Lesson 7 : Description and Classification of Consonant Sound

1. Definition of Consonants

Consonant sounds refer to the speech sounds, which involve some type of obstruction or narrowing at some point of the vocal tract. The stricture can be total such as in sounds /p/ /k/, partial such as in /f/ /v/, or just as narrowing as in /w/.

Consonant sounds can be classified according to three main features, and one additional (optional) feature. The first three features include the place of articulation, the manner of articulation, and voicing; while the additional feature refers to force of articulation

2. The Features of Consonant Sounds Description and Classification

2. 1. Place of Articulation : It refers to the point in the vocal tract where a sound is articulated by the speech organ. The place of articulation can also refer to the horizontal relationship between passive articulators, such as the teeth, the alveolar ridge, the palate…, and active articulators, such as the lower lip, and the different points of the tongue.

2. 2. Manner of Articulation : Refers to the interaction between the evacuated airstream and the speech organs. This interaction specifies the type of obstruction made by the speech organs. The manner of articulation can also refer to the vertical relationship between active and passive articulators. This describes the space, or the stricture between these articulators, which can be totally, or partially closed.

2. 3. Voicing : This concept delineates the state of the glottis (open/ or not fully closed). Of course, if the vocal cords are tightly apart, there would be no vibration. The airstream can pass freely; and no voicing can occur. Yet, if the cords come together, the rising air vibrates them, which results in voiced sounds.

2. 3. The Force of Articulation : This feature describes the degree of breath and muscular effort involved in the articulation of consonant sounds. Sounds produced with much muscular effort are identified as **'fortis'**; while those produced with less effort are labeled as **'lenis'**. Voiced sounds are lenis and voiceless ones as said to be fortis.

Lesson 8 : Describing the Place of Articulation of Consonant Sound

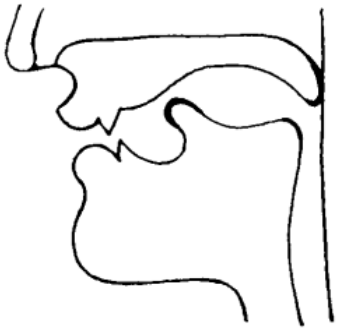
1. **Bilabials**: sounds are articulated with the contact or narrowing of the two lips /p/ /b/ /m/ (contact) /w/ (narrowoing), they refer to sounds made by the coming together of both lips.

2. **Labio-dentals** : These are articulated with the lower lip against the upper teeth. /f/ /v/

3. **Dentals:** Sounds produced with the tip of the tongue against the upper teeth / between the upper and lower teeth /θ/ /ð/.

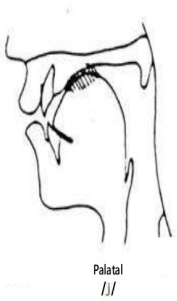
4. **Alveolar Sounds:** Sounds produced with the tip, or blade of the tongue against the alveolar ridge. Examples include /t/ /d/ /l/ /n/ /s/ /z/

5. **Post-alveolar Sounds:** Sounds produced with the tip of the tongue rising towards an in-between position involving the back of the ridge and the front of the hard palate. /r/.



6. **Palato-alveolar:** Sounds which have alveolar articulation with simultaneous raising of the body of the tongue against the hard palate. /tʃ/ /dʒ/ /ʒ/ /ʃ/

7. **Palatal Sounds** are articulated by the front of the tongue against the hard palate. /j/



Palatal sounds are very similar to palatoalveolar ones, they are just produced further back towards the velum. The only palatal sound in English is /j/ as in *yes*, *yellow*, *beauty*, *new* and it is voiced.

8. **Velar Sounds:** The production of these sounds involves raising the back of the tongue against the soft palate (the velum). /k/ /g/ /ŋ/

9. **Glottal Sounds** are articulated in the glottis (by an obstruction, or narrowing) These include the sounds /h/ and /ʔ/

Lesson 9 : Describing the Manner of Articulation of Consonant Sound

The manner of articulation describes the type of obstruction, which may be total, patial, or narrowing.

1. Plosives (stops) : These involve complete closure at some point in the vocal tract blocking the air passage. Suddenly, the obstacle is released, leading the air to escape with an explosion ; such sounds include /b/ /b/ /t/ /d/ /k/ /g/ /ʔ/. Plosives or stops occur at three stages : the closing stage, the

hold, or compression stage, and the release stage. In the closing stage, the articulators move together to form the obstruction. In the hold, or compression stage the rising airstream is compressed behind the closure. In the release stage, the articulators forming the closure part to allow the compressed air to escape abruptly.

2. Fricatives : These sounds are produced when two speech organs approximate to each other leaving a slight gap allowing the airstream to pass with an audible friction. Examples of these sounds include /f/ /v//θ/ /ð//s/ /z/ /ʒ/ /ʃ/ /h/

3. Affricates (sequence of stop plus fricqtive): These involve a complete closure at some point in the vocal tract, behind which the air pressure builds up. Then, the speech organs separate slowly allowing the air to pass with a more extended friction. /tʃ/ /dʒ/

4. Nasals: During the production of these sounds, the air passage is blocked at some point in the vocal tract; however, the soft palate is lowered allowing the airstream to escape through the nasal cavity. /m/ /n/ /ŋ/.

5. Lateral Sounds (liquids): A partial closure with the tip of the tongue against the alveolar ridge allowing the air to pass from the two sides of the tongue. /l/

6. Approximants (glides / semi-vowels): Also called frictionless continuants, which involve a narrowing of the mouth, but not to the point to cause a friction: /w/ /j/ /r/ as in British /red/

Lesson 10 : The State of the Glottis: Voicing

The larynx refers to the sheath formed of cartilage and muscle located in the upper part of the trachea. Within this organ, we can find two elastic folds. The gap, or the opening that lies between the two folds is called as the glottis. As far as speech is concerned, the folds can have four different positions:

a) They can tightly be closed; and in this case respiration is impeded.

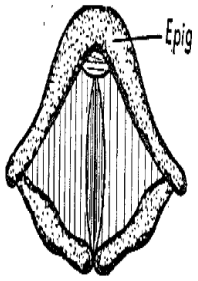


Figure 1: Glottis tightly closed

b) The folds be set apart, allowing the air pass freely, such as in the case of voiceless sounds.

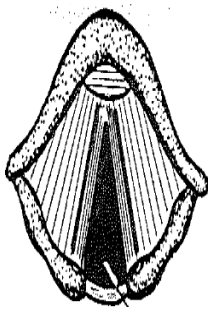


Figure 2 : Glottis wide open

c) They can become loosely together. In this situation, the rising air coming from the lungs will vibrate them which leads to the production of voiced sounds

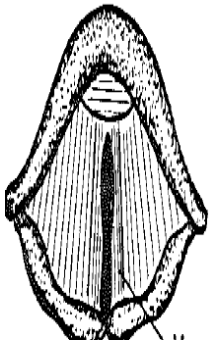


Figure 3 : Glottis loosely together

The Place and Manner of Articulation of the English Consonant Sounds

Manner of Articulation	Place of Articulation								
	Bilabial	**labiodental**	**Dental**	**Alveolar**	**Post-alveolar**	**Palato-alveolar**	**Platal**	**Velar**	**Glottal**
Plosive	p b+			t d+				k g+	ʔ
Fricative		f v+	θ ð+	s z+		ʃ ʒ+			h
Affricate						tʃ dʒ+			
Nasal	m+			n+				ŋ+	
Approximant	w+			l+	r+		j		