

Phonetics & Transcription

9 June 2015

C.N. Serrano Madsen II

LCD 102: Analyzing Language

TRANSCRIPTION

Transcription

- The IPA gives us a way to represent the way a word sounds
 - ONE orthographic representation
 - Different transcriptions depending on the variety of English

SPEECH

Speech

- Speech is the vocalizations of language
- Produced by moving the respiratory system and vocal tract
 - Lungs
 - Vocal folds
 - Tongue
 - Jaw
 - Lips

Speech

- We are going to be describing speech not based off of how it sounds
 - Pitch
 - Breathiness
 - Noisiness
 - loudness
- but how we make the sounds
 - What is used to make the sound
 - Where the movement is concentrated
 - How the movement is made/type of movement

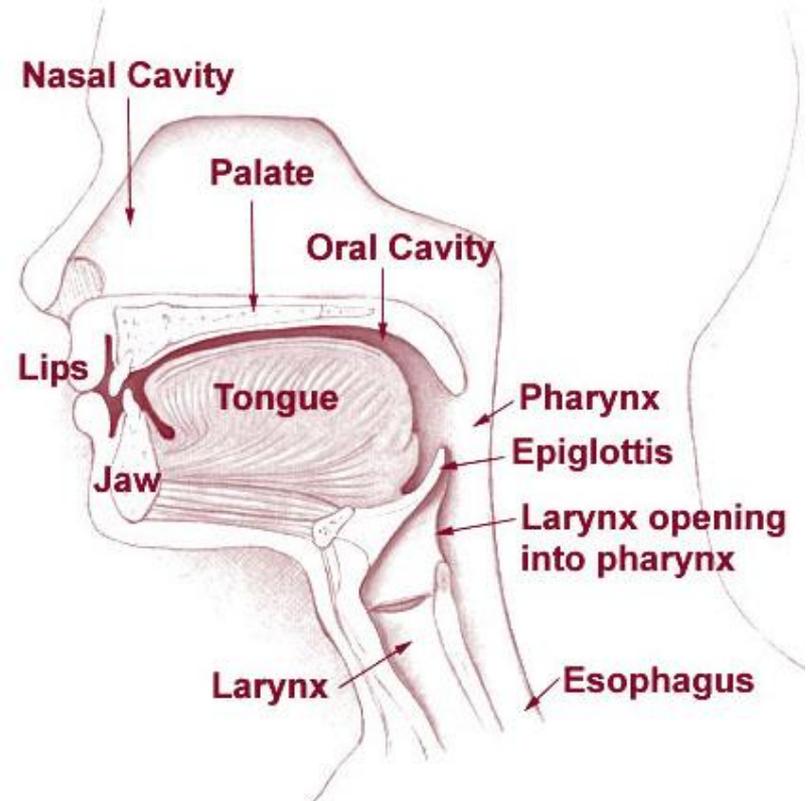
PLACE OF ARTICULATION

Articulators

- Active
 - The things that move
- Passive
 - The things that don't move
- We can see the movements with
 - X-ray: <https://www.youtube.com/watch?v=DcNMCB-Gsn8>
 - MRI: <https://www.youtube.com/watch?v=T4KRbENmFDk>

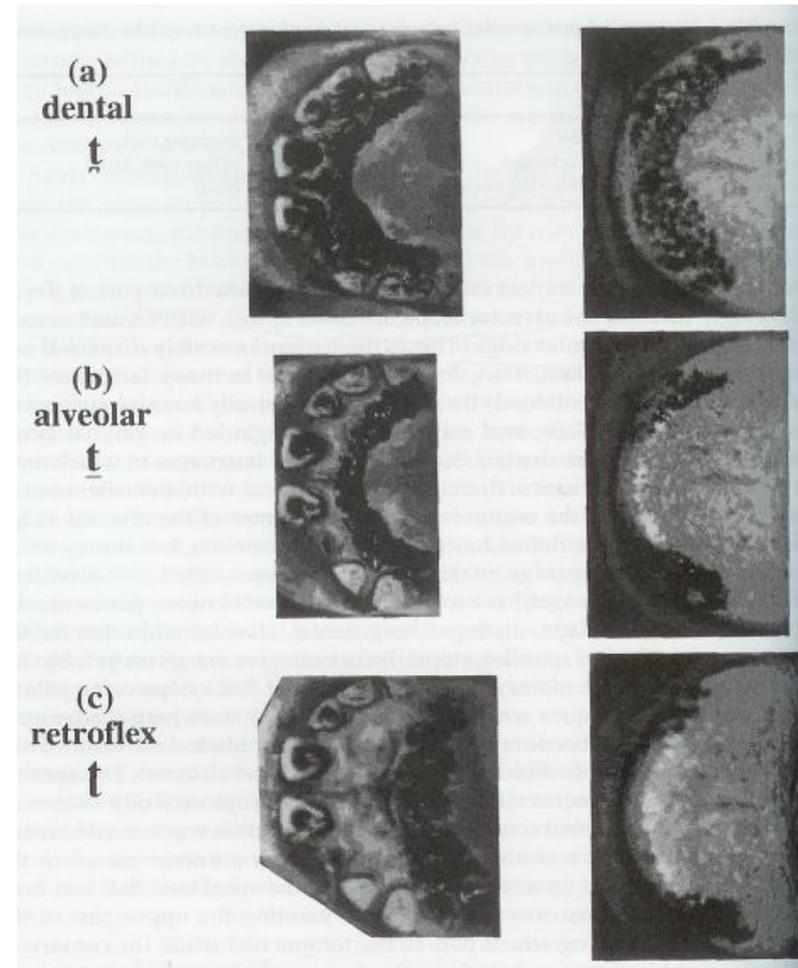
Articulators

- Active
 - Tongue
 - Lips
 - Jaw
 - Velum
 - Larynx
- Passive
 - Pharyngeal cavity
 - Palate
 - Alveolar ridge
 - Teeth
 - Oral cavity



- A sound is defined mostly by what active articulator comes into contact with (or approximates) a passive articulator

- Palatograms
 - We can see where the tongue comes into contact with the roof of the mouth
- Linguograms
 - We can see what part of the tongue makes contact



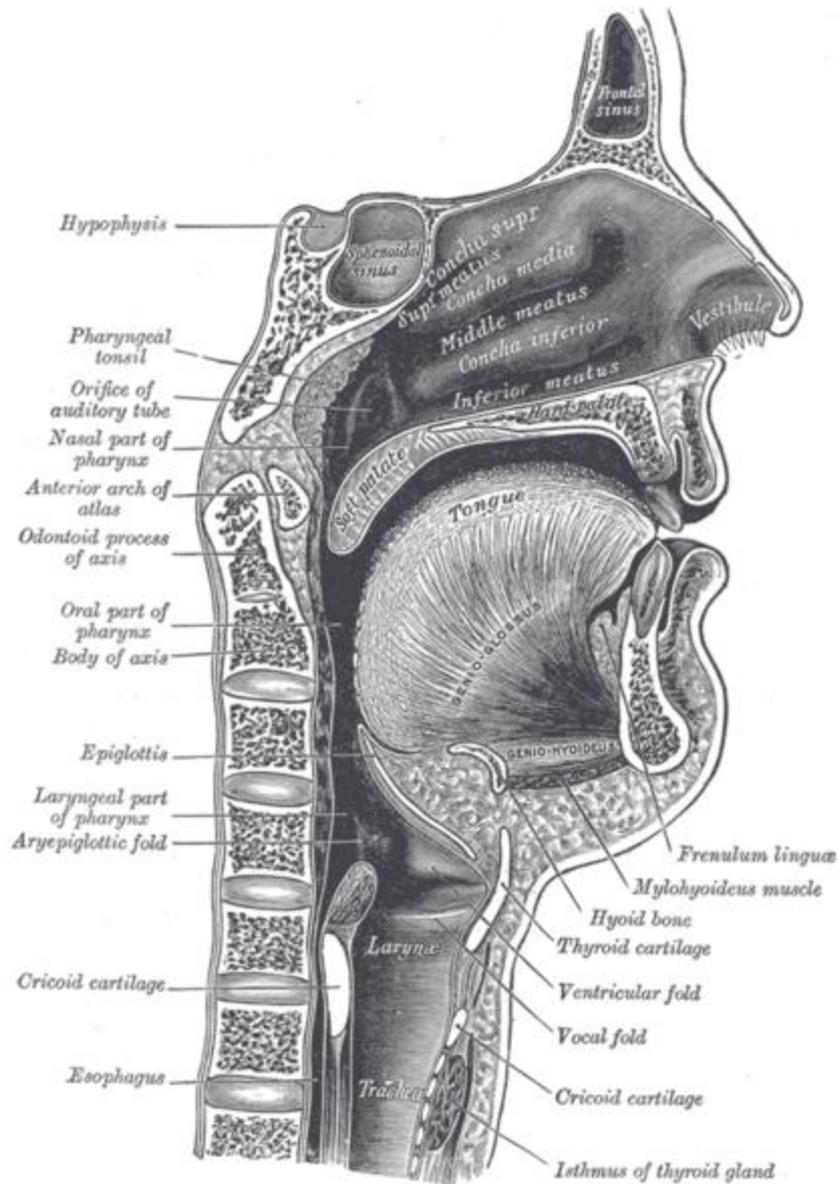
Places of Articulation

- Lips
- Teeth
- Alveolar Ridge
- Palate
- Velum
- Uvula
- Pharynx
- Epiglottis

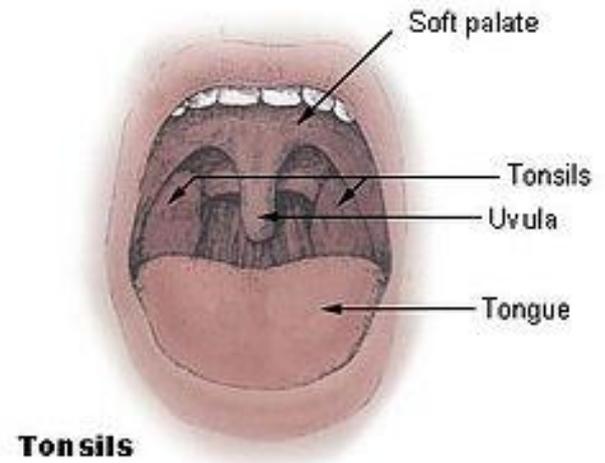
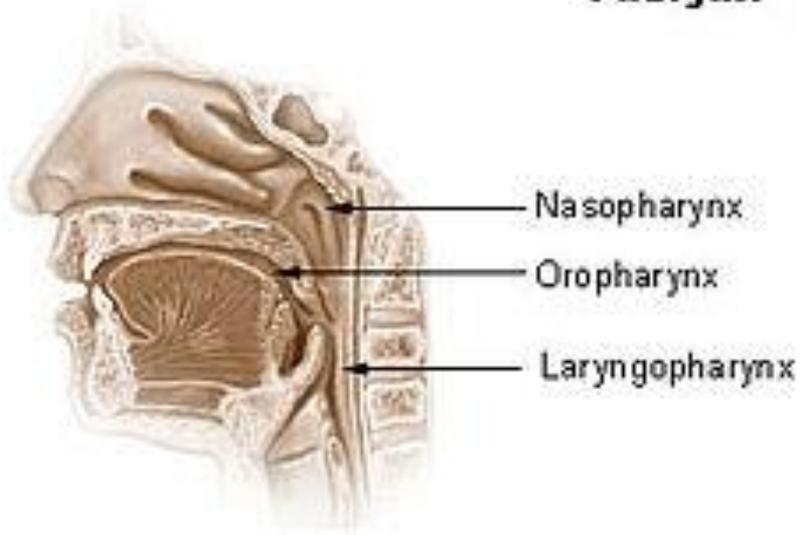
- NO PLACE (glottal)

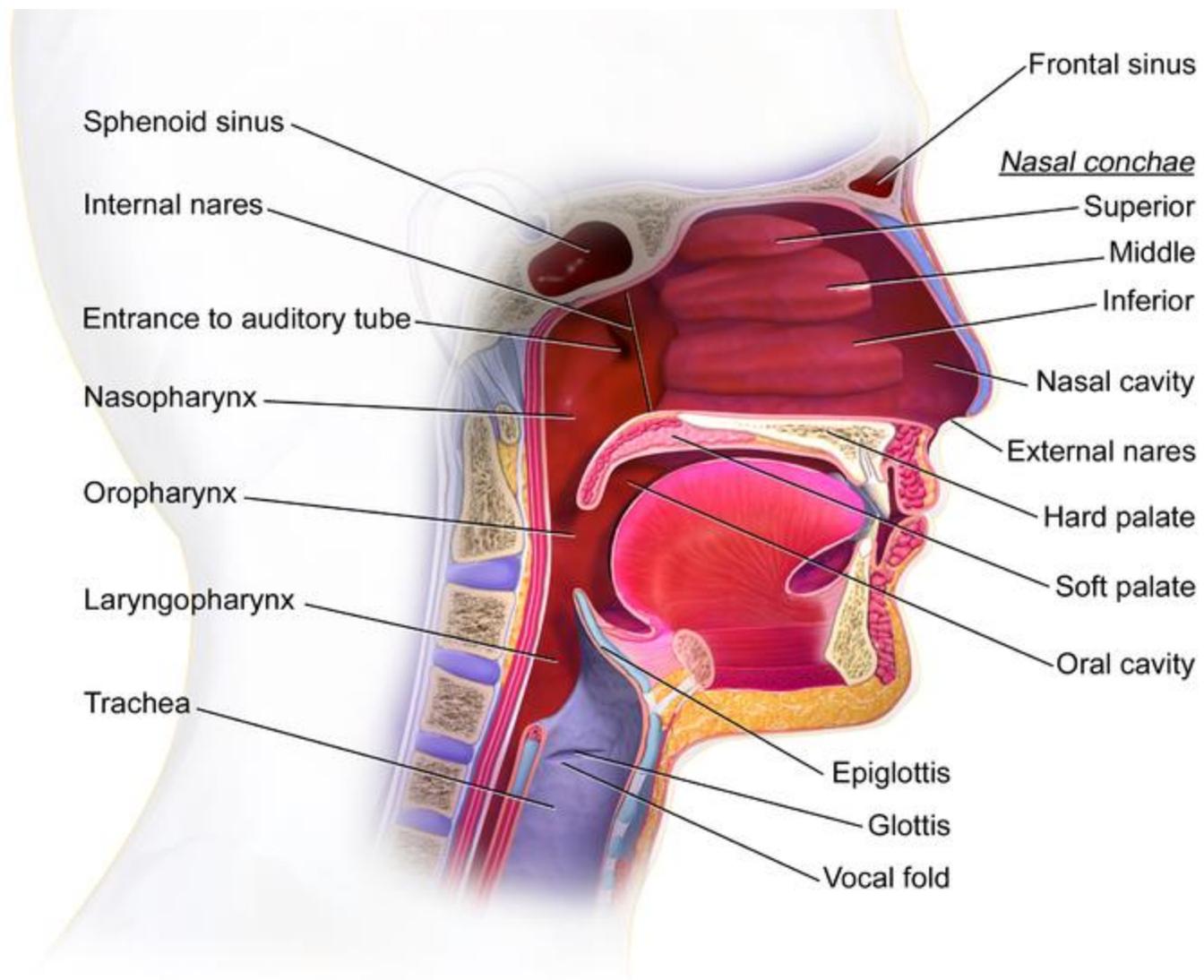
Structures of the Vocal Tract

- The places of articulation correspond to the structures in the vocal tract
- We can refer to the vocal tract with varying degrees of detail

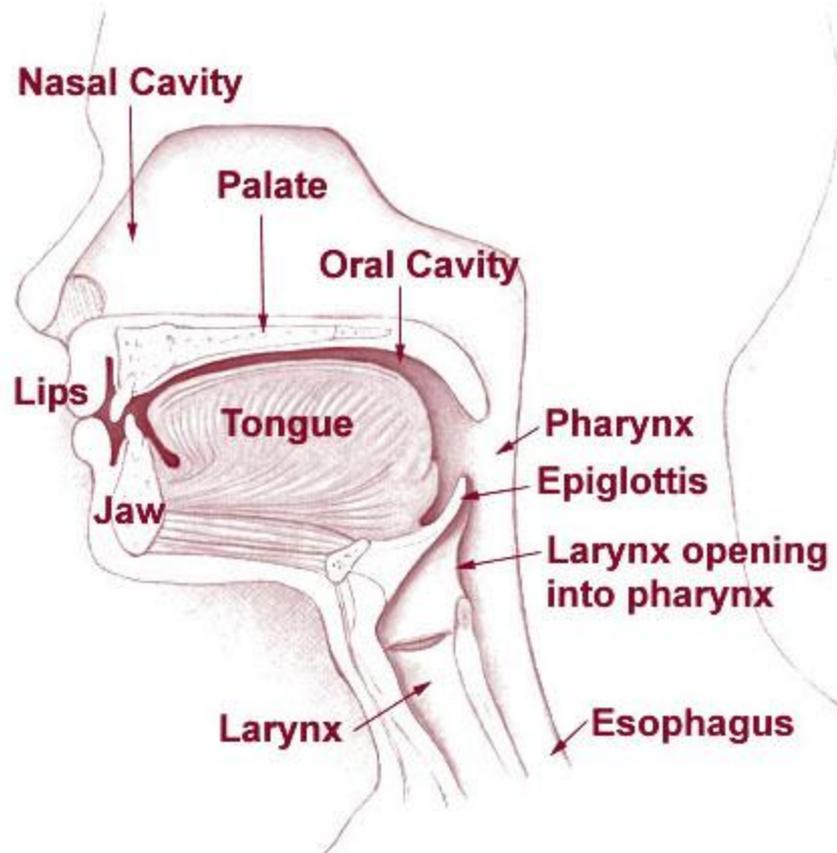
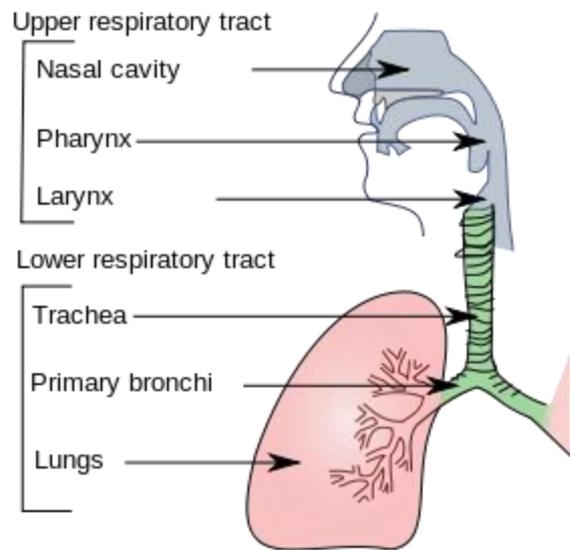


Pharynx





The Upper Respiratory System



Mid-sagittal sections

- Planes
 - Sagittal (median)
 - Front to back slice
 - Coronal (frontal)
 - Left to right slice
 - Transverse (horizontal)
 - Horizontal slice

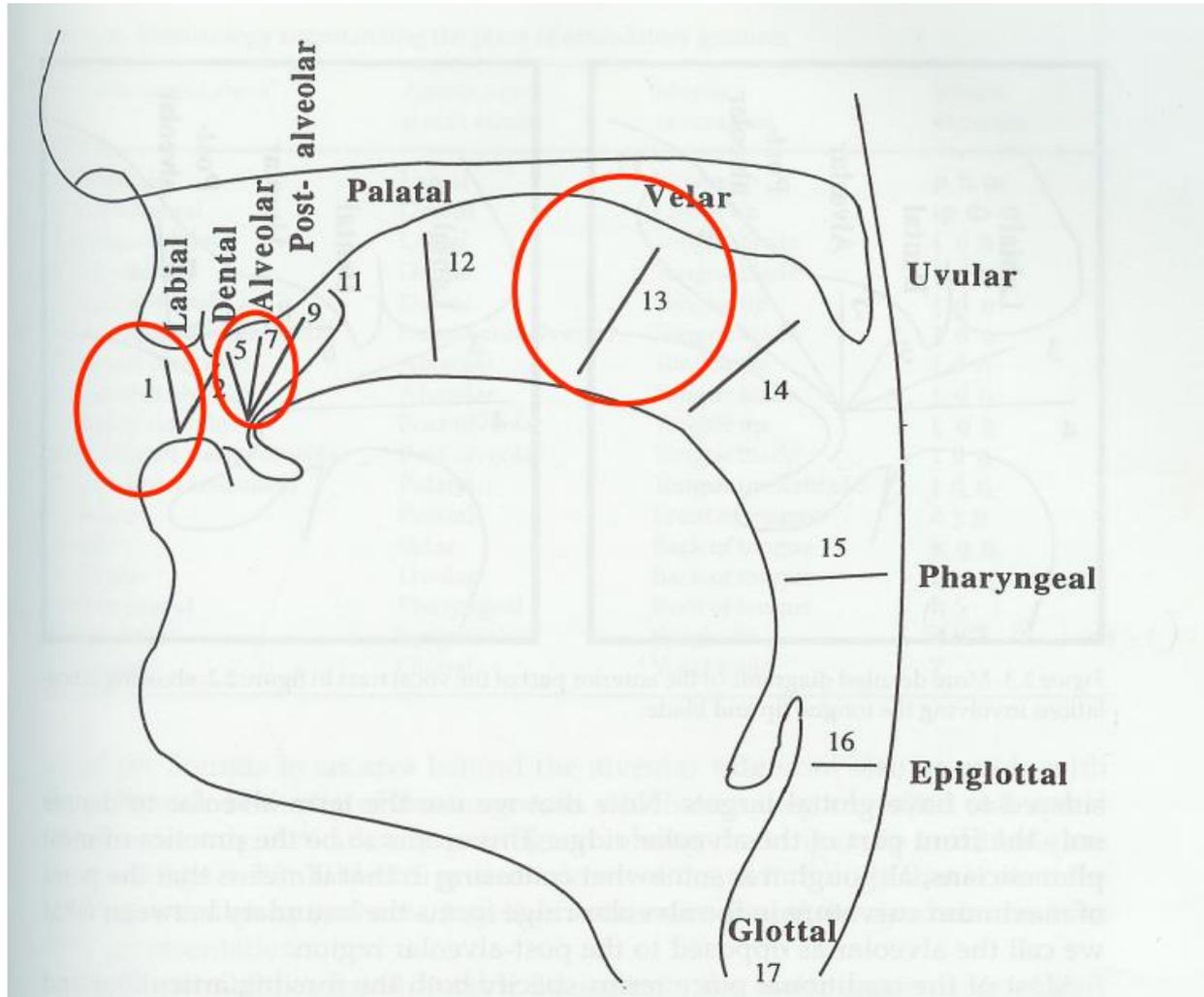
Mid-sagittal sections

- To illustrate the articulation of speech we often draw mid-sagittal sections
 - A sagittal (median) slice of the head section in the middle of the body
- They are good at representing the state of the lips, jaw, tongue, and velum for single state sounds
- Cannot capture the state of the glottis, dynamic articulation, time, frequency, lateral airflow, tongue groove; or vowels (too much detail)

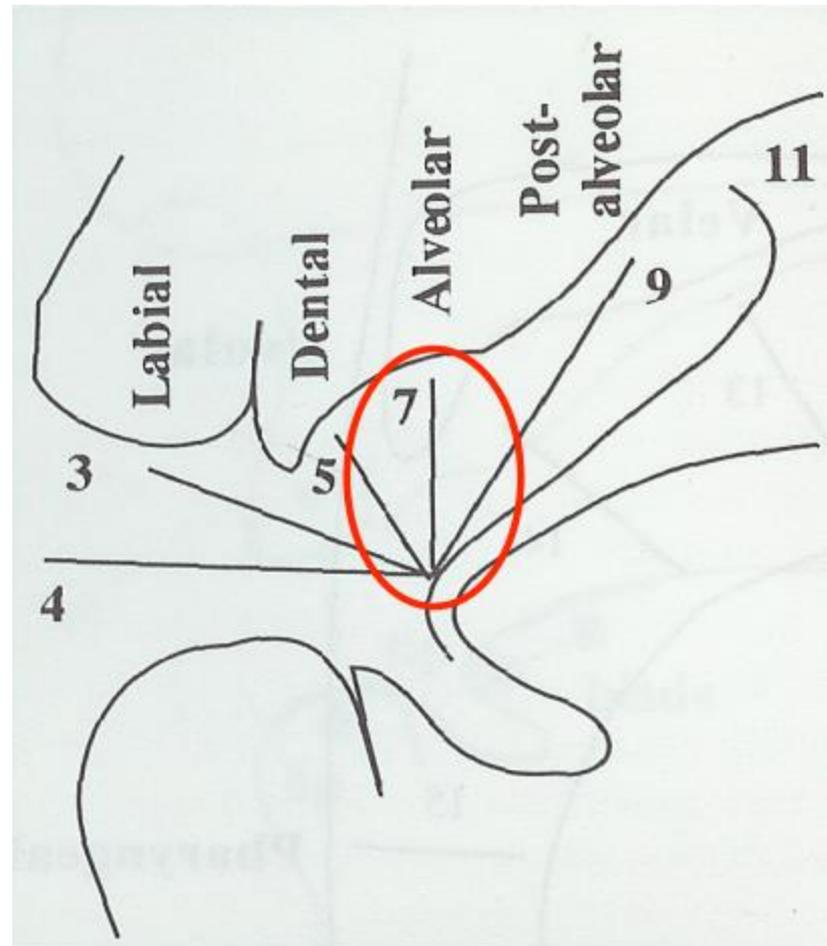
Tongue at Rest



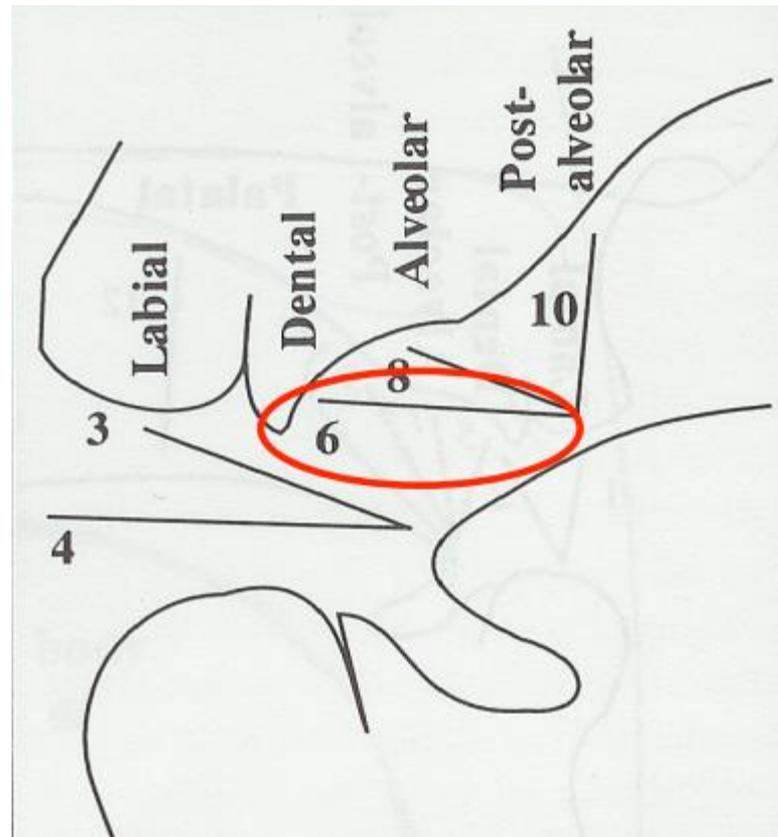
Sounds made with the lips and back (dorsum) of the tongue



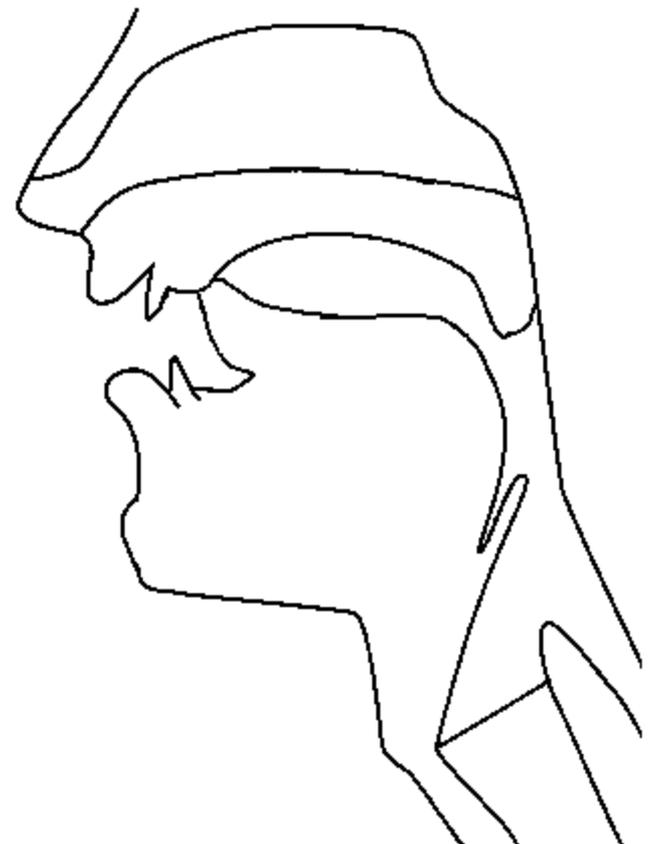
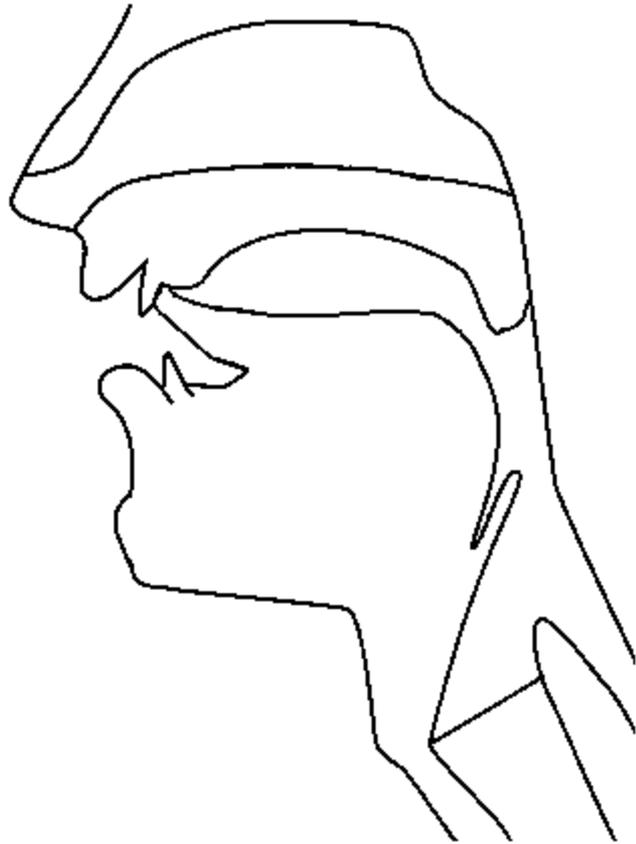
Sounds made with the tip (apex) of the tongue



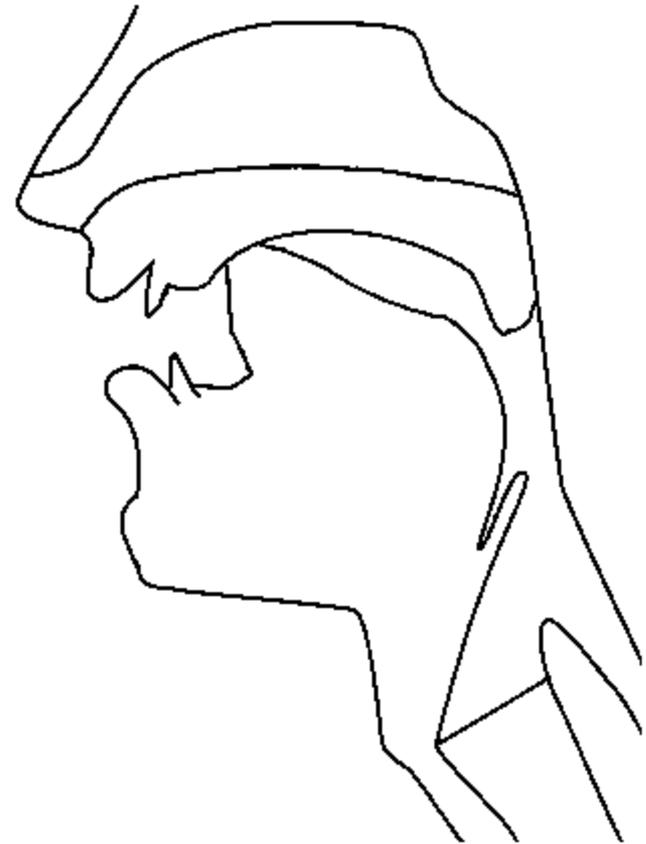
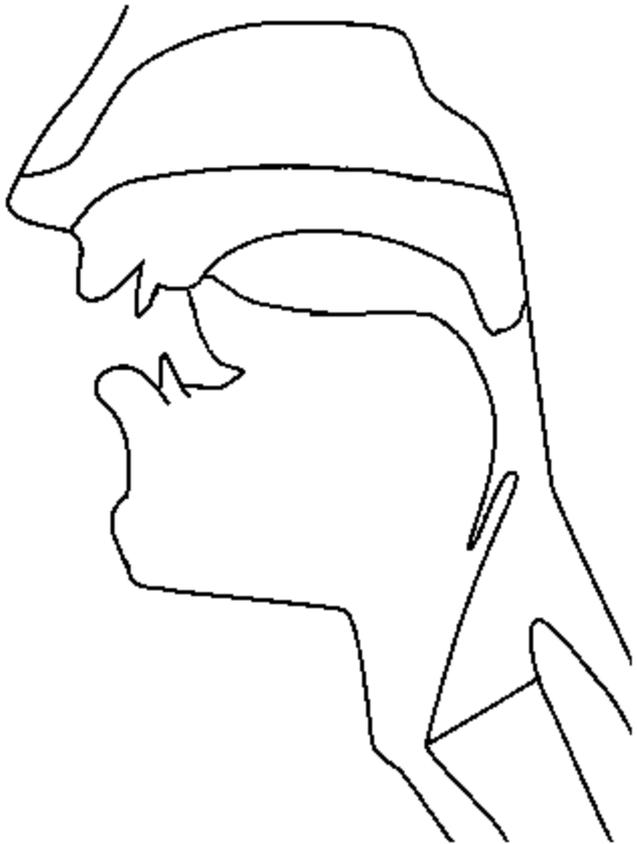
Sounds made with the blade (lamina) of the tongue



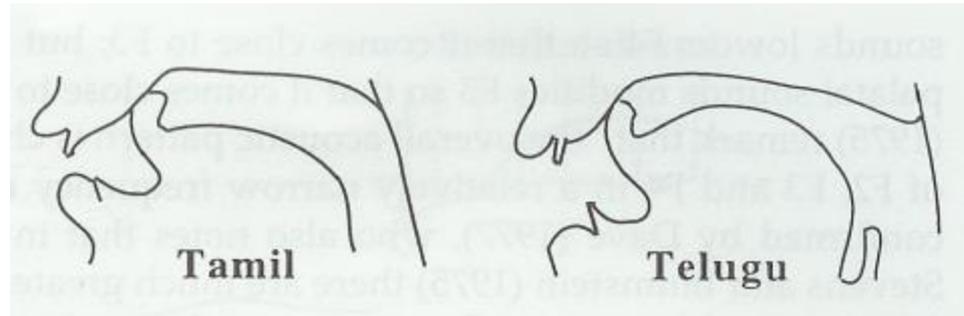
Dental v. Alveolar



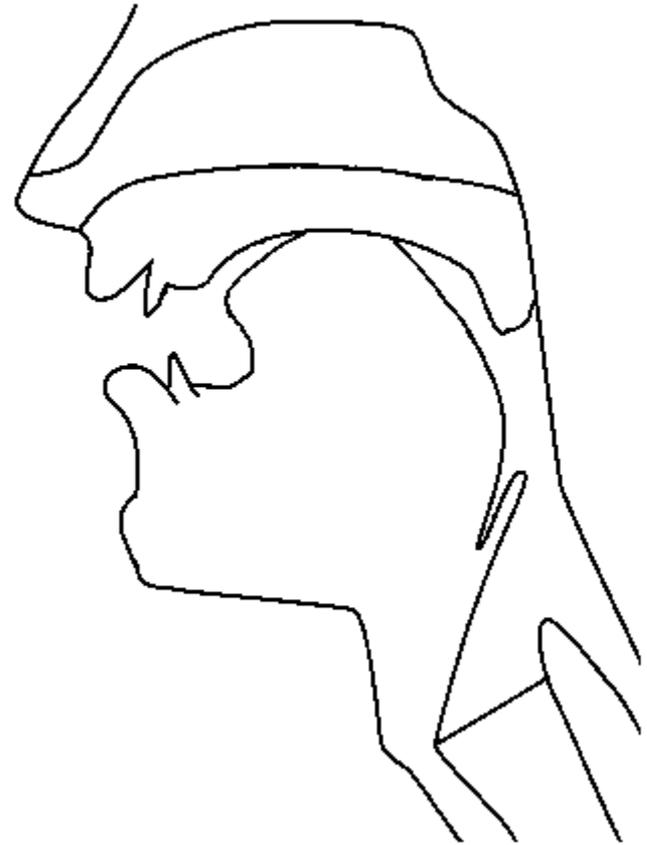
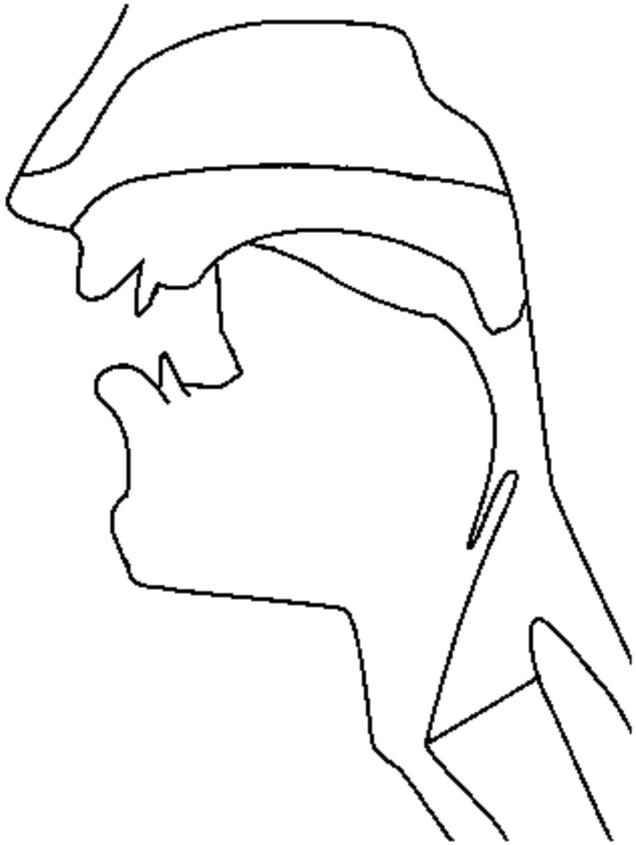
Alveolar v. Post-Alveolar



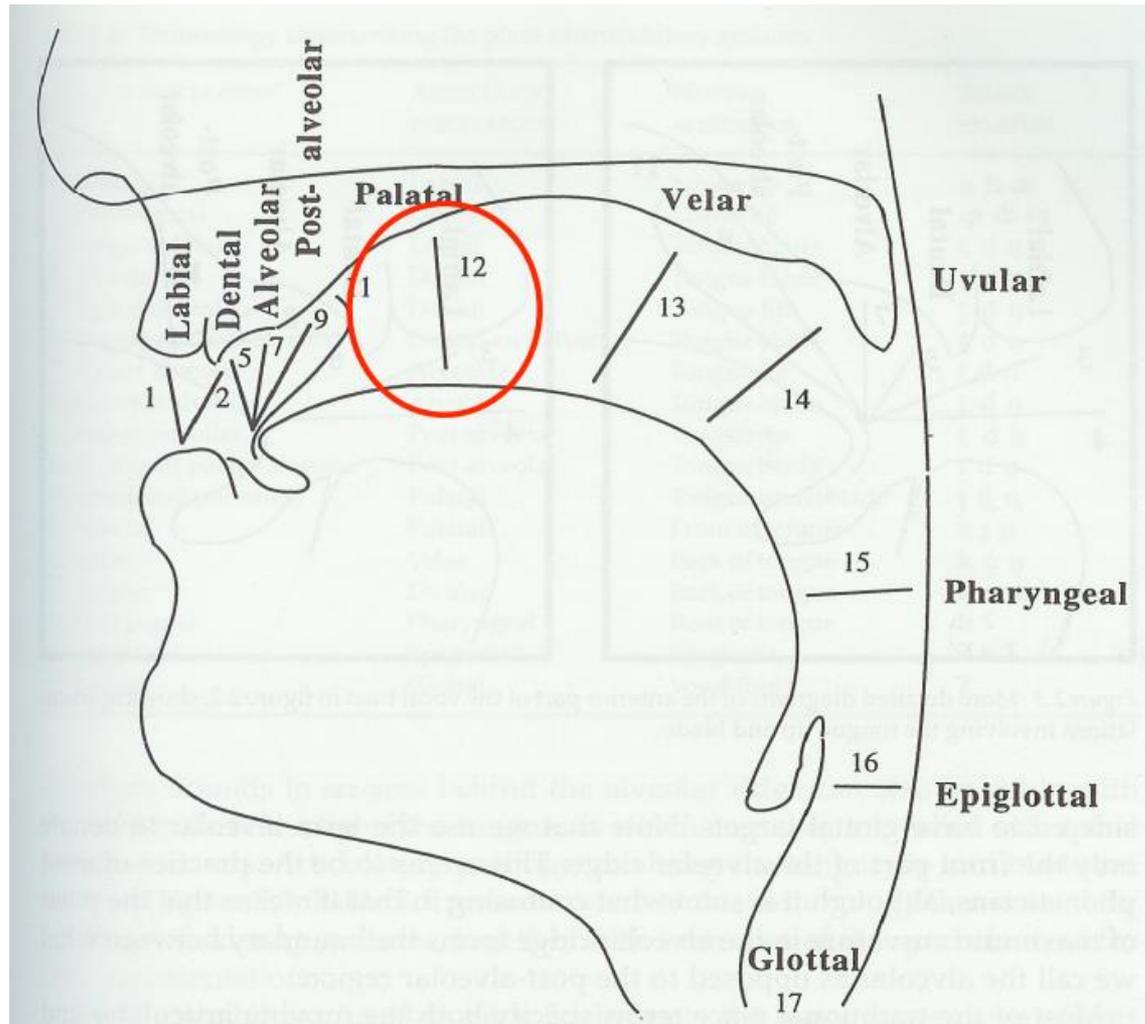
Retroflexes



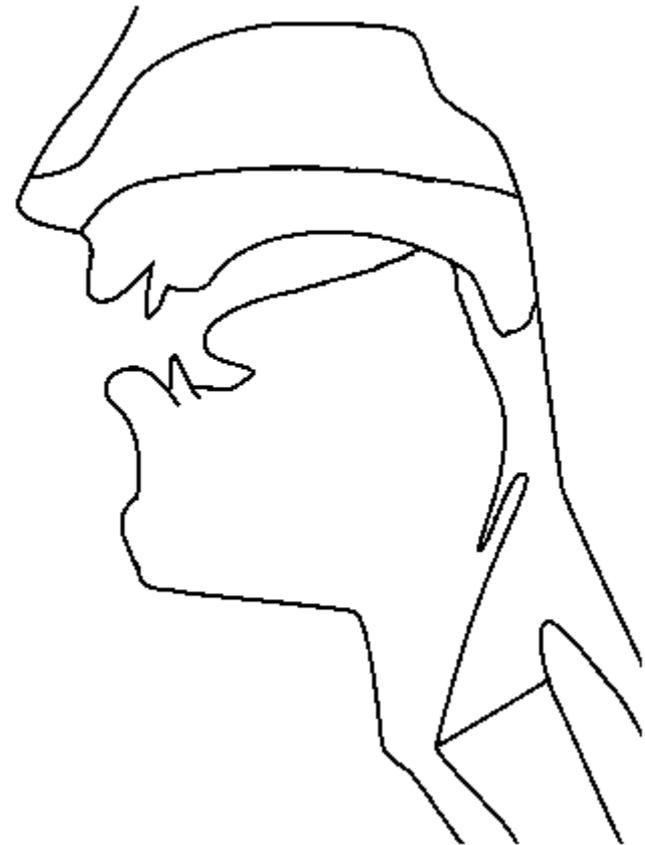
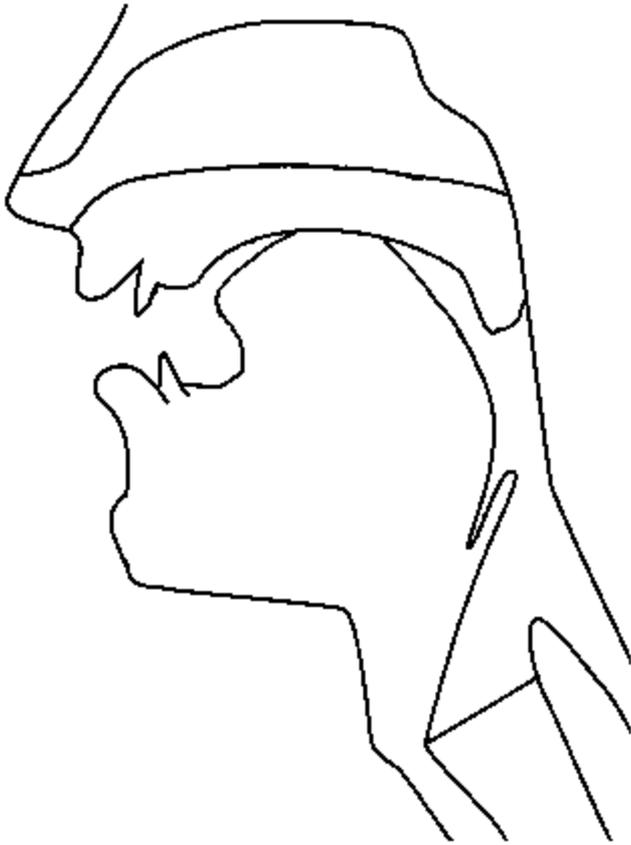
Post-Alveolar v. Palatal



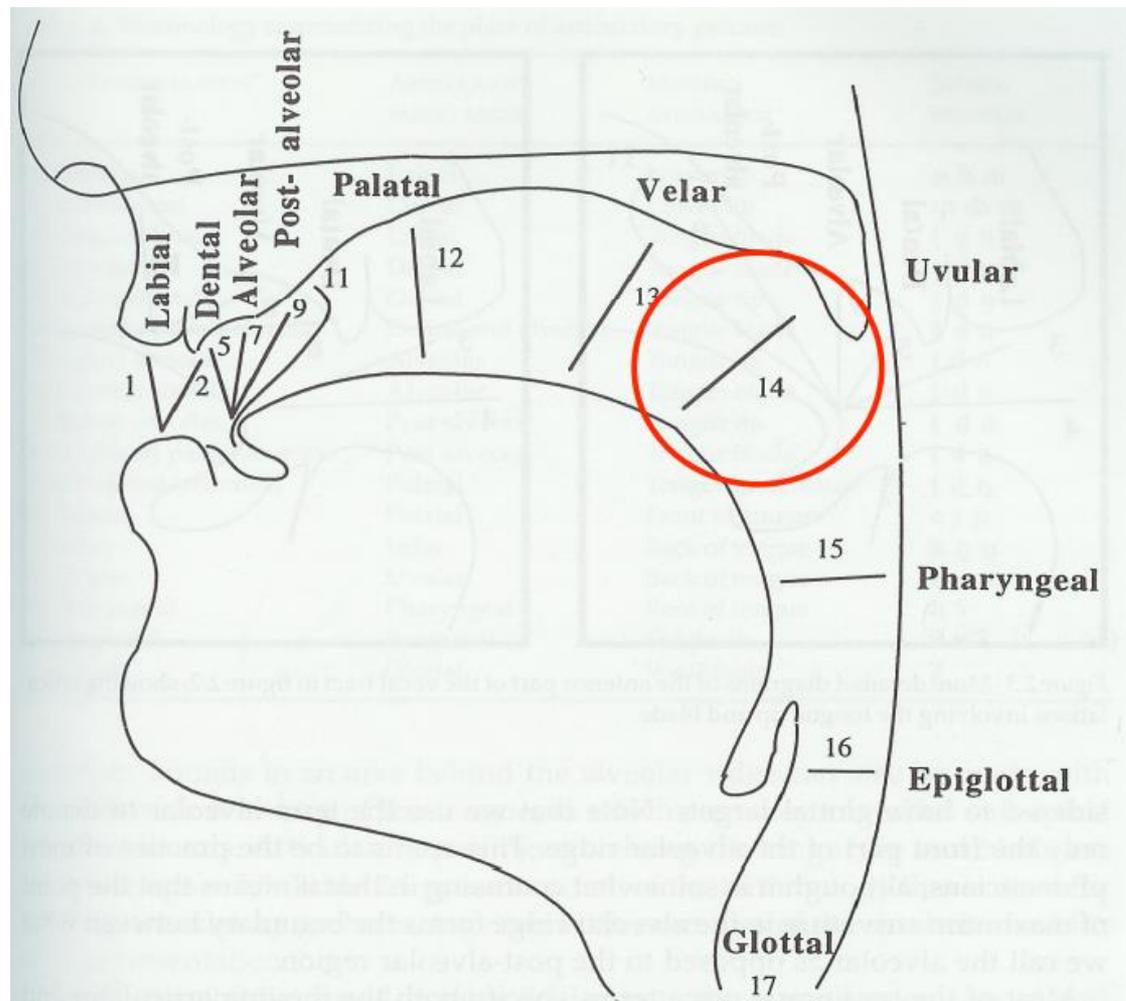
Sounds made with the body (dorsum) of the tongue



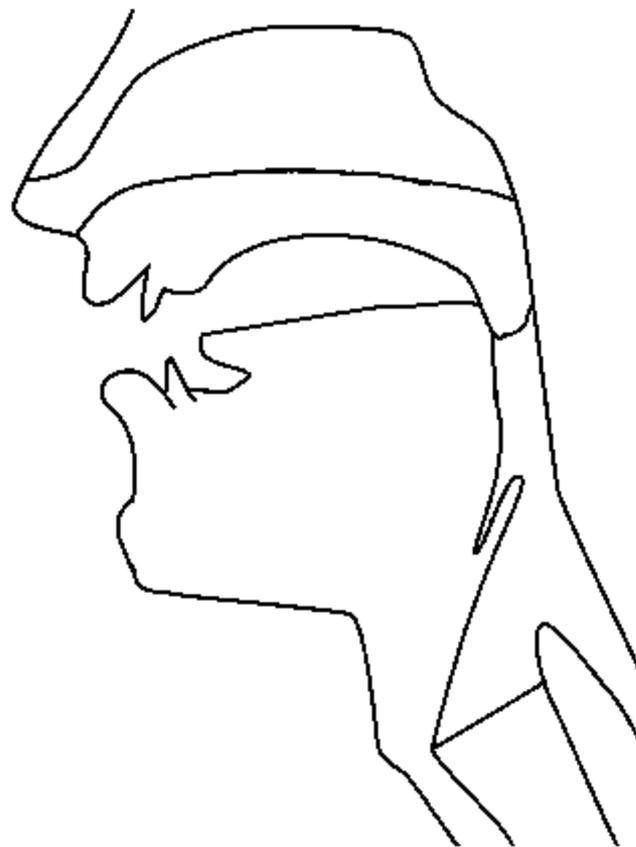
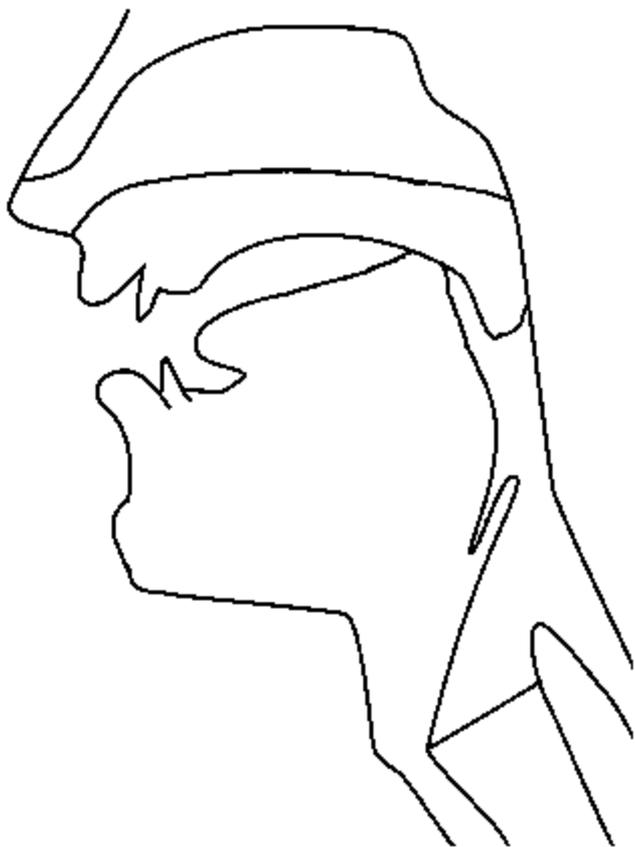
Palatal v. Velar



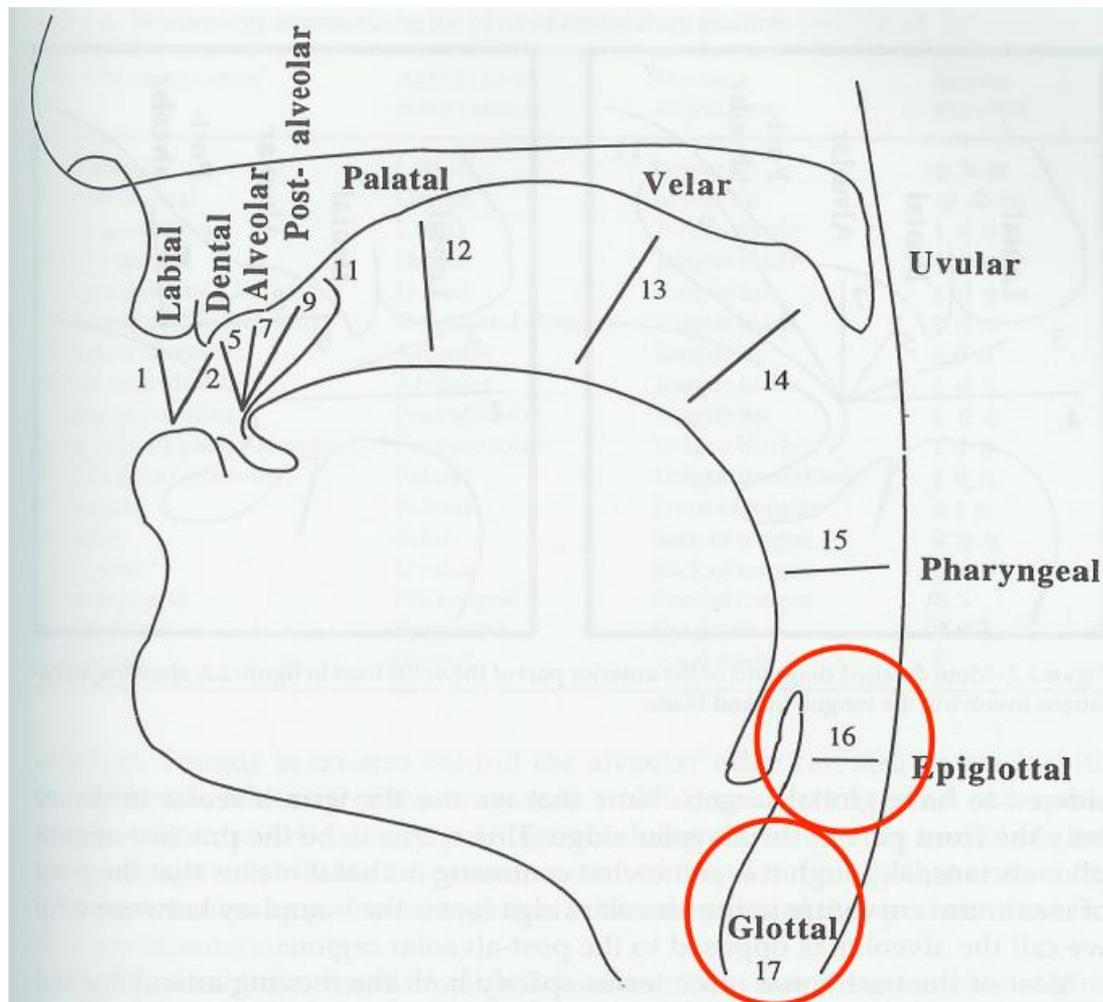
Sounds made with the back (dorsum) of the tongue



Velar v. Uvular



Sounds made with the epiglottis and glottis



Articulation

- Vowels
 - How do the vowels present a problem?
 - Where are they produced?
- How would you describe the vowels in your language
- What are words that exemplify each of the vowels in your language?

Articulation

- Tongue
 - Front
 - Central
 - Back
- Lips
 - Rounding

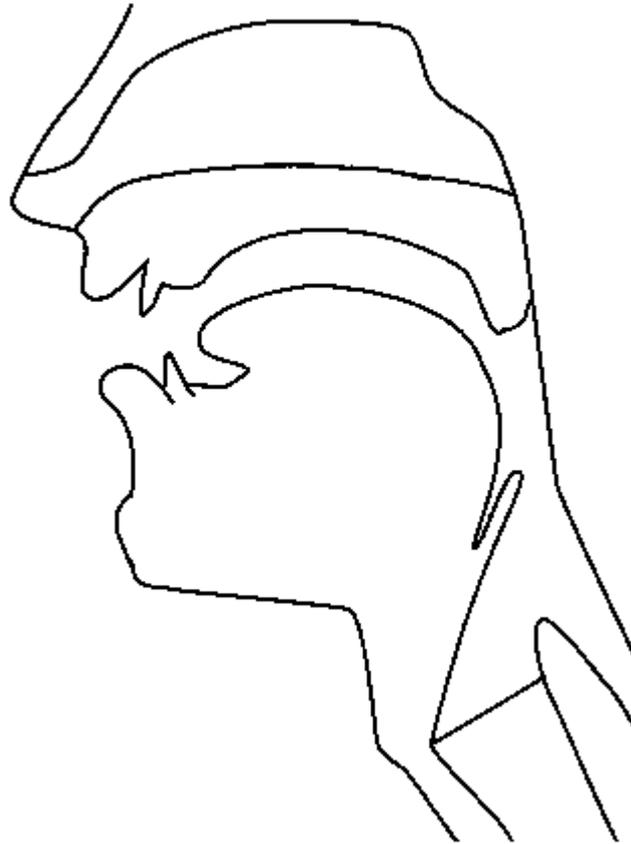
MANNER OF ARTICULATION

Manner

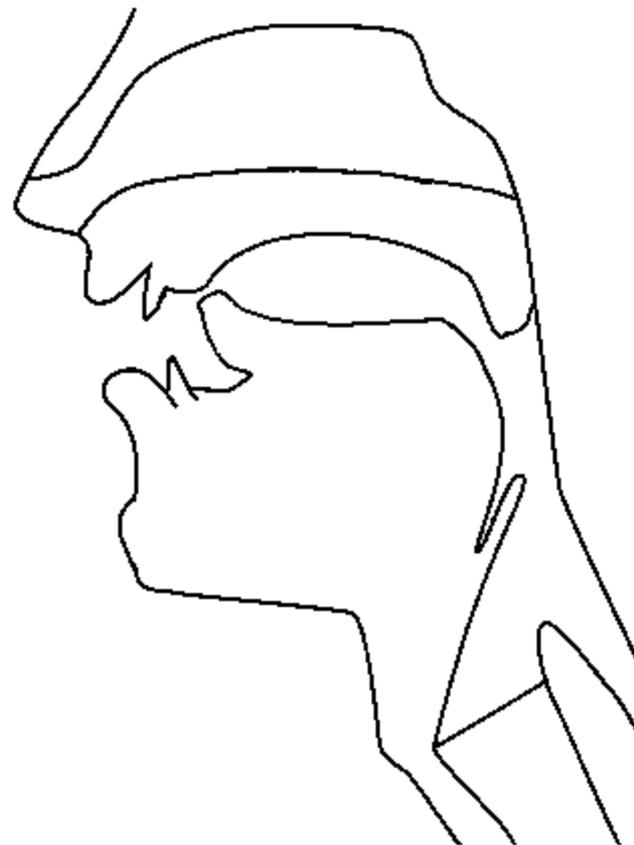
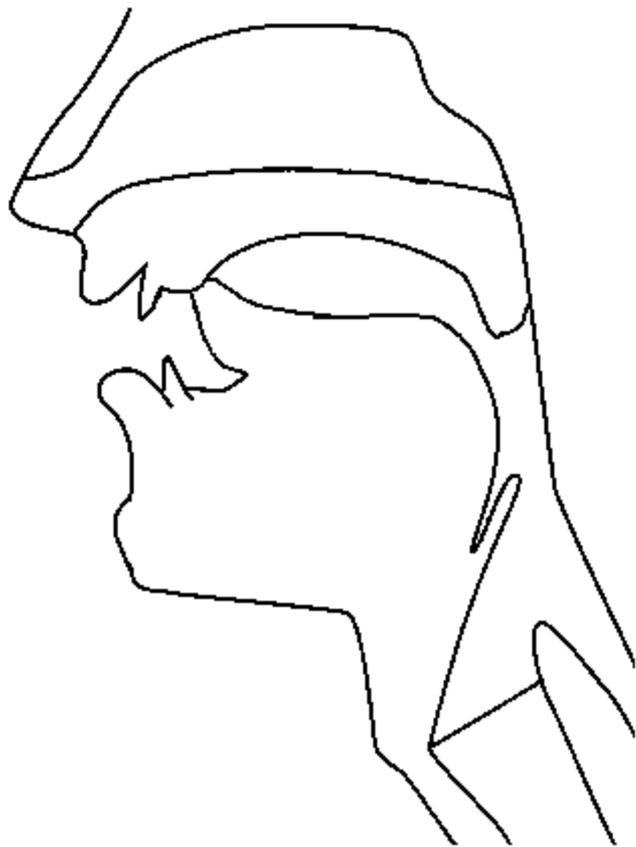
- We can also categorize sounds by HOW they are produced
 - How quickly the articulators move
 - How much of a closure there is between two structures

- Degrees of Closure
 - Close
 - Stops
 - Critical
 - Fricative
 - Open
 - Approximates; High Vowels
 - Mid
 - Mid Vowels
 - Wide
 - Low Vowels

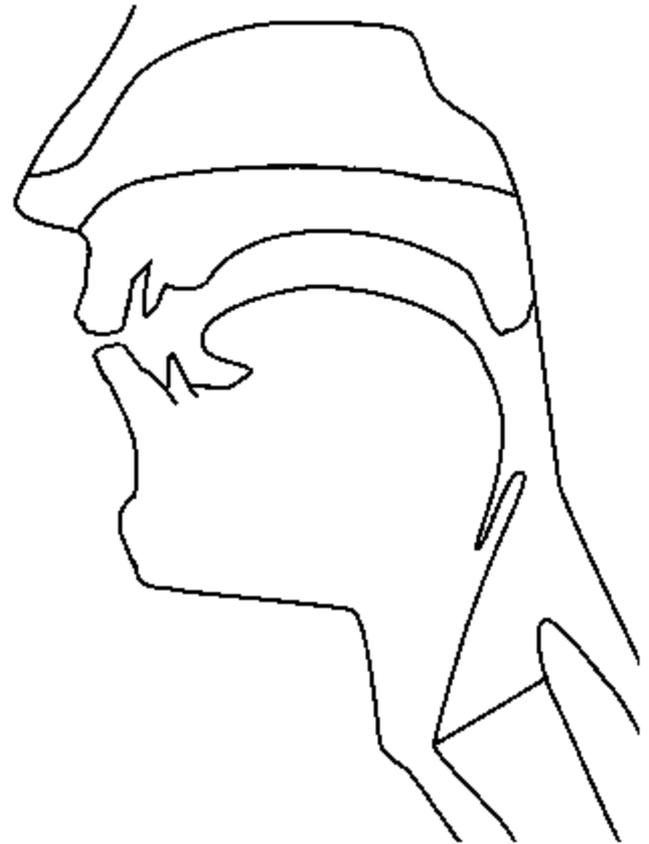
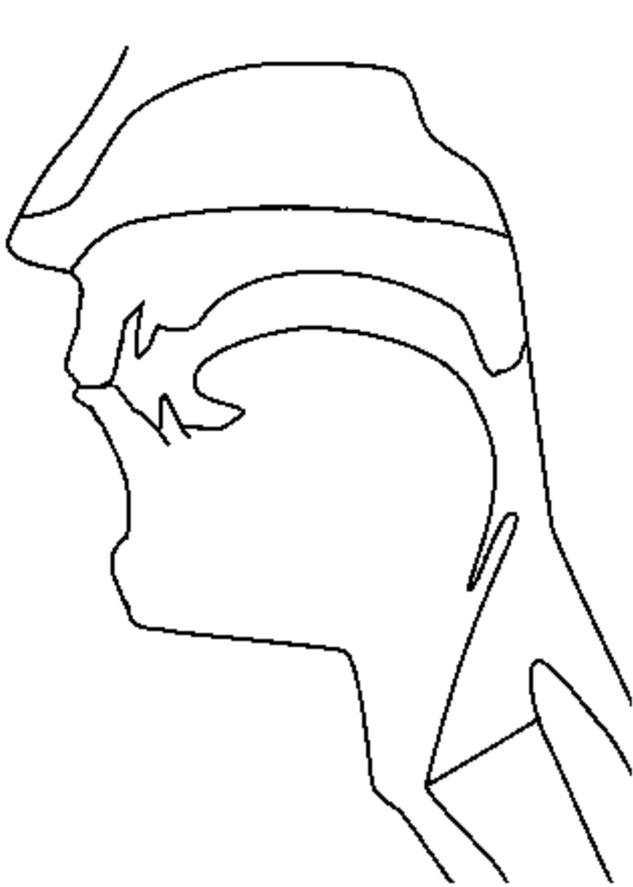
Tongue at Rest



Stop v. Fricative (tongue)



Stop v. Fricative (lips)

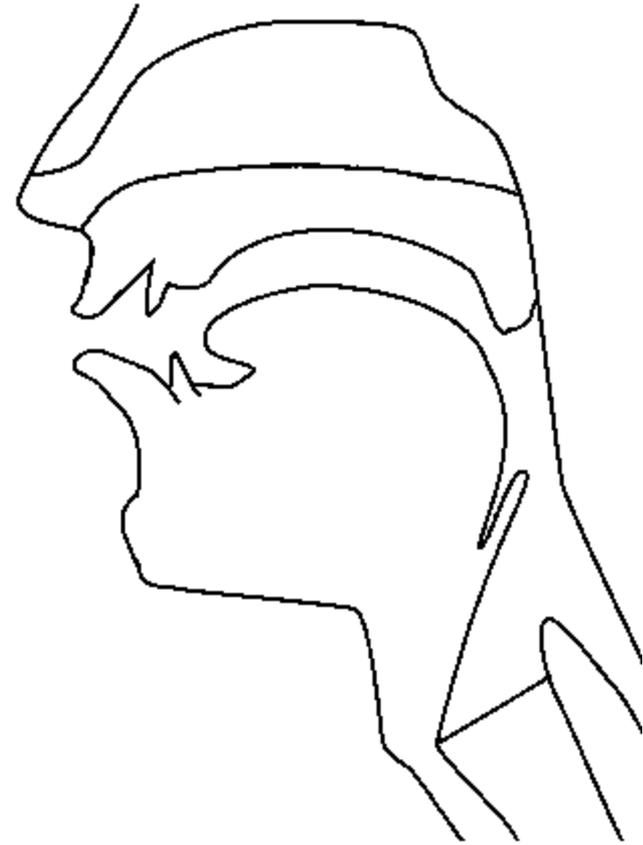
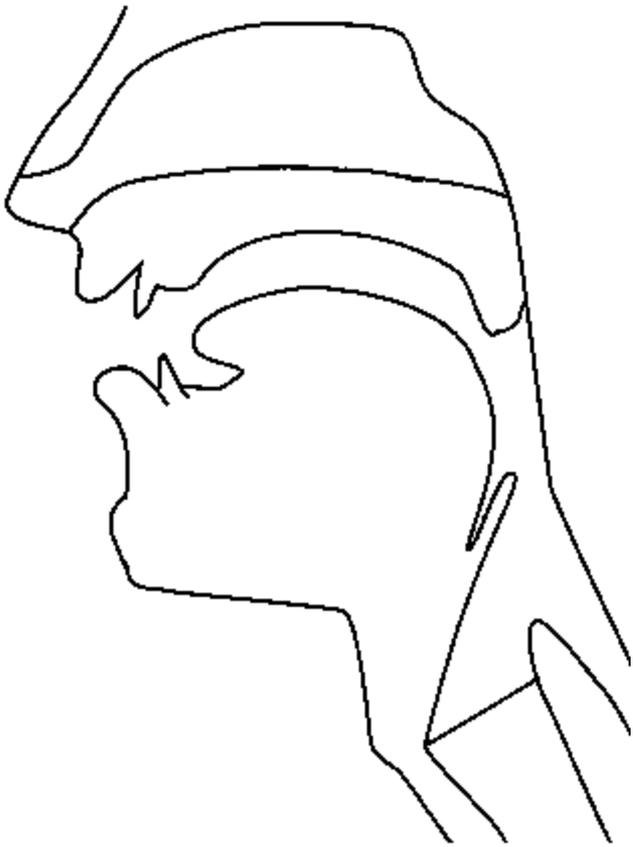


OTHER PHONETIC DETAILS

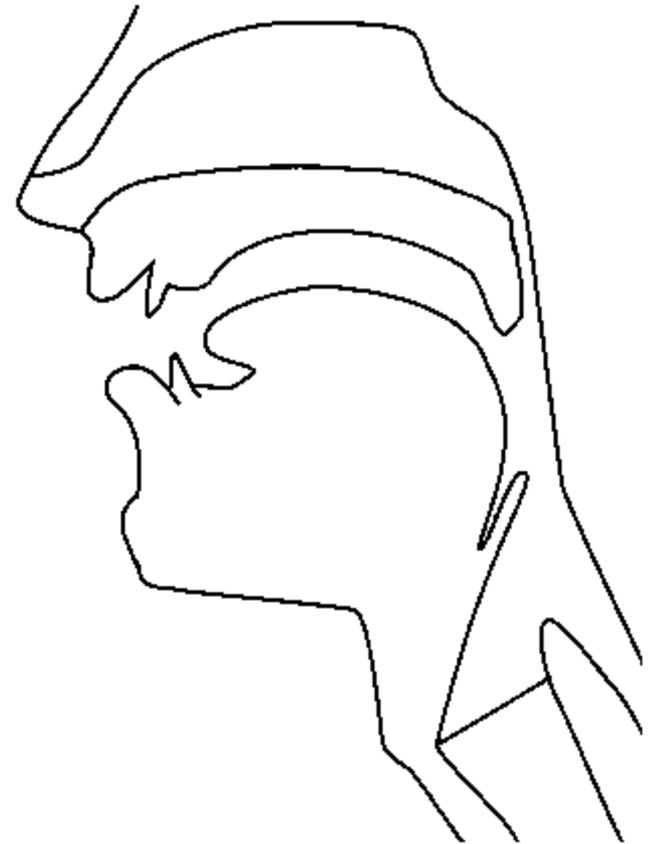
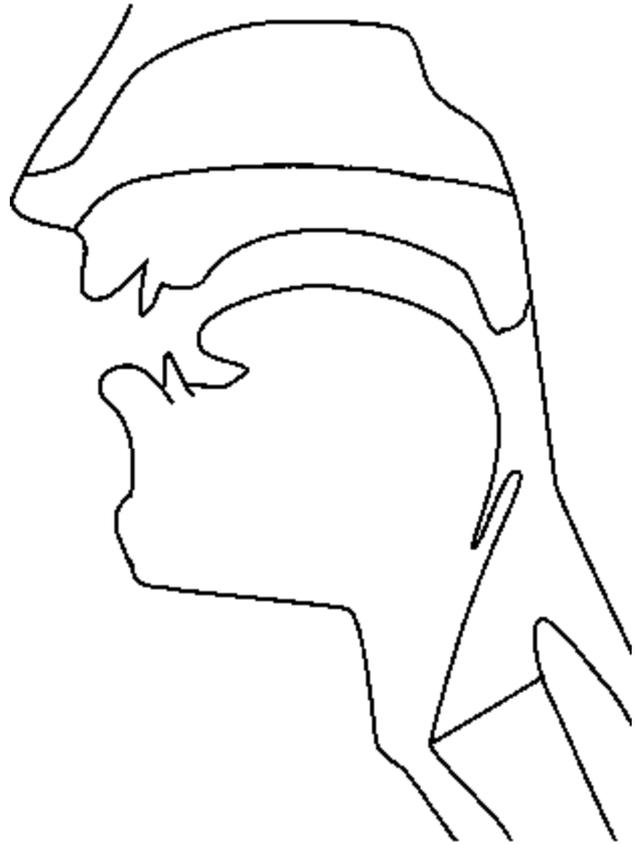
Other Relevant Information

- We can represent the following using mid-sagittal sections
- Lips
 - Rounding
- Velum
 - nasals

Regular v. Rounded Lips



Oral v. nasal



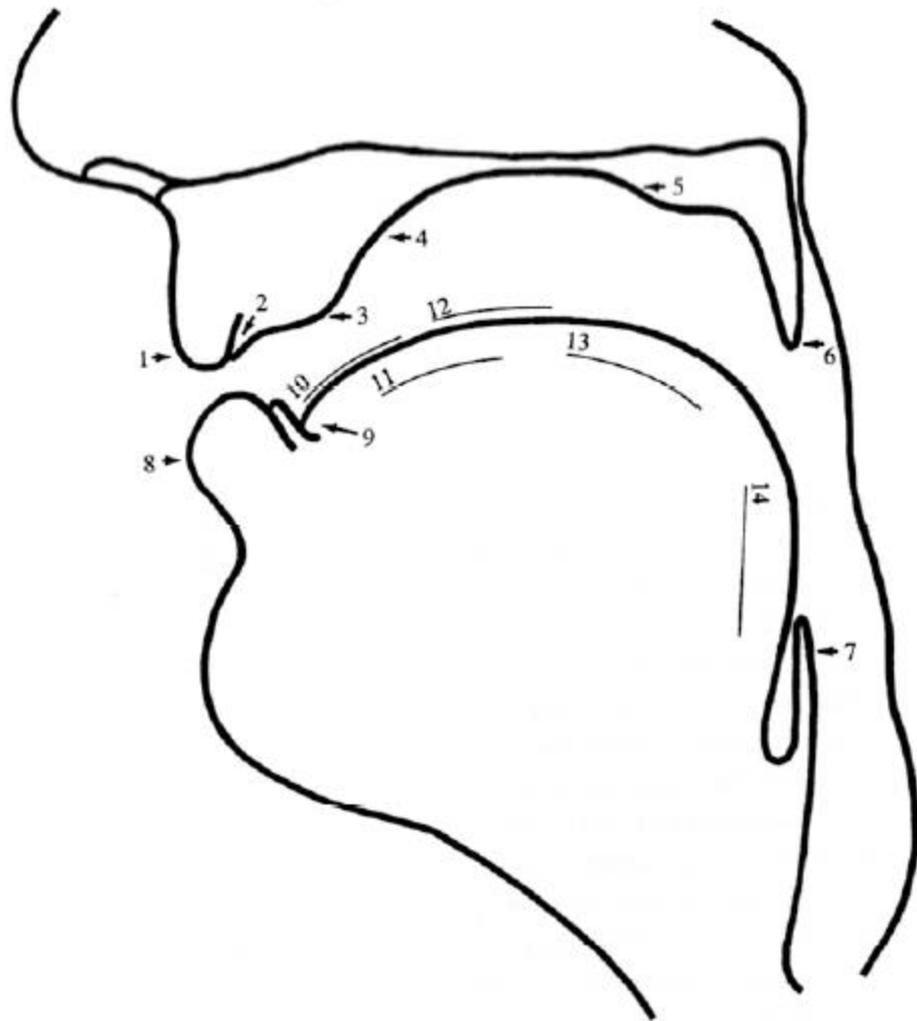
Other Relevant Information

- We cannot represent the following using a mid-sagittal section
- Larynx
 - Voice
- Airstream
 - Lungs
 - Larynx
 - Tongue
- Tongue Shape
 - Side of Tongue
 - Tip Turned up

SUMMARY

Practice

- You need to be able to label a mid-sagittal section
- You need to be able to describe a sound that is represented by a mid-sagittal section
- Know:
 - Major parts of the tongue, and oronasal tract
 - List the degrees of constriction and their resulting manners of articulation



TRANSCRIPTION

J In the following sets of words the sound of the vowel is the same in every case but one. Circle the word that has a different vowel sound.

1. pen said death mess mean
2. meat steak weak theme green
3. sane paid eight lace mast
4. ton toast both note toes
5. hoot good moon grew suit
6. dud died mine eye guy

I In the next chapter we will start using phonetic transcriptions. The following exercises prepare for this by pointing up the differences between sounds and spelling.

How many distinct sounds are there in each of the following words?
Circle the correct number.

1. laugh 1 2 3 4 5 6 7

2. begged 1 2 3 4 5 6 7

3. graphic 1 2 3 4 5 6 7

4. fish 1 2 3 4 5 6

5. fishes 1 2 3 4 5 6 7

6. fished 1 2 3 4 5 6 7

7. batting 1 2 3 4 5 6 7

8. quick 1 2 3 4 5 6 7

9. these 1 2 3 4 5 6 7

10. physics 1 2 3 4 5 6 7

11. knock 1 2 3 4 5 6 7

12. axis 1 2 3 4 5 6 7

1. Mark the words that begin with a bilabial consonant:
met net set bet let pet
2. Mark the words that begin with a velar consonant:
knot got lot cot hot pot
3. Mark the words that begin with a labiodental consonant:
fat cat that mat chat vat
4. Mark the words that begin with an alveolar consonant:
zip nip lip sip tip dip
5. Mark the words that begin with a dental consonant:
pie guy shy thigh thy high
6. Mark the words that begin with a palato-alveolar consonant:
sigh shy tie thigh thy lie
7. Mark the words that end with a fricative:
race wreath bush bring breathe bang
rave real ray rose rough
8. Mark the words that end with a nasal:
rain rang dumb deaf