

## COSHCO (CORE-SHELL CONCEPT) -- NEURO-LOGICAL METHOD OF TEACHING ENGLISH

### Abstract

In the 30th of last century the American scientists E.Sapir and B.L.Whorf brought forward "linguistic relativity hypothesis" which in its "strong" (extreme) form stated that thinking was *determined* by the language and in its "weak" (more moderate) form - that thinking was *influenced* by the **language**.

In our article, we are going to speak about how our **tongue**, being one of the most important articulation organs, if not determines then to a great extent influences thinking and therefore has received the key position in COSHCO (Core-Shell Concept) method of teaching a foreign (in our case English) language.

The method offers to "enter" the language system via phonetics. It is crucial that phonetics is taught not by imitative method, which means imitating a foreign language sounds "by ear", repeating after a teacher, but by bringing students to **the articulation basis** of the language they are taught. The base of articulation basis is to a great extent determined by the tongue position while pronouncing some consonants that we call "tuning" and typical lip movement. With the help of various physical exercises and conscious switching from the native articulation basis to the articulation basis of the language learned a student as a result obtains physiological ability to speak (and speaking is a physical act!) a foreign language. He or she does it not only "switching" their articulation apparatus in a natural way but also "switching on" and developing the muscles that have not been involved while speaking their mother tongue. Obtaining a foreign **articulation basis** not imitating a foreign sound "by ear" provides flow of speech **authenticity** in general. The flow of speech characteristics play a very important role in the process of communication and influence it greatly. It is a well-known fact that native speakers of English perceive Russian speech as "aggressive" while native Russian speakers perceive English speech as "haughty". It is determined by particular properties of Russian and English flows of speech. One could think of it as of some kind of "intonation illusion" (mere a manner of intonating). Nevertheless, it has obvious wave nature (which is physics) because every separate sound even if it has its approximate analog in a foreign language has different acoustic characteristics owing to a different articulation basis. There is also another important fact that cannot be but mentioned. Tongue and lip work influences the work of brain according to W.G.Penfield who discovered that our brain "saw" hands, lips and tongue best of all. Consequently, changing basic position of the tongue (switching to a foreign articulation basis), we use a brain resource that has not been used while speaking our mother tongue. This provides a student's mental readiness to understand foreign grammar structures.

## COSHCO (Core-Shell Concept) -- Neuro-logical Method of Teaching English

### Introduction

In the thirties of last century the American scholars E.Sapir and B.L.Whorf put forward the famous Hypothesis of linguistic relativity. The principle of linguistic relativity holds that the structure of a language affects the ways in which its native speakers conceptualize their world, which means that the structure of a language influences its native speakers' cognitive processes. The principle is often defined to include two versions. The *strong* version says that language **determines** thought, and that linguistic categories limit and determine cognitive categories, whereas the *weak* version says only that linguistic categories and usage **influence** thought and certain kinds of non-linguistic behavior. The emphasis of this principle is on a system of grammar and vocabulary, on the language as a cultural phenomenon.

In our report, we are going to talk about how the **tongue**, being one of the most important articulation organs, influences mentality and how it can help "enter" and study a foreign language.

Importance of the tongue work determines its key position in the COSHCO method of teaching communication in English which we would like to introduce. COSHCO stands for Core-Shell Concept. The target audience are people older than 14. The method is a result of 20- year teaching and research activity.

COSHCO method has two components: "corporal" (physical) connected with teaching phonetics and "intellectual" (mental) connected with teaching grammar and vocabulary.

This report is dedicated mainly to teaching phonetics.

English term "mother **tongue**" applied to a native **language** made us think about the importance of the tongue in language learning (and consequently teaching). We are not talking about acquiring the language mother tongue by a child. We literally mean learning and studying. Tongue must be the key to the entrance of the language system -- that was our guess. Tongue is one of the main articulation organs. Articulation is about phonetics... Consequently, phonetics **is** the entrance! Naturally, there appears the question of HOW to teach phonetics so that it becomes the entrance.

To answer this question it is necessary to take into consideration several essential factors.

**Factor one.** It is essential to remember that unlike a language system speech is individual. Is it possible to teach anything which is supposed to be individual (which means unique) by imitating somebody? It does not seem possible.

**Factor two.** We cannot ignore the fact that a great number of students simply do not have musical ear which makes learning foreign phonetics either impossible or very complicated for them.

**Factor three .** Speaking is a physical act. Speaking different languages involves usage of different muscles. Therefore it is necessary to "switch on" the muscles involved in speaking a studied language. It is impossible (or very difficult) to achieve this imitating foreign sounds "by ear" because a student's body will **HABITUALLY** use the recourses it already knows and is used to.

**Factor four.**

A tongue is an organ which fine movements are very difficult (almost impossible) to be controlled.

**Factor five.** Sound has the wave nature, which greatly effects communication. It is so because during the process of communication not only a communicator's ear perceives the speech flow but it also affects his or her entire body.

Let us consider the factors listed above more detailed.

**Factor one.**

Here we would like to point out that saying "communication" we don't mean ability to figure out where to find McDonald's restaurant or to have a waiter bring your tea to your hotel room.

To make communication between **individualities** effective it is essential to be able to express one's individuality in speech. Consequently, it is necessary to teach students how to do it using instruments of a foreign language. Is it possible to achieve this goal by imitating someone else's speech? Not really.

If a student automatically repeats after a teacher ( "listen and repeat" - are we not so used to this phrase?), he or she will ultimately form not his or her own individual speech but the speech of the person he or she mirrors (imitates) that is the teacher's. Learning for example English in an English-speaking country by "speech imitating" (or picking up the language sounds) a student uses language environment as a sample for mirroring. In a short period of time after coming back and being deprived from the sample most of the students complain that they "lose" their "foreign language" (to be more precise, it is not their language, it is their

foreign speech). It happens so partly because it has not become theirs phonetically, they only imitated it. So, their own English speech has not been formed and as they have been deprived from the sample's "support" they "lose" their English. They have to look for it again. They go to another school or courses and they have to do it over and over again. Thus, this feeling of dissatisfaction and incompleteness of learning process can became (and very often becomes) permanent and finally depressing. Some people simply give up thinking they are just stupid (think of it: he or she has master's or Ph.D degree, his or her own

business or even two but cannot speak English!) or travel from one school to another hoping for a miracle. We would like to emphasize that motivation for learning could have many origins. Among them there are **despair** and **interest**. The students described above are moved not by the interest: they **desperately** want to learn English.

Learning pronunciation "by ear" has one more serious shortcoming - lack of stability in pronouncing the same sounds in the same position. This problem can be arisen by several reasons.

Firstly, students hear different samples of the same sound (teachers, announcers, actors etc.). Which sample to choose and in which case?

Secondly, co-articulation "prevents" from choosing a correct way of saying a foreign sound. Co-articulation is a phenomenon when sounds affect one another in speech. Therefore, even the same sound pronounced by the same person sounds differently depending on its "neighbors". Which variant to choose? Or is it possible to remember all the variants?

We also cannot but mention the following. Imitating is a method used for teaching children. For many adults mirroring someone else is a very difficult task. On the one hand, they need to know HOW, on the other, their personality "resists" imitating, and the brighter the personality is the stronger it "resists".

We think it is essential to take into consideration the age specificity while teaching pronunciation. An adult should be taught by methods suitable for adults, not for children. In our opinion, it means to give students an opportunity to make a deliberate choice while learning: I understand what to do, how to do it and what for and I know the consequences of making one choice or another. Otherwise, they might lose their age identity, which could result in a kind of "child-parent" relationship between students and their teacher. This relationship can show in students' declining all responsibility for the process and the result of learning and making a teacher the only responsible person for it: "I want to be taught" instead "I want to learn". Expectation of "being taught" makes the process of learning much less efficient.

### **Factor 2.**

Here we would like to dispute the opinion that those who have musical ear learn foreign languages easier and faster. It means that a great number of people are literally doomed to have many problems at the very beginning of learning process. COSHCO method views absence of musical ear not as an obstacle but rather as an advantage. A student with no musical ear can easier form his or her phonetically individual English speech not being able to imitate anybody's speech while learning.

### **Factor 3.**

It is no secret that it is easy to distinguish a face of an English-speaking person from a Russian-speaking person. It is connected with the fact that speaking Russian and speaking English involve different muscles (and not only facial). Consequently, it shows on a person's appearance. In order to make a person's

foreign speech fluent it is necessary to "switch on" and then teach how to use the muscles involved in speaking the language learned. To "switch on" the "foreign" muscles is not enough to copy movement of lips typical of pronunciation of one or another sound of the learned language. Lip work is "a shell". "The core" is the tongue position and work.

#### Factor 4.

Often we find a detailed description and diagrams of articulation of every sound. Knowing that a tongue is the organ which fine moves cannot be easily controlled (especially moves of its parts) it seems very difficult to use the offered descriptions in practice.

#### Factor 5.

This factor is the least studied and therefore the least taken in consideration while teaching pronunciation.

We would like to quote two books on phonetics to show a typical view on how phonetics works.

Diagram 1 " illustrates the chain of events starting from the cognitive\linguistic level , to physiological, to acoustical, then again to physiological and cognitive\linguistic...

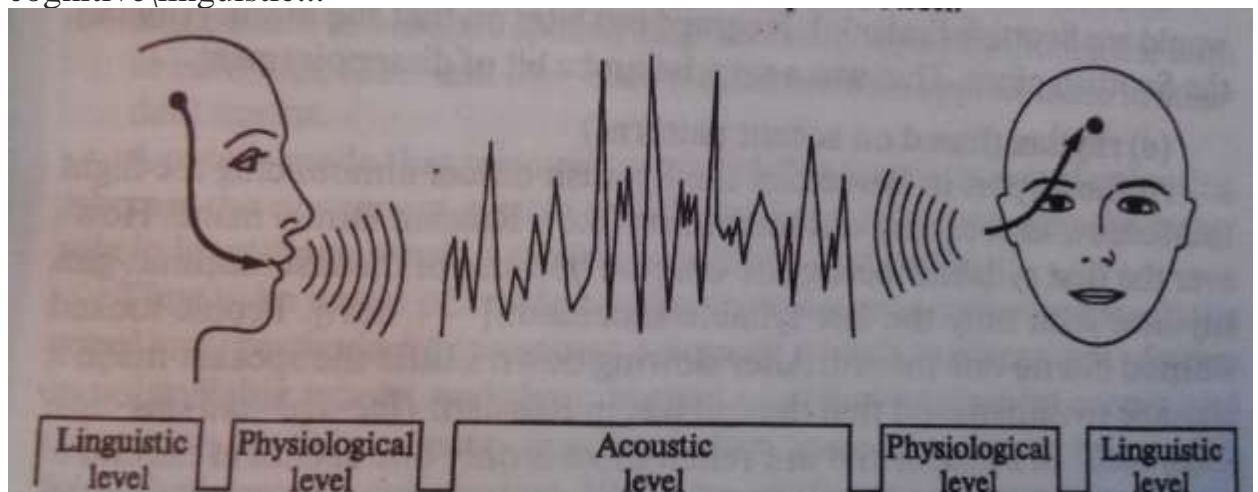


diagram 1

In fact, the success of communication act depends on the operation of all the systems involved but production-perception coordination is really decisive in intercultural communication...

Communication failures, or intercultural misunderstandings, to put it mildly, may depend on a range of phonetic features: consonants and vowel pronunciations, word stress misplacement, change of rhythm type, intonation patterns." (T.Shevtchecko "Theoretical Phonetics of the English Language", Moscow, 2014, p.13)

"To describe the process of speaking...we need to look at three main events... We produce sounds...Then the sounds travel through the air in the form of vibrations.

Finally, the sounds are received by the ear of the listener.

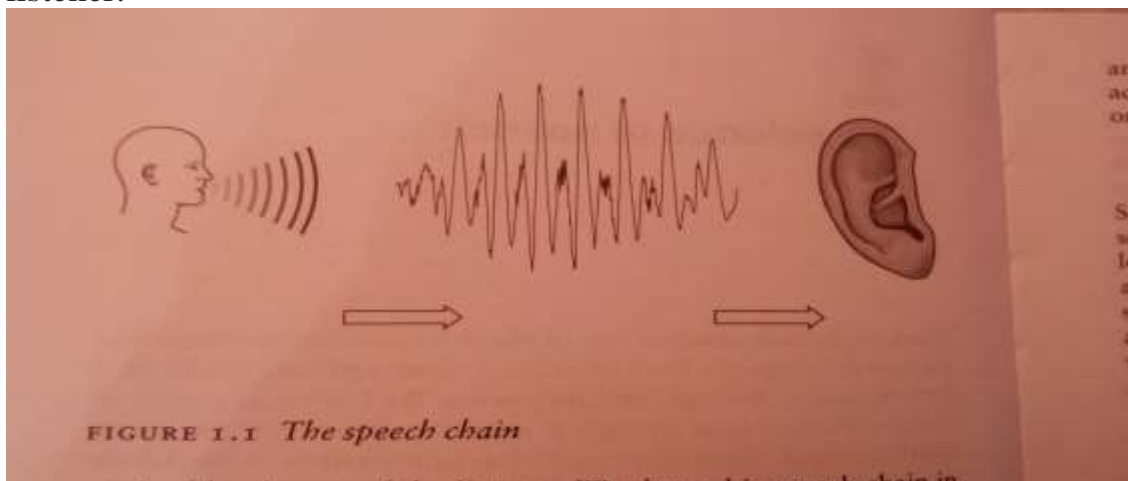


diagram 2

...However it is only part of the story...We must also take into account the fact that the brain of the speaker is involved" as well as the brain of the listener. (P.Roach "Phonetics", Oxford University Press, 2010)

Nothing seems wrong with these diagrams. Nothing, but two very important facts:

- 1) human's body consists not only of ears;
- 2) vibrations sent by the speaker will affect the whole body of the listener.

We perceive a speech flow not only by ear, but also with the whole body, which by no means contradicts physics.

This phenomenon was proved experimentally.

### **Russian flow of speech & English flow of speech and how we perceive them**

Every time before speaking about Russian and English phonetic difference we offer our students a strange at the first glance experiment. The teacher speaks to one of them at first in Russian and after that in English. The rest of the group watches. Then the teacher asks to describe the difference between Russian flow of speech and English flow of speech. 99.9% of participants (more than 100 people) describe qualitative differences of the flows.

English flow is perceived as soft, mild, unfocussed. It does not reach the listener and seems to stay around the speaker. (diagram 4)

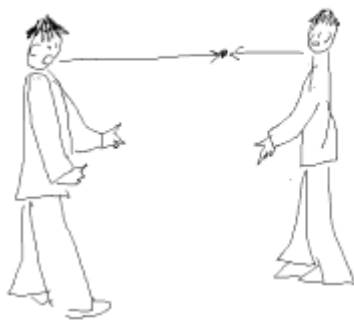


diagram 3

Russian flow is perceived as intensive, even aggressive, very concentrated; it reaches the listener, touches or even hits him or her. Its shape reminds a tube. (diagram 3)



diagram 4

It is interesting that "aggressiveness" of Russian speech flow has been subconsciously reflected by almost everybody by using the preposition "на" answering the question : "Where is the flow directed?" They have two options to answer: " **Ко мне**" (to me) or " **На меня**" (at me). They chose " **На меня**" with no hesitation. In Russian, we usually use "на" to say about an enemy or somebody\something threatening moving towards us. To talk about a friend or somebody\something moving in a friendly way towards us we normally use the

preposition "к\ко". Describing the direction of English flow, nobody uses the preposition "на".

One would consider it a kind of intonation illusion. We also used to think so. However, the experiment we conducted recently changed our opinion. In that experiment the "listener" was deaf. He understood speech "reading" by the lips of a speaker. We did what we always do: talk to him in Russian and in English directing to (or at) him flows of speech which he could not hear. Hearing disability was supposed to prevent him from getting into described above "intonation illusion" (if only it was in fact an illusion) because intonation is what we HEAR.

Without any hesitations, he gave exactly the same descriptions as everyone else gives. The question HOW he knew that, was answered

"I felt it as if I were a membrane".

It was a clear proof that the whole body perceives the flow of speech and reacts to it whether we realize this or not.

### **Can the flow of speech be seen?**

There is another fact connected with reaction to the flow of speech and its perception we would like to introduce. This fact is still waiting to be explained.

During the described above experiment with the flows of speech the speaker sits facing the listener about 3 meters away from him or her. The rest of the group sits around and watches the experiment. Very often, it is rather difficult for the listener to verbalize his or her perception of the flow. Many of them could be stressed out by the unusual task, by trying to guess what they are supposed to answer; by the strange feeling, they never paid attention to before etc. The "spectators" manage this task much easier and faster. With no problem they describe the differences between the two flows. However, unlike listeners who usually use the word "feel", which is natural ("I feel that..., I have the feeling that...") the spectators usually say "see" ("We can see that..., We saw that..."). The question "HOW can the flow of speech be seen and can it be SEEN at all?" has not been answered yet.

We talked about this phenomenon in so many details because the sensation one perceives from the flow of speech is the first thing you get starting communication regardless of the content of speech flow. It is a well-known fact that many English-speaking people describe Russian speech as "aggressive" while Russian native speakers describe English speech as "haughty". Thus, adequacy of communication can be achieved only when communicants' flows of speech are authentic. Authenticity cannot be achieved by imitating.

### **My tongue is a friend of mine**

Designing COSHCO method, we took into consideration all the factors listed above. The method enables the students to use phonetics as a natural, convenient and secure "entrance" to the language system: to its phonetic, vocabulary and grammar components. In addition, this approach guarantees pronunciation skill



stability, keeps every student's foreign speech individual and creates all the necessary conditions for adequate communication. The question "HOW?" is going to be answered in the following part of the article.

It is necessary to speak in a roundabout way to show a simple logic chain, which will take us to the answer to this question.

Speaking any language is a physical act, which to a considerable degree influences this language representative speakers' appearance because of particular muscles (and not only facial muscles) usage in the process of speaking. Consequently, there must be something in this physical act typical of all the representative speakers of any language, that "switches on" particular muscles. This "something" is articulation base of the language. Whatever phonetic particularities a representative speaker of the language has he or she will speak being in his or her mother tongue articulation base. It is so because the articulation base is a part of this language SYSTEM(along with vocabulary and grammar systems). We need to notice that unfortunately there are some exceptions to this rule. This phenomenon is going to be described further in this article.

English and Russian articulation bases are "seen" on sounds [л,т,н,д] in Russian and [l,t,n,d] in English most clearly and distinctly. Static phase of the base can generally be described by the tongue position on these sounds (or more specific, at the start of saying these sounds).

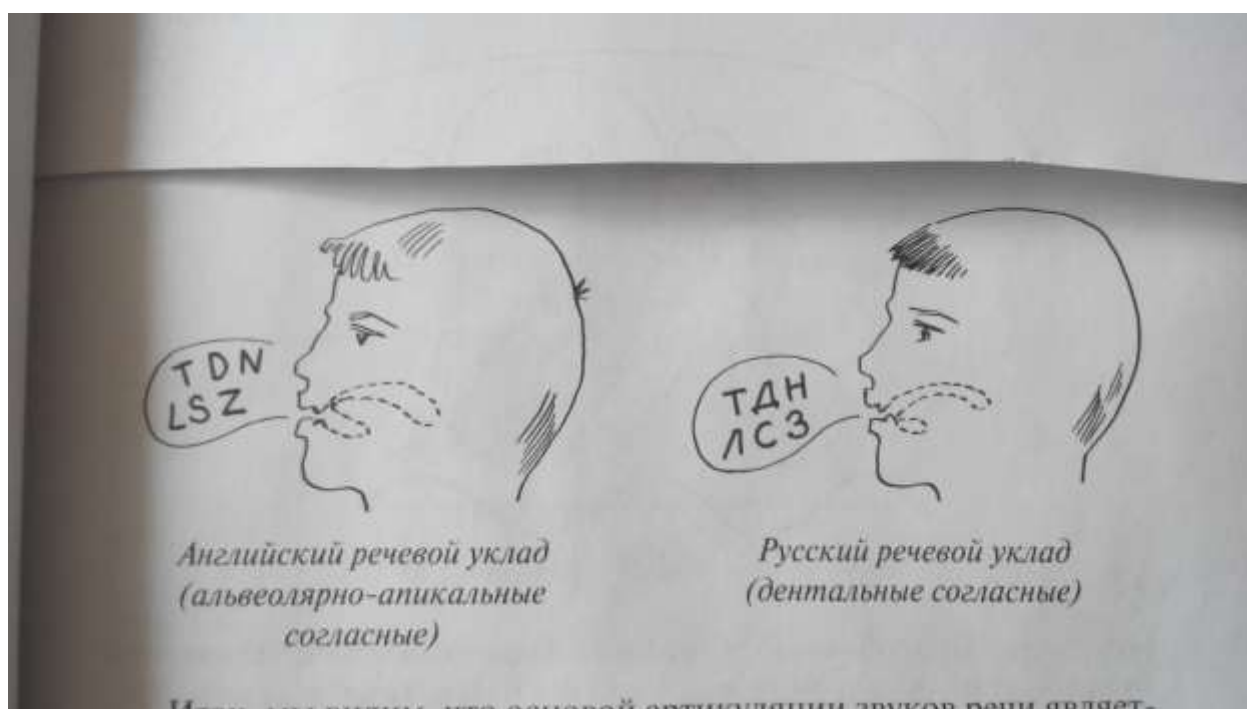


diagram 5

Nevertheless, **being** in the articulation base and **speaking** in it is not exactly the same. Speaking involves also lips. Therefore, we would call the tongue position the **core** and lip work the **shell** of the articulation base. To comment on that we would like to remind that the name of the method offered is COSHCO (core-shell

concept) and therefore we view all the language phenomena from the "core-shell" point of view. To prove the "core" role of the tongue and the "shell" role of the lips we would like to refer to the experiment demonstrated in "Man vs Expert" program (BBC Discovery Channel). Two people were invited to participate in this experiment: one of them a typical English representative speaker, the other was also an English speaker but she was a spelling expert, winner of numerous spelling contests. Both participants were to write down some English words dictated to them by an actor. The result was unexpected. The "regular" person made only one mistake while the spelling champion made a mistake in nearly every word! How could this happen? Two factors influenced this.

Factor one. The actor was an English speaker. Consequently, he spoke in English articulation base, which is essential taking in consideration the theme of our article. However, he deliberately moved his lips in a wrong way articulating some of the consonants.

Factor two. The "regular" person was almost blind and therefore could not SEE the actor, only hear while the spelling expert was able to do both: to hear the actor and to SEE his deliberately wrong lips work which influenced the number of mistakes she had made in the simplest words.

The conclusion is obvious. On the one hand, the lip work influences sounds much less comparing to the tongue position, on the other hand, the lip work is one of the major factors, which influences the process of communication.

Let us return to the issue of articulation base. To master it is not very difficult. It is enough to control the tip of the tongue saying just four sounds. We call them "tuning" sounds because they literally tune the articulation apparatus to a necessary language. To reinforce the work of the "core" it is necessary to make the "shell" (the lips) work properly. This is how students come to the articulation base of the English language at the lesson. Coming to the articulation base is the main condition under which one can form his or her individual foreign speech because without mastering the base it is dangerous and harmful to learn the details.

### What our brain sees



diagram 6

What you see in this picture is not a caricature. This somatosensory homunculus was created by a Canadian neurologist Wilder Graves Penfield (1891–1976). Its proportions show parts of a human's body are represented in cortex. One third is a hand, another third - lips and tongue.

Looking at this picture it seems logical to presume that change of articulation base (its "core" - tongue and "shell" - lips) will ultimately change the brain work.

This explains the fact that getting to the articulation base of a studied language improves perception of "intellectual" part of the language - syntax and vocabulary.

Also it seems natural that with changing articulation base one changes his or her gesture system as well (remember somatosensory homunculus).

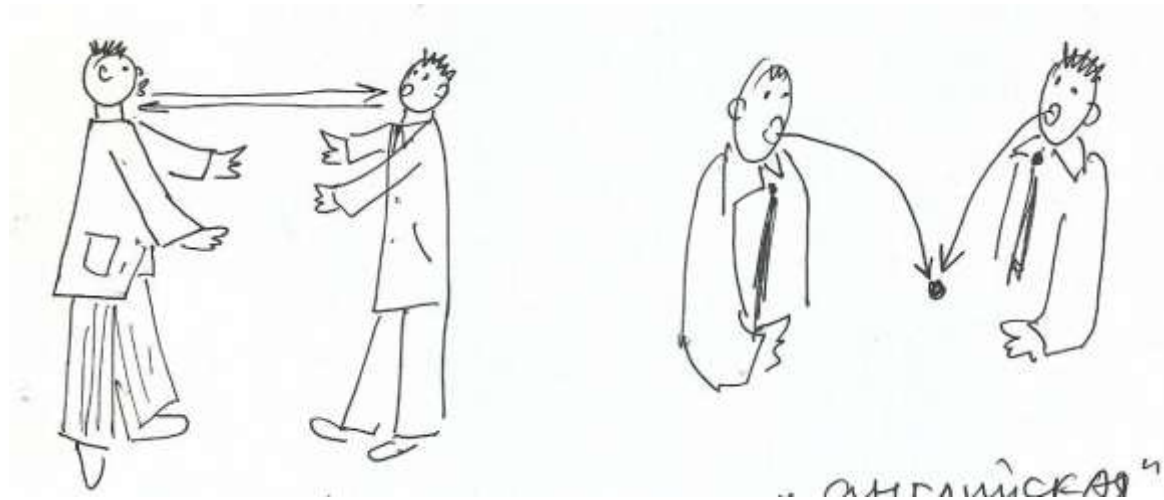


diagram 7

All the facts listed above prove that learning phonetics is essential for "entering" a foreign language system. We would like to emphasize that it is crucial that teaching phonetics should be performed in a special non-imitative way, which provides:

- 1) physical ability to speak a foreign language;
- 2) ability to understand authentic foreign speech (we decode sounds much better knowing how they are authentically encoded );
- 3) effectiveness of communication process owing to authenticity of speech flow;
- 4) mental readiness to understand grammar and memorize vocabulary.

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