 and 2 above), the "S" in "S not V" and the "S" in "SV" refer to something as it is at different moments of its conceived existence, so that the sentence gives the impression that this referent is followed through time (see X.9 for deviating examples). For example, the departure of a train in the

underground is announced on the platform by *Dvâri zakryvâjutsja* (The doors are closing); this sentence pictures the doors at two different moments, when they are still open and when they are closing, the sentence introducing the property of closing. The sentence *zakryvâjutsja dvâri* (^(V)VŜ), in contrast, does not involve a projection of the doors at a time of their existence when they are not closing. This sentence also introduces the thought of the world of a certain time, but this is not the time of the closing but the time of the doors, the absence of the doors belonging to the world of another time. Since the verb falls inside the scope of the accent on the subject, the absence of the doors implies the absence of their closing, and since the sentence does not involve a projection of the doors at a time of their existence when they are not closing, it does not exclude the interpretation that the doors are closing during their whole existence. In general, a ^(V)VŜ arrangement is compatible with the idea that it is the concatenation of "V" to "S" which is responsible for the negation of "not S", because the former operation precedes the second (see section 1): in *Idut rûsskie* (There are Russians coming - ^(V)VŜ) we have the idea that the coming is the cause of the fact that the Russians are not absent. In the sense of X.8, the verb indicates the way the referent of the subject is introduced, the property referred to by the verb and the presence of the subject merging into a single idea.

As an initial step towards a description of longer sentences, it is useful to view a Russian ^(V)SV arrangement as a way to dissolve the merged idea of ^(V)VŜ into two distinct projections: in ^(V)SV the property referred to by the verb has nothing to do with the idea of the existence of the referent of the subject because the referent of the subject is there also when the referent of the negation of the projection conveyed by the verb is there, so that the non-existence of the referent of the subject precedes both the referent of "not V" and that of "V"; this non-existence falls outside the reach of the sentence.

Thus, starting with ^(V)VŜ, where the idea of the property referred to by the verb and the idea of the existence of the referent of the subject are merged, we extract the verb and place it to the right of the subject: ^(V)SV. This manoeuvre disconnects

the idea of the existence of the referent of the subject from the idea of the property referred to by the verb and relegates the non-existence of the referent of the subject to the past. In terms of the time-sausage of section 1 above, ⁽⁻⁾VS cuts off the slice containing the referent of "S", while in ⁽⁻⁾SV this slice is already given; the latter sentence divides the given slice into one containing the referent of "not V" and one containing the referent of "V".

Having arrived at ⁽⁻⁾SV, we leave out the accent on V: ⁽⁻⁾SV. By this step we exclude from the picture the world of a time when the referent of "S" was there but not the referent of "V", i.e. we do not think of the referent of "S not V". However, the world of the time before the referent of "S" existed, cannot be brought back anymore, we have lost sight of it by placing the verb to the right of the subject. Although the accent on the subject negates a projection of the absence of the referent of the subject, this absence cannot be the non-existence of the referent; as we saw in the foregoing, it is the absence of the referent in the world of a given time, i.e. we project the absence in the world of a time when the non-existence of the referent already belongs to the past.

This procedure can be illustrated in English only when we add a third element. Consider, for example, *Hère is the solution*, *The solution is here*, *The solution is here*. In the first sentence, the idea of the solution being here merges with the idea of the existence of the solution: its being here excludes its non-existence. It may be, of course, that the solution existed before it was here, but the sentence does not evoke this idea, because it introduces the thought of the world of a time when it contains the solution. By placing *here* to the right of the subject, as in the second sentence, we disconnect the ideas of the existence of the solution and its being here, because the arrangement urges us to think of the solution when it was not here. By leaving out the accent on *here*, *The solution is here*, the projection of the solution when it was not here is eliminated, but the former relationships have been destroyed by putting *here* to the right of the subject. The accent on the subject negates a projection of the absence of the solution in

the world of a certain moment, but the world of preceding moments contains the solution; we know this by virtue of the order of the words.

An English arrangement ⁽⁻⁾Verb - SSubject, without a preceding third element, does not have the same meaning as the identical Russian arrangement; the same holds true for Dutch. Some Russian examples of section 1 are therefore hardly translatable; in e.g. *The wind rose*, the ⁽⁻⁾SV arrangement cannot be compared with Russian *Podul veter* ⁽⁻⁾(VS): it is not the case that English ⁽⁻⁾SV corresponds to both VS and SV in Russian, nor that the English order does not express a meaning of the Russian type; rather, the English sentence gives the same impression of "unexpectedness" as Russian ⁽⁻⁾SV. In order to avoid this, *The wind rose* will probably be preferred; but this is not an adequate translation either, so we must conclude that English simply lacks the Russian option ⁽⁻⁾VS.

Although we are not accustomed to think of non-entities in terms of existence, the three steps indicated above can be repeated for the other element. Thus, in *obed na stole* (Lit. *Dinner is on the table*) the accent on *stole* negates a projection of the absence, which cannot be distinguished from the non-existence, of being on the table. When we move via *Na stole obed* to *Na stole obed*, we arrive at a sentence which focuses attention on the property of being on the table which is present in the world of a given time, without involving a projection of the world of a time when the property of being on the table did not exist.

4. In the sentence which results when, starting from Russian ⁽⁻⁾VS, we extract the verb and place it to the right of the subject, ⁽⁻⁾SV, the verb must be linked backwards to the subject because there is no further element. We now add an object and repeat the same procedure, i.e. from ⁽⁻⁾S V O to ⁽⁻⁾S O V to ⁽⁻⁾S O V. By adding the object and linking forwards the verb to the object, the relation between the subject and the verb becomes indirect: it is now the ⁽⁻⁾VO combination which links up (backwards) with the subject. With in the VO group, the relationships are the same as those in ⁽⁻⁾VS

with which we started. Thus, in e.g. *On prinimaet učas̃tie* (He takes part), the part which he takes exists because he takes it, the idea of being taken merging with the idea of the existence of the referent of the object. By extracting the verb and placing it to the right of the object, the relationships are destroyed, to the effect that the non-existence of the referent of the object falls outside the reach of the sentence: in *On učas̃tie prinimaet* (SÔV) we conceive his participation independently of whether or not he indeed takes part. Moreover, as remarked in X.8, we create a connection between "S" and "O" independently of "V":

Next, we can partially switch back by omitting the accent on V, SÔV, but the accent on the object cannot negate a projection of the non-existence of the referent of the object; with this arrangement the example conveys that his participation is not absent in the world of a given time. The difference between SVÔ and SÔV is especially clear in negative sentences, where between *On ne prinimaet učas̃tija* (He does not take part - SVÔ) and *On učas̃tija ne prinimaet* (SÔV) the same difference can be observed as that between *Ne zvenel telefon* and *Telefon ne zvenel* (The telephone did not ring - VŜ and ŜV) mentioned in section 1 above. The SVÔ sentence simply conveys that he does not take part, i.e. it introduces the world of a time characterized by the absence of his participation. The SÔV sentence clearly suggests that, while his participation is there at other moments, he fails to participate at a given moment; it could, for example, be used during a match when he suddenly interrupts his activities. Thus, even in relatively "fixed" combinations like "prinimat' učas̃tie", word order contributes to the meaning of the sentence.

The forward link between the verb and the object in SVÔ makes the link between the subject and the verb indirect; this can also be observed in English *Here is the solution* versus *The solution is here*, it is, in fact, a regular phenomenon. In *Here is the solution*, the verb and the subject form a group:

But in *The solution is here*, the verb is connected with the subject indirectly:

It follows that we cannot say in general how a sentence consisting of e.g. a subject, a verb and an adverb, is organized: it depends on the order of the words. As a consequence, the scope of an accent can also be different with different word orders.

The different order in which the links are established in Russian SVO and SOV has an interesting consequence in another type of sentence, namely in sentences with the verb *byl'* (to be) and a so-called predicative, for example *On byl gotov* (He was ready) and *On gotov byl* (Lit. He ready was). It seems to me that *on byl gotov* can be compared with SVÔ:

On gotov byl has the same organization as SÔV:

However, since *gotov* is itself a predicative element (the present tense of the sentence lacks the verb to be), the arrangement *On gotov byl* has the effect of assigning to *gotov* verb-like properties. This can be observed in intonation and negation.

As to intonation, in V.6 I mentioned that the "interrogative" type of Russian pitch accent is placed on the verb in one case where e.g. English has an accent on the object: *Ty čitál ètu knigu?*, in the sense "Have you ever read that book?". Now, in this case, the "interrogative" accent is placed on *byt'* if the latter precedes the predicative, as was to be expected, but it is found on the predicative when *byt'* follows, e.g. *Možno bylo?* (Lit. Possible was?), *Nado bylo?* (Lit. Necessary was?), etc. When in negative sentences the particle *ne* precedes a word other than the verb, the result is normally a so-called constituent negation; this can be verified by including in the sentence a *ni*-word, e.g. *nikto* (nobody), which does not in that case have its normal interpretation (cf. XI.10). For example, *Nikto ne čitaet knigu* (Lit. Nobody not reads book), or *Nikto knigu ne čitaet* (Lit. Nobody book not reads) are normal, while *Nikto čitaet ne knigu* (Lit. Nobody reads not book) and *Nikto ne knigu čitaet* (Lit. Nobody not book reads) are unacceptable (unless Russians accept persons called Nobody). However, sentences containing *byt'* and a predicative deviate from this pattern. Gabučan observes in *Grammatika* (1980: 409) that both *ne-byt'*-predicative and *ne-predicative-byt'* tend to a so-called sentence negation. Thus (ibid.): *Nigde/Nikogda im ne bylo skúčno* (Lit. Nowhere/Never for-them not was dull) and *Nigde/Nikogda im ne skúčno bylo* (Lit. Nowhere/Never for-them not dull was), but not *Nigde/Nikogda im bylo ne skúčno* (Lit. Nowhere/Never for-them was not dull).⁴³

The data adduced by Gabučan are probably incomplete, however, because none of the following are excluded:⁴⁴ *Nikomú ne bylo vidno* (Lit. For-nobody not was visible), *Nikomú bylo ne vidno* (Lit. For-nobody was not visible), *Nikomú ne vidno bylo* (Lit. For-nobody not visible was), *Nikomú vidno ne bylo* (Lit. For-nobody visible not was) (the last one preferably *Nikomú vidno ne bylo*). The unexpected acceptability of *Nikomú bylo ne vidno* probably points to a grouping of the first two words, along the lines of the example with the "long form" mentioned in I.9.

In general, the position of *byt'* with respect to other elements of the predicate deserves a separate study. Sirotinina (1965: 119) provides a list ranging from almost 100% postposition of *byt'* to 100% preposition, for different predicatives. For example: *dólžen byl* (Lit. obliged was), *móžno bylo* (Lit. possible was), *nádo/núžno bylo* (Lit. necessary was) (all four more than 99% postposition), versus *byl uvěren* (Lit. was confident), *byl ubežděn* (Lit. was convinced) (both 100% preposition), *bylo temno* (Lit. was dark), *bylo pózdno* (Lit. was late) (more than 90% preposition), etc. Most predicatives occur in both arrangements, e.g. *stranno* (strange), *nužen* (necessary), *nevozmožno* (impossible), *slyšno* (audible). The choice may be influenced by the position of the whole group with respect to the subject (Sirotinina 1965: 122). For example, among the cases of postposed *byt'* are sentences like *Chotja vúpita byla vsego odná rjúmka* (Lit. Although emptied was only one glass); in this position *byt'* is often postposed to the other predicative element. When the subject precedes, *byt'* normally precedes a word like *vúpita*, e.g. *Chotja odná rjúmka byla vúpita* (Lit. Although one glass was emptied); here, postposed *byt'* is likely to be accented.

As a contribution to the description of the difference between predicative - *byt'* and *byt'* - predicative Sirotinina et al (1968: 99) observe that postposition of *byt'* is characteristic of predicatives referring to properties which cannot be controlled by will or conscious mental activities, and of predicatives with a clearly expressed modality (whatever that may be), while a preposed *byt'* is typically found where sense perceptions are involved or properties of which the presence is consciously controlled.

I would propose to investigate whether the difference can be brought under the same heading as the basic opposition between *ŠV* and *VŠ* (or *ŌV* versus *VŌ*). Thus, *On gotov byl* and *On byl gotov* (He was ready) clearly have a different meaning (cf. Sirotinina et al 1963: 97 note 1). The latter could be used to convey that he is ready, for example, with his work, i.e. he is first not ready and then ready, at different moments. The former could be an answer to the question: Did he cry?, the answer being that he

was about to; in this case he does not move from a time when he was not ready to a time when he was, he simply is ready or not ready at a given moment. This agrees with the observation about the presence or absence of control because, while he can undertake activities in order to get through his work so that he will be ready, he does not do anything in order to become ready for crying (the latter would be *On byl gotóv*).

A comparable opposition (see also Korubin 1974 on Macedonian) exists in Dutch, e.g. *Hij is ermee bezig* versus *Hij is er bezig mee* (Lit. He is busy with it), or *Hij is ermee klaar* versus *Hij is er klaar mee* (Lit. He is ready with it). In Dutch we cannot state the difference for the position of the verb (see section 6 below); the relevant point is the position of *mee* (with) with respect to *bezig/klaar* (busy/ready). The following sentence is not a contradiction: *Hij is ermee bezig maar hij is er niet bezig mee* (Lit. He is with-it busy but he is it not busy with); the sentence means that he is doing something but that he is not occupied by what he is doing. That is, he is in a time when he is busy with it, as opposed to another time when he is not, but at the same time his mind may be, but need not be, occupied by it. In the same way, *Hij is ermee klaar* means that he is now ready while before he was not (he has finished it); but in *Hij is er klaar mee* we do not follow him from a time when he was not ready to a time when he is: he can no longer do anything because of the circumstances in which he finds himself (bad luck for him).

Words which can also be interpreted as what we call: participle of a verb may precede or follow the preposition in main clauses, just as with *bezig* and *klaar*; a third arrangement appears only in dependent clauses. For example, *Hij is ervoor geknipt* means both that he has been cut for it (e.g. his hair) and that he is cut out for it; *Hij is er geknipt voor* has only the latter reading. In dependent clauses we have: *dat hij ervoor is geknipt*, *dat hij ervoor geknipt is*, and *dat hij er geknipt voor is*. In my speech the first one has only the verbal reading, the second one has both, and the last one is only "that he is cut out for it". There are, consequently, two oppositions: *ervoor is geknipt* versus *ervoor geknipt is*, and *ervoor geknipt is* versus *er geknipt voor*

1. The first arrangement is impossible with *bezig* or *klaar*, i.e. one cannot say: *dat hij ermee is bezig/klaar*; the "verbal" element of this arrangement seems to be a reference to the activity which causes the transition from a time when the negation of "geknipt" has a referent to a time when "geknipt" has a referent: first he is not cut, then we cut him, finally he is cut, the cutting being responsible for the change. The second opposition, which is the only one for *bezig* and *klaar* (*dat hij ermee bezig/klaar is* versus *dat hij er bezig/klaar mee is*), is excluded for words which have incorporated the "verbal" idea into their lexical meaning (more precisely, the impossibility shows that the "verbal" idea is incorporated); for example, one cannot say *dat hij er gevallen op is* (that he has fallen on/for it) but only *dat hij erop gevallen is* and *dat hij erop is gevallen*.

It seems to me that both oppositions are examples of the basic V_S versus $\bar{S}$ V contrast, but on a different level; the arrangement *dat hij ervoor geknipt is* is of the $\bar{S}$ V type in the opposition with *dat hij ervoor is geknipt*, and of the V_S type in the opposition with *dat hij er geknipt voor is*.

5. The reorganization which can be observed when we move from Russian VS to SV, or from VO to OV, is not restricted to examples with a verb which may precede or follow a subject or an object. The same distinctions can be illustrated by placing an adverb before or after a verb. For example, *Apparátura normal'no funkcioniruet* (Lit. The apparatus in-a-normal-way functions) conveys in the first place that the apparatus works (taking, as before, an assertive type of accent), i.e. the accent on the verb negates a projection of the non-existence of the functioning (the absence belonging to the world of another time). By extracting the adverb and placing it to the right of the verb, *Apparátura funkcioniruet normal'no* (Lit. The apparatus functions in-a-normal-way), the issue about the existence of the functioning is made to belong to the past, the point now being whether or not the functioning, which is there anyway, proceeds in a normal way. Therefore, the sentence *zvúki glúcho razdavális'* (Lit. The sounds in-a-dull-way

resounded) is a strange sentence, while *Zvuki razdavilis' glúcho* (Lit. The sounds resounded in-a-dull-way) is not: the former conveys that the sounds resounded, which is a silly thing to say because sounds can hardly not resound (the Russian verb is a so-called "empty" one); the latter sentence conveys how the resounding proceeded, but not that the resounding was there (cf. Grammatika 1980: 206).

As the third step, we can omit the accent on the postposed adverb: *Apparátúra funkcioníruet normal'no* (Lit. The apparatus functions in-a-normal-way). This step cannot return the non-existence of the functioning, so that the accent on the verb focuses attention on the property of functioning which is present in the world of a given time.

The same can be illustrated in English. Consider, for example, *She attentively listened, She listened attentively, She listened*. Only the first of these sentences negates a projection of the non-existence of the listening. The last one can be imagined in a context such as: Why was she presented with a bunch of flowers after the lecture?, the accent calling attention to the (already present) listening, without conveying the fact that she listened.

In Dutch main clauses an adverb cannot be placed between the subject and the verb, so that we have, besides *Aandachtig lúisterde ze* (Attentively she listened), only *ze lúisterde aandachtig* and *ze lúisterde aandachtig*, not *ze aandachtig lúisterde*. The adverb can also be *niet* (not) (but the sentence-initial position is hardly interpretable then). The semantic difference between *Värb - Adverb* and *Vèrb - Adverb* has been clearly described by Gussenhoven (1983(c): 145-150). Gussenhoven adduces, for example: *En je bœert niet* versus *Je bœert niet* (Lit. (And) you belch not); the former could be spoken when two persons sit down to dinner, the latter when somebody is supposed to belch but fails to do so (e.g. during a rehearsal of a play), or as an explanation of why the speaker has decided to marry the hearer (op.cit.: 146). The accent on *niet* in *En je bœert niet* introduces the world of a time characterized by the absence of belching: we are now going to eat, so the time has arrived when you should refrain from belching.

The sentence *Je bœert niet* is of the same type as Russian *Telefón ne zvenel* (The telephone did not ring; $\hat{S}$ not V) mentioned in section 1, and *On učástija ne prinímaet* (He does not take part; $\hat{S}$ not V) discussed in section 4. The play-context defines the "normal" picture of the world as one containing the belching, so that it could be expected to be there also at the given moment; the sentence *Je bœert niet* calls attention to the belching because it is absent at a moment when it should be there. The marriage-context does not involve a property of belching which should be there, but one which could be there, the difference being a matter of interpretation. (This formulation adopts the simplifications mentioned in X.11; the relationships are in reality somewhat more complicated, because the negation of "boert" refers to the absence of belching and "boert niet" to a negative property, which is not the same, cf. XI.10.)

In section 3 it has been remarked that English $\hat{S}V$ does not express the meanings of both $\hat{S}V$ and $V\hat{S}$ in Russian. In general, when some word order is lacking (or has a different type of meaning), the function of the lacking word order is not taken over by another word order. For example, the element *ervan* in Dutch *Hij eet ervan* (Lit. He eats of-it) cannot be placed elsewhere in the sentence. But *Hij eet ervan* does not have the meaning which *Hij ervan eet* would have if it existed. *Hij eet ervan* could be used as an answer to the question: Why does he accept that job?, i.e. he lives on the job. The accent on *eet* is unable to negate a projection of the absence of eating, the absence viewed in the world of another time (which it would do in *Hij ervan eet*); therefore, the sentence is inappropriate in a context where such a negation is needed. In order to arrive at this negation we employ accentuation: by adding an accent to the right of, here, *eet*, the absence of the property of eating is relegated to the past (cf. section 2 point 3). When such a further accent is present, the accent on *eet* gives the impression of being itself responsible for the relegation. Thus, *Hij eet ervan* could be a remark about somebody who normally does not eat (who is a bad eater) but who is now hungry because he has been walking all day. In this context *Hij eet ervan* is inadequate because it does not convey that the absence of eating is pictured

in the world of another time (in the job-example, he eats whether or not it is the job which furnishes the money for the food, the accent focuses attention on the property of eating which is there at a given time). Although we have the impression that in *Hij eet ervan* the accent on *eet* is the important one, the accent on *van* is indispensable if the projection of the absence of eating is to be a projection of the world of a time other than that when the eating is there. We met a simpler example of this in 1.10: the first accent in *Thieves will be prosecuted* can be interpreted as: "if there are thieves", i.e. "if there comes a time defined by the presence of thieves"; this interpretation, namely that the absence of thieves belongs to the world of a preceding time, is made possible by the accent on *prosecuted*; in *Thieves will be prosecuted* it is impossible because of the order of the words. As to the Dutch example, word order is different in a dependent clause: *dat hij ervan eet* (Lit. that he of-it eats). In this case, the accentuation *dat hij ervan eet* is hardly interpretable (besides as a correction of a mistake), because the accent on *van* cannot now make the same contribution as before, for no other reason than that it precedes *eet*; hence, the order of the words is relevant irrespective of the fact that *ervan* cannot be placed elsewhere. This shows that the left-right principle of sentence-processing does not make an exception when word order is inconvenient, and that it is impossible, beyond a certain basic level, to study accentuation without taking into account the meaning of word order.

Another example of this impossibility is the influence of word order on the possible scope of an accent. In section 4 I mentioned that sentence elements can be organized differently with different word orders. This phenomenon may also be illustrated with the help of adverbs. Consider the following Dutch sentence: *Hij is helemaal uit Alkmaar komen fietsen* (He has come cycling all the way from Alkmaar). Here, *helemaal* (all the way) is an adjunct to the whole group *is uit Alkmaar komen fietsen* (has come from Alkmaar by bike); the position of *helemaal* ensures that the idea of coming from Alkmaar and the idea of coming by bike are merged. By placing the adverb to the right of *uit Alkmaar* the relationships are changed: in *Hij is uit Alkmaar helemaal komen fietsen*, *helemaal* is an ad-

junct to *is komen fietsen*, while the group *is helemaal komen fietsen* is linked up with *uit Alkmaar*. As a consequence, we are inclined to read the latter string with an additional accent on *fietsen*: *Hij is uit Alkmaar helemaal komen fietsen* (He has come from Alkmaar by cycling all the way). Because of the position of *helemaal*, the idea of coming from Alkmaar and the idea of doing so by cycling are disconnected: the question of whether or not he came from Alkmaar can no longer be affected by the question of how he covered the distance, the former issue has already been settled when the latter is raised.

In general, the procedure for building longer sentences which has been sketched from section 3 onwards starts with a single chunk of information, basically:

In such a configuration, an accent on *b* introduces the thought of the world of a time when it contains a referent of "a" and "b". Next, we extract "a" and link it forwards to "c":

In this configuration, the relationship between "b" and "a" is indirect, while that between "a" and "c" is the same as that between the initial "a" and "b". Although an accent on *c* now introduces the thought of the world of a time when it contains the referents of "a" and "c", this world falls entirely within the world of a time when it contains a referent of "b", since the absence of the referent of "b" (projected by non-concurrent "not b") is made to belong to the world of a preceding time by the

backward link between the remainder of the sentence and "b" (given an accent on c).

The example *Peter had plans/clams for dinner* discussed in X.5 illustrates that the decision to link an element forwards is the decision to include the referent of the element linked forwards in the world of the time introduced by the next accent. Thus, in *Peter had plans for dinner* the choice of a forward link between "plans" and "for dinner" corresponds to the idea that in the world of a time when Peter did not have anything for dinner (when "not dinner" had a referent), the plans which he had were also absent. In that world Peter is already present, his absence preceding the absence of his plans for dinner because "Peter" cannot be linked forwards to the verb following it. The sentence *Peter had plans for dinner* more obviously consists of three chunks instead of two ("Peter", "had plans" and "for dinner"), which corresponds to the idea that Peter is there whether or not he had plans, and that the plans are there whether or not they are eaten for dinner.

In this way, a complex sentence consists of a sequence of information units, every subsequent chunk having a referent in the world containing the referents of the preceding chunks. Backwards links define chunks of information; within a chunk, the elements are held together by forward links.

6. Dutch has the property that it cannot use the position of the verb with respect to the subject and object for expressing what is expressed by it in Russian. I shall not go into the meaning of the position of the verb in Dutch, but I would start an investigation of this problem with the observation that Dutch VS isolates one aspect of Russian VS: since in Russian VS the negation of "S" and "S" itself have a referent in the world of different moments, both "not S" and "S" can be correct projections, namely of the world of different moments (first "not S" had a referent, now "S" has). Russian SV, in contrast, relates both "not S" and "S" to the world of a single moment, so that only one of the two projections can be correct about that world. Dutch seems to concentrate on this truth-aspect, but without associating

it with the time relationships which give rise to it in Russian. For example, *Komt Piet* (Lit. Comes Piet) may with any accentuation be a "question" (the negation can be true), it may be interpreted as "just imagine this situation" (we can imagine the negation), or it may convey a condition (in non-final position): "if Piet comes" (but he may not come).

At any rate, if in Dutch we wish to introduce an opposition such as that between Russian VS and SV, we need a third element because the verb has its own job to do. When in Russian such a third element is present, the basic opposition involving only two elements is simply repeated, while Dutch cannot begin to express oppositions of the Russian type before a third element is added to the subject and the verb. It is then the position of this third element with respect to the subject which expresses a distinction like Russian VS versus SV. The verb cross-classifies the opposition by being in what is traditionally called the first, second or last position. For example:

	...X...S...	...S...X...
V1	<i>zit daar een vlieg</i>	<i>zit een vlieg daar</i>
V2	<i>daar zit een vlieg</i>	<i>een vlieg zit daar</i>
V3	<i>(dat) daar een vlieg zit</i>	<i>(dat) een vlieg daar zit</i>

(een vlieg = a fly, zit = sits/is sitting, daar = there, dat = that)

The column to the left can be compared with Russian VS, the column to the right with Russian SV. For example, in *zit een vlieg daar* the position of the verb is irrelevant to the issue of whether or not "not vlieg" can be a projection of the non-existence of the fly (whether or not "not vlieg" and "vlieg" have referents in the world of different moments); it cannot because *daar* follows *vlieg*. The accent on *vlieg* consequently focuses attention on a fly in the world of a time when the non-existence of the fly already belongs to the past (cf. *The solution is here* in section 3). Likewise, any of the strings in the left column can, with unaccented *vlieg*, be used in a context of the type: Have you seen my fly somewhere? (cf. *Rám stul* in section 1).

When the verbal group consists of a finite and a non-finite part, the non-finite part is placed at the end; in row V3 the finite part precedes or follows the non-finite part:

...X...S...

V1 heeft daar een vlieg gezeten

V2 daar heeft een vlieg gezeten

V3 (dat) daar een vlieg heeft gezeten/gezeten heeft

...S...X...

V1 heeft een vlieg daar gezeten

V2 een vlieg heeft daar gezeten

V3 (dat) een vlieg daar heeft gezeten/gezeten heeft

(heeft gezeten = has sat/has been sitting)

As mentioned in section 4, the opposition in row V3 is probably an example of the same basic opposition as that between Russian VS and SV, and there are two of them in more complicated sentences: *dat hij ervoor is geknipt/dat hij ervoor geknipt is* and *dat hij ervoor geknipt is/dat hij er geknipt voor is*.

Just as in the case of the subject, the position of the verb with respect to the object is unable to express distinctions of the type expressed by VO and OV in Russian. Here also, a third element has to be added in order to introduce oppositions of the Russian type. Again, the position of this third element with respect to the object is meaningful in the same way as in Russian the position of the verb already is. This results in:

...X...S...Y...O

V1 heeft daar een vlieg snel een eitje gelegd

V2 daar heeft een vlieg snel een eitje gelegd

V3 (dat) daar een vlieg snel een eitje heeft gelegd/gelegd heeft

...S...X...Y...O

V1 heeft een vlieg daar snel een eitje gelegd

V2 een vlieg heeft daar snel een eitje gelegd

V3 (dat) een vlieg daar snel een eitje heeft gelegd/gelegd heeft

...X...S...O...Y

V1 heeft daar een vlieg een eitje snel gelegd

V2 daar heeft een vlieg een eitje snel gelegd

V3 (dat) daar een vlieg een eitje snel heeft gelegd/gelegd heeft

...S...X...O...Y

V1 heeft een vlieg daar een eitje snel gelegd

V2 een vlieg heeft daar een eitje snel gelegd

V3 (dat) een vlieg daar een eitje snel heeft gelegd/gelegd heeft

(snel = quickly, een eitje = a small egg, heeft gelegd = has laid)

Consider, for example, *Een vlieg heeft daar snel een eitje gelegd*. The position of *daar* with respect to *een vlieg* ensures that "een vlieg" is separated from the remainder of the sentence, the fly's non-existence preceding both its being there and the issue of whether or not it has laid an egg. The position of *snel* with respect to *een eitje* is responsible for the fact that the accent on *eitje* negates a projection of the non-existence of egg-laying; the sentence is of the same type as *She attentively listened* (section 5), but it contains, instead of "listened", "has laid an egg". In contrast, *Een vlieg heeft daar een eitje snel gelegd* is of the same type as *She listened attentively*, the accent on *eitje* focusing attention on the property of egg-laying which is present in the world of a given time. The sentence ... *eitje snel* ... could be used in a direct report of an egg-laying contest.

Starting from these basic possibilities, further modifications can be added. For example, in row V2 everything can be placed to the right of *een eitje* or *snel*, e.g. *Een eitje heeft een vlieg daar snel gelegd*, or *Snel heeft daar een vlieg een eitje gelegd*.

Elsewhere, when *een eitje* precedes *een vlieg*, the former tends to become the subject and the latter the object, e.g. *Heeft een eitje een vlieg daar snel gelégd*; but with the last accent on *eitje* an object-reading is not excluded for me, although it cannot be called impeccable Dutch. The verbal elements at the end need not be the last elements of the sentence, the sentence may proceed with a further chunk of information, for example *Daar heeft een vlieg snel een eitje gelegd op de tafel* (op de tafel = on the table). But the non-finite verbal elements cannot be linked forwards to subsequent elements. This will be discussed in the next section.

7. Non-finite verbal elements in Dutch and English are organized in a different way. This difference pervades the respective systems. Compare:

<i>De jongen heeft gelezen het boek</i>	<i>The boy has read the book</i>
A B C D	A B C D
<i>De jongen las het boek</i>	<i>The boy read the book</i>
A B D	A B D

Dutch B (finite verb) can be linked forwards to C, or to D, but BC cannot be linked forwards to D. Therefore, the Dutch string ABCD is hardly acceptable (see below). No such restriction exists in English. The Dutch string ABCD̂ is processed:

That is, "D" is linked backwards to the preceding group. English, in contrast, allows a forward concatenation of "BC":

When the two languages have the same linear arrangement here (horizontal), they have a different linking scheme and a different order of the projections in projection time (vertical). The difference would be an example of the second type mentioned in X.3 if "BC" were not a verb. Being a verb, Dutch "BC" is first linked up with "A" before "D" is added, as indicated in the scheme; an accent on A may include BC in its scope.

As a consequence, *He has read nothing* is a normal negative sentence, while Dutch *Hij heeft gelezen niets* can at the utmost be interpreted as conveying first that something was read and then that there was nothing after all: *Hij heeft gelézen ...* (speaker pauses to think) ... *niets*. This is, of course, also possible in English, but in Dutch it is the only possibility with this word order. The word order is obligatory if D is an object clause: *Hij heeft gelézen dat ...* (He has read that ...). It is possible without being strange if D enumerates a number of things: *Hij heeft gelézen het boek, de krant, ...* (He has read the book, the paper, ...). Here, the boundary between C and D could in writing be indicated by a colon. The same organization is possible in English.

In order to arrive at the same order in projection time (vertical) as that which is the most obvious one in English, Dutch has to postpone the C element: *De jongen heeft het boek gelezen*; in that case, "(B)C" is linked backwards, so that the same order in projection time as in English is arrived at with a different linear arrangement and a different linking scheme:

The difference is an example of the third type mentioned in X.3.

When a preposition precedes the D element, the Dutch ABCD order occurs more often: *Hij is gevallen in het wáter*, versus *Hij is in het wáter gevallen* (He has fallen in(to) the wáter).

As indicated by the schemes, the difference is that in the former arrangement, "is gevallen" concurs with the non-concurrent negation of "in het water", while in the latter arrangement it does not. Therefore, *Hij is gevallen in het water* is somewhat odd: the sentence conveys that the issue of whether or not he has fallen is settled independently of the question of whether of not he is in the water, so that the sentence suggests that the fall occurred in the water. *Hij is in het water gevallen* more adequately conveys that "is gevallen" is absent when the negation of "in het water" is there, which allows the view that at the time when he was not in the water he had not yet fallen, the fall being the cause of the fact that he was in the water later. But when the different order of the projections in projection time is not crucial both arrangements are possible.

The difference between Dutch and English becomes more interesting in its application to adverbs/particles/prepositions. English allows the verb to be linked forwards to these elements, turning them into non-finite verbal elements: this is impossible in Dutch, where the same order in projection time can be arrived at only by postposing the elements involved. If in Dutch such an element precedes D, the sentence has an organization which also occurs in English, e.g. *Hij stond in het water/Hij was standing in the water*. Finally, English also allows the "Dutch" word order here, e.g. *He gave the book back*; this introduces an opposition which does not exist in Dutch.

I shall call the elements under discussion: X. For example:

<i>He has run up the flag</i>	<i>He ran up the flag</i>
A B C X D	A B X D

As mentioned above, Dutch C has to be postposed in order to arrive at the same order in projection time as that of English; if Dutch C occupies the same position as in English, "XD" is linked backwards to the preceding group. For simplicity's sake, I shall discuss X in sentences without a C element, as in *He ran up the flag*.

The difference between *He ran up the flag* and *He ran the flag up* is an example of the basic VS/SV contrast described for Russian in section 1 (or VO/OV, or *byt'*-predicative/predicative-

byt', or Adverb - Verb/Verb - Adverb, etc.). Such an opposition does not exist in Dutch here, the particle being postposed throughout (leaving aside enumerations and the like). Thus, in *He ran up the flag* the running is felt to be responsible for the negation by the accent of a projection of the absence of the flag. The sentence involves the world of two moments, when the flag was absent and when it was there, and the idea of the existence of the flag merges with the idea of its being up because it is not pictured at a time of its existence when it is there but not up. Starting with this sentence we apply the same procedure as in the case of Russian VŠ: we take out the particle and place it to the right of the flag: *He ran the flag up*. Just as in Russian SV, this step separates the idea of the existence of the flag from the idea of its being up, because now the flag is there whether or not it is up. The sentence again involves the world of two moments, but these are now a world with the flag but without its being up, and, subsequently, a world with the flag being up, so that we follow the movement of the flag. Next, we can choose a different accentuation: *He ran the flag up* (cf. ŠV). By this, we eliminate the projection of the flag when it was not up and give "the flag" a (non-concurrent) negation referring to the world of the same time as that referred to by "the flag" itself. The accent now focuses attention on the flag as it is in the world of a given time; at that time it is up, but we know by virtue of the word order that it is also there when it is not up.

As always, the difference between ... *ran up the flag* and ... *ran the flag up* is the most subtle one. It is reflected in the fact that the former arrangement is used when the existence of the referent of the object is indeed a consequence of the event referred to by the complex verb (rather than being imagined this way), as in *He thought up a plan*; *He thought a plan up* would convey that he had the plan inside himself before he thought it up. The difference has been clearly described by Bolinger (1971), for example:

In the first of the following examples, the style of the family's breakfast makes it understood that the eggs will be boiled and that the act of taking them out is a matter of course; but in the second, the act

of removing is essential to there being any eggs available - *take out* is like the bringing-on-the-scene or [of?] existential verbs cited earlier:

What was wrong with breakfast this morning?
- I forgot to take the eggs out. They got hard-boiled.

Why isn't breakfast ready? - I forgot to take out the eggs. I'll have to wait until they're warm to boil them. (op.cit.: 55-56).

This opposition in English concerns the referent of the object, which is, in the last-mentioned example, the eggs. Dutch has only postposition here, e.g. *Hij hees de vlag op/Hij hees de vlag op* (He hoisted the flag).

However, the Dutch arrangement with a postposed particle may have a second reading as well, and there we do have an opposition with a preposed particle. For example, the sentence *Hij rolde de vlag op* means not only: "He rolled the flag so that it was up", but also: "He rolled onto the flag" (the flag, for example, being spread out on the floor) (Dutch *op* does not differentiate between *up*, *upon*, *on*, *onto*). "He rolled onto the flag" may also be translated as *Hij rolde op de vlag*; the latter will be discussed below.

The two readings of *Hij rolde de vlag op* cannot be present simultaneously. When it is the person who moves onto the flag, the flag is immobilized by converting it into a part of space (cf. a place). This shows up in pronominalizations, where the two readings are distinguished: *Hij rolde erop* (He rolled on(to) it) for the reading where the person is the rolling entity (*er* = there, i.e. the flag), and *Hij rolde hem op* (He rolled it up) when the flag is rolled (*hem* = him/it, i.e. the flag). *Hij rolde erop* is also the pronominalization of *Hij rolde op de vlag*.

The two readings of *Hij rolde de vlag op* are possible with any accentuation, but not all verbs allow both. For example, *Hij rende de vlag op* (Lit. He ran the flag up/onto) means only "He ran onto the flag", and *Hij hees de vlag op* means only "He hoisted the flag" (He ran the flag up).

The fact that the flag is conceived as a part of space when the subject is taken to be the rolling entity also appears in the fact that a direct object can be added to the sentence: *Hij*

rolde de bal de vlag op (He rolled the ball onto the flag); in this case it is unambiguously the ball which is rolled. The arrangement is opposed to *Hij rolde de bal op de vlag*; the pronominalization of both arrangements is *Hij rolde hem erop*, "hem" referring to the ball, "er" to the flag. So when the element immediately preceding a postposed particle (here the flag) is preceded by another element which is not the subject (here the ball), the particle conveys the movement of that other element.

In all cases mentioned, the Dutch postposed particle refers to a movement. This does not follow automatically from its position in the sentence, because there are two ways in which the thought of a movement can be evoked. Consider two places, A and B, and a movement C from A to B:

Two things can convey the movement of an entity from A to B. First, "x" may refer to B; if "not x" has a referent in the world of a preceding time, the entity is first at A and then at B, so that C is implied. Alternatively, "x" may refer to C, and "not x" to the absence of C; in this case, A and B are not referred to, although they may be implied. The latter is, in my view, the case in Dutch. This can be deduced from the fact that one reading of English sentences with a postposed particle is systematically excluded, and from the fact that e.g. *op* does not allow all types of movement but only upward movements and movements taking place in a more or less horizontal level. Thus, *De lamp viel de tafel op* (Lit. The lamp fell the table up/onto) and *Het vliegtuig landde het vliegveld op* (Lit. The plane landed the airport up/onto) are odd because they convey that the fall and the landing proceeded upwards or, as a borderline case, more or less horizontally; thus the movement itself is an apref "op". Furthermore, a sentence like *Hij rolde de vlag op* excludes the reading "He rolled the flag in upward direction" (e.g. up a hill); in Dutch, such an idea, where the movement of the object is aimed at an independently existing place apref "op" (on the hill) can be expressed only by means of a different lexical item (also postposed), here *omhoog* (upwards): *Hij rolde de vlag omhoog* (not *op*).

posed to *Hij rolde omhoog de vlag*, leaving aside enumerations and the like). Likewise:

Hij rolde het tapijt uit

1. (*Hij rolde eruit*) "He rolled out of the carpet"
2. (*Hij rolde het uit*) "He unrolled the carpet"

Hij rolde het tapijt naar buiten (towards outside)

(*Hij rolde het naar buiten*) "He rolled the carpet out"

Hij trok de stad in

(*Hij trok erin*) "He marched into the town"

Hij trok zijn bewering in

(*Hij trok hem in*) "He withdrew his statement"

Hij trok de jongen naar binnen (towards inside)

(*Hij trok hem naar binnen*) "He drew the boy inside"

The correspondences are, to be sure, more complicated elsewhere. For example, Dutch *over* excludes the sense which we find in e.g. *He turned the page over, the dog rolled over and over on the grass* ("so that the other side of the moving thing is visible"); here, Dutch uses *om*. In contrast, *Hij rolde het tapijt over* may be translated as 1. (*Hij rolde erover*) "He rolled over the carpet" (the person moving) and 2. (*Hij rolde het over*) "He rolled the carpet over". Nevertheless, the second reading of the Dutch sentence differs from the English translation: Dutch groups this reading with e.g. *Hij bracht zijn gedachte over* (*Hij bracht hem over*) ("He conveyed his thought") and *Hij haalde zijn vriend over* (*Hij haalde hem over*) ("He persuaded his friend"). Presumably, English *over* in *He rolled the carpet over* refers to the place where the carpet arrived (leaving aside the sense which is translated by the Dutch *om*); given a negation in the world of a preceding time, a movement is implied. In the Dutch sentence, the movement is referred to, which implies in this case a place of arrival. In contrast, in *Hij rolde het tapijt naar de overkant* (He rolled the carpet towards the other side) the movement is explicitly directed towards a place; as a consequence, *Hij bracht zijn gedachte naar de overkant* (He brought his thought towards the other side) is odd, since it suggests that the thought is a parcel.

The fact that a Dutch postposed particle does not refer to a place implies that the moving entity is sometimes an entity which is not mentioned in the sentence. For example, in *Hij stofte de trap af* (Lit. He swept the stairs off - cf. e.g. Lindner 1983: 192-194), the particle cannot convey a movement of the subject because of the inherent meaning of the verb (compare: *Hij slofte de trap af, Hij slofte eraf*: He shuffled down the stairs (descending them)); nor can the sentence mean "He swept the stairs so that they were off", since this idea requires a different word, here *weg* (away), e.g. *Hij rolde de trap weg* (He rolled the stairs off/away). Since the stairs cannot be undusted the way a carpet can be unrolled (*Hij rolde het tapijt af*), the sentence *Hij stofte de trap af* unambiguously involves the dust which is removed from the stairs. In Dutch, this follows automatically from the meaning of the verb and the particle, the sentence is of the same type as *Hij rolde het tapijt af* in the sense "He unrolled the carpet". The pronominalization thus is: *Hij stofte hem af*, "hem" referring to the stairs. In contrast, when the dust is mentioned, as in *Hij veegde het stof (van) de trap af* (He swept (brushed) the dust off the stairs), we arrive at a sentence of the type *Hij rolde de bal de vlag op*: in this case the stairs are conceived as a part of space: *Hij veegde het eraf*, "het" referring to the dust, "er" to the stairs. One can also say: *Hij veegde het stof van de trap weg*, but not: *Hij veegde het stof de trap weg*.

A Dutch postposed particle is regarded as a (non-finite) part of the verb, along the same lines as *geknipt in dat hij ervoor is geknipt* (see section 4): *geknipt* involves a reference to the cutting which causes him to be cut; in the same way, *op* in *Hij rolde de vlag op* refers to the movement which causes him to be on the flag or which causes the flag to be rolled up. As indicated in the schemes given earlier, the accent in *Hij rolde de vlag op* includes in its scope the finite verb, and the accent in *Hij rolde de vlag op* includes in its scope the finite verb plus the particle.

The elements of a sentence like *Hij rolde op de vlag* can be

A B X D

concatenated in three ways. The following is excluded:

This leaves the following possibilities:

Case 1. need not concern us here; it deals with enumerations and the like. For example: *Hij rolde op: de vlâg, het tapijt, de krânt, ...* (He rolled up: the flâg, the cârpet, the nêwspaper, ...).

The difference between 2. and 3. is interpretational (see X.8). The type which is excluded in Dutch is possible in English. (In English, I am not sure about the differentiation between

since it is unclear where the inherent meanings of the particles take over.)

Because of the order of the concatenations, a Dutch preposed particle is called a preposition, leaving aside case 1. Not all particles which occur in postposition can also be used as a preposition; *af*, for example, cannot (so the other reading of *He swept off the stairs*, i.e. "He did his sweeping somewhere not on the stairs", cannot be translated by means of *af*).

In *Hij rolde op de vlâg*, the phrase *op de vlâg* refers to a place. Although the sentence as a whole may imply a movement, this movement is not referred to by the prepositional phrase. So here we have e.g. *De lamp viel op de tafel* (The lamp fell on(to) the table) and *Het vliegtuig landde op het vliegveld* (The plane

landed on(to) the airport): "op de tafel"/"op het vliegveld" refers to the place where the lamp or the plane arrived, so that the implied movement may proceed downwards. Since the prepositional phrase does not refer to a movement, the latter idea can be brought into the sentence by the lexical meaning of the verb only. For example, *De lamp stond op de tafel* (The lamp was standing on the table) does not imply a movement; in contrast, *De lamp stond de tafel op* refers to a movement irrespective of the lexical meaning of the verb, so that this sentence is hardly acceptable. If the lexical meaning of the verb involves a movement, the sentence with a preposed particle has two interpretations: in e.g. *Hij rolde op de vlâg*, the rolling may be the movement which brings him onto the flag, or it may be a movement which takes place while he is on the flag. In both cases, the accent on *vlâg* conveys that he was first not on the flag, then on the flag (which is not conveyed by the accent in *Op de vlâg rolde hij*); the rolling is viewed either as being responsible for the negation by the accent of "not op de vlâg" (the movement idea), or as a way of being on the flag (the location idea). The difference is interpretational; in e.g. *De lamp stond op de tafel*, the standing is obviously a way of being on the table, since it cannot be responsible for the fact that the lamp is not on the table.

The difference between the movement idea and the location idea is not brought about by the concatenation types 2. and 3. mentioned above, although the movement idea tends to 2. and the location idea tends to 3. Thus, in *De lamp stond op de tafel*, the verb may be included in the scope of the accent without introducing the idea of a movement, and *De lamp viel op de tafel* normally implies a movement, whether or not the verb is included in the scope of the accent. The relation with the concatenation types has the same origin as the oddness of *Hij is gevallen in het wâter* (He has fallen in(to) the wâter) mentioned at the beginning of this section. For example, if in *Hij sprong op de tafel* (He jumped on(to) the table) the verb is not included in the scope of the accent (type 3.), the sentence conveys that the question of whether or not he jumped is settled independently of the question as to whether or not he was on the table; this re-

sists the movement idea, because the essence of the movement idea is that we infer the presence of a jump from the fact that he is first not on the table and then on the table. But with some effort, all combinations are possible.

Further, the difference between the movement idea and the location idea is related to, but not identical with, let alone responsible for the difference between, the use of *zijn* (to be) or *hebben* (to have) as a perfective auxiliary (Gussenhoven 1983(a): 401; 1983(c): 152). The meanings of these verbs will not be discussed here. Roughly, *Hij is op de vlag gerold* (is = is) excludes the location idea if the person referred to by "hij" is the rolling entity rather than the entity rolled, and *Hij heeft op de vlag gerold* (heeft = has) strongly prefers the location idea (but compare e.g. *Hij heeft de hêlo dag naar zijn tante gelopen* (The whole day he walked to his aunt)).

As mentioned earlier, the pronominalization *Hij rolde erop* serves both *Hij rolde op de vlag* and one of the readings of *Hij rolde de vlag op*. The accentuation *Hij rolde eróp* prefers the movement idea (otherwise, the accent does not include the verb in its scope); the accentuation *Hij rôlde erop* prefers the location idea, although the verb may also specify how he arrived on the flag.

To the same complicated system of relationships, moreover, belongs the type *He overlooked a mistake*, which is of restricted occurrence in both English and Dutch, as well as oppositions such as the ones between *He swept off the stairs*, *Off the stairs he swept*, *The stairs he swept off*. The fact that the phenomenon of the so-called preposition stranding is more frequent in English than in Dutch, is a direct consequence of the different organizations of the verbal elements in the two languages. It seems to me that all these oppositions can be described in terms of time and negation, which operate on a number of levels, in accentuation, word order, and inherent word-meaning.

8. Gussenhoven (1983(a): 410) correctly observes that accents on English and Dutch prepositions sometimes have a different scope. For example (ibid.):

A (soccer fan): *I want you to sprinkle my ashes all over the pitch*

B: *Well, you know that spectators aren't really allowed onto the pitch*

In B's sentence, *aren't really allowed* can be included in the scope of the accent, which is not the case in the literal Dutch translation:

Je weet dat toeschouwers eigenlijk niet óp het veld worden toegelaten
You know that spectators really not onto the pitch are allowed

The author proposes that the Dutch sentence corresponding to the English example is:

Je weet dat toeschouwers eigenlijk niet op het veld worden toegelaten

Gussenhoven uses these facts as an argument in favour of his view that accent placements are rule-governed (see V.7): "there could be no explanation for the fact that they are on different elements in Dutch if they were not [rule-governed]" (ibidem). I would propose to take into account the organizational difference sketched in section 7, because Dutch allows the following sentence (see Gussenhoven 1984: 177-183):

Je weet dat toeschouwers eigenlijk het veld niet óp mogen
You know that spectators really the pitch not onto are allowed

Here, the scope relations are the same as in the English example with a different word order. Likewise (1983(a): 410, 413):

A: *What other artistes have been in your car?*

B: *Patty Grey was never in my car*
Patty Grey is mijn auto nooit in geweest

A. *I want you all to speak French now*

B. *I didn't know we were in Quebec*

Ik wist niet dat we Quebec in waren

To be sure, I do not claim that the different word orders in the

two languages have the same meaning, nor that this trick applies to all accented English prepositions. My point is that accentuation cannot be accounted for in isolation, and that here we should turn to word order and inherent word-meaning.

The facts of accentuation show mercilessly not only that "syntax" is meaningful and that word order is meaningful, but also that all words in a sentence have a meaning, however "empty" they may seem. An example of this is the fact, mentioned by various authors, that *to* occurring with infinitives may be accented without the accent having a "contrastive" reading. With Dutch *te* this is impossible. From this, the conclusion can be drawn that English *to* and Dutch *te* have a different meaning. The relevant observation is made by Bolinger (1983: 106): such an accent on *to* is possible only where "a residue of the primitive 'direction' or 'purpose' sense remains". Dutch *te* cannot have this sense (compare *toe* and *om*). It remains to describe the meanings of these words.

Such problems arise at every step; therefore, an exhaustive explanation of the facts of accentuation amounts to describing every meaning of the language involved.

To my mind, the study of accentuation, and of information structure in general, has been seriously hampered by theoretical frameworks which prohibit drawing this obvious conclusion. One side of the controversy is summarized by Oakeshott-Taylor (1984: 4):

A preliminary question concerns predictability - i.e. the rule-governed nature - of stress location. If stress is unpredictable, then the topic is of little theoretical interest. [...] There can, I think, be little doubt that stress location is rule-governed. This does not, however, exclude the possibility that alternative stressings might be available for a given sentence - which could give rise to the impression that stress location is free.

In this conception, a given accentuation can be explained only if it is predictable, since an explanation is taken to be identical to a rule which gives the accentuation as its output.

In contrast to this view, I have argued that accentuation is of theoretical interest by virtue of the fact that "alternative

stressings" are available for a given "sentence", i.e. by virtue of the fact that accentuation is unpredictable. This does not exclude the possibility that in many cases an appropriate accentuation of a given string can be predicted on the basis of other information; otherwise, we would be unable to read a text written without accent marks (see chapter IV). Moreover, it does not exclude the fact that accentuation is rule-governed; it is rule-governed, but in a different sense: accent has the same meaning everywhere, and the interpretation of a given accent placement derives in a highly regular way from this meaning, the context, general knowledge, and the other meanings in a sentence, including word order and "syntax". The fact that many of the other meanings are unknown could give rise to the impression that all we can do is to write rules which say where accents must or may be placed. To my mind, such rules are another way of saying: "these are the facts, but we cannot explain them".

9. Finally, I want to suggest that the incorporation into the meaning of a word of, for example, an idea such as a direction can be viewed as a means to save projection time: as long as the idea has not yet been incorporated, two moments of projection time (two horizontal levels in a linking scheme) are needed to convey it, while after the incorporation a single "x" is enough, so that "not x" then functions on a more complicated level, now projecting the absence of the direction.

Lexical incorporation can be observed to exist to various degrees. For example, Dutch *af* is more specified than English *off* because it has incorporated the idea of a movement of a specific type, while the interpretation of the English meaning depends on the organization on the sentential level (see section 7). But Dutch *af* is not an example of complete incorporation: it cannot be used in sentence positions which contradict its inherent meaning.

A higher level of incorporation is exemplified by Russian adverbs referring to directions or locations. For example, *domoj* always means "towards home", and *doma* always means "at home", irrespective of the position of these words in a sentence. Never-

theless, Bivon (1971: 69-72) established that adverbs and adverbial constructions inherently referring to directions, far more often than adverbs and adverbial constructions inherently referring to locations, are placed towards the end of a sentence; the reverse holds true for sentence-initial positions. So the inherent meanings exhibit a statistical preference for the sentence positions which are in accordance with these inherent meanings, despite the fact that the sentence positions are relevant on a different level; the next lower level "lingers on", as it were.

The most interesting case is, of course, the verb. In the three languages considered here, a finite verb can be linked forwards to a subject or an object without the combination losing its predicative meaning (see X.7-9). That is, the verb has incorporated the idea of time to such a degree that this idea cannot be eliminated by initial position and a forward link. Nevertheless, at least in Russian, SV is far more frequent than VS (see III.3): even here, preference is given to an arrangement where the inherent meaning of the verb leads to a backward type of link, and where this inherent meaning agrees with the meaning of word order.

XIII. CONCLUSION

The facts of accentuation, scope and word order present a major problem to linguists who regard it as their task to describe the functioning of language, because all existing proposals to account for these facts by postulating primitive units of content like "theme" and "rheme", or "topic" and "comment", or "given" and "new" information, fail to specify to which formal means these postulated units are directly correlated, so that the proposed units have to be regarded as relics of traditional non-linguistic categories (see Part One).

In Part Two I argued that a direct link between form and content can be established if we recognize that the problem we are dealing with is the relation between the time in which thoughts exist and the time in which the referents of these thoughts are conceived to exist or which is itself the referent of these thoughts. This recognition enables us to observe that all semantic distinctions involved in accentuation, scope and word order amount to various combinations of thoughts or referents which are present simultaneously and thoughts or referents which follow one after the other.

A careful distinction must be made between what we perceive as "real" time, i.e. the idea that one moment follows another, and the linguistic encoding of time, which encoding also takes place in time. As is well-known since the publications of Whorf, languages differ considerably in the way they encode time. While "Standard Average European" encodes, for example, the idea that tomorrow is another day than today, Hopi, as described by Whorf (e.g. 1956: 134-159; originally 1941), is more logical in viewing

tomorrow as the return of today in another time: since tomorrow never concurs with today, there is no reason to assume that it is another day. Nevertheless, "Standard Average European" makes this assumption: "Only by imagination can such a cyclic phase be set beside another and another in the manner of a spatial (i.e. visually perceived) configuration" (op.cit.: 142). Whorf has shown that the systems of encoding which we find in "Standard Average European" must not be equated with the mental faculty which makes these systems of encoding possible, the faculty of bringing non-concurrent things together in the same time by thinking of them as being simultaneous.

The mere fact that we can imagine and describe another system of encoding than that of our own language proves, to my mind, that the faculty itself is not determined by the language we happen to speak. It seems to me that Whorf has not denied this: "We see things with our eyes in the same space forms as the Hopi" (op.cit.: 159); as far as I understand, Whorf argues that "Standard Average European" sees the referents of meanings like "time", "day" and "summer" in that space, while Hopi does not, i.e. that such meanings are language-specific and that the conceptualization as a particular type of referent is a part of the language-specific meanings. The existence of different systems of encoding ensures, of course, that a lot of differences in daily life exist, but it does not prove that the mental faculty which gives rise to these different systems is language-specific (Whorf 1956: 239; originally 1941):

[...] the tremendous importance of language cannot, in my opinion, be taken to mean necessarily that nothing is back of it of the nature of what has traditionally been called "mind". My own studies suggest, to me, that language, for all its kingly role, is in some sense a superficial embroidery upon deeper processes of consciousness, which are necessary before any communication, signaling, or symbolism whatsoever can occur, and which also can, at a pinch, effect communication (though not true AGREEMENT) without language's and without symbolism's aid. I mean "superficial" in the sense that all processes of chemistry, for example, can be said to be superficial upon the deeper layer of physical existence, which we know variously as intra-atomic, electronic, or subelectronic. No one would take this statement to mean that chemistry is UNIMPORTANT - indeed the whole point is that the more superficial can

mean the more important, in a definite operative sense. It may even be in the cards that there is no such thing as "Language" (with a capital L) at all! The statement that "thinking is a matter of LANGUAGE" is an incorrect generalization of the more nearly correct idea that "thinking is a matter of different tongues". The different tongues are the real phenomena and may generalize down not to any such universal as "Language", but to something better - called "sublinguistic" or "superlinguistic" --and NOT ALTOGETHER unlike, even if much unlike, what we now call "mental". This generalization would not diminish, but would rather increase, the importance of intertongue study for investigation of this realm of truth.

FOOTNOTES

1. "[...] způsobu, jakým je [věta] začleněna do věcné souvislosti, z níž vznikla". It is not quite clear to me what Mathesius means by "věcné souvislosti, z níž vznikla". The German translation (Mathesius 1972: 16) runs: "[...] die Art und Weise, in der der Satz in den Sachzusammenhang eingebettet ist, aus dem heraus er entstanden ist".
2. "[...] to, co je v dané situaci známo nebo alespoň nasnadě a od čeho mluvčí vychází"; "[...] to, co mluvčí o východišti výpovědi nebo se zřetlem k němu vypovídá" (1947: 234).
3. "[...] neví, oč jde, a dává se zcela strhnout věcí, která se jemu самому zdá nejdůležitější".
4. For differences between Russian and Czech in the area of FSP see, for example, Adamec (1956), Bačvarov (1974), Křížková (1953) Schaller (1966), Vorob'ev (1961), Zaža (1956). The only observation relevant to the present discussion is that in writing, Czech, even more consistently than Russian, places the last accented item in sentence-final position (see chapter III); the degree to which spoken Czech differs from the written language in this respect remains to be determined.
5. The following monographs are not mentioned in at least one of these bibliographies (only those devoted to Russian and available outside the Soviet Union): Altermark (1977), Bivon (1971), Gundel (1977; greater part on English), Lapteva (1976; partly on FSP), Pavlík (1977), Smelév (1976; partly on FSP), Svedstedt (1976), Večerek (1976); and, since Benoist: Benoist (1979), Bílý (1981; also on Czech and English), Birkenmaier (1979; also on German), Gladrow (1979; also on German), Nikolaeva (1982; related), Nilsson (1982; also on Polish), Sirotinina (1980; 1983; partly on FSP), Torsueva (1979; related), Zolotova (1982; partly on FSP). Probably, a number of dissertations are to be added. As to articles, I cannot even begin to strive for completeness. For Soviet text linguistics see the bibliographies (in) e.g. Biedermann (1976), Gindin (1977) and Jelitte (1973-1974).
6. "Бурное развитие теории актуального членения отвлекло внимание исследователей от проблем синтагматического членения и отчасти вытеснило последнее из круга широко обсуждаемых проблем".
7. "[...] этот исходный материал продолжает оказывать существенное влияние на исследование каждой сферы".
8. "Немалую роль в этом новом статусе дисциплины играет и ее количественный рост".
9. "Принципам анализа материала, выработанным теорией актуального членения, суждено было стать чрезвычайно influentialными".
10. "Основная роль порядка слов в славянских языках сводится к выражению смысловых связей между лексическими формированиями в рамках предложения: лексические формирования, вступающие в непосредственные смысловые связи, независимо от характера их собственно синтаксических функций, располагаются в предложении контактно, остальные - дистантно".
11. "По сравнению с письменной речью порядок слов в разговорной речи отличается большей свободой и вариативностью: здесь значительно ослаблена его роль как средства выражения актуального членения".
12. "Членение на тему и рему называют актуальным членением, поскольку это членение актуально, существенно в данном контексте или в данной конкретной ситуации для говорящего или пишущего".
13. In reality, the issue is more complicated. Trávníček (1961) argued that Mathesius incorrectly distinguished between *Byl jednou jeden král* (only a rheme and accompanying words) and *V jedné zemi panoval král* (theme

plus rheme): why is not *jednou* in the first sentence the theme? (1961: 165). Trávníček's own proposal was based on sentence linearity: in the first sentence *byl (jednou)* is the theme, in the second *v jedné zemi*, and in e.g. *Byl jeden král: byl*. A comparable view is defended by Halliday (1967: 212).

In the posthumous publication Mathesius (1961: 92) the issue is obscured further.

The Adamec-school mainly discussed sentences with the adverbial phrase in first position (only a rheme or a theme plus a rheme?), i.e. the type of sentence which Mathesius unambiguously divided into a theme plus a rheme (e.g. Kovtunova 1967: 120).

The Firbas-school discussed another related issue, namely the question of whether all sentence elements can be located on the scale of Communicative Dynamism. Uhlířová (1976: 312-319) argues that not all elements can be placed in the hierarchy. Bílý (1981: 63-64) agrees with her in principle, but not with her specific proposals. He reports that Firbas himself does not approve of this development.

14. At present, Bryzgunova sometimes describes the difference as one of timbre (e.g. Bryzgunova 1978: 22).

15. The fact that Nikolaeva's proposal is probably meant as an attempt to break away from the established view that *Bábuška spít* and *Spít bábuška* are stylistic variants (see chapter VI) (and every attempt in this direction must be welcomed) may explain the compromise character of the formulation but does not make the proposal less obscure.

16. "Определенный порядок слов и определенное место фразового ударения, вместе взятые, образуют определенную т. наз. линейно-динамическую структуру предложения [...]. Все функции словорасположения можно исследовать лишь с учетом [...] места фразового ударения, иначе результаты исследования не надежны и неточны. [...] Совершенно недостаточно было бы, например, сказать, что основа обычно находится в начале, а ядро в конце предложения, не добавив, что это только в том случае, если фразовое ударение стоит на последнем слове предложения. [...] Взаимоотношение между порядком слов и местом фразового ударения можно до известной степени характеризовать как отношение функциональной заменяемости. В одних случаях главную функцию берет на себя порядок слов, а место фразового ударения только способствует, вернее, не мешает ему; в других же случаях, наоборот, главную функцию перенимает фразовое ударение, причем порядок слов становится до известной степени irrelevantным".

17. "На уровне актуального членения предложения порядок слов играет смысло-различительную роль — он различает тему и рему. Тема [...] стоит в начале предложения, а рема [...] стоит после темы и конце предложения. [...] Смыслоразличительная функция порядка слов осуществляется на фоне стилистически нейтральной ритмико-интонационной структуры фразы с автоматизированным фразовым ударением в конце фразы. [...] В высказываниях с деавтоматизированным [...] фразовым ударением порядок слов утрачивает смыслоразличительные свойства. [...] Деавтоматизированное фразовое ударение имеет различительную силу, являясь единственным формальным средством выражения ремы."

18. "[...] такое неэмфатическое фразоконечное ударение имеет ту же основную функцию, что и фразоначальное рематическое ударение [...]. Оно не только сообщает предложению смысловую законченность, определяет его коммуникативный тип, но и указывает на смысловой центр сообщения — рему [...]. Здесь имеет значение не степень эмфатичности и не позиция (т.е. начало фразы или ее конец), а оппозиция: глаголу ударность последнего слова в предложении даже без эмфазы означает, что носителем ремы является именно оно, а не, например, фразоначальное слово или фразосреднее."

19. "Повествовательным предложениям письменной речи свойственна постановка логически выделяемого слова в конце предложения."

20. "Объект исследования — простое [...] повествовательное предложение в его письменной форме. В связи с этим снимается проблема фразового ударения, которое при устной форме общения является эквивалентом порядка слов."

21. The core of this chapter has been published earlier in Keijsper (1982); I repeat it here for the sake of completeness.

22. "Актуализация придает высказыванию форму, соответствующую коммуникативной цели данного сообщения, диктуемой, в свою очередь, условиями констатирующей".

23. It can hardly be a coincidence that I used the same illustration in Keijsper (1982: 39); I was probably unconsciously quoting Ladd, so I add the reference as an afterthought.

24. "[...] признавая за предложением свойство коммуникативности, мы по логике вещей лишаемся права абстрагироваться от того, в чем проявляется это свойство [...]".

25. "Само собой разумеется, что между выделенными четырьмя типами не во всех случаях имеется четкая граница. Наоборот, здесь есть постепенные переходы, между отдельными типами бывает целая шкала промежуточных случаев. Однако такое положение вещей наблюдается в языке почти всегда между отдельными смежными категориями, что никак не снижает значение классификаций."

26. This is a tendency rather than a rule because there are some exceptions, notably SVO, which is regarded as normal, at least for some types of verb and for pronominal objects (cf. Adamec 1966: 69); in application to poetry and spoken language Kovtunova (1965: 170-171) proposes that the term "inversion" should not be used for *ix*; with adjectives there is some hesitation; etc. Kovtunova's judgement seems to be based on the criterion of whether or not an arrangement is felt to be stylistically marked or emphatic within the style shift involved. Since she does not explain when an arrangement is felt to be stylistically marked or emphatic, nor how the style shift of a text can be independently determined, the situation is chaotic (Kovtunova being the canonized author in the field). It is, however, a fact that a verb in mid position bearing the last accent is a relatively frequent phenomenon, also in writing: Svedstedt (1976) found 50% SVO and 50% SOV for pronominal objects, and Altermark's corpus of 1500 sentences consisting of subject, verb and object contained 358 SVO and 249 SOV occurrences (SVO: 473 (taking together the examples with and without accent marks); SOV: 90; SOV: 35; SVO: 70; VOS: 1; VSO: 35; VOS: 30; OVS: 85; OSV: 58; OSV: 16) (Altermark 1977: 64); the diversity must probably be ascribed to the heterogeneity of the texts in the corpus. Hopefully, Altermark will one day publish all the examples plus their context rather than her comment on them, so that we will also be able to indicate where the non-last accents are placed.

27. In order to be able to represent the time relationships, the schemes contain one "flower" too many: they decompose "not not flower" into "not flower" and the "flower" which results from negating "not flower".

28. I follow Dutch (IPO) practice in including the (early) rise in the description of the accent. The rising part may be replaced by a high initial part of the prominent syllable, so that a non-early fall results. British and American descriptions of intonation traditionally omit the rise (or high initial part) and, consequently, refer to the accent as a (high) fall (cf. Bing 1980: 11). In this connection it may be useful to mention that Ladd's (1983: 747) proposal, namely that the rise is automatic in Dutch, misses out all known distributional and semantic facts. The description of Russian intonation by Bryzgunova (e.g. 1977) is somewhat hesitant about including the rise (see

Keijsper 1983(a): 118-120).

29. In Dutch the merely rising movement in the accented syllable is in principle sufficient for signalling the meaning, although in rapid speech the high posttonic part may be necessary for its recognition (Keijsper 1983(a): 148). In Russian the high posttonic part is essential: if it is absent the opposition with another contour is neutralized as far as pitch is involved (by lengthening the syllable the ambiguity can be resolved) (op.cit.: 129). The precise oppositions in English are unknown to me.

30. For this section I am indebted to Prof. Dr. F.H.H. Kortlandt.

31. I am using here the type of inference to be discussed in XI.8.

32. The meanings of English words like *time*, *day* and *morning* do not refer to time but to what we think of as entities. As is well-known since the publications of Whorf (e.g. 1956: 134-159; originally 1941), "Standard Average European" has "objectified" time.

33. For those who took the trouble to read my earlier publications I would like to update them.

In (1980) I had not yet become aware of the fact that the minimal pairs are not *xy* versus *xy* but *xy* versus *xy* and *xy* versus *xy* (217-219). Secondly, I had not yet made the distinction between concurrent and non-concurrent negations (219). Finally, neither for the meaning of accent per se nor for intonational meanings did I know what to do about the problem that an accent need not oppose one referent to others, so that all formulations are given with respect to other referents, and so that I had to assume that the projection of the absence of the referent involved belonged to what I called the set of opposed projections (221) (in a certain sense this is correct, but I did not see how).

In (1982) the minimal pair problem had disappeared (Footnotes 8 and 11), but the concurrent versus non-concurrent distinction had not yet been introduced, and I formulated the absence-problem incorrectly (confusing the absence of an element in opposed projections with (projections of) the absence of referents (42, esp. note 9)).

In (1983(a)) the concurrent versus non-concurrent distinction appeared (113-114, 123-124), and the absence-problem was eliminated in principle for intonational meanings (e.g. 131). But since I was still struggling with it in accentuation, I introduced unnecessary complications in the relation between the (early) rising & falling type of accent and other accents, turning positives into negatives and vice versa (116-117) (for the revision see (1984: 34-36) and section 6 above in this chapter). The accentuation problem boiled down to two points: 1. I used a positive formulation instead of a negative one (asserting the presence instead of negating the absence), so that I also assigned a meaning to the absence of accent (113), and 2. I proposed that an accent asserts the presence (negates the absence) of a projection, because the assertion of the presence (negation of the absence) of the referent of the projection had (correctly) been reserved for the (early) rising & falling type of accent, and because the confusion of (1982) was still present; in consequence, the meaning of accent became a meta-meaning (cf. Wierzbicka 1980: 235). In (1983(b)) the absence problem was presented in too complicated a way, because I decided to use paraphrases in the vein of Wierzbicka, so that the implicit negations of the paraphrases themselves had to be neutralized; I did not succeed in this because the meaning of accent cannot be paraphrased in natural language (any paraphrase uses itself this meaning).

The simplification came from Prof. Dr. F.H.H. Kortlandt in a discus-

sion following my (1983(b)). As a result, asserting the presence of a projection became negating the absence of a projection; this eliminated the formerly assumed meaning of being unaccented but introduced a meaning (that of accent) which is not opposed to another meaning. Secondly, negating the absence of a projection became negating a projection of the absence; this reformulated the meta-meaning "not not 'x'" as a normal combination of "not not" and "x", i.e. "not not x", which reads "not(not x)" (see section 7 point 2 in the present chapter). Finally, (1984) reflects my present point of view, but I did not then introduce the distinction between (non-)concurrent projections and (non-)concurrent referents (30) because the difference must be made explicit only when negative sentences, quantifier-like meanings and word order are taken into account.

With the addition of these developments, I regard the proposals on intonation contained in the publications mentioned as a complementary part of the proposed analysis of the same complex of problems (see also V.11). As to accentuation, the formulation in (1983(b)), in terms of attention, is equivalent to my present formulation in terms of projection time; the latter formulation enables me to go into greater detail. Chapters XI and XII below enlarge upon an unpublished paper on negation in Dutch.

34. My informant (see note 44) did not confirm Lønstrup's observation.

35. This is not meant to suggest that a decision about how to link up a projection with others is made per word-meaning; it seems more realistic to view the decision as the outcome of a procedure involving when necessary a number of reinterpretations when subsequent information becomes available.

36. Note that this proposal raises the question of whether *prazdnichnyj* is a predicative adjective. As far as projection time is concerned, the sentence has the same type of organization as *Knigu on žitaet chod-šuju* (see IX.7), where nobody would dare to say that the adjective is a "real" predicative adjective, because the sentence contains a verb other than *byť*. See on this problem e.g. Kuznecova (1973) and various publications of Lapteva mentioned in the reference section.

37. In the article referred to, I used a simplifying tree notation for complex organizations of projections and their negations. Since I had no opportunity to explain what the trees stood for, I exploited the custom of reading trees from the top downwards by implying that projection time proceeds in that direction. For example:

cram sauce. - That's nice, then she can have cream sauce while you're gone.

As remarked by Bolinger (*ibid.*), "if *cram sauce* were used in the response (and not given an exaggerated accent on *cream*), it might suggest 'new idea' or 'contrast', which would clash with the fact that the item has just been mentioned". That is, in my terminology, the accent in *cram sauce* negates a projection of the absence of *cream sauce* among other things. In the example, *cream sauce* seems to convey that there is a projection of the thing which Yvonne will have independently of whether or not this thing is *cream sauce*, i.e. the accent replaces a projection of the thing without the property of being *cream sauce* by a projection of the same thing with the property of being *cream sauce* (/apref "cream sauce"/). The remarkable point is that the accent has broad scope in both cases. The same distinction is fully lexicalized in the Dutch pairs mentioned.

43. I give both *nigde* and *nikogda* from different examples in the source because Gabuan places them in initial position. According to Siro-tinina (see XI.9), *nigde* is found in that position more often than *nikogda*, although the arrangement is atypical for both. This may affect the judgement of the sentences with predicatives.
44. My informant on this and other questionable points was N. de Vries-Gochstejn. In contrast to the sentences with predicatives, none of which was considered to be strange, the examples of the book-reading mentioned earlier were immediately judged as indicated.

- In the article referred to, every letter represents a chunk on the level relevant to the discussion, and notations like *a'*, *a''*, *a'''*, etc., stand for chunks which are followed by embedded chunks and for embedded chunks themselves.
38. Ladd is probably referring to a pitch accent which rises from low to mid, i.e. a "half" accent. Since such accents have a meaning saying that the information conveyed by the presence of the accent is predictable (e.g. Ladd 1980: 169 ff., in application to other cases), they are not a convincing argument in favour of the view that "de-accenting and pretonic accent are somehow the same phenomenon" (Ladd 1980: 64).
39. In (1983 (b)) I used a notation differentiating only between forward and backward links, e.g. *Peter's book was Peter's book* (forward link), and *John died was John died* (backward link). The narrow scope interpretation of sentences which allow, in principle, also a broad scope interpretation was dealt with under the name "emergency interpretation" (which it is, involving as it does a non-coincidence of projections which normally coincide). Since I had no notation for this, the narrow scope interpretation of e.g. *John died* emerged with another notation than e.g. *Pter's book*, where the same scope relations are arrived at in a different way. Hopefully, the present notation shows better what I was trying to say.
40. In his review of Wierzbicka (1980), McCawley (1983: 657) correctly remarks that Wierzbicka applies her primitives "someone" and "something" in a non-standard sense when she explicates meanings with the help of expressions like "this someone ...". Personally, I regard this sense as belonging to competence, but, as remarked by McCawley, it might be a problem for Wierzbicka.
41. For the same reason, logical formulae are inadequate; they do not represent the meaning of any existing sentence. As a consequence of the fact that the meaning of accent is not represented in current logical notations, this meaning is often ascribed to sentence elements which do have a correlate in the logical notations, notably to *not* and other expressions with a negative meaning. As a result, the scope of accent is called "the scope of negation". For example, in *He doesn't read a book* the accent may include *doesn't* read in its scope. Many authors would say instead that the object is included in the scope of the negation. From my point of view, the word *not* does not have a scope.
42. Where no quantifier is concerned, the semantic distinction is analogous. For example *arom* (therefore): refers to a reason negating a projection of the absence of this reason among other reasons or selecting the reason from among others; *arm*: refers to something, making it the reason, i.e. negating a projection of the same thing without this thing being the reason. Possibly, some of the English examples discussed by Bolinger (1983) are of the same type. For example (*op.cit.*: 111):

The only thing Yvonne has learned to make in cooking class is

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Samenvatting

Dit boek gaat over de betekenis van accentuatie en woordvolgorde. In Deel Eén wordt enige literatuur over dat onderwerp besproken. Geschetst wordt hoe de opvattingen van de Tsjechische linguïst Vilém Mathesius (1882 - 1945) over de zogenaamde "Actuele Zinsgeleding" (Functioneel Zinsperspectief) in de loop der jaren zijn ontwikkeld door Tsjechische en Russische onderzoekers, en hoe deze opvattingen terug te vinden zijn in publicaties over bijvoorbeeld het Engels. De bespreking laat zien dat Mathesius' opvattingen gebaseerd waren op een nu verouderde visie op de relatie tussen geschreven en gesproken taal, en dat de vervanging van deze visie door de momenteel gangbare neerkomt op het verwerpen van alle theorieën over accentuatie en woordvolgorde die direct of indirect te herleiden zijn tot Mathesius. Deze stelling wordt voornamelijk toegelicht aan de hand van het Russisch. De conclusie luidt dat de 19-e eeuwse concepten "psychologisch subject" en "psychologisch predicaat" onder verschillende namen nog steeds worden gehanteerd als primitieve categorieën, en dat dit vanuit linguïstisch oogpunt onacceptabel is.

Als alternatief wordt een benadering voorgesteld waarbij de interpretatie van zinslementen als "psychologisch subject" of "psychologisch predicaat" ("thema" of "rhema", "topic" of "comment", "oude informatie" of "nieuwe informatie", etc.) wordt afgeleid van de betekenissen van accentuatie en woordvolgorde, en van een specifiek aspect van syntactische relaties en inherente woordbetekenissen. Deel Twee bevat de nadere uitwerking van dit alternatief. De oplossing wordt gezocht in een specificatie van de relatie tussen de tijd waarin gedachten bestaan (projectietijd) en de tijd waarin wij ons het bestaan voorstellen van de dingen waaraan die gedachten gewijd zijn, of die zelf de referent is van die gedachten. Alle voorgestelde onderscheidingen zijn dan ook geformuleerd in termen van tijd en negatie, en met name in termen van het onderscheid tussen projecties of referenten die op elkaar volgen en projecties of referenten die tegelijkertijd aanwezig zijn. Op die manier worden de tot nog toe gehanteerde niet-linguïstische concepten geanalyseerd als het interpretatieve effect van de combinatie van een aantal direct aan vormverschillen gecorreleerde betekenisverschillen. Een uitgebreide samenvatting van de voorstellen wordt gegeven in hoofdstuk VIII.

STELLINGEN

1. Er bestaan twee opvattingen over het beoefenen van semantiek:
 1. "Introspection is not a direct route to understanding the mind and, as far as we know, there is no such route"¹;
 2. "This is what semantics is very largely about: the exploration of the depths of our consciousness and dragging to light what bits of evidence can be found there"²;

De tweede opvatting is de juiste.

¹P.N. Johnson-Laird: *Mental Models. Towards a cognitive science of language, inference, and consciousness*. Cambridge etc. 1983: 2.

²A. Wierzbicka: *Lingua Mentalis, The Semantics of Natural Language*. Sydney etc. 1980: 22.

2. Een door mij uitgevoerd experiment heeft aangetoond dat het mogelijk is om, zonder dat er een speld tussen te krijgen is, het aantal uren dat aan een bepaald onderzoek wordt besteed op opeenvolgende formulieren met een factor twee te verlagen, om zodoende het getal in overeenstemming te brengen met de nieuwste richtlijnen omtrent de duur van promotieonderzoek; dit bewijst dat kwantitatieve controle op de voortgang van onderzoek onzinnig is.
3. Het feit dat universitaire medewerkers steeds vaker op een of andere wijze fraude moeten plegen om hun werk te kunnen doen leidt tot een vorm van cynisme die gemakkelijk overslaat op inhoudelijke aspecten van het werk; het huidige wetenschapsbeleid is dan ook de snelste methode om een einde te maken aan de wetenschap.
4. Het feit dat het sexistisch karakter van de uitspraak van Clédat (1901), dat "On dit 'un savant homme' et 'une femme savante', la science entrant dans la nature d'homme et non dans celle de la femme"¹, slechts onthuld kan worden door een semantische analyse van de positie van het adjectief in het Frans, toont aan dat het beoefenen van zuivere semantiek maatschappelijk gezien uiterst relevant is.

¹Geciteerd uit L.R. Waugh: *A Semantic Analysis of Word Order, Position of the Adjective in French*. Leiden 1977: 16.

5. Het voorstel om het feature [delayed peak] in te voeren in intonatiebeschrijvingen, en zodoende twee contouren die fonetisch verschillen met betrekking tot de plaats in de segmentele laag waar een toonhoogtebeweging optreedt af te leiden van één fonologische eenheid¹, vloeit weliswaar logisch voort uit de principes van de autosegmentele fonologie, maar maakt een einde aan zinvol intonatieonderzoek.

¹D.R. Ladd: "Phonological features of intonational peaks", *Language* 59, 1983, 729-732.

6. Het feit dat een prominent aanhanger van de generatieve grammatica het nodig vindt om deze theorie in bescherming te nemen tegen de beschuldiging dat de "steeds verdergaande theoretische verdieping" gepaard is gegaan met het verwaarlozen van het beschrijven van taalfeiten, lijkt een reden tot hoop, maar het feit dat hij kennelijk niet begrijpt dat hij zelf een duidelijk bewijs levert voor de juistheid van de beschuldiging door ter verdediging toe te voegen dat "wat enige tijd geleden nog als zeer theoretisch werk gold nu vaak wordt gezien als puur descriptief onderzoek in een generatief jasje"¹ laat zien dat de naam "gedegenererde grammatica" voorlopig nog wel op zijn plaats zal zijn.

¹H. van Riemsdijk: "Inleiding: Generatieve grammatica", *Interdisciplinair Tijdschrift voor Taal- en Tekstwetenschap* 3, 1983, 195-196.

7. Het feit dat vrouwen vaker dan mannen een stijgend&dalend toonhoogteaccent gebruiken in plaats van een enkel dalend accent¹ bewijst, gegeven de betekenis van deze accenten², dat mannen vaker dan vrouwen mee willen delen dat ze datgene wat ze zeggen al wisten voordat ze het dachten.

¹T.A. Brovčenko: "O prosodike kommunikativnych edinic monologičeskoj reči", *Intonacija*, Kiev 1978: 99.

²C.E. Keijsper: "Vorm en betekenis in Nederlandse toonhoogtecontouren", *Forum der Letteren* 25, 1984, 27-28.

Stellingen behorende bij het proefschrift *Information Structure, With examples from Russian, English and Dutch* (C.E. Keijsper)