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K. D. Ushynsky**

**Harbin Engineering University**

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The second issue of the materials represented by the Ukrainian and Chinese scholars are dedicated to acute issues of General and Contrastive Linguistics within the Chinese, English, Ukrainian and Russian languages; linguodidactic problems of teaching native and foreign languages within polycultural educational space; peculiarities of cross-cultural communication in geopolitical space alongside with psychological aspects of overseas students' and teachers' adaptation to study / work abroad.

The given articles may be of use to researchers, graduate students, postgraduates and practising teachers who are interested in various aspects of Sinology, Cross-cultural Communication, Pedagogics and Psychology.

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by Harbin Engineering University

South Ukrainian National Pedagogical University named after K. D. Ushynsky,  
Odessa, Ukraine

Harbin Engineering University

Harbin, the People's Republic of China

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**Tetyana Korolyova,**

*Doctor of Philological Sciences, Professor,  
Head of the Faculty of Translation, Theoretical and Applied Linguistics,  
State institution "South Ukrainian National Pedagogical University  
named after K. D. Ushynsky",*

*26, Staroportofrankovskaya Str., Odessa, Ukraine*

**Olga Aleksandrova,**

*Ph.D in Philological Sciences  
(Candidate of Philological Sciences), Acting Associate Professor,*

*Faculty of Foreign Languages,*

*Odessa I. I. Mechnikov National University,  
24/26, Frantsuzsky Boulevard, Odessa, Ukraine*

## **CHARACTERISTICS OF SPEECH RHYTHMIC STRUCTURE**

*The peculiarities of speech rhythm in the English and Ukrainian languages are considered in the article. The main principles of prosody parameters interaction within phonetic shaping of rhythmic groups and syntagms are analyzed in the research. The major common typological as well as concrete linguistic characteristics of speech rhythm representing the two non-related languages are specified.*

**Key words:** *rhythmic group, prosody, speech rhythm, parameters, typology, concrete linguistic characteristics.*

One of the most important characteristics of utterance phonetic shaping in oral speech is the rhythmic organization of speech pieces. Much attention is paid to this question in modern linguistics [2, 3, 4]; however, up until this point this problem has been still insufficiently studied.

Rhythm is the regular, natural alternation of commensurable sound elements in speech process. Rhythm is created through a complex interrelationship of intonation components. The production of rhythm is primarily connected with the time organization of speech phonetic elements and their regular recurrence which determines the dynamics of speech continuum. Alongside with time characteristics, there are other prosodic components (melody, intensity and timbre) in rhythm arrangement.

Rhythm has the complex multileveled structure that enables us to state that there exists a hierarchy of speech rhythms – syllabic, verbal and syntagmatic. Syntagmatic rhythm acts as the basic speech rhythm; it is conditioned by two aspects of speech – intellectual and semantic on the one hand, and physiological on the other. The essence of the physiological nature of a speech rhythm is defined, first of all, by a regularity of the respiratory cycle. Breath movements are connected with a regular alternation of the respiratory cycle phases as to their length and depth. Thus, inhalation is shorter than an exhalation, this being important for speech production. Speech is produced in the course of breathing out.

An intellectual adjustment of the natural respiratory rhythm of speech can occur due to the existence of a feedback between breath and neuro-physiological activity of the brain; this allows for an adjustment of exhalation time depending on a specific task of speech production. Competent structure of every utterance does not allow a speaker to break off the words, word-combinations (incorporated by a strong semantic link) by a breath act.

Speech rhythm can be considered a phenomenon of periodicity, orderliness in time alteration of both phonetically marked and phonetically unmarked units, and that of an isochronism of repeating segments.

Various elements of speech are considered by various researchers to be the basic minimal structural unit of the rhythmic organization of an utterance,

among them being a rhythmic structure, a phonetic word, a rhythmic group, a foot and some others [Потапов, 2004].

Despite the numerous existing points of view on the problem of singling out elementary basic units of rhythm, a uniform approach to the definition of the major factor that insures the rhythmic organization of speech unites all these opinions. Stress is just this kind of a factor; it naturally follows from the nature of speech production. Structurally organized syllabic complex, which is called “rhythmic group” (RG), is mostly regarded as the principle unit of a phrase rhythmic structure. One or some words (notional or form ones) united by one word stress are considered to be a RG. Peculiar peaks of sonority in a word are formed by stressed vowels. Depending on the stressed syllable location within a rhythmic group (RG), various languages are subdivided into three groups in accordance with their rhythmic structure:

1) languages characterized by the initial position of the stressed syllable in RG (for example, the Czech language);

2) languages characterized by the terminal position of the stressed syllable in RG (for example, the French language);

3) languages characterized by the medial position of the stressed syllable in RG (for example, the Polish language).

Due to certain peculiarities of their rhythmic organization, some languages cannot be straightforwardly placed in one of these three groups since three types of speech rhythm manifest themselves in these languages. English, German, Ukrainian and Russian are among some languages that belong here. In the English language, the rhythmic structure is mostly characterized by the RG organization according to the first type (the stressed syllable is located at beginning of the RG and the unstressed syllables following it – enclitics – join the stressed syllable). The initial unstressed syllables in a sense – group, the so-called proclitics, the unstressed syllables attached to succeeding stressed syllable in a RG, make an exception.

In the Ukrainian language proclitics are more frequent than in English though enclitics prevail in the RG organization on the whole. One can characterize the RG as a ratio, where the numerator shows the number of syllables in the RG and the denominator signifies the stressed syllable's position in the RG (e.g., 2/1 marks the two-syllable RG with the stress on the first syllable). The RG boundaries in the text are usually marked by the vertical interrupted line:

*They've **come** | **too** late.* (2/2, 2/1)

*Куди | зараз | їде | хазяїн?* (2/2, 2/1, 2/1, 3/2).

When limiting the RG boundaries, one can make use of the laws connected with the syllabic word stress, peculiarities of intonation shaping the RG and physical characteristics of adjacent (juncture) sounds in a RG. However, RG delimitation, with the help of certain boundary signal, is not obligatory. The difficulties connected with fixing the boundaries (the latter frequently cannot be exactly established at the level of auditory perception) testify to the fact that there is no unique phonetic marker delimiting the RG. It is possible to say that the RG extraction out of speech continuum is provided by a set of prosodic characters. Moreover, peculiar features of RG prosody demonstrate themselves in different kinds of speech.

Thus, when describing the acoustic means that take part in rhythmic division of a speech continuum – a special role of such phonetic characteristics as a pause and melody – a dynamic component should be mentioned. In the English language – for the purpose of RG bounding in a speech continuum – one can use the objective criterion; that is the physical characteristics of sounds at the words' juncture. Here melodic and temporal characteristics of sounds in the English RG are the most essential. In the Ukrainian language, the dynamic and the melodic components of intonation are the most important in creating rhythmic figures. Therefore, recurrent appearance of the dynamic characteristics peculiarities that evolve in the process of rhythmic figure creation (weakening or

strengthening of syllabic and word energy) gives support to the text-organizing function of intonation [1, 8]. Smoothness or contrast of transitions that exist between segments of speech range variability of such changes may produce accent in rhythmic structure of speech.

The situations in which a rhythmic group is equal to word form occur most often in speech continuum: *Чого? Pardon? Well, English winters aren't very cold.*

Although some researchers acknowledge the influence of boundaries between the words on an utterance rhythm, word forms are not unique rhythm – organizing units. Boundaries between the rhythmic groups rather often pass within the words; moreover, one RG frequently unites parts of different words:

*Herrold was reported to be missing.*

*Ми тут добре влаштовані.*

Unification of two and more word – forms into one RG is characteristic to the connective words that refer to the adjacent meaningful words. An enclitic combination in the English language can be illustrated by the following sequence of three word – forms: a verb, a monosyllabic preposition, a two-syllable pronoun: *Wash up yourself.*

A proclitic combination in the Ukrainian language can be illustrated by the following sequence of two word – forms and a two-syllable preposition, a monosyllabic numeral and a monosyllabic noun: *Понад сім фраз.*

However, not all words (within certain classes only) are stressed in a speech continuum. They are the so-called, notional words in contrast to the auxiliary ones. The following utterance can be treated as the examples illustrating the above:

*I've been living here for six years already. You can come tomorrow if you like.*

However, the negative reduced forms of the same verbs are always stressed: *He **couldn't** come in time. He **isn't** so big. We **won't** have dinner when we get home.*

It should be kept in mind that conjunctions and conjunctive words are emphasized by stress at the initial position:

***When** he gets home, we'll have dinner.*

The speech rhythm is inseparable from the syllabic structure of a language, but the character of their correlation is not identical in various languages. For one type of languages, the so-called «syllabic rhythm» is a norm. In this case the syllables are characterized by the same time duration. In some other languages «the accent rhythm» is available. Here the stressed syllables are pronounced at equal time intervals. Thus, in English and the Ukrainian language the accent rhythm is realized, and in French the syllabic rhythm.

Isochronism – equal intervals of time between the stressed syllables – is the most important trait in terms of rhythmic organization in English speech. The following characteristics of rhythm are connected with this property in the English language [5, p. 275]:

1. Stressed syllables follow each other at regular intervals. In case the rhythmic group is too long (i.e. contains many unstressed syllables) this rule is not strictly to.

2. Adhered (non-initial) rhythmic groups begin, as a rule, with a stressed syllable; unstressed syllables tend to join the proceeding stressed one, thus forming enclitics; the initial unstressed syllables of a sense-group are the only ones that join the following stressed syllable, thus forming proclitics.

3. Greater the number of the unstressed syllables in a rhythmic group is, the quicker the rate they are pronounced at.

4. Unstressed syllables at the initial position of a sense-group are always uttered quickly.



5. Every rhythmic group is characterized by its own tempo (average syllable duration) which depends on a degree of semantic importance that the given RG possesses within the sense-group:

*She wants some | writing | paper.*

180                      150      170

In Ukrainian uninterrupted speech, RG demonstrates a tendency to isochronize, too. In cases when the number of the unstressed syllables in the potential RG comes to 5-7 elements, speech isochronism is preserved at the expense of the secondary stress that appears within this multisyllabic structure.

For example: *Школу за | кінчила | у | шестиде | сятому | році.*

However, the RG isochronisms in the Ukrainian language do not manifest themselves as brightly as in English. Some research has shown, that more typical of the Ukrainian language is the presence of the so-called rhythmic framework in a sense-group (isochronism of the initial and final unstressed syllables), while at the same time regular cyclic repetition of the middle RG of the utterance is not available. For example:

*Ще маленьким хлопчиком...*

50 20 30    20    80 100 50    (milliseconds)

The character of alterations in long vowel and diphthong pronunciation depends on their position in a rhyme group and should be especially discussed. In English language diphthongs that follow a stressed syllable lose their quality – the characteristics available in the stressed position – and are pronounced as short rather homogeneous sounds. For example, in the utterance, “*What were the details?*”, the posttonic digraph “ai” (corresponding the diphthong [eɪ] in the word “**d**etails”) is pronounced as a homogeneous sound [e].

For Ukrainians who study the English language, the problem of the secondary (weaker or of the same strength) stress is the one of particular complexity. In modern English, there is a large quantity of words with both main and the secondary stress: *civilization, conversation*. At the same time there

are many words in which the so-called equal stress is executed, i.e. both stressed syllables have identical prosodic prominence: *fifteen, eighteen, unknown, rewritten*.

These words, being pronounced in isolation, demonstrate that prosody of the two stressed syllables in either of the words keeps to the laws characteristic of the word stress (see the section « Word Stress »). Thus, the status of the secondary stress depends on the relative size of the pitch change in the stressed syllable: equal stresses are characterized by the identical pitch change in both stressed syllables; the secondary stress is characterized by a smaller (but noticeable enough) pitch alteration.

In speech continuum, the general rhythmic structure of a sense-group influences the prosodic shaping of the main and the secondary stressed syllables. If the secondary stress precedes the main one, then the corresponding syllable forms an independent rhythmic group and in this case it preserves, of course, all phonetic attributes of a stressed syllable. Note the word «civilization» in the following utterance: *Columbus discovered a wonderful civilization*.

When the secondary stress retains second position in a word, all features of stress are leveled and the corresponding syllable becomes a part of the RG as an enclitic. Note the word «disengaged» in the following utterance: *Mr. Thackery's disengaged*.

As it has already been mentioned, the rhythmic structure of speech is defined to a substantial degree by stylistic variety and attitudinal and- emotional connotation of an utterance. Stylistic and emphatic peculiarities of prosody frequently lead to complete reorganization of the intonation patterns, including the rhythmic structures of sense-groups. Thus, cases of sheer loss of the main stress and its shift to the place of the secondary stress are rather widespread:

*I didn't say **the** book, I said **a** book.*

Habitual stereotypes of the accentual and rhythmic organization in a sense-group or in some separate words are destroyed because of the use of non-

standard ways of stress embodiment: a sharp increase in loudness; a change in the direction of the basic tone movement and an increase of the interval in its alteration; a pause appearance between the part of a word that carries secondary stress; and the syllable under the main stress.

The usual prosodic means complex usage for the purpose of RG phonetic shaping is one of a scale configurations used in a sense-group, this depending on the attitudinal and emotional coloring of the utterance.

Sometimes an attempt to emphasize the phonematic structure of a word leads to the use of a syllable-by-syllable speech (for example, in a didactic or a political discourse); thus, prosodically marked (rhythm organizing) are all the syllables involved in the structure of this or that word.

Thus, all prosodic parameters take part in shaping the rhythmic structure of speech; they interact and influence one another neutralizing, increasing and leveling those that correspond to the pragmatic aim of speech.

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塔基杨娜 米哈伊洛夫娜 卡拉辽瓦

语言文化学博士，教授，翻译及理论实践语言学主任

乌克兰南方国立师范大学

乌克兰敖德萨街 26 号

奥利佳 弗拉基米尔夫娜 亚历山大夫娜

语言文化学副教授候选人

外语教研室执行副教授

敖德萨国立大学

乌克兰，敖德萨，24/26 号

## 语言中韵律结构的特性

本文研究了英语和乌克兰语中韵律（音节、词汇和结构上）的特点。根据语言的韵律我们可以了解其周期性特点，标志性和非标志性的音节的规律性重复。本文分析了韵律的组成和语句结构相互关系的主要规则，找出了两个不同语言之间在韵律的特点上的共同点。

研究发现，一、英语、乌克兰语和德语会话中韵律参数都参与了句子中韵律的结构组成。

二、它们之间是相互影响的，互相中和的，良好的韵律结构能提高表达效率。

**关键词：**韵律组，韵律学，语言的韵律，参数，分组，具体的语言特点。