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Relations and World languages**

Theme:

The articulatory aspect of speech sounds

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**Plan*

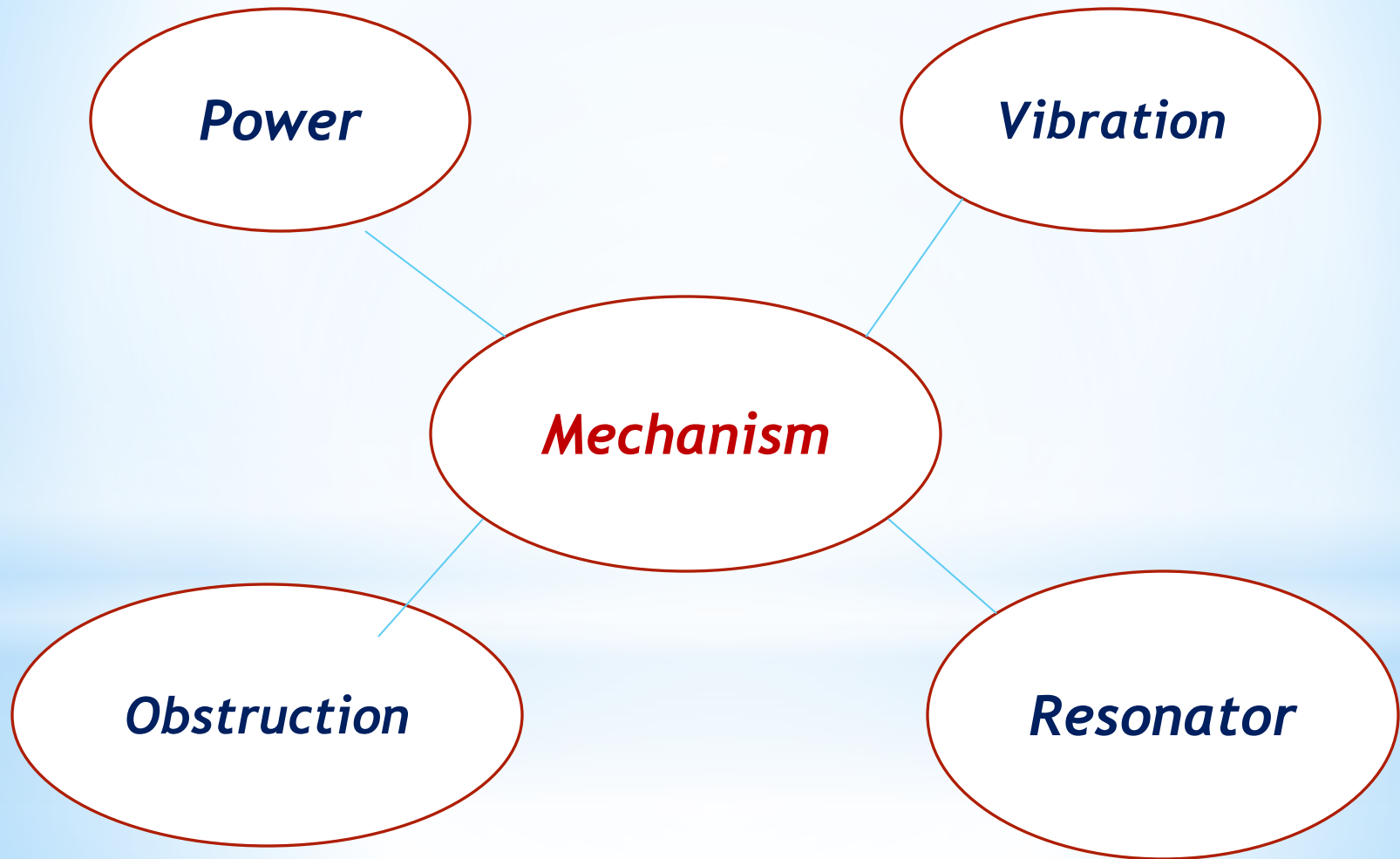
**The power mechanism*

**The vibration mechanism*

**The resonator mechanism*

**The obstruction mechanism*

**According to their main sound producing functions, the speech organs can be divided into the following 4 groups*



**The power mechanism*

- * The main speech organs of speech belonging to the power mechanism are as follows: *the lungs, the windpipe, the glottis, the pharynx, the oral cavity and the nasal cavity.*
- * In order to speak we need breath. Hence, the function of the power mechanism is to supply the organs of speech with energy in the form of air pressure, and to regulate it during speech.
- * Breathing consists of 2 phases – inhalation and exhalation. Breathing may be of two kinds: 1) ordinary biological breathing which takes place when we are silent, and 2) sound-producing breathing.
- * In ordinary breathing both phases are nearly of the same duration. In sound-producing breathing the phases are of different duration: inhalation is quick and deep, whereas exhalation is longer and drawn out. During speech the air goes out in spurts corresponding to syllables, words and sense-groups. All the speech sounds in English, Russian, Kazakh and many other languages are made during exhalation.
- * In ordinary breathing the stream of air flows out freely: the vocal cords are apart and the glottis is widely open, the soft palate is lowered letting the air through the nasal cavity.
- * In sound-producing breathing the out flowing air undergoes some modifications in the glottis, in the pharynx and in the mouth cavity.

* *The vibrator mechanism*

- * The vocal cords and the glottis constitute the vibrator mechanism. The vocal cords are situated in the upper part of the windpipe, called larynx. The vocal cords resemble 2 muscular folds which run in horizontal direction from back to front. The opening between the folds is called the glottis.

The vocal cords may take up different positions:

- 1) When they are kept apart, the glottis is wide open and the breath can pass them by being checked. Sounds formed with the glottis thus open are known as voiceless sounds. In ordinary breathing the vocal cords are also drawn apart.
- 2) When the vocal cords are pulled close together and the glottis reduced to a mere slit, they become an obstacle to the out flowing breath. The air pressure below the vocal cords becomes very strong. As it passes through the narrow slit into the outer air, it makes the vocal cords vibrate. Such vibrations are heard as voice. All English vowels and many English consonants are voiced.
- 3) The vocal cords may be drawn together tightly, so that the air cannot pass between them. In this case the voc. Cords fulfill the function of an obstrucater mechanism.

* *To the resonator mechanism*

* To the resonator mechanism belong: *the pharynx, the oral cavity and the nasal cavity*. All the 3 resonance cavities (or resonators) have boundaries or walls. By changing the position of the movable boundaries we may modify the shape and size of the resonators.

The nasal cavity is fixed, while the pharynx and the oral cavity are modifiable.

The direction in which the air flows depends on the position of the soft palate. When the soft palate is lowered the air passes through the nasal resonator. When it is held in its raised position the air stream is directed towards the oral cavity. The majority of speech sounds in English, Russian and Kazakh are articulated in the oral cavity.

It is due to the different movements and positions of the tongue and the lips that the oral resonator may take up various shapes and sizes. The oral resonator is responsible for the articulation of vowels. Movements of the tongue in different directions provide a basis for classification of vowels according to two important principles:

1) *according to the horizontal movement of the tongue;*

2) *according to the vertical movement of the tongue.*

The particular quality of a vowel sound depends not only on the position of the tongue but also on that of the lips. The lips perform a double function. The natural resonance is determined not only by the shape and size of the resonator but also by the shape and size of the opening of the resonator.

When the lips are spread the front boundary of the oral resonator is formed by the teeth; when the lips are rounded the front boundary is formed by the lips themselves. In this case the oral resonator is lengthened. This is one of the functions of the lips. (i. E. to form the front boundary of the oral resonator). Another function of the lips consists in forming the front opening of the oral resonator. Consequently, the position of the lips is included into the vowel classification.

* **THE OBSTRUCTOR MECHANISM**

- * The obstructor mechanism is responsible only for the production of consonants. To the obstructor mechanism belong the following active and passive speech organs: the tongue, the lips, the teeth, the alveoli, the palate, the back boundary of the pharynx and the vocal cords.
- * The function of the obstructor mechanism is to produce consonant sounds. It should be borne in mind that the four mechanisms work simultaneously and that each speech sound is the result of the simultaneous work of all of them.
- * When articulating sounds the organs of speech may occupy one or the other position. There are several types of articulatory obstruction: complete, incomplete and intermittent.
- * **The obstruction is complete** when the articulating organs are in close contact. The air passage is completely blocked.
- * **The obstruction is incomplete** when the organs of speech are not blocked but only constricted, or narrowed leaving a passage for the air to go through.
- * **The obstruction is intermittent** when the 2 articulating organs form a series of rapid intermittent taps.



The type of obstruction is one of the main principles in the classification of consonants. Different organs of speech participate in production of different consonants. An articulatory obstruction may be formed either by two active speech organs, or by an active organ in conjunction with a passive one. In consonant classification this principle is called “according to the active organ of speech and the place of obstruction”.

The lips, the tongue and the back boundary of the pharynx (and also the vocal c-s) are the active speech organs. Hence, depending on the active speech organs consonants may be: labial, lingual and pharyngeal.

According to the place of obstruction (or the passive speech organs) consonants may be: dental, alveolar, palatal and velar.

- * The functions of ***the power mechanism*** consists in the supply of the energy in the form of the air pressure and in regulating the force of the air stream. The power mechanism includes:

The diaphragm

The lungs

The bronchi

The windpipe or trachea

- * The glottis and the supra- glottal cavities enter into the power mechanism as parts of the respiratory tract.

- * ***The vibration mechanism*** consists of *the larynx, or voice box*, containing the vocal cords. The most important function of the vocal cords is their role in the production of voice.

- * *The pharynx, the mouth, and the nasal cavity* function as the principal resonators thus constituting ***the resonator mechanism***.

- * ***The obstruction mechanism*** (*the tongue, the lips, the teeth, and the palate*) forms the different types of obstructions.