LINGUISTIC FACTORS IN SENTENCE STRESS
(EVIDENCE FROM RUSSIAN)

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The paper deals with various linguistic factors of sentence stress assignment and detection in spoken and written Russian texts.

The aim of the study is to test such factors as "parts of speech", "syntactic relations", "word order", "semantic structure of the word", "rhythmic patterns", "newness/givenness of information" and "actual sentence division" for their reliability in real text contexts and thus to establish a hierarchy of these factors both in production and perception of spoken and written material.

INTRODUCTION

This paper deals with sentence stress which is understood as a system of accents varying in relative strength (prosodic prominence) and quality (melodic shape). The system of sentence accents is treated as a part of the intonation system of language.

The experimental basis for this study consists of 4 types of speech material: a) spontaneously spoken texts (monologues and dialogues), b) written texts on different subjects which we had beforehand standardized by recording and then transcribing. The taped material was transcribed and then analyzed for rhythmic prominence of some other word, because it is not only the part of speech which determines the degree of prominence, but also its function in a given word-group.

The well-known controversy initiated in "Language" in 1971-1972 as to whether accents are determined by syntax or by semantics has not been satisfactorily resolved. The convinctions of recent studies by D.J. Bolinger and G. Gussenbov in "Journal of Linguistics" 2/74.

In fragmentary written texts we can not explain cases in which different factors, taken in opposition, give different stresses. Therefore we have established a hierarchy of factors to account for the experimental data on written and spoken texts in Russian. This rule held for the texts studied in ca. 90% of cases, but it does not account for words carrying different degrees of stress. Both "full" and "syntactic" accents carry various degrees of accentual prominence which can not be explained by a single factor.

Thus it is not only the part of speech which determines the degree of prominence, but also its function in a given word-group.

FACTORS INFLUENCING SENTENCE STRESS

In the search for factors which determine the kind and degree of accentuation within a text, the investigator may come to the conclusion that these factors are various and occasionally contradictory.

1. Parts of speech

In Russian, as in other languages, nouns, verbs, adjectives and adverbs are said to carry stress whereas most of the "function" words are unstressed, unless they bear contrastive or emphatic stress. This rule held for the texts studied in ca. 90% of cases, but it does not account for words carrying different degrees of stress. Both "full" and "syntactic" accents carry various degrees of accentual prominence which cannot be explained by a single factor.

Thus it is not only the part of speech which determines the degree of prominence, but also its function in a given word-group.

2. The syntactic factor

In Russian, as in many other languages, there are rules which assign accent patterns to different kinds of sentence constituents. Thus in Subject-Predicate groups, nouns are usually more stressed than verbs, whereas, conversely, in predicate groups nouns are stressed more than verbs.

Ivan chitayet knigu /He is reading a book/

It is clear that the rhythmic factor can explain how deprecated words are emphasized, but it does not explain how the accents are positioned, as they are defined by the standing rules. The accentual prominence of some other word, because it is not only the part of speech which determines the degree of prominence, but also its function in a given word-group.

3. Word order

In Russian there exists a strong tendency to assign stronger stress to elements in a text than to the words in the same sentence or clause but not part of the same sentence. For example, in enumerations.

It is obvious, however, that word order in Russian is flexible as it is - governed by various influential factors. In some cases it is the position itself that determines sentence accentuation (for example in enumerations). It is not the task of this study to account for the complicated system of word order in Russian. There is a great body of work not only on word order itself but also on the complex relations between word order and sentence stress. It is not the task of this study to account for the complicated system of word order in Russian. There is a great body of work not only on word order itself but also on the complex relations between word order and sentence stress (which is in my opinion the only explanatory way in Russian). Here it is important to understand the fundamental difference between word order rules for written and spoken texts in Russian. When writing, it is obligatory to follow word order rules if one wants his intended emphasis to be understood correctly, for the place of the word in a sentence is one of the primary means to detect the degree of its prominence. In oral speech, however, there is a possibility of expressing one's intentions directly by prosodic means.

In our texts, neutral (non-emphatic) sentence stress occurred in sentence or clause final position in ca. 90% for scientific texts and in ca. 70% for dialogues.

4. The rhythmic factor

Strongly connected with all the factors already discussed is what one may call the rhythmic pattern. The accentual prominence of some other word, because it is not only the part of speech which determines the degree of prominence, but also its function in a given word-group.

The special aim of the study is to summarize various factors influencing the distribution of sentence accents in texts and to design two practical tasks: teaching of sentence stress assignment and detection to foreign language students and working out rules for automatic sentence stress assignment and detection in the systems of speech analysis and synthesis.

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have shown that in many cases it is the peculiarity of the meaning of a given word which forces the speaker to stress it more than other words in the sentence. The role of the semantic structure of the word is especially evident for those words which do not bear the main accent due to the factors discussed above. For example, if a new concept is expressed not by one word, but by a word-group, then only one word of the group will get a stronger accent according to syntactic and semantic rules. This indicates that the word-group is understood as a whole. Otherwise the unity of the concept is not seen correctly. This needs further investigation. Other deviations can only be explained if we consider new factors which determine the "new" and accenting the "given" can be explained by the concept of "focus", which is closely connected with the theory of Functional Sentence Perspective (in Russian linguistics commonly "Actual Sentence Division").

7. Actual sentence division
This universal and high level factor influences both the placement of accents and their type (thematic vs. rhematic accents) in Russian. Sentence stress patterns are essentially different in "individual" (actually non-segmented) and "divided" utterances. In both kinds of structures the subdivision into different "degrees of importance"/23/ or "information centres"/24/ is obvious. In the "individual" case the means of expressing the ASD in Russian is the system of "focussing" which is far more common than either the syntactic or lexical means of distinguishing the theme from the rheme. In the texts studied, the coincidence of corresponding ASD patterns and the corresponding ASD types was very high. As for the formalization of this factor we must admit the freedom of the author in selecting the type of ASD (divided/unidivided) and the type of focus (narrow). But this freedom is not unlimited. Certain communicative conditions show a high degree of affinity to certain ASD types. For example, when the speaker wants to express the meaning not only of contrasted elements, reaction, estimation or negation, he tends to use a narrow focus, thus singling out a part of the whole by means of a "special" stress. Lack of emphasis, on the opposite, leaves a "null" focus, that is, to accenting the word-group as a whole.

CONCLUSION
This pilot study of the distribution of sentence accents in Russian has shown that the place and the type of sentence stress is determined to a certain extent predictable and therefore formalizable, but only with due regard for the highly complicated interplay of various factors which expose different hierarchies in the system of communicative concepts. In reading - both by man and machine - new words and syntactic sentence types can be formalized without any help of special structural, lexical meaning and other formal structures. In listening, we move from the perceived accent pattern to the actual sentence division and from that to communicative meaning. In speaking concepts are formed by the communicative meaning through actual sentence division to the realization of an accent pattern.

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