ISSN: 2181-1385
Scientific Journal Impact Factor (SJIF) 2021: 5.723
DOI: 10.24411/2181-1385-2021-00901

THE CONSONANT SYSTEM OF ENGLISH

Zulhumor Ikromjon kizi Makhmudova
Samarkand State Institute of Foreign Languages

ABSTARCT

Every sound belongs to one or other of two main classes known as vowels and consonants. Vowels are classified by lack of obstruction to the air stream, defused muscular tension, and weak air stream. Consonant articulatory obstruction to the air steam, muscular tension concentrated in the place of obstruction, strong air stream. The particular quality of a consonants depend on the work of the vocal cords, the position of the soft palate and the kind of noise that results when the tongue or the lips obstruct the air passage. An articulatory obstruction may be complete (is formed when the organs of speech come in contact with each other and the air passage through the mouth is blocked) or incomplete (an articulatory organ is held close to a point of articulation without blocking the air passage).

Keywords: Consonants, physiological distinction. acoustic classification of English consonants, classifications of speech sounds

INTRODUCTION

The distinction between vowels and consonants is a very old one. The principle of this division, however, is not sufficiently clear up to the present time, the boundary between them being rather uncertain. The old term, “consonants” precludes the idea that consonants cannot be pronounced without vowels. Yet we know that they can and often are; for instance, in the sound that calls for silence: [ʃ:].

The fact vowels are usually syllabic, does not mean that consonants are incapable of forming syllables. On the contrary, they may be syllabic too, and we find many instances in the English language of syllabic sonorants forming syllables by themselves.

Acoustically, vowels are musical sounds. Nevertheless, in the formation of vowels considerable noise-producing narrowings are sometimes created; on the other hand, some consonants possess musical tone.

MATERIALS AND METHODS

According to Prof. D. Jones: “The distinction between vowels and consonants is not an arbitrary physiological distinction. It is in reality a distinction based on

ISSN: 2181-1385
Scientific Journal Impact Factor (SJIF) 2021: 5.723
DOI: 10.24411/2181-1385-2021-00901

acoustic considerations, namely on the relative sonority or carrying power of the various sounds." In the opinion of D. Jones, vowels are more sonorous than consonants. This is correct in most cases, but some consonants, especially sonorants, are very sonorous (for example, [l], [m], [n], [ŋ]).

D. Jones gives the following definition: "A vowel (in normal speech) is defined as a voiced sound in forming which the air issues in a continuous stream through the pharynx and mouth, there being no obstruction and no narrowing such as would cause audible friction.

"All other sounds (in normal speech) are called **consonants"**.

I.A. Baudouin de Courtenay has discovered a physiological distinction between vowels and consonants; according to his theory the main principle of their articulation is different: in consonant articulation the muscular tension is concentrated at one point which is the place of articulation in vowel articulation the muscular tension is spread over all the speech organs. Knowing this, we have no difficulty in ascertaining whether one or another particular sound is a vowel or a consonant.

Acoustically, a vowel is a musical sound; it is formed by means of periodic vibrations of the vocal cords in the larynx.

The resulting sound waves are transmitted to the supra-laryngeal cavities (the pharynx and the mouth cavity), where vowels receive their characteristic tamber.

We know from acoustics that the quality of a sound depends on the shape and the size of the resonance chamber, the material which it is made of and, also, on the size and shape of the aperture of its outlet. In the case of vowels, the resonance chamber is always the same – the supra-laryngeal cavities. However, the shape and size of the chamber can be made to vary, depending upon the different positions that the tongue occupies in the mouth cavity; and also depending on any slight alterations in the position of the back wall of the pharynx, the position of the soft palate and of the lips which form the outlet of the resonance chamber. The lips may be neutral or rounded, protruded or not protruded, forming a small or a large aperture, or they may be spread, forming a narrow slit-like opening. When the lips are protruded, the resonance chamber is lengthened; when the lips are spread or neutral, the resonance chamber is shortened, its front boundary being formed practically by the teeth.

It has already been mentioned that in producing vowels, the muscular tension is spread equally over all the speech organs, yet the tension may be stronger or weaker. If the muscular tension in the walls of the resonance chambers is weaker, the vowel has a less distinct quality; it may sometimes be quite obscure. If the muscular tension

ISSN: 2181-1385
Scientific Journal Impact Factor (SJIF) 2021: 5.723
DOI: 10.24411/2181-1385-2021-00901

is stronger, the vowel has a well-defined quality. In the first case, the vowels are called lax, in the second-tense.

RESULTS

It is difficult, however, if not next to impossible, to classify vowels correctly from the point of view of tenseness. The degree of tenseness may be ascertained chiefly by comparison, while the result of comparison depends largely upon the articulation basis of the mother-tongue of the person who makes the comparison. To a Russian, for instance, all vowels seem tense, because Russian vowels are lax.

We can now formulate the general principles of vowel articulation.

1. Vowels are based on voice which is modified in the supralaryngeal cavities.
2. The muscular tension is spread over all the speech organs.
3. The air-stream passes through the supra-laryngeal cavities freely, no narrowings being expressly formed on its way.
4. The breath force is rather weak for, it is expended when the air stream passes through the larynx and causes the vocal cords to vibrate.

Thus, vowels have no special place of articulation; - the whole of the speech apparatus takes part in producing them. The classification of vowels, as well as the description of their articulation, is therefore based upon the work of all the speech organs.

2. The articulatory of English Consonants

An indispensable constituent of a consonant is noise. The source of noise is an obstruction. There are the following types of obstruction in the production of consonant: 1) complete occlusion (closure), 2) constriction (narrowing) and 3) occlusion-constriction (closure immediately followed by a constriction).

The noise produced by the removal of a closure is that of a plosion, the noise resulting from the movement of the air stream in the narrowing is that of friction. The two effects are combined when closure is followed by a narrowing.

Obstructions may be formed either by two active speech organs or by one active speech organ (articulator) and a passive organ of speech (point or place of articulation).

1. According to the active speech organ English consonants are divide into:
2. According to the place of obstruction consonants are classified into dental /θ/, alveolar /t, d, n, l, s, z/, post-alveolar /r/, palatal /j/, palate-alveolar /ʃ, ʒ, tʃ, ʤ/, velar /ŋ/.

ISSN: 2181-1385
Scientific Journal Impact Factor (SJIF) 2021: 5.723
DOI: 10.24411/2181-1385-2021-00901

3. According to the presence or absence of voice, English consonants are divided into voiced /b, d, g, v, z, ð, ʒ, ʤ/ and voiceless /p, t, k, f, s, θ, ʃ, ʧ/.

In the articulation of English voiced consonants the muscular tension is weak – lenis articulation. In the articulation of English voiceless consonants the muscular tension is strong-fortis articulation.

4. According to the position of the soft palate English consonants are divided into oral /p, b, t, d, k, g, f, v, θ, s, z, ʃ, ʒ, h, ʧ, ʤ, w, l, r, j/ and nasal /m, n, ŋ /.

3. The Acoustic Classification of English Consonants

The acoustic character of a consonant is conditioned by its articulation.

Plosives and affricates (e.g. /t, d, ʧ, ʤ/) differ from fricatives (e.g. /f, v/) mainly in that part of their spectra which corresponds to the articulatory "stop". A plosive is characterized by the absence of noise in part of the spectrum. The plosion is marked by a burst of noise, i.e. the formant of noise appears.

Fricatives are characterized by the presence of a noise formant throughout the spectrum.

Hence plosives and affricates are classed as discontinuous and fricatives as continuant.

Voiceless consonants (fortis) are characterized acoustically as tense and voiced (lenis) as lax, since the burst of noise in voiced plosives and the formant of noise in voiced fricatives are less strong than those in voiceless plosives and fricatives.

The noise peculiar to alveolar and dental consonants /t, d, s, z, n, l, θ, ð/ is contrasted with that of labial and labio-dental ones /p, b, m, f, v/ because it is sharper in character. This means that in the spectra of /t, d, s, z, n, l, θ, ð/ high frequencies are predominant and in the spectra of /p, b, m, f, v / the formant of noise is lower.

The fricatives (alveolar and dental) /s, z, θ, ð/ have the highest frequencies of noise in the spectrum-up to 8000 cps. The frequencies of the noise formant in the spectrum of /f, v/ are low. Therefore, /t, d, s, z, θ, ð, n/ are characterized as acute and /p, b, m, v/, as grave. The consonants /k, g, ʃ, ʒ, ʧ, ʤ/ are intermediate in this contrast.

The spectrum of velar and palatal consonants / k, g, ŋ, ʃ, ʒ, ʧ, ʤ/ is compact while the spectrum of alveolar, labial and dental ones /t, d, n, s, z, m, p, b, f, v, θ, ð/ is diffuse. Consequently, the former are classified as compact consonants and the latter as diffuse ones.

The sonants /m, n, ŋ/are opposed to all the other consonants as nasal to oral, because in their spectrum there is a special nasal formant.

ISSN: 2181-1385
Scientific Journal Impact Factor (SJIF) 2021: 5.723
DOI: 10.24411/2181-1385-2021-00901

The consonants /s, z/ having a round narrowing are opposed to /θ, ð/ having a flat narrowing and the affricates /tʃ, ʤ/ are opposed to the plosives /t, d/ as strident to mellow. In the spectrum of strident consonants the intensity of noise formant is greater in the spectrum of mellow consonants.

DISCUSSION

The first attempt to classify speech sounds on the basis of their acoustic distinctions was made by a group of phoneticians and linguists Jacobson, Fant and Halle, in their work “Preliminaries to Speech Analysis”. The authors establish the acoustic distinctions used in human language. These distinctions form 12 binary (or dichotomous) distinctive oppositions. The authors claim that their classification can be applied to all the languages of the world, but not all the 12 oppositions are to be used to classify the phonemes of a particular language. For the English language, according to the authors, 9 binary oppositions are sufficient: 1) vocalic –non-vocalic; 2) consonantal – non-consonantal; 3) compact – diffuse; 4) grave –acute; 5) flat – plain;6) nasal – oral; 7) tense – tax; 8) discontinuous – continuant; 9) strident – mellow.

Vowels are vocalic and non-consonantal; consonants are consonantal and non-vocalic. The sonants /l, r/ are vocalic and consonantal /w, j/ are non-vocalic and non-consonantal.

The traditional vowel /consonant opposition is divided into two oppositions to define the sounds /r, l, w, j/.

The acoustic classification of speech sounds worked out by Jacobson, Fant and Halle is perhaps not absolutely definite. But it is a new classification based on the discoveries of modern electro-acoustics.

CONCLUSION

Acoustic definitions and classifications of speech sounds are of great theoretical importance to linguists. Their practical importance and application is also undeniable. Acoustic characteristics of speech sounds are indispensable in technical acoustics for the solution of the problem of speech synthetics and sound transmission, for the construction of speech recognizers as well as machines capable of putting out information in spoken words.

As for language teaching the acoustic classification of speech sounds is practically inapplicable. But the acoustic data of spectrographic analysis are of great use when related to the articulatory characteristics of speech sounds.

ISSN: 2181-1385
Scientific Journal Impact Factor (SJIF) 2021: 5.723
DOI: 10.24411/2181-1385-2021-00901

REFERENCES

1. A.A. Abduazizov. English Phonetics. A Theoretical Course, T., 2006
2. A.C. Gimson. An Introduction to the Pronunciation of English. Edward Arnold, 1970
3. Р.Якобсон, Г.Фант, М.Халле. Введение в анализ речи. Различительные признаки и их корреляты. Сб: Новоевлингвистике..М., 1962
4. S.F. Leontyeva. A Theoretical Course of English Phonetics. M., 2002
5. O.I. Dickushina. English Phonetics. A Theoretical Course. M., 1965
6. V.A. Vassilyev. English Phonetics. A Theoretical Course. M., 1970
7. D. Jones. An Outline of English Phonetics. Cambridge, 1976
8. M.A. Sokolova. English Phonetics. A Theoretical Course. M., 1994