DELIMITATION AND FOCUSSING FUNCTIONS OF INTONATION IN BULGARIAN

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ABSTRACT

The paper deals with the results from an experimental study of the phonetic segmentation of Bulgarian speech. On the basis of experimental data an attempt is made to reduce the variety of the observed melodic configurations of segmentation units (syntagmas) describing them in terms of two kinds of accents, conditioned by the phonetic manifestation of the delimitation and focussing functions of intonation, and their possible combinations. The proposed classification may be used for comparative intonological analysis of languages with different phonetic structures.

INTRODUCTION

Theoretical ground of the present experimental study is the generally acknowledged significance of intonation within the framework of language communications as a phonetic source of information transferred from speaker to hearer. The different approaches to the versatility of intonational phenomena and their interaction with extralinguistic and linguistic factors from different levels result in a great variety of lists describing the functions of intonation. Regardless of their different number, definitions and terminology, almost all of the proposed classifications include the delimitation and focussing functions under one or other label (1-2, 5, 6, and many others). Here the term “delimitation function” is used for describing the structural role of intonation in the segmentation of the speech flow into phonetic units, the so called syntagmas, and the role of intonation in their interaction, i.e. the syntagmas are defined in the sense of the Leningrad Phonetic School as a semantic-syntactic entity consisting of one or more words organized by intonation into phonetic integrity. The main phonetic condition for a string of words to be grouped into a syntagma is the absence of perceived pauses between them, the pauses being of two kinds — real (a semantically gap) or psychological (due to interruptions of the continuity of the prosodic parameters of speech signal) (4). The focussing function of intonation is understood as the role of intonation in localizing the communicatively important elements in the utterance. The aim of the study is to determine the phonetic means used in Bulgarian for the realization of the delimitation and focussing functions of intonation and on this ground to specify the basic phonetic regularities in the suprasegmental organization of speech allowing adequate comparison with other languages.

FOCUSING FUNCTION

The manifestation of the focussing function of intonation in Bulgarian follows the universal tendency to phonetic prominence by complex enhancing of the acoustic prosodic parameters (F_o, T) of the stressed vowel in the phonetic word containing important information. A result of a previous experimental study (7) of the F_o patterns of short simple sentences uttered as one-syntagmatic statements is that their most typical melodic contour is of rise-fall configuration with its peak on the stressed syllable of the word bearing the phrase accent. The application of the “theme-rheme” conception to our experimental data determines the melodic contrast between the syllables in the word as a main acoustic characteristic of the theme and the direction depending on its position in the phrase.

DELIMITATION FUNCTION

The phonetic breaking up of the speech flow into short or long syntagmas may means of pauses shows a great variety in the size and intonational shape of the divided units due to individual variations in speech. The intervention of the subjective factor however is not a reason to consider this process as accidental one without linguistic significance only within certain limits conditioned by the particularities of intonation as a structural device in a given language and the universal restrictions in the speech production process. The phonetic manifestation of the delimitation function of intonation may be estimated by means of the statistical parameters of syntagmas representing the basic tendencies in the temporal organization of speech.

The statistical data given below concern the segmentation of speech in the particular case of text reading as the first stage of a larger experimental investigation of the suprasegmental organization of Bulgarian speech. The data are obtained by means of an auditory and acoustic analysis of three texts in journalistic style (4 simple and 21 compound and complex sentences, the total number of clauses being 91) read by 12 persons.

Fig. 1. Occurrence frequencies of syntagmas (4) according to their size.

The statistical treatment of the syntagmas with respect to their size and position in the sentence show that the short syntagmas (1-2 phonetic words) prefer the initial position, the longest ones (5-6 phonetic words) usually occupy the middle position of intonation and for syntagmas of the middle size (3 phonetic words) the final position is typical.

Fig. 2. Occurrence frequencies of pauses according to their duration.

The configuration of the curve (4 peaks) and the dependence of the pause durations on the syntactical relations between the adjacent syntagmas give ground to distinguish 4 kinds of pauses: short, middle, long and super-long. The short pauses usually separate groups of words in the simple sentence, the middle ones — clauses in the compound and complex sentences, the long ones occur between the separate sentences. The super-long ones mark the end of the phone-paragraph. It must be

Fig. 3. Average ST deviation of pauses.

The ranges of the phonetic units are determined by means of the statistical parameters of speech. The data are obtained by means of an auditory and acoustic analysis of three texts in journalistic style (4 simple and 21 compound and complex sentences, the total number of clauses being 91) read by 12 persons.

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The number of accents in a syntagma

The number of accents in the syntagmas in our material is determined by auditory tests the instruction being to underline phonetically prominent words without any restriction in their number. The results show that in Bulgarian speech a syntagma may have more than one accents with an equally perceived weight. The maximum number of accents found in our recordings is 3 in 3% of all units. Most of the syntagmas have one accent (72%) and 25% of all cases - 2 accents. The possibility of a syntagma to have more than one accent has been noted in other languages as well e.g. Russian (5), (12).

Types of accents

The auditory and acoustic analysis of our recordings show that the accentuation in a syntagma may be realized in two different ways depending on phonetic prominences of equal strength but differing in their function and purpose. For example that in Bulgarian there are also two kinds of accents as described in (12) which differ in their function in the process of the information intended by the speaker. The first type, so-called logic accent - is a result from the phonetic manifestation of the focusing function of intonation and its acoustic correlate is the melodic contrast between the syllables of the phonetic word (rise-fall configuration). The second type, called structural, is connected with the whole intended structure of the utterance and signals the continuation or the finality of speech, i.e. it is a result of the delimitation of the syntagmatic structure. The basic acoustic parameter used in this case is the duration of the final syllable. The course of the final syllable is unidirectional, rising with maximum steepness on the last syllable irrespective of the preceding accent. The accent in the two cases is the structural accent and lightly falling without melodic contrasts for a final accent.

It is well known fact that almost any word in the syntagma can bear a logic accent and its placement depends on the context, both linguistic and situational. It must be pointed out that in Bulgarian the structural accent also depends on situation (the tone) facing the relationship between speaker and hearer, speaker and social framework and the momentary mood of the speaker (2).

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