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*Module: Phonetics Level 1st year LMD*

**Chapter Four: Voicing and Consonants**

**CONSONANTS**

What’s a consonant? A speech sound produced with air stream impeded, constricted, diverted, or obstructed.

Classification system for consonants: *place, manner, and voicing*

|  |  |  |
| --- | --- | --- |
| ***A. Place*** | ***B. Manner:*** | ***C. Voicing*** |
| *Where* is the breath stream impeded, constricted, diverted, or obstructed? For example:lips, teeth, alveolar ridge, palate, velum, … | ***How*** is the breath stream impeded, constricted, diverted, or obstructed? For example:***1 stop* or *plosive:*** complete obstruction of air stream :[b], [d], [g], [p], [t], [k] ***2 fricative:*** air passed through a narrow channel, creating turbulence.[ᶴ] (as in “*shoe”*), [ᶞ], (as in “*this”*). ***3 nasal:***air stream redirected through the nasal cavity: [m], [n], [ŋ] (as in “si*ng*”)***4 affricate****:* complete obstruction of air stream followed by fricative release. [tʃ] (as in “*choke”*), [dʒ] (as in “*joke*”)***5 approximants:***consonants that are *almost* like vowels [r] [l] [w] [j] (as in “yellow”) | *Are the vocal folds vibrating?* **Yes :Voiced** **No: Unvoiced/Voiceless**English has many pairs of consonants that are identical in all other ways except for voicing. Some examples:[b]-[p], [d]-[t], [g]-[k], [z]-[s], [ʒ]-[ʃ], [v]-[f], [ð]-[θ] |

**The Larynx**

The Larynx is in the neck.Its main structure is CARTILAGE.Larynx is made up of two cartilages these cartilages are hollow and are attached to the top of the TRACHEA.When we breath the air passes through the trachea and the larynx. The front of larynx has Adam’s Apple which is quite prominent in slim adults.Adam’s apple is in fact a box which contains vocal folds which are made up of these two cartilages.

**Vocal Folds**: These are two thick flaps of muscles rather like a pair of lips, the ex-name for these is vocal cords.

We use the word glottis to refer to the opening between the vocal folds.

**Different positions of Vocal Folds**

|  |  |  |  |
| --- | --- | --- | --- |
| **Wide Apart:** | **Narrow Glottis** | **Position for vocal fold vibration:** | **Vocal folds tightly closed** |
| The vocal folds are wide apart for normal breathing and usually during voiceless consonants like p, f, s. | If air is passed through the glottis when it is narrowed, the result is a fricative sound for which the symbol is /h/. The sound is not very different from a whispered vowel.  | when the edges of vocal folds are touching each other are nearly touching, air passing through the glottis will usually cause vibration.  | We cal this position a glottal stop or glottal plosive, and for this we use the symbol /?/.it can be practised by coughing gently ; then practise the sequence ahahahah.  |

**Different variations in the vocal folds for different voicing.**

* **Variations in intensity:** We produce voicing with high intensity for shouting, for example, and with low intensity for speaking quietly.
* **Variations in Frequency:** If the vocal folds vibrate rapidly, the voicing is at high frequency; if there are fewer vibrations per second the frequency is lower.
* **Variations in Quality:** We can produce different sounding voice qualities, such as those we might call harsh, breathy, murmured, or creaky.

**English Plosives**

* Plosives: Oral stops
	+ The air is stopped completely in the oral cavity for a brief period.
	+ Then it explodes with the release of the closure, producing loud-enough noise to be heard.

A plosive is a consonant articulation with the following characteristics:

* + One articulator is moved against another so as to form a stricture that allows no air to escape from the vocal tract . The stricture is then total.
	+ After the stricture has been formed, it is released, the air is allowed to escape.
	+ When the plosive is released the escape of air will produce a noise, loud enough to be heard. This noise is called plosion – a burst of noise.

**Four phases of articulation**

* Closing phase
* Compression phase
* Release phase
* Post release phase

|  |  |  |  |
| --- | --- | --- | --- |
|  | **bilabial** | **Alveolar** | **Velar** |
| **Fortis Voiceless**  | **P** | **t** | **d** |
| **Lenis (voiced)**  | **b** | **d** | **g** |
|  |  |  |  |

* /p/ is Voiceless, Bilabial, Plosive. Party → /ˈpɑː.ti**/**
* /b/ is Voiced, Bilabial, Plosive. bird → /bɜːd/
* /t/ is Voiceless, Alveolar, Plosive. tea → /tiː/
* /d/ is Voiced, Alveolar, Plosive.drive → /draɪv/
* /k/ is Voiceless, Velar, Plosive.cat → /kæt/
* /g/ is Voiced, Velar, Plosive. gift → /gɪft/

**Positions of plosives**

* Initial position (c v)
* Medial position (v c v)
* Final position (v c)

**Initial position (c v)**

Closing phase

* P, t, k (No voicing takes place)
* b , d , g (No voicing takes place

Compression phase

* P , t , k (No voicing takes place)
* b , d , g (voicing takes place during the entire compression phase)

**Release phase**

* p , t , k (Release of p,t,k is followed by an audible plosion)
* b , d , g (Release of b,d,g is followed by a weak plosion)

**Post-release phase**

* p , t , k (Air escapes through vocal folds, making a sound like h. ”aspiration” )
* b, d ,g (there is no aspiration and voicing continues)

**Difference in the initial positions of *p, t, k*&*b, d, g***

* Aspiration
* In initial position b , d ,g cannot be preceded by any consonant
* In initial position p , t ,k can be preceded by s and in such a situation p , t ,k will be un aspirated (spy, store, ski)

**Medial position (v c v)**

* We can say that a medial plosive may have the characteristics either of final or of initial plosives.

**Final position (v c)**

* In final position b , d ,g have little voicing and if there is voicing it is at the beginning of compression phase.
* In final position p , t , k are obviously voiceless.
* In final positions the plosion following the release of p,t,k&b,d,g is very weak and often not audible.
* In final positions the vowels preceding p,t,k are much shorter. The shortening effect of p, t, k is most noticeable when the vowel is a long vowel or a dipthong. Note the length difference in vowel
* MateMade
* Leak League
* Hurt Heard

**Aspiration**

* The phenomenon in which a small “puff of air” escapes through the vocal folds after the release phase. It is transcribed as [ Ch].

**Rules of Aspiration**

|  |  |  |
| --- | --- | --- |
| *1- Voiceless plosive + a vowel sound → aspirated.* | *2-* /s/ *+ Voiceless plosive → unaspirated.* | *3- Voiceless plosives in final position → unaspirated.* |
| */*p*/ pen → /*pen*/ →* [phen]*/*t*/ ten → /*ten*/ →* [then]*/*k*/ cat → /*kæt*/ →* [khæt] | */*p*/ spy → /*spaı*/ →* [spaı]*/*t*/ stay → /*steı*/ →* [steı]*/*k*/ sky → /*skaı*/ →* [skaı] | */*p*/ stop → /*stɒp*/ →* [stɒp]*/*t*/ start→ /*start*/ →* [start]*/*k*/ take → /*teık*/ →* [teık] |

**Exercise 1. Identify the word-position in which the following English sounds occur. Follow the example.**

Example: /d/ in the word *adore* is IN WORD-final POSITION

1. /p/ in the word pull is

2. /d/ in the word method is

3. /g/ in the word singer is

4. /b/ in the word being is

5. /t/ in the word settle is

6. /k/ in the word skate is

7. /p/ in the word spell is

8. /t/ in the word story

**EX 02**. **Change the words transcribed below to their corresponding English spelling**.

|  |  |  |  |
| --- | --- | --- | --- |
| Transcription | spelling | transcription | spelling |
|  /hænsəm//det/ /plʌmər//kʌbrəd//wɔ:k//wɜ:rk/ |  |  |  |

**Ex 03 : Transcribe the following words .**

|  |  |  |  |
| --- | --- | --- | --- |
| word | transcription | word | transcription |
| BirdDoctorGreatSteakServeBrokePocketdedicated |  | TwentyPeopleHelpfulTopicDecodeBodyguardPotatogreen |  |

* Peter Piper picked a peck of pickled peppers
* Betty Botta bought some butter
* But she said, ‘’This butter’s bitter!
* But a bit of better butter
* Will make my butter better.’’
* So she bought a bit of butter
* Better than the bitter butter
* And it made her butter better
* Dave didn’t take his date down-town for a drink
* The tall downcast taxi driver drove tourists to Denver
* I take great care to park my grey car at the corner of Curzon Grove
* The king of Greece came to close the Olympic games