Articulatory Phonetics:

Consonants

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Voiced vs Voiceless

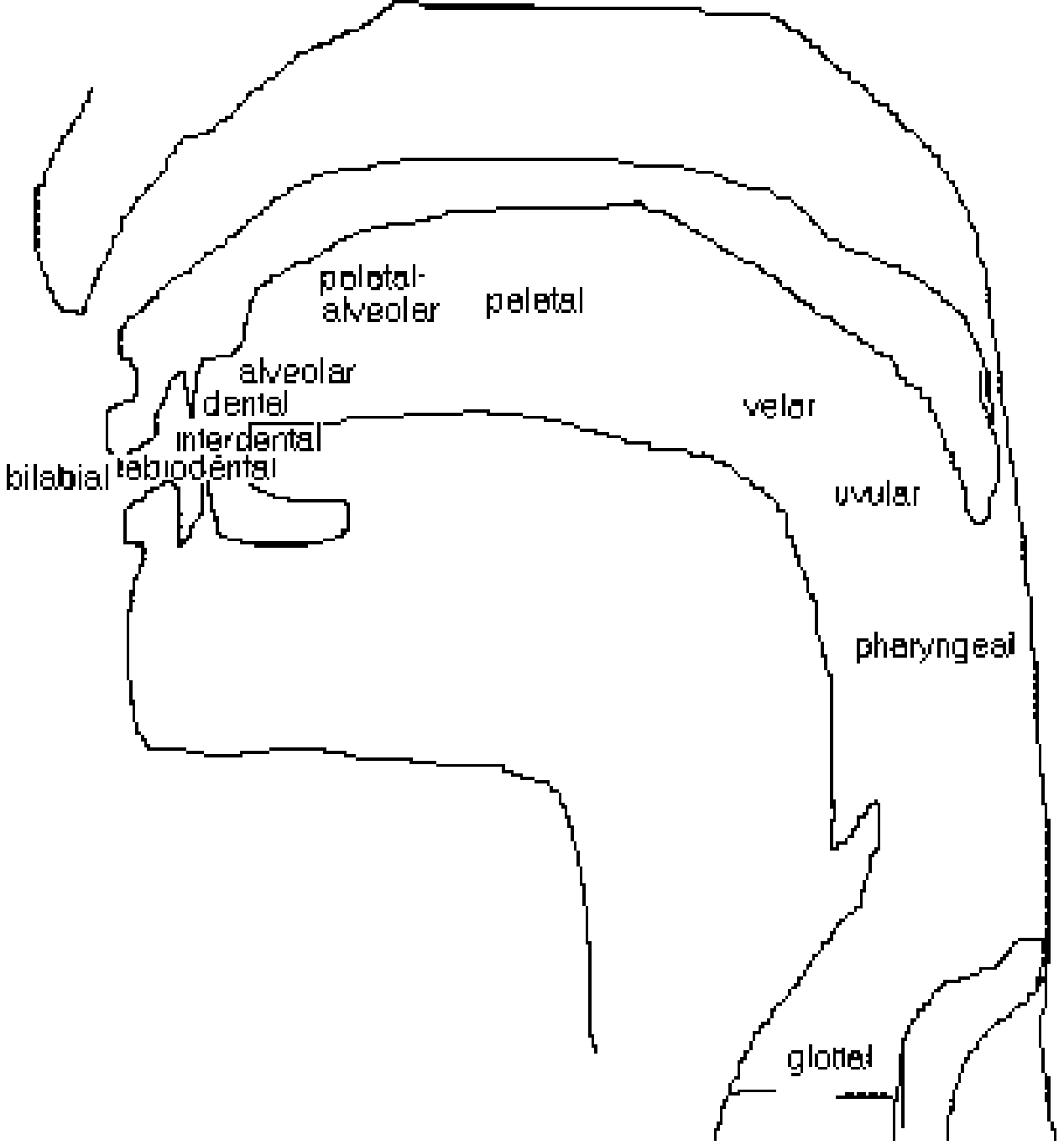
Voiced sounds involve vibration of the vocal cords

Voiceless sounds involve no vibration of the vocal cords

Voiced vs Voiceless

- **Remember**, when the vocal cords are open, the air passes through without obstruction and the sounds that are made in this way, are described as voiceless.
- When the vocal cords are tight close, then the air passing through the glottis causes them to vibrate producing voiced sounds.

Places of Articulation



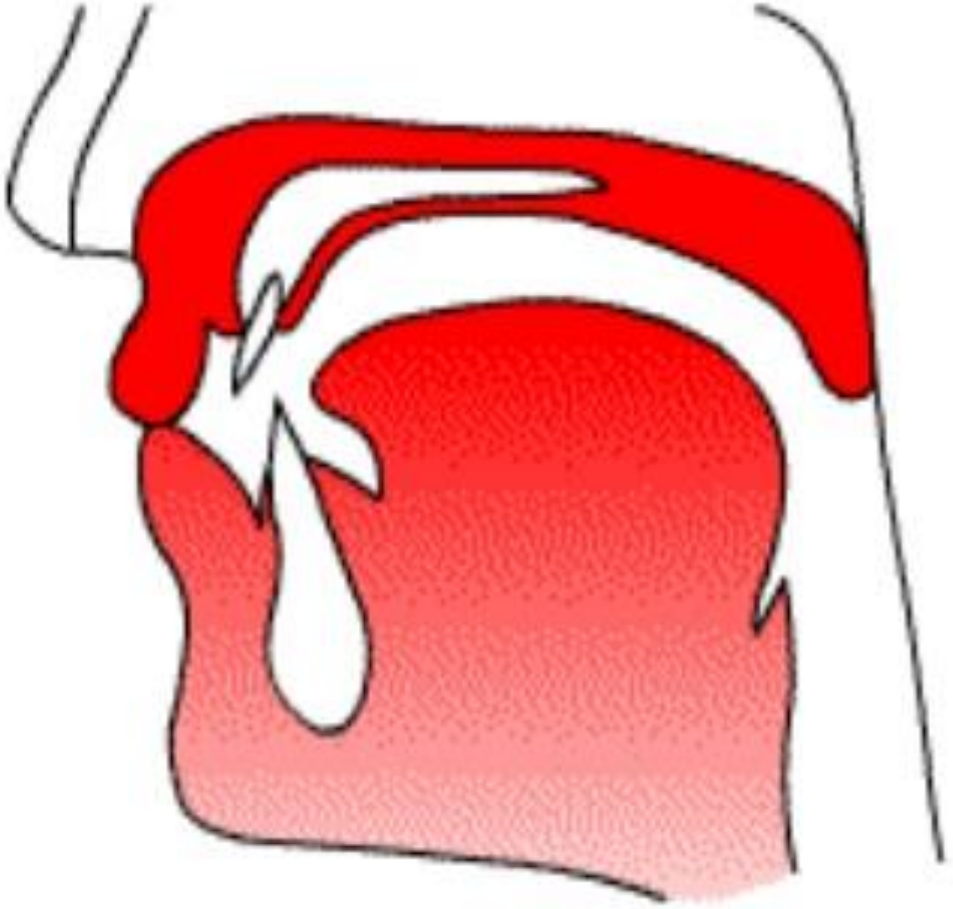
Place of Articulation

- Refers to the ***articulators responsible for the modification of the airstream***.
  - For [p], the articulators are the **lips**;
  - What are the articulators involved in [v], for example?

Place of Articulation

Bilabial

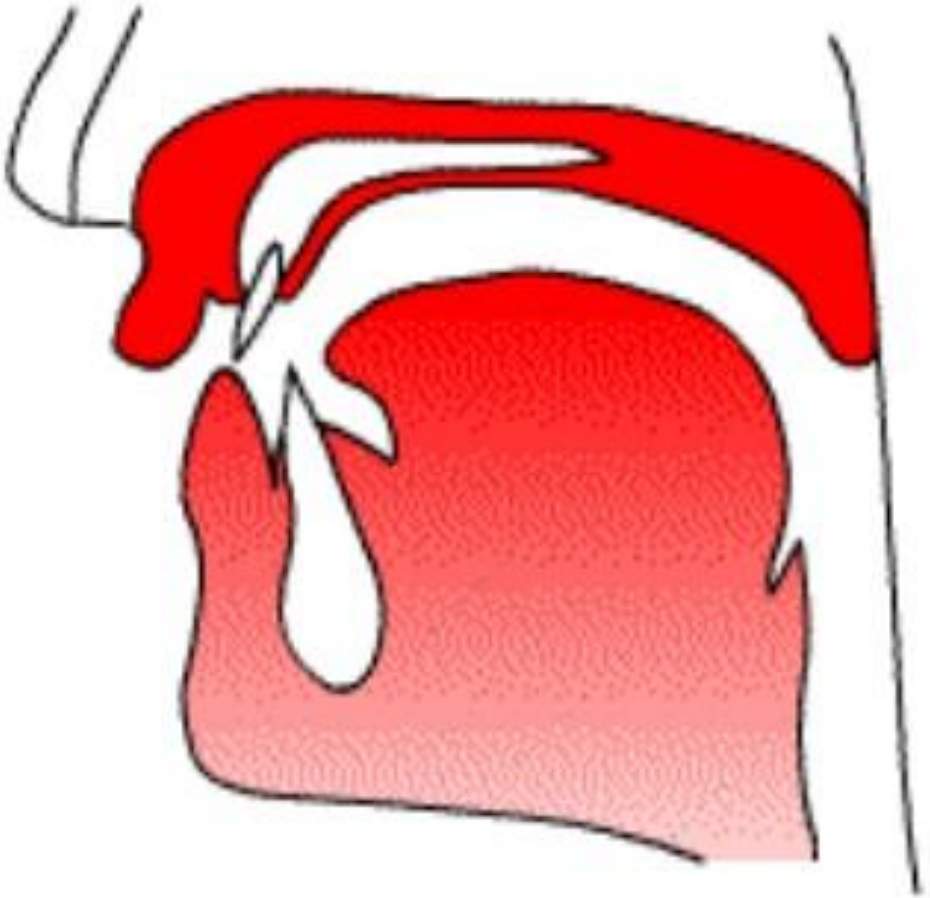
The lower and upper lips approach or touch each other as in the sounds [p], [b], and [m]



Place of Articulation

Labiodental

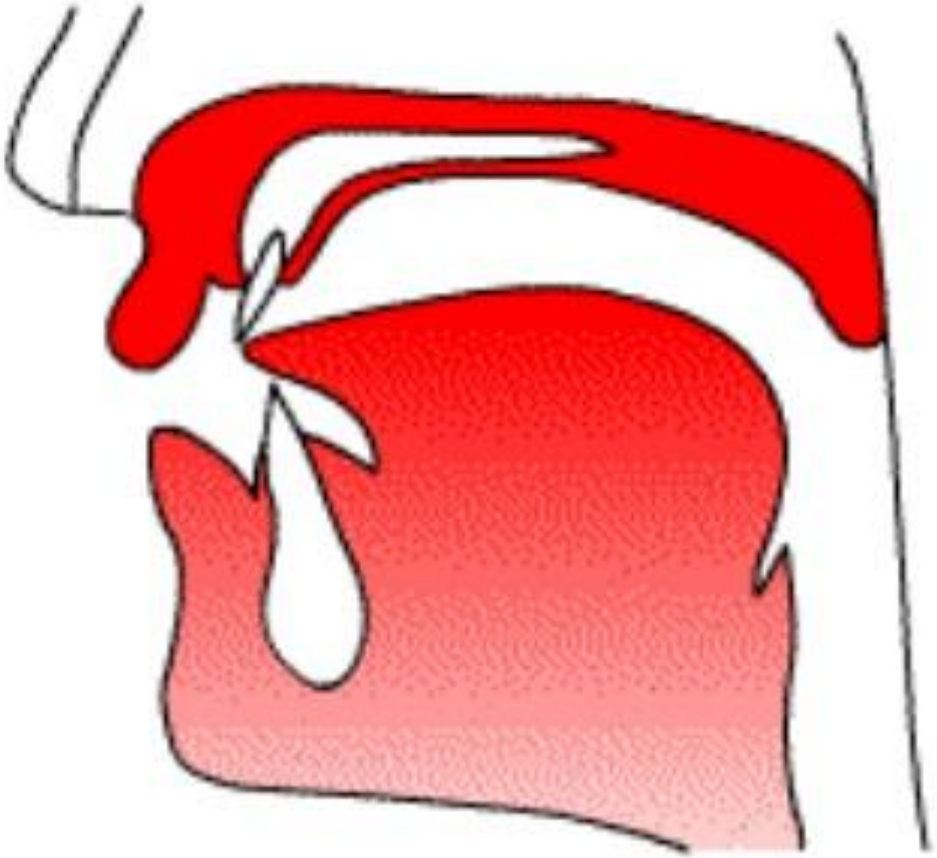
The lower lip approaches or touches the upper teeth as in the sounds [f] and [v]



Place of Articulation

Dental and Interdental

The tip or blade of the tongue approaches or touches the upper teeth as in the sounds [θ] and [ð]



Alveolar

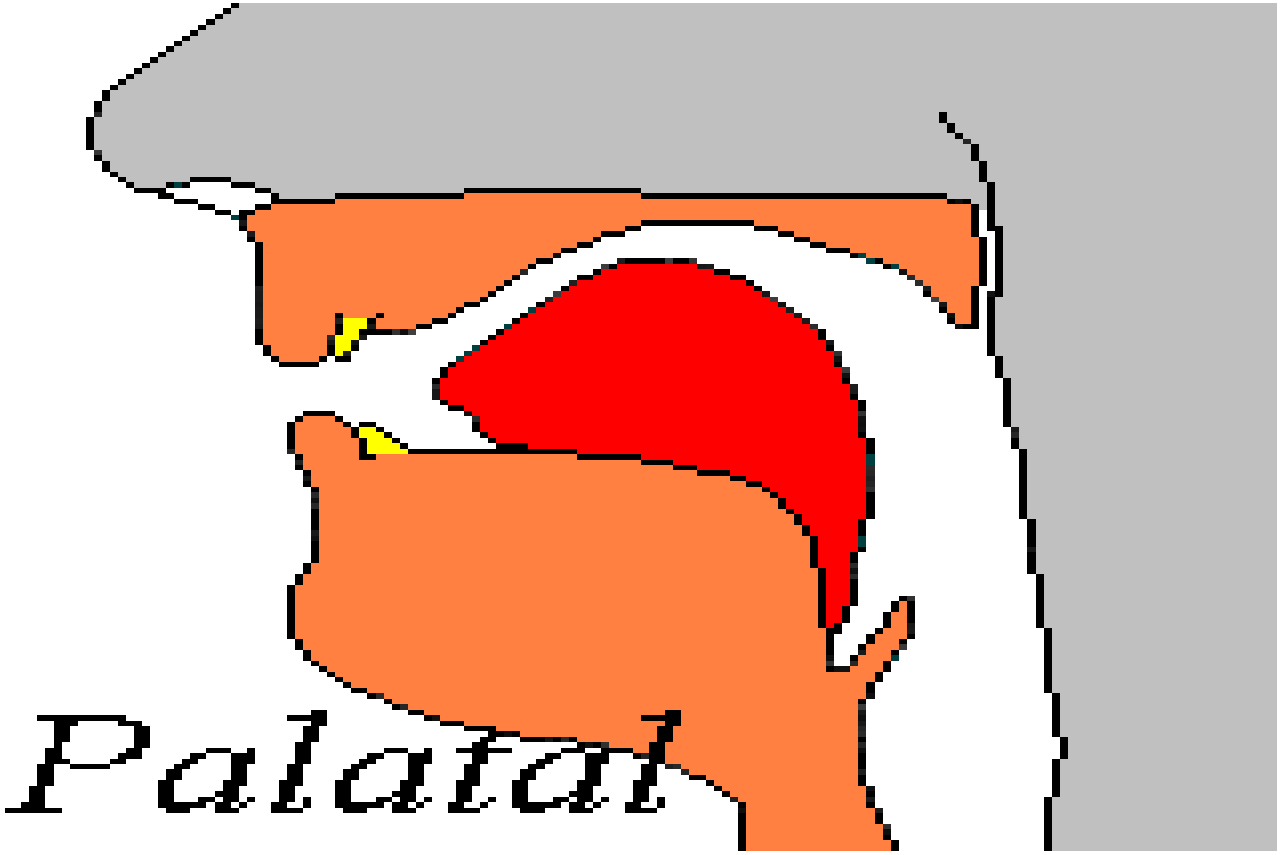
- Alveolars are produced when the front of the tongue approaches or touches the alveolar ridge as in [t], [d], [s], [z], [n], for instance.

Palato-alveolar (post-alveolar)

A palato-alveolar (post-alveolar) is articulated with the **blade of the tongue** behind the **alveolar ridge**, and arched at the **hard palate** [tʃ], [dʒ] and [ɹ].

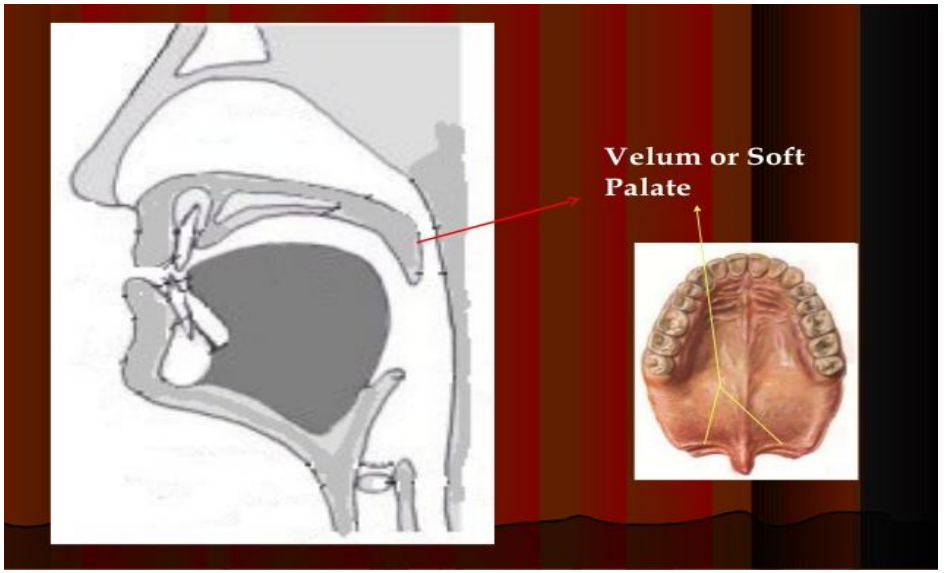
Palatal

- The body of the tongue approaches or touches the hard palate as in [j].

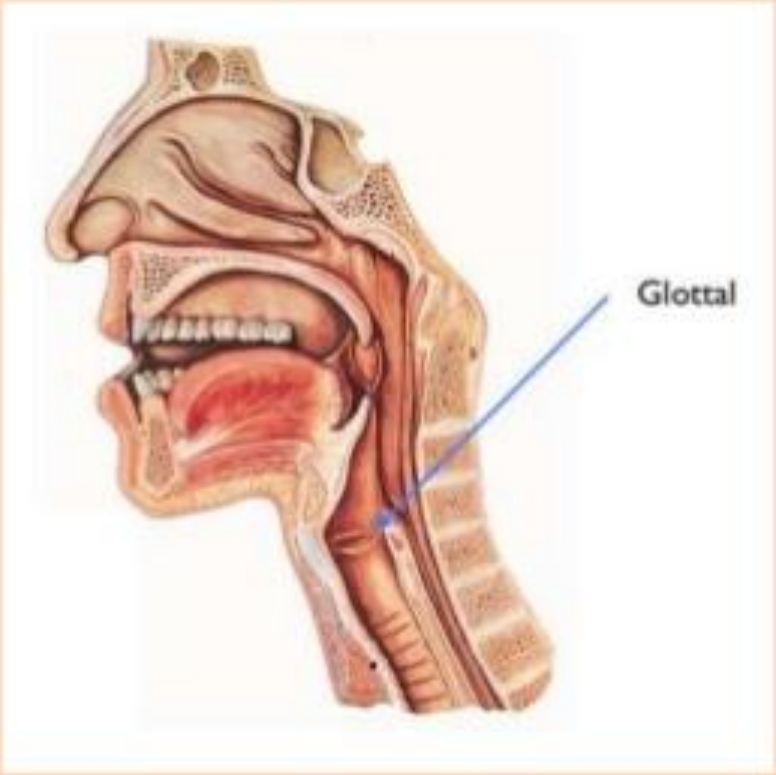


Velar

- **Velar** sounds are produced when the back of the tongue moves towards the velum as in [k], [g] and [ŋ].



Glottal



Glottal

- *If **the air is stopped completely at the glottis by tightly closing** the vocal cords*, the sound produced after the release of the air stream is called a **glottal stop [ʔ]**
- In [h], the **fricative glottal**, ***this opening is narrow enough to create some turbulence** when the air flows past the vocal folds.*

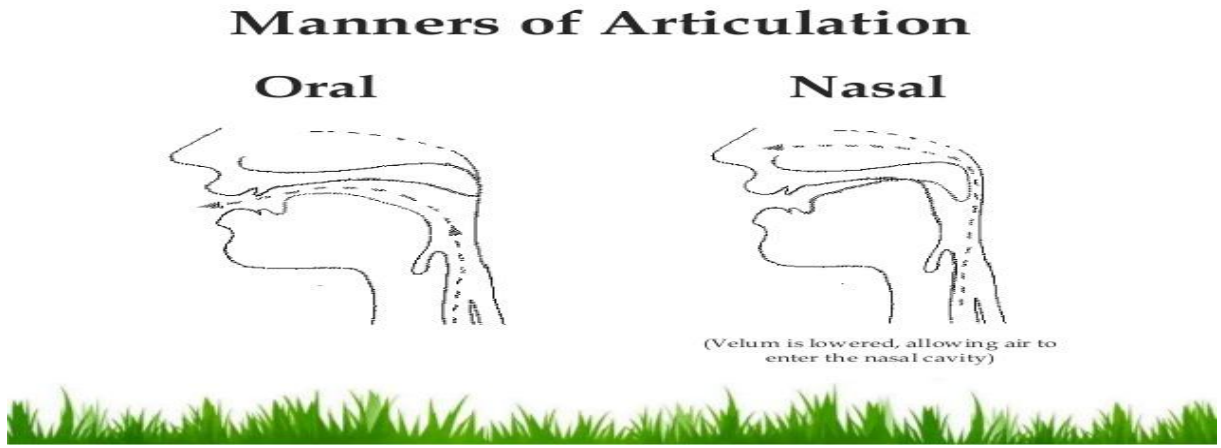
Manner of Articulation

- Manner of articulation describes:
  - the ***degree of freedom or constriction of the airflow.***

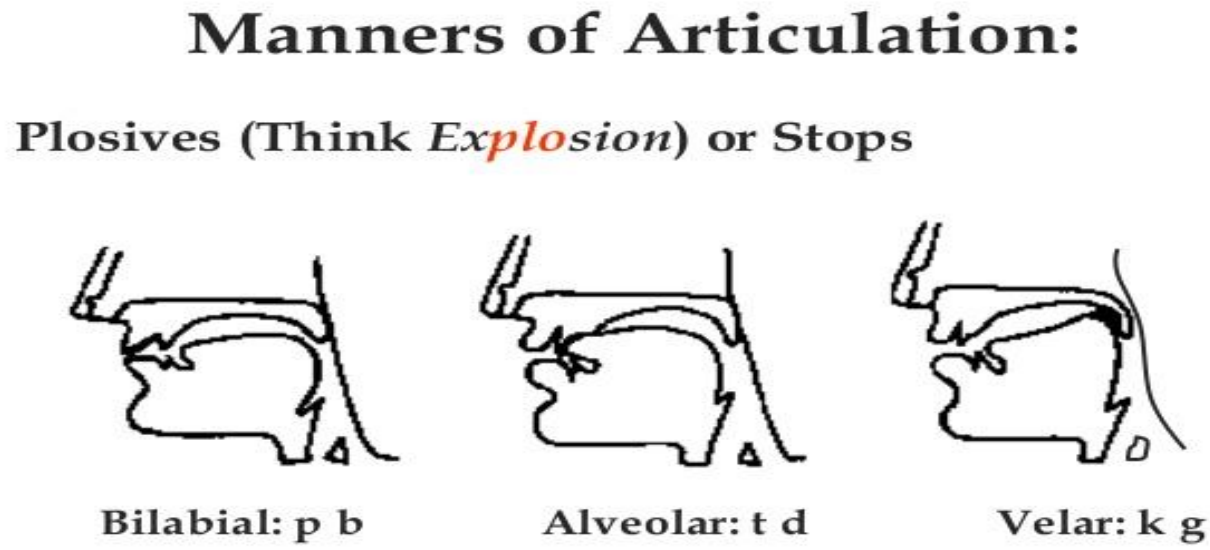
- Consonants can be divided, firstly, into two main groups:
- **Sonorants** : sounds Produced with a **relatively** free flow of air. [m], [n], [ŋ], [j], [w], [ɹ], [l]

- **Obstruents**: Characterized by a **complete** or **partial** obstruction of air in the vocal tract. [p], [b], [tʃ] , [dʒ] [ʃ], [ʒ]

- **Oral sounds** are produced with the **velum high** enough to block air to go through the nasal cavity.
- **Nasals** are produced when the **velum is lowered,** allowing air to escape through the nasal cavity.



- **Plosives** or **Stops:** The sounds produced when the air stream is **blocked completely** before it is abruptly released.

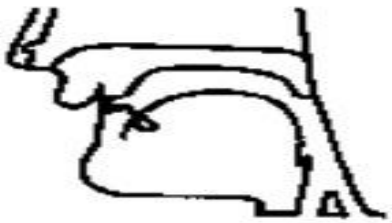


Fricatives are the sounds produced when **the air stream is compressed and passes through a**

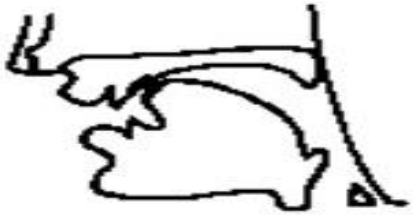
small opening causing and audible friction or ***turbulence***

Manners of Articulation:

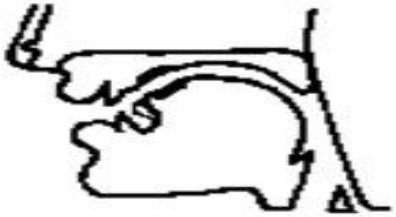
Fricatives (Think *Friction*)



Labiodental: f v



Alveolar: s z



Palato-alveolar or post-alveolar: ʃ ʒ

Affricate

An affricate is a consonant which starts with a total obstruction of the airstream followed by a partial obstruction causing friction: [tʃ], [dʒ].

Approximant

Approximants are sounds in which **there is no complete, direct contact between organs;** articulators approach each other but do not touch.

Approximants in RP can be **median approx** or **lateral approx**.

Median approx: [w] [ɹ] [j]

Lateral approx: [l]

In sum,

Bilabial stop: [p, b]

Bilabial nasal: [m, n]

Labiodental fricative: [f, v]

Dental fricative: [θ, ð]

Alveolar fricative: [s, z]

Glottal stop: [ʔ]

Palato-alveolar fricative: [ʃ, ʒ]

Velar stop: [k, g]

Palato-alveolar affricate: [tʃ, dʒ]

Velar nasal: [ŋ]

Alveolar Lateral approx: [l]

Palatal approximant: [j]

Labio-velar approximant: [w]

Glottal fricative [h]

Post-alveolar approximant [ɹ]