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K. D. Ushynsky**

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The third 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 educational aspects of professional training of future specialists under conditions of multicultural environment.

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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PHYSIOLOGICAL CHARACTERISTICS OF SPONTANEOUS NATIVE AND FOREIGN SPEECH

In this article there was made an attempt to compare physiological features of spontaneous native and foreign speech. The article focuses on differences in genesis of these two types of speech activity. Given research is intended to help to understand these two meanings better and as a result will help to use this knowledge in pedagogical practice while teaching foreign languages.

Key words: *native, unprepared and spontaneous speech, genesis of speech, stress.*

Today foreign speech in general and especially spontaneous speech is increasingly becoming the object of research of many scientists from different fields of knowledge. Their interest covers a huge range of characteristics of these activities: from formal features of speech to its stylistic features and the form of emotional expression.

During the analysis of these studies, we discovered that the scientists dealing with this problem do not really understand from the scientific point of view the concept of “spontaneous speech”. Some identify it as an unrehearsed speech (A. M. Antipova, L. K. Levay, V. V. Matveichenko, E. A. Nozhin), others – (M. L. Vaisburd, A. D. Klimentenko, S. M. Manuilov) correlate it with an improvisation speech; the third (P. B. Gurvich, N. I. Zhinkin, V. I. Shkapurin, R. Z. Shlyamberg) characterize the given concept as an independent kind of real-

speech communication. Based on these researches, we made an attempt to concretise and clarify this concept, and as a result we came to the conclusion that “spontaneous speech” is a kind of independent communication, characterized by: 1) *unpreparedness*, which is developed in: a) a new combination of known language components; b) use of familiar expressions in new speech situations; c) the immediate reaction of the speaker to the situation, taking into account the mechanism of the overphrasal impulse; 2) *motivation*, which is developed in stimulation, and then in motivation of speaking process with availability of unexpected factor; 3) *initiative*, which is developed in the realization of the desire to express somebody’s thoughts; 4) *emotionality*, which is developed in the ability to sense the objects of extralinguistic reality; 5) *expressiveness*, which is developed in the aspiration of the speaker to impact on the listener with the help of speech, accompanied with mimic and gestures (8, P.190).

However, speech activity is realized through a complex mechanism, the psychophysiological basis of which is the speech functional system, consisting of phonetic, lexical, grammatical and stylistic means and communication rules. Without speech, it is impossible for a human being to purchase some knowledge and to form some consciousness. Being a means of expressing thoughts of people in the process of their communication, speech becomes the main mechanism of their thinking [2, P.428].

The great scientist, a professor of comparative linguistics I. A. Baudouin de Courtenee, distinguishes the following types of thinking: “thinking in general,” “language thinking,” “linguistic thinking,” and “mathematical thinking” [1, P.263].

He regards linguistic thinking as the fixation of all that concerns the language, the preservation and processing of all linguistic representations in a person’s mind [1, P.264] and is treated: 1) in relation to neurophysiological processes taking place in the human brain: “the phylogenetic formation of the language ... we must first of all present as a result of brain reflexion, or a reaction to the irritation of the external world” [1, P.2:60]; 2) in relation to cognition: “... from linguistic thinking it is possible to bring out a whole kind of linguistic knowledge, knowledge of all areas of being and non-being, development of the world, both material and individually-mental and

social. All sides of life are transformed into mental equivalents, into representations associated with linguistic concepts” [1, P. 312]. In the present research, we will attempt to examine physiology of spontaneous speech, because only after studying the features of creation of native and foreign spontaneous speech in interrelationship, it is possible to develop the methodology for teaching the last.

As an object of physiological research speech is a system of interacting multiple reflexes, which themselves are reactions to external or internal stimuli.

However, a simple voice reflex can also be induced by excitation (stimulation) in the laboratory of some nerve endings with the help of external stimuli. Undoubtedly, such a procedure cannot be called a speech. During the speech, the speaker states an internal initiative, while several functional systems are involved, which also take part in other activities. This organization is a polynomial and multilevel, includes both elementary physiological mechanisms such as “stimulus-reaction”, and specific mechanisms that have a hierarchical structure and are characteristic exclusively for higher forms of speech activity. People talk about what they perceive (hear, see, feel, etc.), about their memories, thoughts, feelings. So the occipital, temporal, parietal, frontal lobes should be involved in the production of such speech. Moreover, people can talk about things that never happened using imagination [4, P.118].

Minimum three different areas of our brain can be associated with the speech: one must be responsible for storing the general knowledge, the other – for the grammatical structure of different phrases and the third – for the transformation of grammatically formed concepts into certain movements of the peripheral speech apparatus that controls the pronunciation of words. These areas also work together with the structures responsible for sensory perception and memory [5, P.358].

It is expediently to add that in the psychophysiological system of speech there are fully automated components that, if it is necessary, can be controlled by consciousness. The most consciously person can use the lexemes of his native language. The level of grammar and especially phonetics functions for the speaker with a high degree of automatism.

Local cerebral blood flow in the cortex of the cerebral hemispheres increases with fluent native speech, with the maximum increase in the motor-sensory areas, the motor area of speech (Broca's area) and the homologous areas of the right hemisphere [10, P.298; 9, P.35], which indicates the participation of both hemispheres in the procedure of speaking.

Any speech, whether spontaneous or prepared, consists of a sequence of phrases that represent a sequence of words derived from a sequence of sounds. The processing of this type of information is mostly carried out in the left hemisphere. It also controls the sequence of arbitrary movements necessary for the speech device to produce sound series.

The right hemisphere also plays a very important role in speech. It is important to notice that in the process of speaking there is an exchange not only of information, but also of thoughts and emotions. But speech is not just a process of speaking, it is also a transfer of speaker's emotions, which he shows with the help of gestures, intonation, mimic. Every speech pattern should have meaning. According to D. V. Zhabin, this meaning is not always hidden in words, sometimes it is already contained in the very fact of communication [4, P.120].

The same we can say about listening. It is not just a perception and recognition of words, but an understanding of their meaning. At the same time many structures are involved, including these which are responsible for the analysis of meaning and emotional experience. In those cases when a structure in its evolutionary development is replaced by a new, more highly developed one, the functions of the older system are drastically reduced or completely changed. But they still remain in a modified form and serve to maintain the new system [5, P.358].

Proceeding from this situation, we can say that the brain areas that are responsible for the emergence of emotional states and the connection of emotions with biological motivations of the person (hunger) in one form or another is involved in speech process. The ability to speak mainly depends on the functioning of two systems, old one and new one, which work in harmony. The old system mediates its influence on the new through the forebrain. As a rule, the new system dominates,

but under some strong, spontaneous influence from the outside, the old can restore its advantage, which explains the specific changes in speech, in this case a big amount of interjections appears and we can observe a lot of grammar mistakes in speech [11, P.84].

Such influence of some outer factors can be considered as stress. Stress is a prolonged state of psychological and physiological arousal leading to negative effects on mood, cognitive capacity, immune function, and physical health [12, P.524], is caused either by external or internal influences – stressors. These stressors are, in our opinion, human incentives for spontaneous utterance.

The mechanism of analysis of spontaneous speech in a stressful situation and determining the distinguishing features of a person's speech behavior within the framework of moderate stress are described in detail in scientific researches by D. V. Zhabin who wrote that the genesis of spontaneous utterance itself in a state of stress depends on several factors: 1) the degree of emotional tension; 2) the type of psychic accentuation, i.e. excessive strengthening of individual traits of character. In these cases deviations in psychology and human behavior that cannot be regarded as a normal, but even bordering on pathology, can be observed; 3) the ability to perceive the situation itself (for the speaker) and someone else's speech (for the listener) [4, P.222-223].

As for the physiology of the production of a foreign language utterance, this process goes through several stages: from the formation of elementary skills and skills of speaking in a foreign language to the spontaneous expression of one's own thoughts, or spontaneous speech reaction to someone else's utterance. At the beginning the formation of automatism or fluency of speech is not observed, this speech behavior takes place in native language. In order to use the necessary lexis, the speaker uses additional brain resources responsible for memory or association.

However, *the thinking of a person does not depend on the language he speaks*. The brain of an adult person, in spite of the developed chains of neural content connections related to one language, is able to develop and reduce to the system a huge number of new links that are related to another language. And if their

workout goes in a natural and effective way, in this case these two systems (or even several systems) of neural connections can exist in the brain and the psyche of a person without intermixing, in parallel or even independently.

To sum up we can say that the genesis of both native and foreign spontaneous utterance occurs in the same way, but the basis of both speeches is a thought which stimulates the utterance. However, the way of realization of the utterance, namely the form of expression of thought, both in native and in foreign languages is carried out in different ways – by different linguistic means and different ways of using them. In the native language, they depend on: 1) the degree of emotional tension; 2) the type of mental accentuation; 3) the ability to perceive the situation itself and to assess the degree of its importance for both the speaker and the listener [4, P.222-223], and also on the amount of linguistic means that the speaker uses automatically, i.e. ready to use them at any unexpected moment of the any situation. In a foreign language, the way of expressing thoughts primarily depends on the volume and quality of the linguistic information that a person uses according to any appeared speech problem. It shows up in the ability of its instantaneous selection from the operational memory for non-standard external linguistic construction, which, of course, as in the native language, is supported by the factors mentioned by D. V. Zhabin. Such a level of foreign speech readiness V. A. Buchbinder and R. Yu. Martynova is called “the formation of operational readiness for speech activity” [3, P. 67; 6, P.17–19]. Further researches by R. Yu. Martynova, based on physiological patterns of the formation of a foreign dynamic stereotype established by A. L. Luria, N. I. Zhinkin, and L. S. Vygotskii, showed that the ways of transforming thought into speech, in native and foreign languages are diametrically opposed. In the native language, a transition is made from intuitively established speech skills to language comprehension, and in a foreign language – consciously mastered linguistic phenomena and the ways of their interconnection create the prerequisites for achieving at first prepared and on its base unprepared and spontaneous speech. At the same time, the qualitative characteristics of the

authenticity of speech, its cultural features and expressiveness depend on the volume of its reproduction in non-standard speech conditions [9, P. 78].

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自发本土和外语演讲的生理特征

在这篇文章中，试图比较自发的本地语言和外国语言的生理特征。本文重点介绍了这两种语言活动的起源差异。研究旨在帮助更好地理解这两种意义，从而有助于在教授外语的同时将这些知识用于教学实践。

关键词：原生，无准备和自发的言语，言语的起源，压力