

## Lecture 4: Detailed Study of English Consonants

In this lecture, we will introduce the properties of English consonants, their force, place and manner of articulation.

### 1. Consonants /'kɒnsənənts/

**Consonant** : (n.) (C) it can be defined phonetically as the sound made by a closure or narrowing in the vocal tract so that the airflow is either completely blocked, partially, or restricted with an audible friction.

There are 24 consonantal phonemes classified in the table below into two general categories:

**A.** Those articulations in which there is a total closure or a stricture causing friction. In this class, there is a distinctive opposition between fortis and lenis.

**B.** Those articulations in which there is a partial closure or an oral or nasal escape of air. Such articulations, typically voiced and frequently frictionless may share many phonetic characteristics with vowels (Gimson, p.149).

Place of Articulation Manner of Articulation		Bilabial	Labio- dental	Dental	Alveolar	Post- alveolar	Palato- alveolar	Palatal	Velar	Glottal
A	<b>Plosive</b>	p , b			t , d				k , g	
	<b>Fricative</b>		f , v	θ , ð	s , z		ʃ , ʒ			h
	<b>Affricate</b>						tʃ , dʒ			
B	<b>Nasal</b>	m			n				ŋ	
	<b>Lateral</b>				l					
	<b>Approximant<sup>1</sup></b>	w				r		j		

IPA table containing the **consonant phonemes** of the English language

### 2. Properties of English Consonants

A consonant is described in terms of **manner of articulation**, **place of articulation** and **voicing**.

#### 2.1 Manner of Articulation

**Plosive**: formed by a blockage of the vocal tract, followed by an explosive release of air. As follows:

- 1- The CLOSING stage: the articulators move together to form the obstruction of the air stream.
- 2- The COMPRESSION stage: during which the lung compresses the air in the vocal tract.
- 3- The RELEASE stage: the organs forming the obstruction set apart rapidly, allowing the air to escape abruptly.

There are six *stops or* plosive consonants in English, as follows: / p, t, k, b, d, g /.

**Fricative**: formed by slight contact between articulators, allowing turbulent airflow. There are **nine** fricative consonants in English. i.e.: /f, v, θ, ð, s, z, ʃ, ʒ, h /.

**Affricate:** formed by a blockage of the vocal tract like plosives and, followed by a gradual release of turbulent air, like fricatives. For instance: / tʃ, dʒ /.

**Nasal:** formed by the lowering of the velum, allowing air to flow through the nasal cavity. i.e.: /m, n, ŋ /.

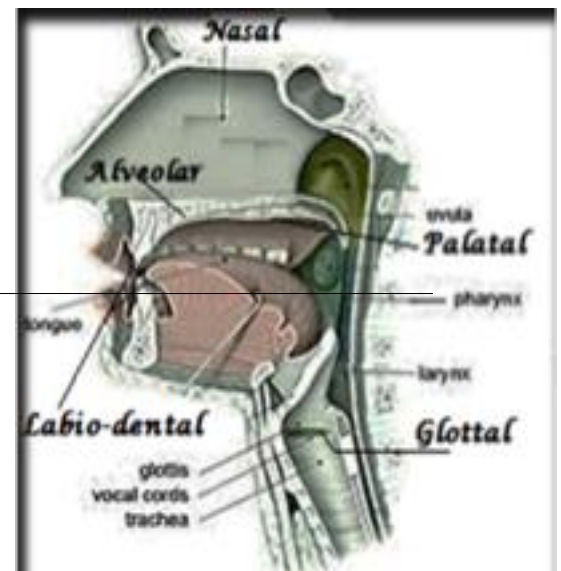
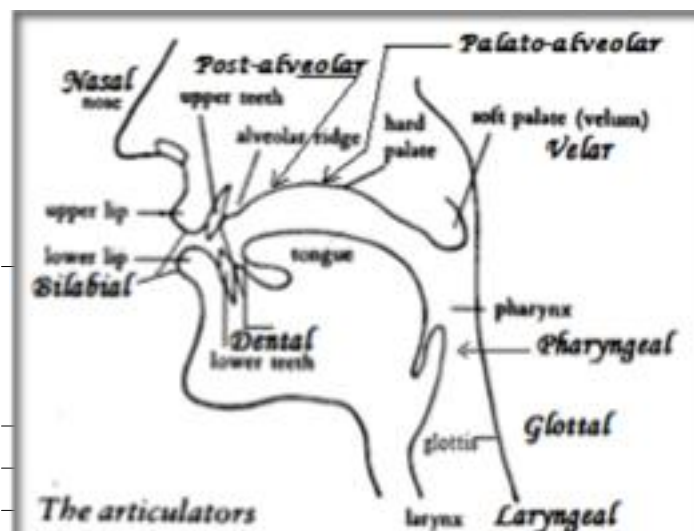
**Lateral :** formed by an obstruction of the passage of the airflow in the centre of tongue meanwhile the air flows through both sides of the tongue where obstruction occurs. E.g.: / l /.

**Approximant/ Semi-vowels:** Approximants are formed by the constriction of the vocal tract, but with no blockage of the air. /w, r, j/.

**Semi-vowels:** Semi-vowels are in phonetic terms vocalic (produced like vowels), but treated like consonants because their function is consonantal

## 2.2 Place of Articulation

The following figures represent the major **Places of Articulation for English Consonants:**



The term place of articulation classifies speech sounds in terms of where in the vocal tract the shape is altered. Hereafter, the main places of articulation of English consonants are shown as:

**Bilabial:** bilabial sounds are those sounds made by the articulation of the lips against each other. i.e.: /b, p, m, w/.

**Labio-dental:** labiodental sounds are made by moving the upper teeth towards the lower lip. i.e.: /f, v/.

**Dental:** interdental sounds are made by moving the tip of the tongue between the teeth. i.e.: /θ, ð/.

**Alveolar:** alveolar sounds are made by moving the tip of the tongue towards the alveolar ridge. /t, d, s, z, n, l/.

**Palato-alveolar:** sounds are made by pressing the front of the tongue towards the area between the alveolar ridge and the hard palate. Examples of such sounds in English are the following: /ʃ, ʒ, tʃ, dʒ/.

**Post-alveolar:** is a place of articulation produced with significant raising of the front of the tongue toward the back of the alveolar ridge in a retroflex manner. For example: /ɹ/.

**Palatal:** palatal sounds are made by pressing the body of the tongue towards the hard palate. i.e.: /j/.

**Velar:** velar sounds are made by pressing the body of the tongue towards the velum. i.e.: / k , g , ŋ /.

**Glottal:** glottal sounds are made at the glottis by narrowing in the vocal tract. i.e.: / h /.

### 2.3. Voicing / force of articulation

**Voicing** specifies whether the vocal cords are vibrating or not.

As for the *force of articulation*, we use the following terms: **fortis** (strong) and **lenis** (weak).

In phonetic terms, *fortis sound* means an unvoiced sound which requires more force to be articulated.

However, *lenis sounds* are voiced sounds articulated with less force. For example: fortis /p/, lenis /b/.

**Several sounds in English differ in voicing - the two sounds have the same place of articulation but differ in voicing.**

Voiceless (fortis)	Voiced (lenis)
/p/	/b/
/t/	/d/
/k/	/g/
/f/	/v/
/θ/	/ð/
/s/	/z/
/ʃ/	/ʒ/
/tʃ/	/dʒ/