

# SPEECH SOUNDS SYSTEM of ENGLISH



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Definition of a Speech Sound Systematic character of Speech Sounds Sound producing mechanisms

# Definition

Speech Sound is a *human* patterned noise, noise with organization. It's organized articulatory, acoustically, auditory

functionally

# Sound producing mechanisms

From the articulatory aspect the following mechanisms are often distinguished:

- power mechanism
- vibrator mechanism
- resonator mechanism
- obstructive mechanism

## Power mechanism

includes mainly *the lungs*. The **function** of the power mechanism is to supply the sound producing organs with energy in the form of the air stream / air coming from the pressure lungs

# Vibrator mechanism

is mainly the *Larynx* (the upper part of the windpipe) with the vocal cords and the glottis situated in it. V.M. is both articulatory & acoustic mechanism, its main function - to produce different types of *vibrations*: regular / periodic *irregular / non-periodic* &

regular / periodic vibrations give rise to voice; *irregular / non-periodic* vibrations give rise to *noise*. As physical / acoustic phenomenon vibrations can be measured by *frequency* (in hertz), *intensity* (in decibels), *duration* (in seconds)



# AcousticallyAuditoryfrequencyis acquired asheight of voice / toneintensityasloudnessdurationaslength

The greater number of vibrations are produced the higher voice (tone) is obtained



nasal cavity .

The function of the <u>mouth cavity</u> – to give rise to VOWELS (to define their qualities) by changing the *size, shape & volume* of the mouth resonator.



The size, shape & volume of the mouth cavity is modified by the tongue & the lips.

Vowels are classified according to:
position of the tongue
position of the lips
historical length & final phase of articulation

stability





#### Historical length & final phase of articulation:

 According to the historical length – Vowels are historically long & short
 According to the final phase of articulation: Free & Checked

*Free (historically long Vs)* are those in the production of which there is some *decrease* in *the force of articulation;* 

**Checked** (historically short Vs) are those in the production of which there **no decrease** in the force of articulation.

They are always checked by a following consonant

#### Stability

 according to their stability V-s are : monophthongs – stable sounds & diphthongs – non-stable sounds; diphthongs:
 centring / ingliding : [1ə],[uə],[eə];

& upgliding: [e1],[əu] [a1], [au], [ɔ1].



#### **OBSTRUCTIVE MECHANISM**

The main function of this mechanism is to produce consonants - speech sounds with the obstructions.

The tongue & the lips fulfill the role of obstructors.
The quality of the consonants is defined by the manner of articulation, i.e.

a) the type of obstruction -complete or incomplete, ( Cs: occlusive, constrictive, occlusive – constrictive);
B) the manner of producing noise – plosives, fricatives, sonants ;

active organs of speech & place of articulation

according to the active organs of
 speech: labial, lingual, pharyngeal.

Labial : bilabial, labio – dental; Lingual : forelingual, medio – lingual, back – lingual;

Pharyngeal (glottal)



#### •place of articulation:

### dental, alveolar, post-alveolar, palato – alveolar, palatal, velar;

 the kind of noise: voiced & voiceless;
 their intensity: forties – voiceless, lenis – voiced.

#### ASSIMILATION

Process of influencing of one sound upon the other.

#### Direction:

progressive: ba**gs** [g z], tha<u>t</u>'s [ts]; regressive – o<u>n th</u>e ([n] is dental here; reciprocal – at once [t] [w]: [t] becomes rounded, [w] – devoiced.



**Degrees of assimilation:** complete, incomplete (partial), intermediate

⊇ complete: hor<u>s</u>e-<u>sh</u>oe [h ڊ : ܐ u:],

☐ incomplete: a<u>t</u> the; in this;

□ intermediate:  $E_{\underline{ng}}$ lish - [n] ← [g] [n] → [ŋ] → [ŋg]