

1.7. SPEECH SOUNDS

Speech sounds from the physical point of view are sound waves. They are the result of the vocal chords vibration and the noise which arouse in the process of speech production.

Understanding the “voice” as characteristics of the category which is the source of voice and the specific types of speech oscillations, from the viewpoint of the type of the source, speech sounds may be classified into the following groups (ФАНТ Г., 1964):

- a. absence of the source of oscillations (pause);
- b. exclusively the voice source (vowels);
- c. voice and noise sources simultaneously (voiced consonants);
- d. one or more noise sources (voiceless consonants).

Traditionally, speech sounds are divided into two classes: **vowels** and **consonants**.

Speech sounds are divided into vowels and consonants according to the specific character of the work of the speech organs, especially according to the presence or absence of the obstruction.

The most substantial difference between vowels and consonants is that in the articulation of vowels the air passes freely through the mouth cavity, while in making consonants an obstruction is formed in the mouth cavity or in the pharynx and the flow of the air meets a narrowing or a complete obstruction.

Therefore the flow of the air is weaker in pronouncing vowels and stronger in pronouncing consonants.

Vowels have no fixed place of articulation, the whole of the speaking apparatus takes part in their formation, while the articulation of consonants can be localized and an obstruction or a narrowing for each consonant is formed at a definite place of the speaking apparatus.

In producing vowels all the organs of speech are more tense, whereas while in the production of making consonants the active organs of speech are tense only in the

place of obstruction. Voice prevails in vowels while in most consonants noise prevails over voice.

Vowels are syllable forming sounds while consonants are not, as a rule.

Besides these two main types of speech sounds there is an intermediate type called **sonants**. Sonants have features common to both vowels and consonants.

Like a consonant, a sonant is characterized by an obstruction as well as by the concentration of muscular tension in the place of obstruction. However, the air passage is rather wide. In forming [m], [n], [ŋ] the air passes through the nasal cavity, in forming [w], [r], [l], [j] the air passage between the tongue and the roof of the mouth is wider than in producing other consonants.

Producing sonants the voice prevails over noise; while in all the other consonants (both voiced and voiceless), noise prevails over voice. This is why under certain conditions sonants [m], [n] and [l] become syllabic.

However, since sonants are more often non-syllabic, they are usually considered among consonants.

There exist a definite number of the main acoustic sounds in any language, called speech sounds.

In the process of speech under the influence of different conditions (the influence of the neighbouring sounds, physiological and other reasons), speech sounds may change their characteristics to some extent or receive some additional acoustic qualities but the main linguistic characteristics of each of the speech sounds in each language remain unchanged what makes it possible to recognize it in the act of communication.

Such speech sounds – the main linguistic elements, B. Bloch and G.L. Trage called phonemes (1942).

Speech sounds create syllables – the minor units of speech, from which all the higher speech units of suprasegmental level, including the text, are originated.