The principle of speech rhythmical organization suggests forming a certain prosodical background in speech signal, regular reproduction of the elements realizing this background leads to disintegration of speech into various phonetic constituents /phonons, syntagmas, phrases, syntagmas/ with their specific inner structure periodically recurring in rhythmically organized speech. Rhythm-forming elements having various physical realization attach important functions to acoustic speech parameters - functions of form construction and integrity of speech units. The subject functions are intrinsic to duration as well. In this paper a normative/schematically predominant/ realization of a standard scheme and its regular modifications is considered. Besides, the standard scheme is viewed as temporal stereotype which, being a part of prosodical background and skills of a native speaker, plays an important role in creating phonetic integrity of the syntagmas.

### Standard Scheme of Syntagma Temporal Organization

#### Qualitative Description

#### Introducing the Study

In the present paper it is suggested that the existence of a prosodical background in Russian text is the most important qualitative feature of this text. On the basis of coherent Russian text the most important qualitative feature is the realization of its phonological scheme. A numerical nodal and statistical characteristics of its realization are presented.

#### INTRODUCTION

The principle of speech rhythmical organization suggests forming a certain prosodical background in speech signal, regular reproduction of the elements realizing this background leads to disintegration of speech into various phonetic constituents /phonons, syntagmas, phrases, syntagmas/ with their specific inner structure periodically recurring in rhythmically organized speech. Rhythm-forming elements having various physical realization attach important functions to acoustic speech parameters - functions of form construction and integrity of speech units. The subject functions are intrinsic to duration as well. In this paper a normative/schematically predominant/ realization of a standard scheme and its regular modifications is considered. Besides, the standard scheme is viewed as temporal stereotype which, being a part of prosodical background and skills of a native speaker, plays an important role in creating phonetic integrity of the syntagmas.

#### Number of Words in a Syntagma

**Table 1. Average sound duration /in msec/ of words in different syntagmas positions**

<table>
<thead>
<tr>
<th>NUMBER OF WORDS IN A SYNTAGMA</th>
<th>POSITION</th>
<th>INITIAL</th>
<th>MEDIAL</th>
<th>FINAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>60-0.2</td>
<td>77-2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>59-1.4</td>
<td>78-0.1</td>
<td>76-0.2</td>
<td></td>
</tr>
</tbody>
</table>

Data on word stress perception in a Russian syntagma /make it possible to assume that the scheme P-/>-N-/>-S/ makes it possible to speak about different duration categories in Russian speech as well. The analysis shows that a vowel of a mid length is realized when it is stressed, belongs to syntagmas and is not followed by a pause, whereas a vowel that is not stressed is one that case its duration is about 3 times longer than the critical value of vowel detection. If the latter is classified as supershort, then vowel realizations of other categories are characterized by the following relations of durations - 1/supershort/: 2/short/: 3/mid/: 4/long/.

#### Duration modification of the stressed vowel in syntagmas under the influence of the following factors: position /P/, number of syllables per word /N/, word distance from the syntagma beginning /S/. Average values disregarding vowel quality distinctions.

| Duration boundary values which separate stressed vowel realizations in non-final and final words /P=340-500 msec/ are close to phoneme boundary values obtained for languages with phonetic contrast in vowel length /P/, /N/. This makes it possible to speak about different duration categories in Russian speech as well. The analysis shows that a vowel of a mid length is realized when it is stressed, belongs to syntagmas and is not followed by a pause, whereas a vowel that is not stressed is one that case its duration is about 3 times longer than the critical value of vowel detection. If the latter is classified as supershort, then vowel realizations of other categories are characterized by the following relations of durations - 1/supershort/: 2/short/: 3/mid/: 4/long/.

#### Positional shortening of non-final words inRussian syntagmas is of an asymmetric nature: the shortening is mostly noticeable in vowels in the word terminal part beginning with its stressed vowel /swallowing/ of word terminals is an extreme manifestation of this peculiarity.

Asymmetry leads to smoothing and actually to the loss of temporal contrast of stressed and unstressed vowels in the syntagmas non-final word and this apparently hampers correct stress identification.

### Numerical Model

The second part of our study is devoted to the development of a numerical model of the PC standard temporal scheme. Such a model is of great interest from the various points of view, generality of the positional factor in its influence on speech performance and temporal characteristics causes us to think that specific linguistic features of the PC are embodied in its numerical parameters.

The results of the preliminary qualitative
In formula 2 one can find the invariable, effect of detailed empirically—verified reduction which is common to all stressed vowels. In the same manner we were able to determine the empirical value of formula 2 was verified on a 

by calculating the correlation coefficient. In a given number of stressed vowels /N/. Data of their duration were obtained by means of the same technique that has already been described above.

In both cases the proposed STS model accounts for all the shortening factors: word position in the syntagma /1/ and number of preceding lexical stresses /K/. Consonant environment does not influence T but is taken into consideration as well. Thus, formula 1, 2, 3 give general duration to the non—prepausal Y in a syntagma with final main stress when there is no pronunciation accent on it.

The general form of the model was chosen on the basis of the notions that were used. Before the general form of an empirical model of speech temporal organization /H/, /I/.

As a result of the examination of Y measurements, the STS model allows to make the following statements: 0 — for a word in final position and 1 for a word in non—final position. Since the STS presupposes the realization of the final word in the series of vowels from the Stressed word in non—final position /67 units/: I — a level of average values of different generalization levels of durations measured. In the first case the value was defined on different generalization levels of durations measured. In the second case the value was selects .

In a given task we were able to determine the empirical value of formula 2 was verified on a

The syntagma STS /S/ - N /f/ is a composition of four parameters: v, q, k, and n.

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