

The System of English Phonemes.

1. The system of consonants.
2. The system of vowels.
3. Modifications of sounds in connected speech.

1. The system of consonants.

There are few ways of classifying English consonants. According to **the type of obstruction and the manner of production of noise** there are two large classes of consonants in English:

1. *occlusive*, in the production of which a complete obstruction is formed;
2. *constrictive*, in the production of which an incomplete obstruction is formed.

The phonological relevance of this feature could be exemplified in the following oppositions:

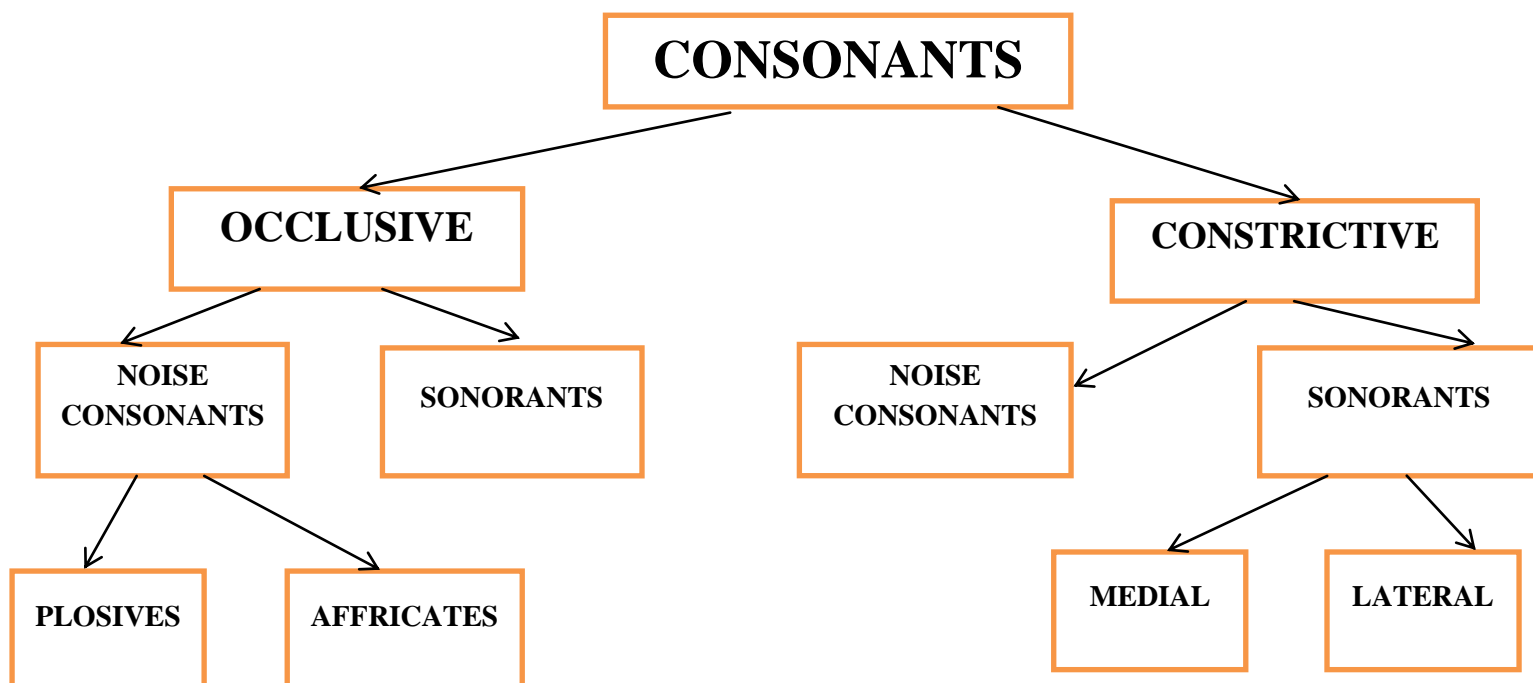
[ti] – [si] tea – sea (occlusive – constrictive)

[si:d] – [si:z] seed – seas (occlusive – constrictive)

[pul] – [ful] pull – full (occlusive – constrictive)

[bəut] – [vəut] boat – vote (occlusive – constrictive)

Each of the two classes is subdivided into *noise consonants* and *sonorants*. The division is based on the factor of prevailing either noise or tone component in the auditory characteristic of a sound. In their turn noise consonants are divided into *plosive consonants* (or *stops*) and *affricates*.

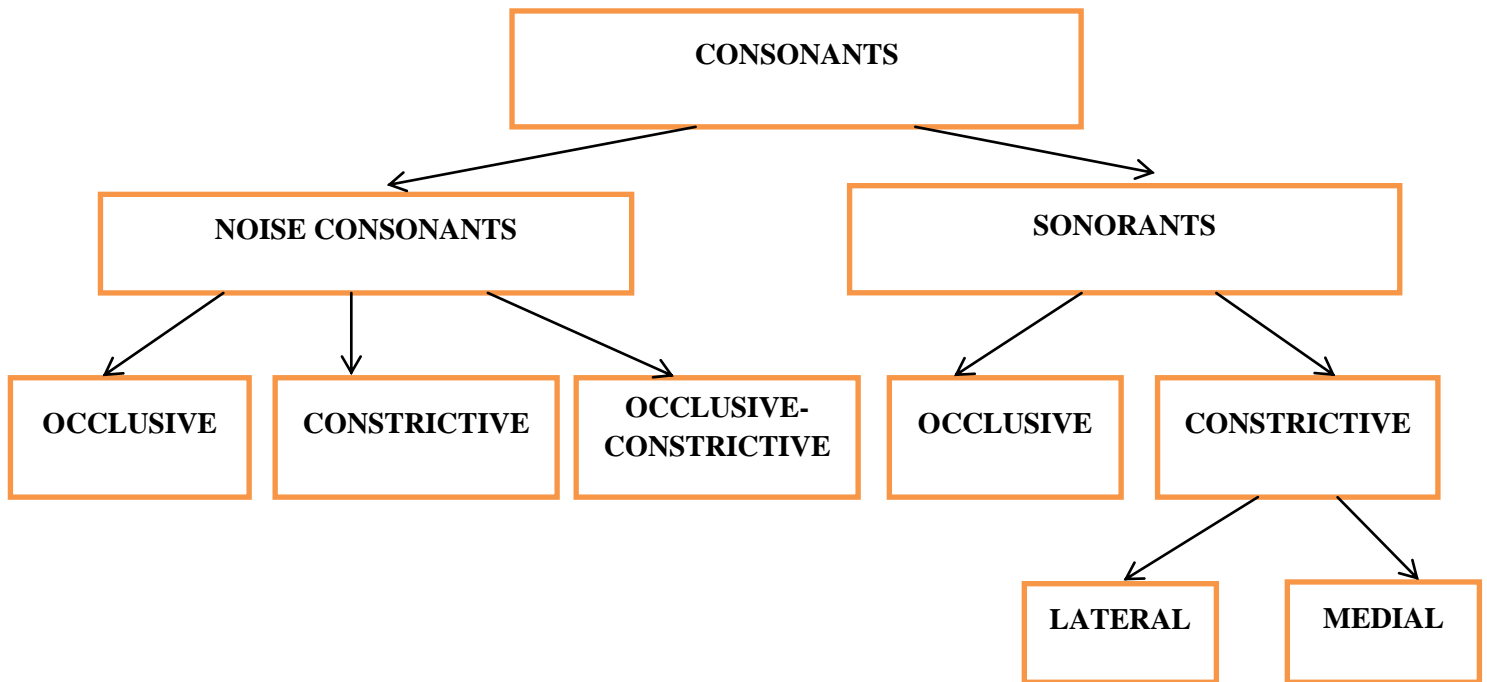


M.A. Sokolova suggests another approach and states **the degree of noise** to be the first and basic principle of classification. Thus consonants are divided into *noise consonants* and *sonorants* because of great articulatory and acoustic differences

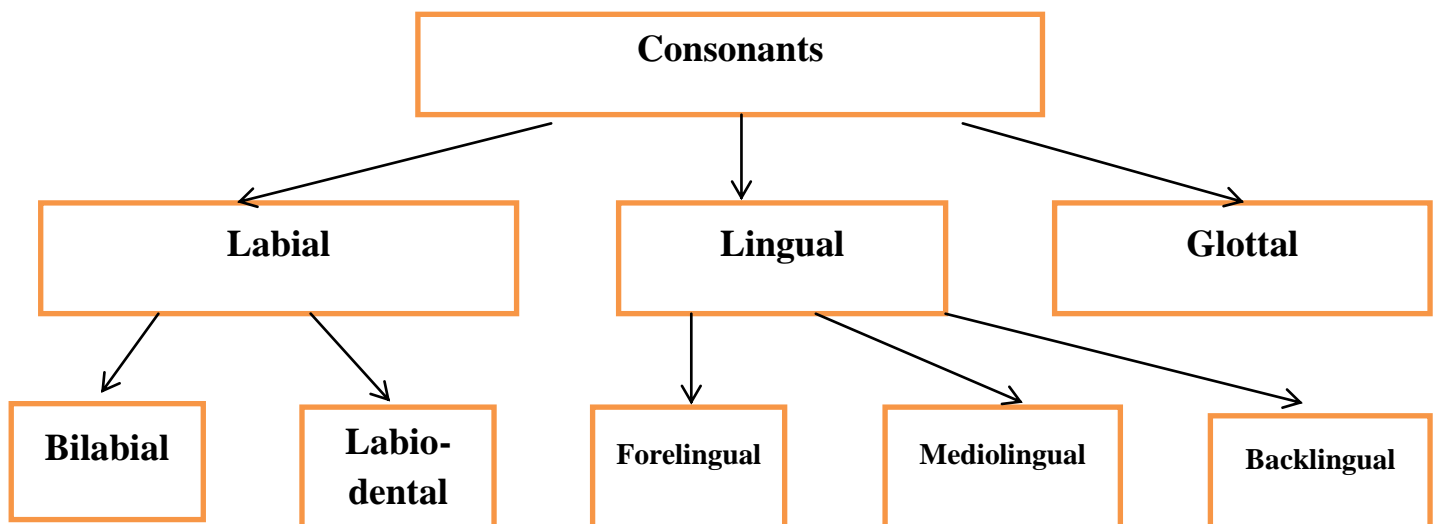
between them. The phonological relevance of this factor is proved by contrastive oppositions:

bake [beɪk] — *make* [meɪk], *veal* [vi:l] — *wheel* [wi:l].

Each of the classes then undergoes further subdivisions:



The principle of consonant classification according to the **place of articulation** is fairly universal. On the basis of *the position of the active speech organ against the point of articulation* English consonants are classed into *labial, lingual, glottal* with further subdivisions:



This characteristic is relevant for phonological description. The fact is proved by oppositions of consonants, which bring changes in meaning, for example:

— bilabial vs. forelingual *pan* — *tan* [pan] — [tan];

— bilabial vs. backlingual *pick* — *kick* [pɪk] — [kɪk];

- forelingual vs. mediolingual *less* — *yes* [les] — [jes];
- forelingual vs. backlingual *day* — *gay* [deɪ] — [geɪ];
- forelingual vs. glottal *sigh* — *high* [saɪ] — [haɪ];
- labio-dental vs. forelingual *feet* — *seat* [fi:t] — [si:t], etc.

The **voice characteristics** in phonological analysis is connected with ***the force and energy of articulation*** rather than with the work of the vocal cords.

According to it consonants are divided into *strong* (*fortis, voiceless*) and *weak* (*lenis, voiced*). The difference is exemplified in distinctive oppositional pairs: *cap* — *cab, not* — *nod, pick* — *pig, cap* — *gap, pit* — *bit*.

Problem of affricates.

I. There are two affricate sounds in English: [tʃ, dʒ].

II. There are eight reputed affricate sounds in English: [tʃ, dʒ, ts, dz, tr, dr, tθ, dð].

The analysis on the basis of articulatory and acoustic criteria shows that potentially the sounds [tʃ, ts, tr, tθ] and their voiced counterparts [dʒ, dz, dr, dð] can be considered monophonemic and therefore can be treated as affricates, for ex.: *butcher* [butʃ-ə], *mattress* [mætr-ɪs], *curtsey* [kə:-tsɪ], *eighth* [eɪtθ].

According to ***the morphological criterion*** a phoneme is morphologically indivisible, hence a sound complex is considered to be monophonemic if a morpheme boundary cannot pass within it.

In this case [tʃ, dʒ] can undoubtedly get a monophonemic status, as these phoneme sounds prove to be indispensable. For example, without [t] or [ʃ] the word *chair* [tʃeə] correspondingly becomes *share* [ʃeə] or *tear* [teə]; the word *match* [matʃ] changes into *mash* [mæʃ] or *mat* [mæt].

The sound complexes [ts, dz, tθ, dð] cannot be included in the system of English phonemes, because their last elements are separate morphemes [s, z, θ, d] which are easily singled out by native speakers in any kind of phonetic context.

The case with [tr, dr] complexes is more difficult, because in some cases they turn to be inseparable when the elimination of one element results in the change of meaning: *tray* [treɪ] — *ray* [reɪ]. Still they are normally regarded as sound sequences and are not included in the system of English phonemes.

2. The system of vowels.

The phonemic status of complex vowels — diphthongs and diphthongoids.

Phoneticians grant **monophonemic status** to the English diphthongs *on the basis of articulatory, morphonological and syllabic indivisibility* combined with *the criterion of duration*:

- English diphthongs are pronounced within a single articulatory effort;
- neither morpheme nor syllable boundary can separate the nucleus and the glide (saying ['seɪ-ɪŋ], crying ['kraɪ-ɪŋ], enjoying [ɪn-'dʒɔɪ-ɪŋ], slower ['sləʊ-ə], ploughing ['pləʊ-ɪŋ], clearer ['kliə-rə], airing ['eə-rɪŋ], poorer ['puə-rə]);

— the duration of diphthongs coincides with the one of long monophthongs in the same phonetic context (site [saɪt] — seat [si:t], coat [kəʊt] — caught [ko:t]).

The subclass of English diphthongoids is defined on the basis of slight *articulatory instability in the pronunciation* of [i:, u:] which becomes gradually stronger in modern English.

Problem of vowel length

From practical point of view the quantity of a vowel in connected speech is presupposed by many factors:

- its proper length;
- the phonetic context (*be — bead — beat* [bi: — bi:d — bit]);
- the word stress (in stressed syllables vowels are longer, cf. *forecast* ['fo:ka:st], *to forecast* [fə'ka:st]);
- the number of syllables (vowels are shorter in polysyllabic words: *verse* [vɜ:s], [junɪ'vɜ:sɪtɪ]);
- the syllabic structure (in words with V, CV, CCV type vowels are longer than in VC, CVC, CCVC type: [ɜ:] in *err* and *earn*; [ju:] in *dew* and *duty*);
- other factors (the position in the tone group, the position in the utterance, the tempo of the utterance, the type of pronunciation, the style of pronunciation, etc.).

Foreign scholars usually follow the approach of an outstanding British phonetician *D. Jones* who underlines *the phonological relevance of vowel quantity*. He states that words may be distinguished from one another with the help of oppositions of different vowel length called ***chronemes*** (*deed — did, fool — full*).

The problem of vowel length also concerns **the status of phoneme [æ]**. It is treated as a historically short vowel that tends to be lengthened before lenis consonants [b, d, g, m, n, z] almost the same as long vowels. Nowadays the most part of phoneticians considers that [a] belongs to the subclass of long vowels on the basis of its qualitative — quantitative relations in the opposition [æ] vs. [ə].

3. Modifications of sounds in connected speech.

In the process of speech communication language sounds undergo different kinds of variations because of articulatory transitions in the production of neighbouring sounds.

Phonemic variations are generally termed '**sound alternations**'.

They include changes between related phonemes and have great phonological value.

Allophonic variations in the phonetic sequence are called '**sound modifications**'. They are very important for practical language teaching.

Every speech-sound pronounced in isolation has ***three stages of articulation***:

(1) the initial stage (the on-glide) when speech organs move to the position of articulation;

- (2) the medial stage (the retention/hold stage) when speech organs are kept in the position of articulation;
- (3) the final stage (the off-glide/release) when speech organs return to the position of rest.

But in actual speech sounds are seldom pronounced by themselves, they are used in combination with other sounds.

There are **four types of sound junction** in English:

- (1) a combination of a consonant and a vowel (CV transition): *me* [mi:];
- (2) a combination of a vowel and a consonant (VC transition): *in* [ɪn];
- (3) a combination of two consonants (CC transition): *blow* [bləʊ];
- (4) a combination of two vowels (VV transition): *reality* [rɪ'æltɪ].

The adjacent speech sounds influence each other and modify the process of sound production.

The variations of the stages of articulation result in their merging or interpenetration.

Merging (*злиття, поєднання*) of stages usually takes place if two sounds of a different nature are joined together: vowels and consonants, noise consonants and sonorants, etc. In this case the end of the preceding sound penetrates into the beginning of the following sound and they are articulated almost simultaneously (*law* [lɔ:]).

Interpenetration (*взаємопроникнення*) of stages usually takes place when consonants of a similar or identical nature are joined together. In this case the end of the first sound penetrates not only into the beginning but also into the middle of the second sound (*act* [ækt], *begged* [begd]).

Sound variations are caused by different types of phonetic units: segmental or suprasegmental.

Combinative changes are conditioned by segmental units and result in the reciprocal influence of neighbouring sounds (*tune* [tju:n], *in the* [ɪn ðə]).

Positional changes are conditioned by suprasegmental units and result in the stylistic and intonational influence on sounds (word combinations *slight pressure*, *hot muffins* may sound in colloquial speech like ['slaɪp 'preʃə], ['hʌp 'mʌfnz]).

The majority of sound variations in connected speech are combinative; they may influence either phonemic or allophonic composition of a word.

But there are variations of a different kind in English called **sound alternations** which involve interchange between related phonemes as well. Two types of alternations are presented in English on the synchronic and diachronic levels: *historical* and *contemporary*.

I. Sound alternations that are traced back to the phonemic changes in earlier periods of language development and are known as **historical**.

1. Vowel alternations are exemplified by:

— distinctions of irregular verbal forms (*get — got — got, know — knew — known*);

— distinctions of causal verbal forms (*to rise — to raise*);

— distinctions of singular and plural noun forms (*goose — geese, man — men*);

— distinctions of parts of speech in etymologically correlated words (*long — length*).

2. Consonant alternations represent:

— distinctions of irregular verbal forms (*send — sent — sent*);

— distinctions of parts of speech in etymologically correlated words (*defence — to defend*);

— reduction of consonant clusters in the initial (*write, know, gnat*), medial (*listen, whistle*) or final positions (*lamb*).

3. Vowel and consonant alternations are presented by distinctions of parts of speech in etymologically correlated words (*live — life, bath — to bathe*).

II. Sound alternations on the synchronic level are known as **contextual** or **contemporary**.

Let's consider the following example. If we take the first syllabic vowel of the words *ac'tivity* and *con'trast* and compare it with the first syllabic vowel of the words *'active* and *'contrast*, we'll clearly see the difference in sound representation. It is the weak position of a vowel in the first case and its strong position in the second one.

But the question is in defining the phonemic status of the vowel in its weak position. There are two possible variants when in the words *ac'tivity* and *con'trast* the first syllabic vowel may be considered:

— either as the principle allophone of a neutral phoneme [ə];

— or as subsidiary allophone of [æ] and [ɔ] in the words *'active* and *'contrast*, correspondingly.

The difference is quite significant, because the sound [ə] may be identified either as an independent phoneme, or as a neutralized allophone of some other phoneme. This problem still doesn't get a single decision in modern linguistics.

For example, the auxiliary verbs *have* and *be*, in the 3rd person singular (*has, is*) reduced to a single sound [z] are properly recognized by the listener because of their syntactic function in the context. So the sound sequences [z 'nik 'kʌmɪŋ] or [z 'nik 'kʌm] are easily reconstructed as *'Is Nick coming?* or *'Has Nick come?*

The same is with the possessive *- 's* and the plural *-s* of nouns pronounced as [z]. In the sound sequences [ðə 'bɔɪz 'skeɪt] or [ðə 'bɔɪz 'pen] the sound [z] is correspondingly recognized as the plural or possessive forms of a noun: *'The boys skate* or *'The boy's pen*.