

Sounds

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Classification of sounds

- Vowels and consonants (20/24)
- Number of them may be different
- All the vowels are **voiced** sounds during the production of which there is **no closure or no narrowing** that would result in **audible friction**. The **soft palate is raised** and air issues out **continuously** from mouth
- Remaining are consonants

Consonants

- Best described in their articulatory terms
- To describe a consonant information required is:
 - 1. The nature of air stream
 - 2. The state of glottis (position of vocal cords)
 - 3. The state of velum (soft palate)
 - 4. Active articulator
 - 5. Passive articulator (place of articulation)
 - 6. How is the airstream modified?

- 1. Pulmonic egressive airstream
- 2. Voiced or voiceless
- 3. Raised (oral) or lowered (nasal)
- 4. The organ that moves to articulate against other
- 5. Does not move = Place of articulation
- 6. Manner of articulation

- **Places of articulation:**
- Bilabial (Lips) / **p, b, m, w**/
- Labio-dental (upper teeth+ lower lip) / **f, v**/
- Dental (tip of tongue + upper front teeth) / **θ, ð**/
- Alveolar (tip and blade of tongue + alveolar ridge) / **t, d, n, l, s, z**/
- Post alveolar (tip of tongue + last part of alveolar ridge) / **r** /
- Palato- alveolar (tip and blade, front + alveolar ridge and hard palate) / **tʃ, dʒ, ʃ, ʒ** /
- Palatal (front of tongue + hard plate) / **j**/
- Velar (back of tongue + soft palate) / **k, g, ŋ** /
- Glottal (vocal cords) / **h** /

- Manner of Articulation** (specifies how is the air stream modified) (Closure= complete/ partial)
 (Narrowing)

Plosives: / p b t d k g /
 03 stages: 1) Closing 2) compression 3) Release

- Closing: Complete closure between active and passive articulators. Soft palate already raised to block the nasal passage
- Compression : Air is blocked behind the closure. Pressure is built. (mouth and nose both are blocked)
- Release: Closure is removed suddenly so the stored air comes out with explosive noise

Place of articulation	Voiceless	Voiced
Bilabial	/ P / Pen Paper Cap	/ b / bag number mob
Alveolar	/ t / Ten Custom Cat	/ d / Dog Daddy God
Velar	/ k / King Account Ask	/ g / Gang Ago Bag

- **Bilabial Plosives / p b/**
- **Closing stage:** Soft palate is raised to shut off the nasal passage (Velic closure).

Complete closure with lips= oral passage is shut
Air cannot escape

Compression Stage: Air pressure is built behind the closure

Release stage: the closure is removed suddenly

Compressed air comes out with explosive noise

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- **Alveolar Plosives /t d/**
- **Closing stage:** Soft palate is raised to shut off the nasal passage (Velic closure).

Complete closure with tip and blade of tongue and alveolar ridge= oral passage is shut
Air cannot escape

Compression Stage: Air pressure is built behind the closure

Release stage: the closure is removed suddenly

Compressed air comes out with explosive noise

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Velar Plosives /k g/

- **Closing stage:** Soft palate is raised to shut off the nasal passage.

Complete closure with back of tongue and soft palate = oral passage is shut
Air cannot escape

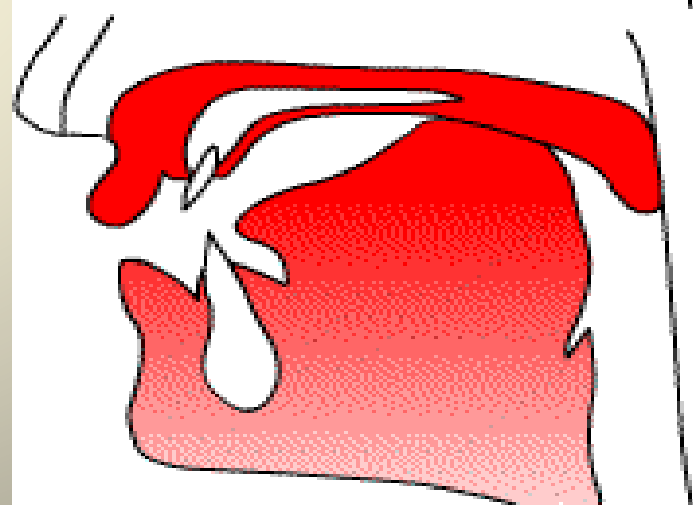
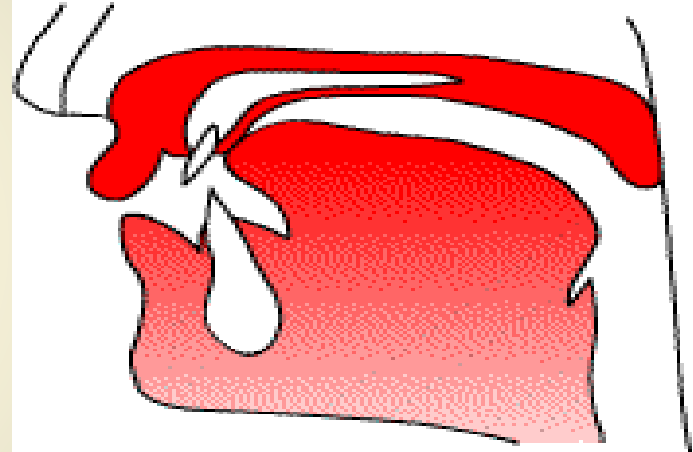
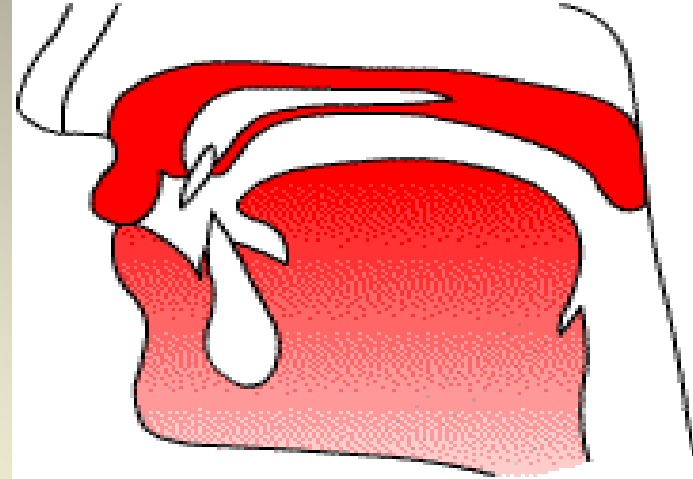
Compression Stage: Air pressure is built behind the closure

Release stage: the closure is removed suddenly

Compressed air comes out with explosive noise

Velar closure= back of tongue with soft palate

Velic closure= Soft palate raised to make contact with back wall of pharynx=
nasal passage shut off



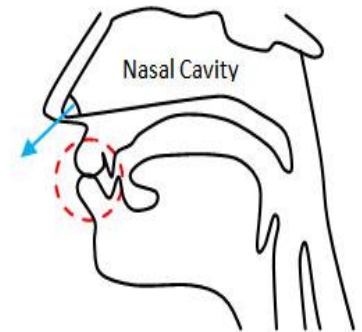
- **Aspiration: /p t k/**
- Initial position of an accented syllable
- Extra puff of breath added to the release of voiceless plosives
- {p^h t^h k^h} pen ten king
- Marathi/ Hindi consonants
- **Inaudible release in final position /p b t d k g /**
- Cap Job
- Cut Bad
- Rock Bag

- Affricates: / tʃ, dʒ /
- **First two stages** are just like plosives
- At the release stage the closure is removed slowly
- **Closing stage:** Tip and blade of the tongue make a complete closure with alveolar ridge
- At the same time front of the tongue is raised towards the hard palate (narrowing)
- **Compression stage:** air is blocked behind the closure and air pressure is built
- **Release stage:** the closure is slowly removed as a result there is no explosion but audible friction felt
- / tʃ, dʒ / both can occur in Initial, Middle and Final positions



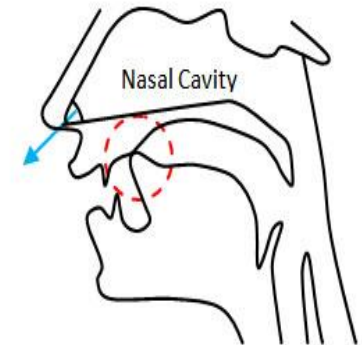
- Nasal /m, n, ŋ/
- All are voiced
- 01 bilabial
- 01 alveolar
- 01 velar
- Soft palate is lowered
- Oral cavity is shut with complete closure between active and passive articulators
- / m / two lips
- / n / tip and blade of the tongue and alveolar ridge
- / ŋ / back of the tongue and soft palate (only velar closure)

/m/



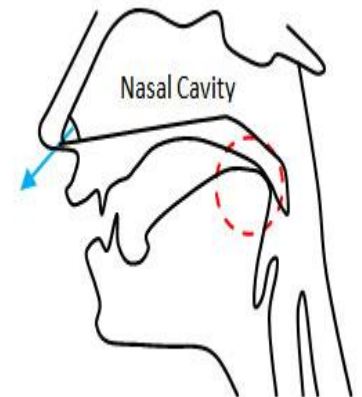
Place of Articulation: Bilabial Nasal © Tanvir Shameem

/n/



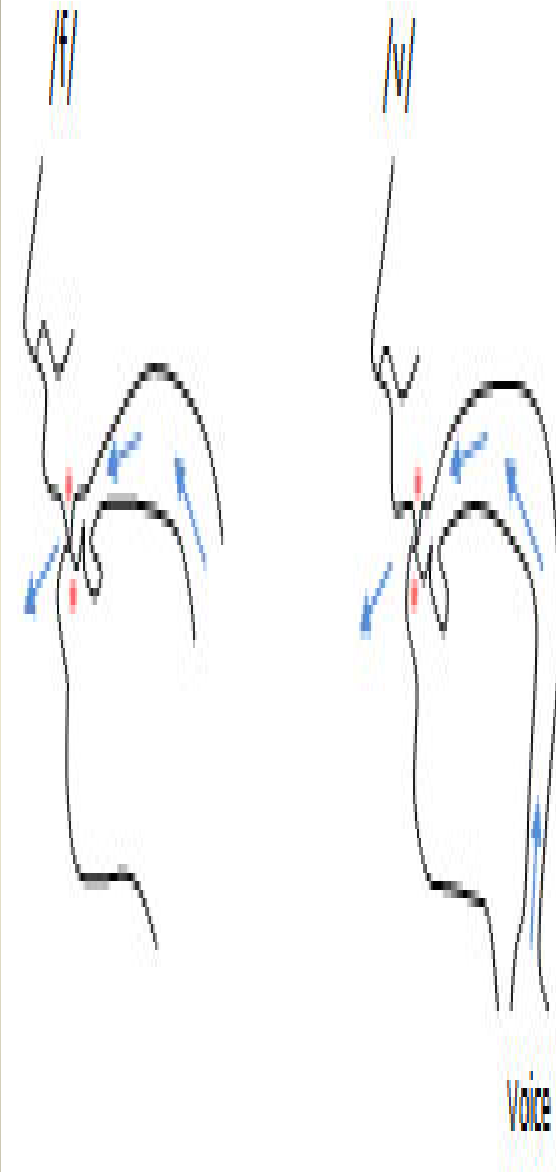
Place of Articulation: Alveolar Nasal © Tanvir Shameem

/ŋ/

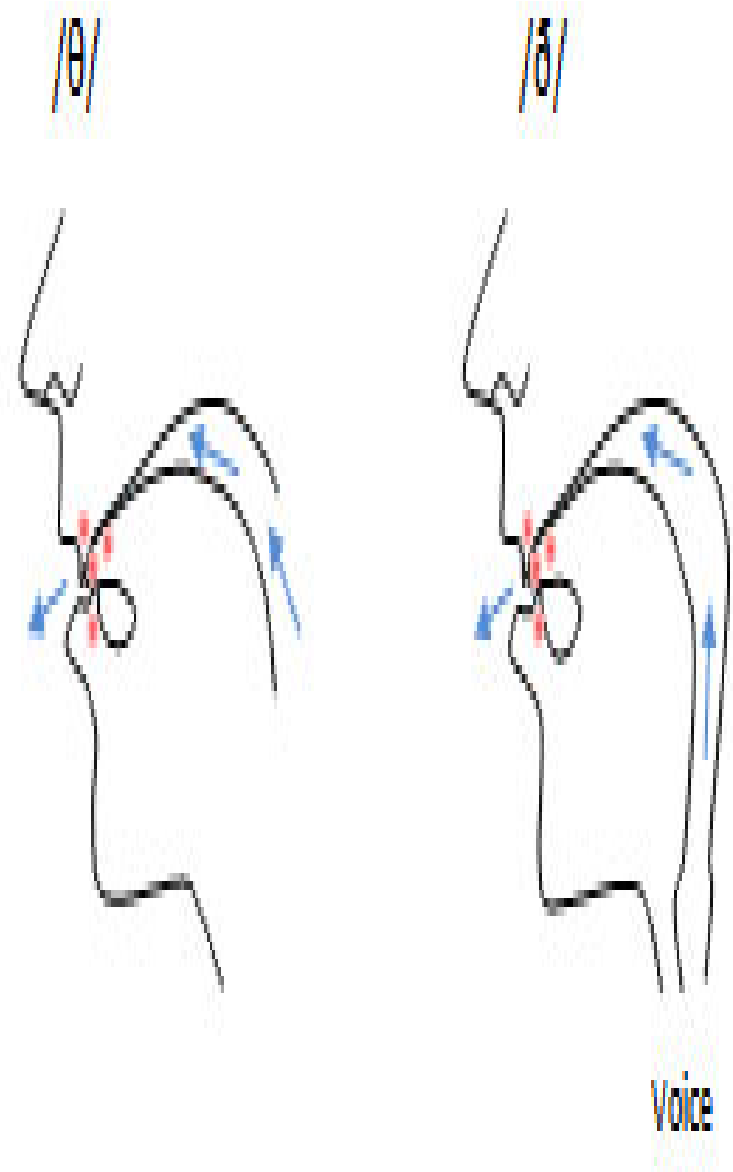


Place of Articulation: Velar Nasal © Tanvir Shameem

- **Fricatives 09**
- Partial closure between active and passive articulators
- 05 are voiceless and 04 are voiced
- **/ f v/ labio-dental**
- Soft palate raised nasal cavity shut
- Upper front teeth come over the lower lip
- Sufficient gap through which the air passes out continuously
- Resulting in audible friction
- /f/ voiceless / v / is voiced
- Both occur in initial middle and final positions



- Dental fricatives / θ , ð /
- Soft palate raised nasal cavity shut
- Tip of tongue comes under upper front teeth
- Sufficient gap through which the air passes out continuously
- Resulting in audible friction
- / θ / voiceless / ð / is voiced
- Both occur in initial middle and final positions



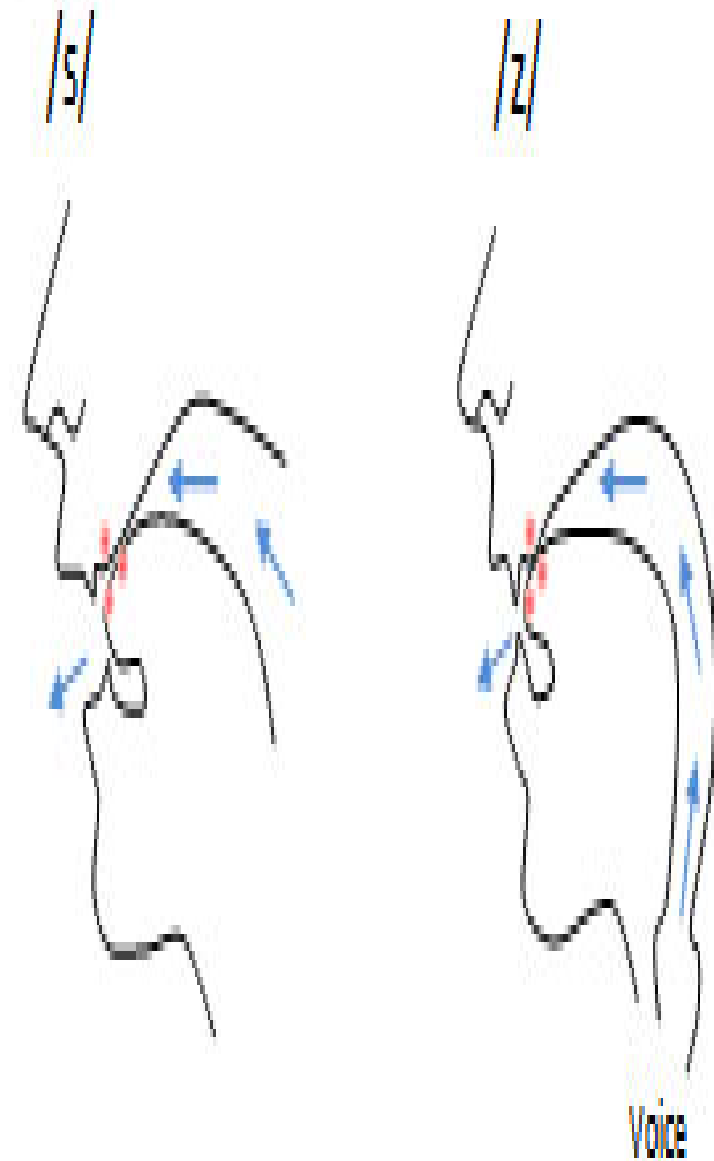
(i) *Inflections* In some cases, the suffix *-(e)s* changes

/θ/	/ð/
✓mouth	mouths
✓youth	youths
path	paths
✓cloth /kloθ/	clothes /kləʊðz/
✓truth	truths
oath	oaths
wreath	wreaths
sheath	sheaths

(ii) *Derivations* In some cases, while the stems are pronounced with /θ/, derivatives are pronounced with /ð/:

/θ/	/ð/
✓north	northern
✓south	southern
✓cloth (n)	clothe (v)
bath (n)	bathe (v)
breath (n)	breathe (v)
heath	heathen
wreath (n)	wreathe (v)
sheath (n)	sheathe (v)
✓mouth (n)	mouth (v)

- Alveolar fricatives / **s** **z** /
- Soft palate raised nasal cavity shut
- Tip and blade of tongue slightly touches alveolar ridge
- Sufficient gap through which the air passes out continuously
- Resulting in audible friction
- / **s** / voiceless / **z** / is voiced
- Both occur in initial middle and final positions



(1) /ɪz/ after /s, z, ʃ, ʒ, tʃ, dʒ/:

horses	crosses	lass's
roses	chooses	Dickens's
bushes	rushes	witch's
garages	massages	witches'
benches	fetches	judge's
hedges	budges	judges'

/'dɪkɪnzɪz/
/'wɪtʃɪz/
/'dʒʌdʒɪz/

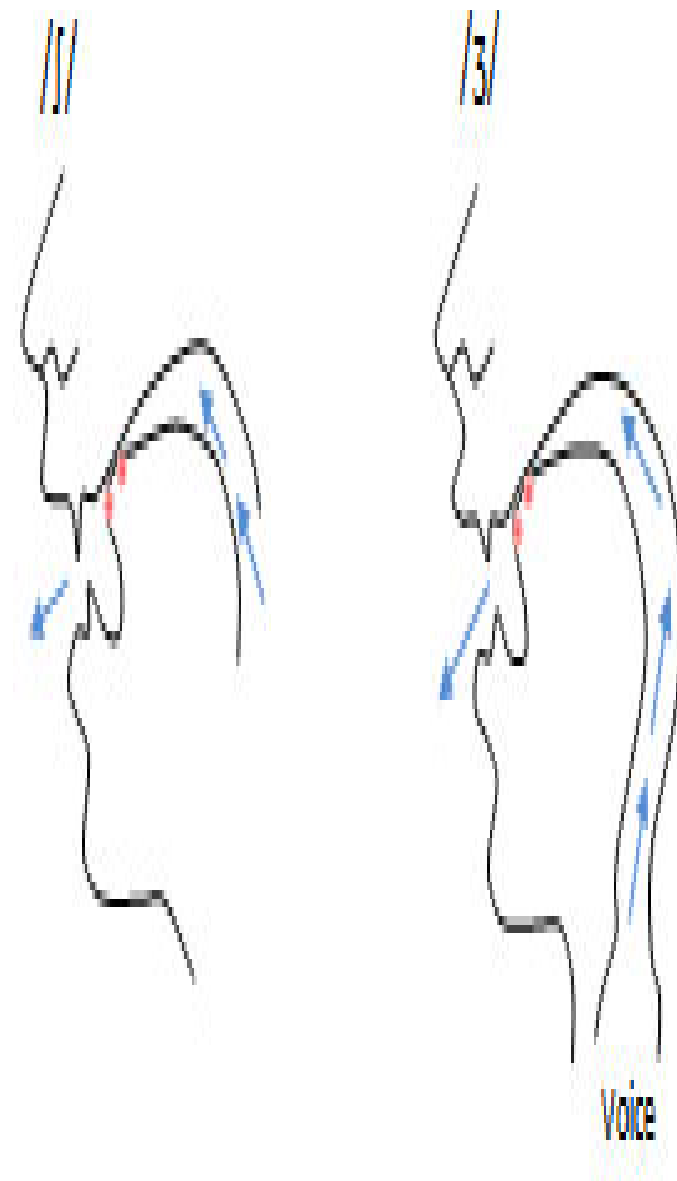
Note: house /haʊs/; houses /'haʊzɪz/ (where the /s/ of the stem also
(2) /z/ after a voiced sound (i.e. all vowels and voiced consonants)
than /z, ʒ, dʒ/:

boys	goes	man's
girls	stands	men's
airlines	shines	boy's
bags	loves	boys'
leaves	wears	officer's
buds	sings	officers'
		employee's
		employees'

(3) /s/ after a voiceless consonant other than /s, ʃ, tʃ/:

books	walks	priests'
taps	laughs	chief's
cats	sniffs	chap's
moths	stops	Dick's
cloths	fits	Ruth's

- Palato alveolar fricative /ʃ, ʒ/
- Soft palate raised nasal cavity shut
- Tip and blade of tongue slightly touches alveolar ridge at the same time front of the tongue goes near hard palate
- Sufficient gap through which the air passes out continuously
- Resulting in audible friction
- /ʃ/ voiceless /ʒ/ is voiced
- /ʃ/ occurs in initial middle and final positions
- /ʒ/ occurs only in middle position
- As in pleasure treasure measure

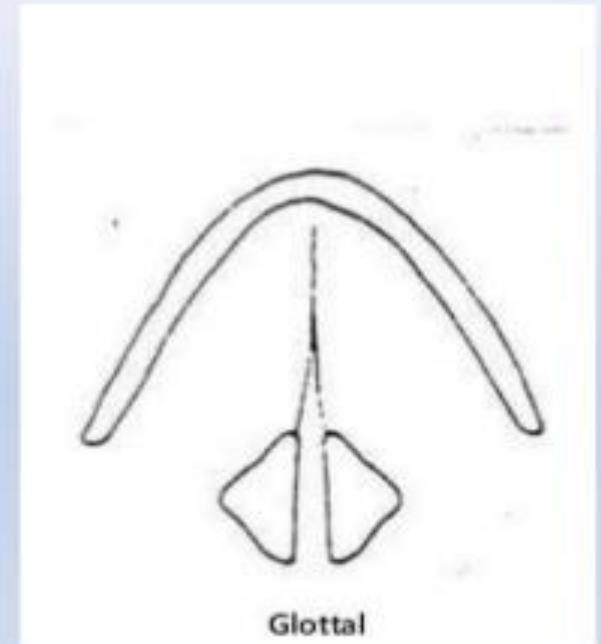


Place of Articulation : Palato-alveolar © Tanvir Shameem

- Glottal fricative / **h** / occurs only in initial and middle positions

Glottal fricatives [/h/]

- Place of articulation of this consonant is glottal
- The air passes through the glottis
- Narrowing between the vocal folds produces the friction noise. Example words: head, ahead, playhouse.



- Alveolar Lateral /l/
- Soft palate raised
- Vocal cords are loosely held together=voiced
- Center part of the tip contacts with the center part of alveolar ridge
- Sides are lowered
- Air issues out continuously from the gap between side teeth and tongue
- Initial middle and final positions
- Clear When followed by vowel or semi-vowel (lean, let, lose, flute billion)
- Dark before consonant (health, milk, called)
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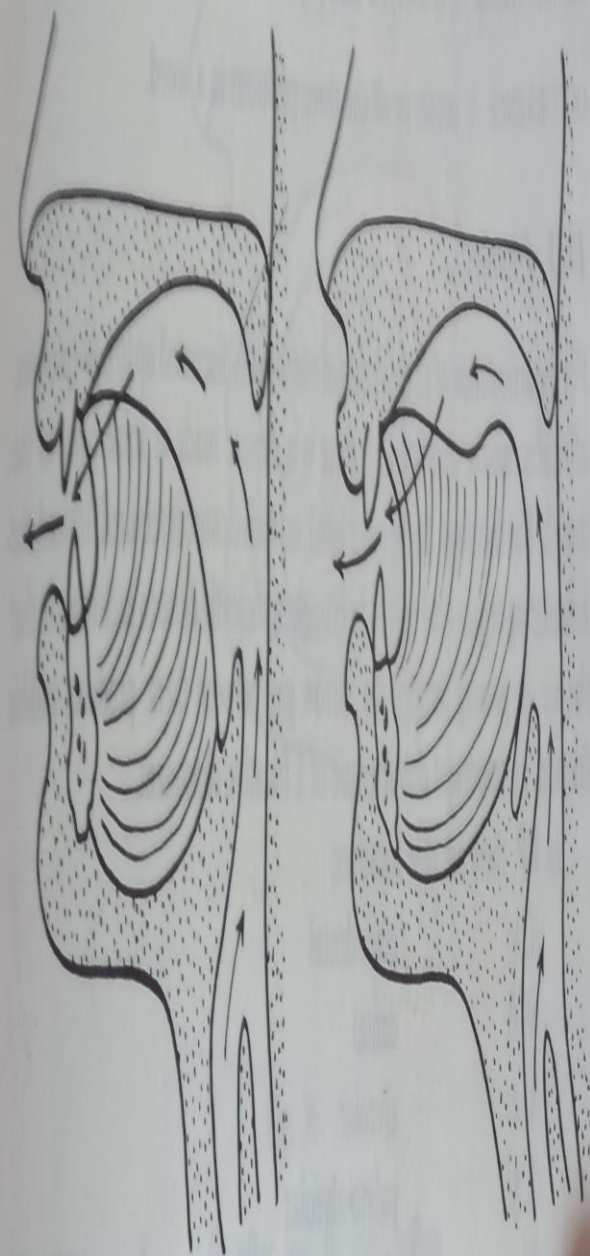
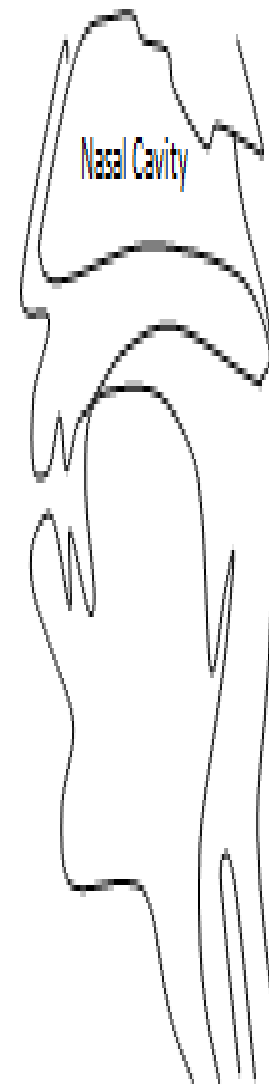


Fig. 34 Clear [l]

Fig. 35 Dark [ɫ]

- Post Alveolar frictionless continuant / **r** /
- Soft palate raised
- Vocal cords are loosely held together= voiced
- Tip of tongue is held at the rear part of alveolar ridge
- No audible friction
- Roll/ Flap/ Tap
- RP (Received Pronunciation)
- Pronunciation
- Initial position pronounced
- Final position not pronounced
- Before consonants not
- Before vowels pronounced

/r/



- Semi vowels / j, w /
- Produced just as vowels
- But treated as consonants
- Article **a** is used before the words beginning with these
- / j /
- Soft palate is raised
- Vocal cords vibrate
- Front of the tongue is raised toward the hard palate
- Sufficient gap through which air passes without audible friction
- Occurs only in initial and middle positions
- / w /
- Soft palate is raised
- Lips rounded
- Vocal cords vibrate
- Occurs only in initial and middle positions

• Thank you

