

Class Voice:

Review of Chapter 10

Voice Quality and Resonance



Tenor Luciano Pavarotti demonstrating ideal head position, alignment, inner smile, and “feeling of up” to achieve optimal resonance!

Millersville University
Monday, October 23, 2017

#1 : The Pharynx

- Sound is initiated in the larynx; quality depends upon the shape of the pharynx, which is highly flexible and capable of forming many different shapes.
- Each variation will cause your voice to produce a different voice quality (or tone color (*timbre*)).

#2 Pharynx Purpose

- Pharynx serves a dual purpose: as an air and food passageway. For breathing, it is relaxed and spacious; for swallowing it closes around the food and squeezes it down into the esophagus.

#3 Swallowing

- When you swallow, the whole pharynx is pulled up and narrowed to squeeze food down, which brings the larynx up with it.
- Whole throat is short and narrow – not a good space for singing. When pharynx muscles relax, the space is wide and long – optimum for the most resonant and freely produced sound. In reality, people sing in many gradations between the open and closed throat.

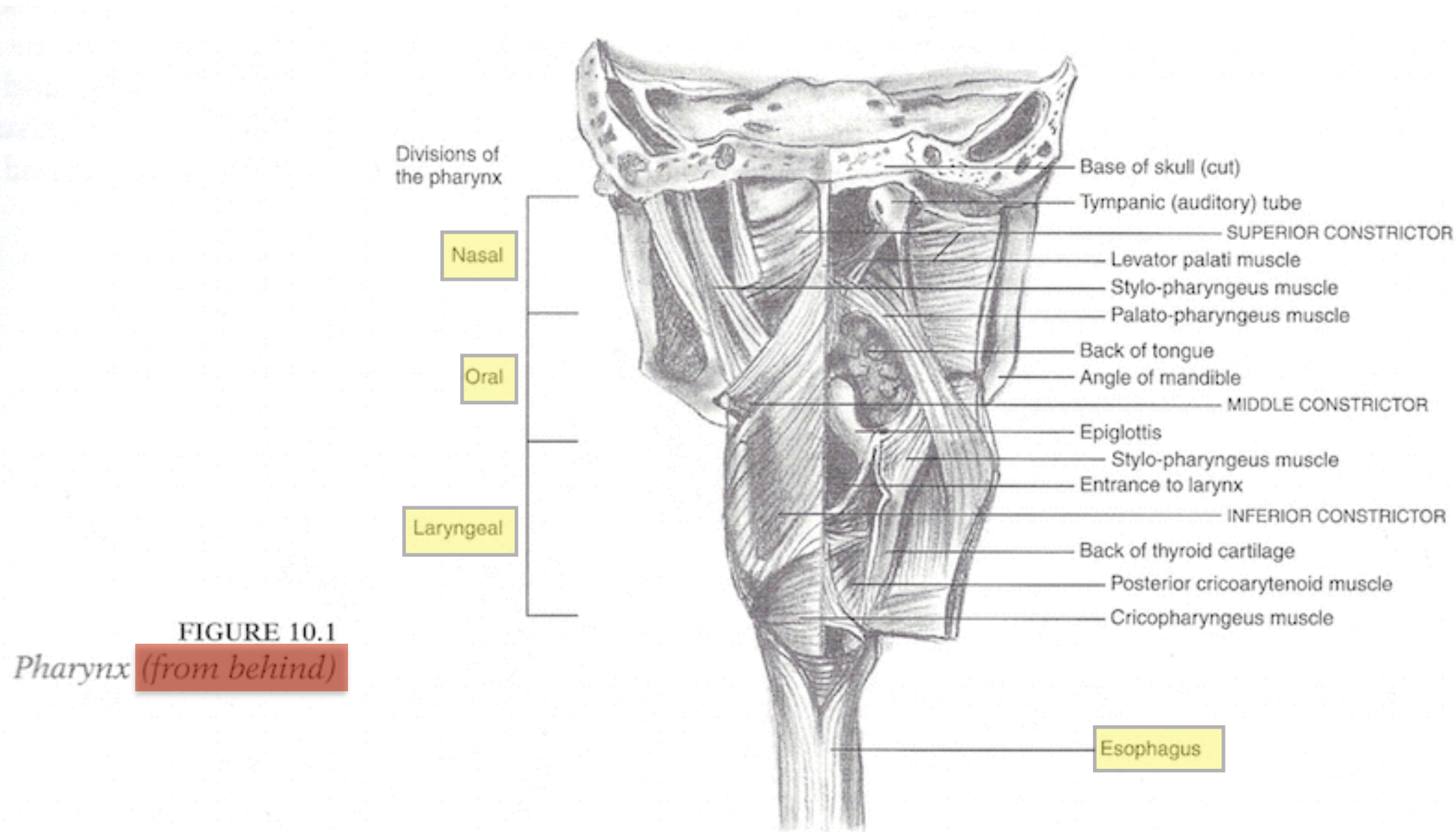
#4 Pharynx map

- The pharynx is a muscular sleeve-like structure that hangs from the base of the skull and attaches itself to various bone and cartilages along the way. It opens into the nose, the mouth, and the larynx, and then becomes completely circular and continues as the esophagus.

#5 Pharynx (3 parts)

- Anatomists and acousticians usually divide the pharynx into three main sections: the nasal pharynx, the oral pharynx, and the laryngeal pharynx (see Fig. 10.1). Know the location of these areas and be able to identify them on a diagram. These three areas are continuous but are usually described separately to help explain the structures better.

Divisions of the Pharynx (from our textbook)



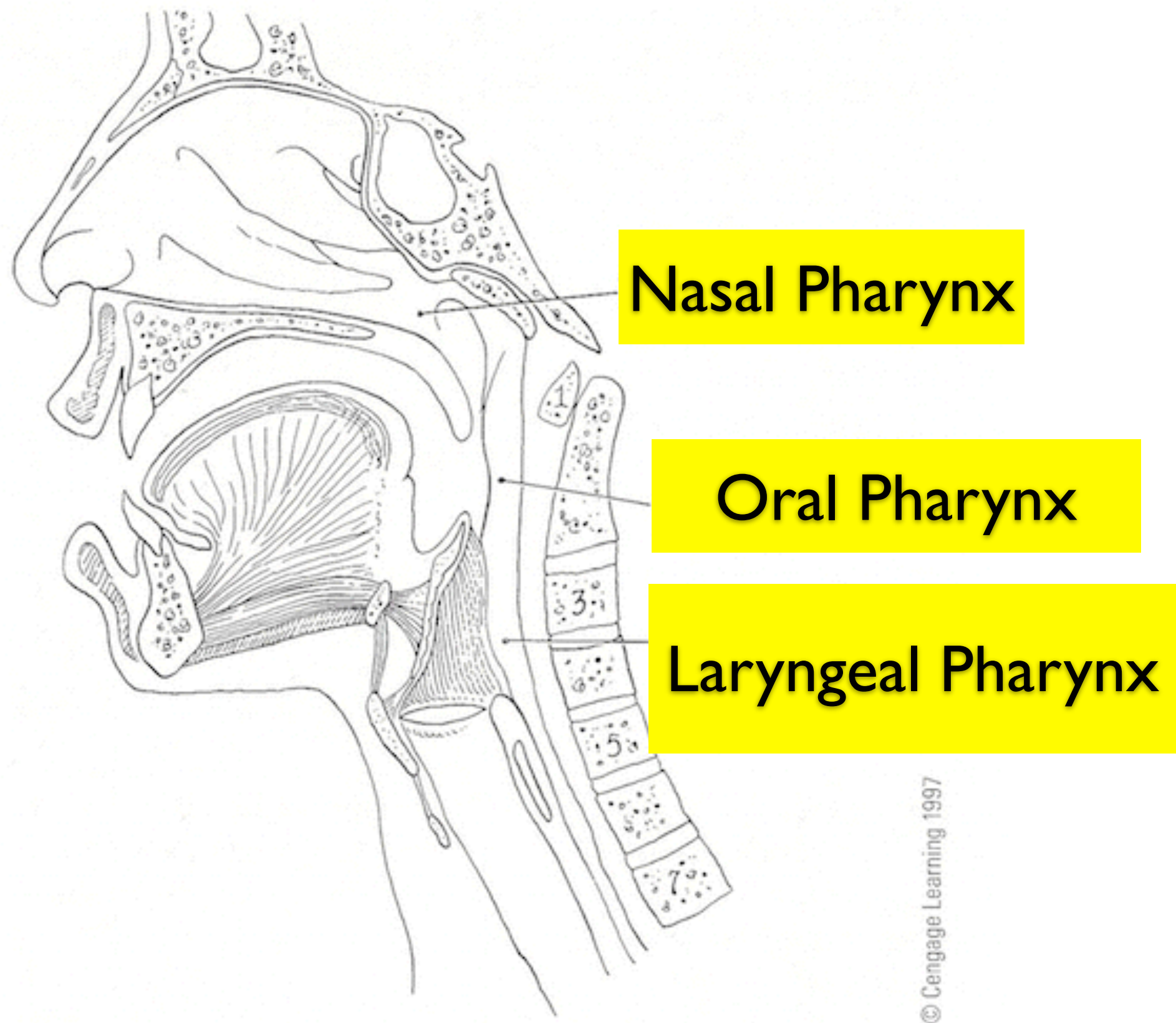


FIGURE 7.8. Resonating areas of the pharynx. [from the side]

#6 Nasal Pharynx

- Nasal pharynx is located between the base of the skull and soft palate. The soft palate (the soft part located at the end of your hard palate) can move up and close off the nose as in making non-nasal sounds or swallowing, and it can be lowered for nasal sounds or breathing.

#7 Oral Pharynx

- The oral pharynx begins at the level of the soft palate and continues to the level of the middle of the epiglottis near the back of the tongue. This area is most flexible and subject to many different shapes. Because the soft palate can move up and down and your tongue and larynx can move as well, the oral pharynx can get taller, wider, narrower, short, etc. This is the place where most of your resonance occurs.

#8 Laryngeal Pharynx

- The laryngeal pharynx is the area from the middle of the epiglottis to the lower border of the cricoid cartilage. It is the area credited with contributing to the acoustic part of the voice responsible for its carrying power, often referred to as the “ring” of the voice.

#9 Bones and Cartilages

- Bones and Cartilages to Which the Muscles of the Pharynx Attach. In Fig. 10.2, you should know and be able to identify the following:
 - a. Outline of hard palate
 - b. Styloid process
 - c. Styloid-hyoid ligament
 - d. Hyoid bone
 - e. Thyroid cartilage
 - f. Cricoid cartilage

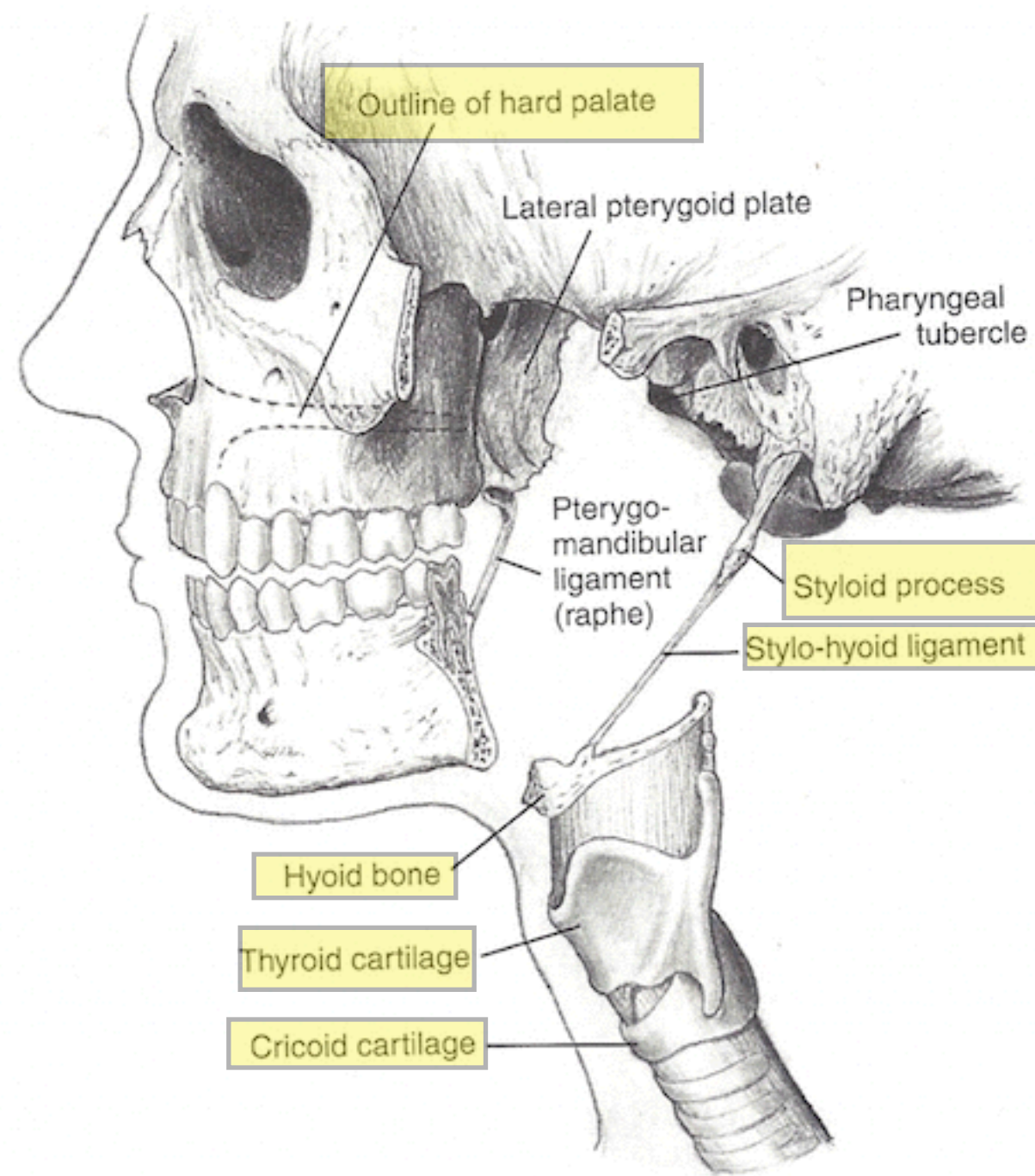


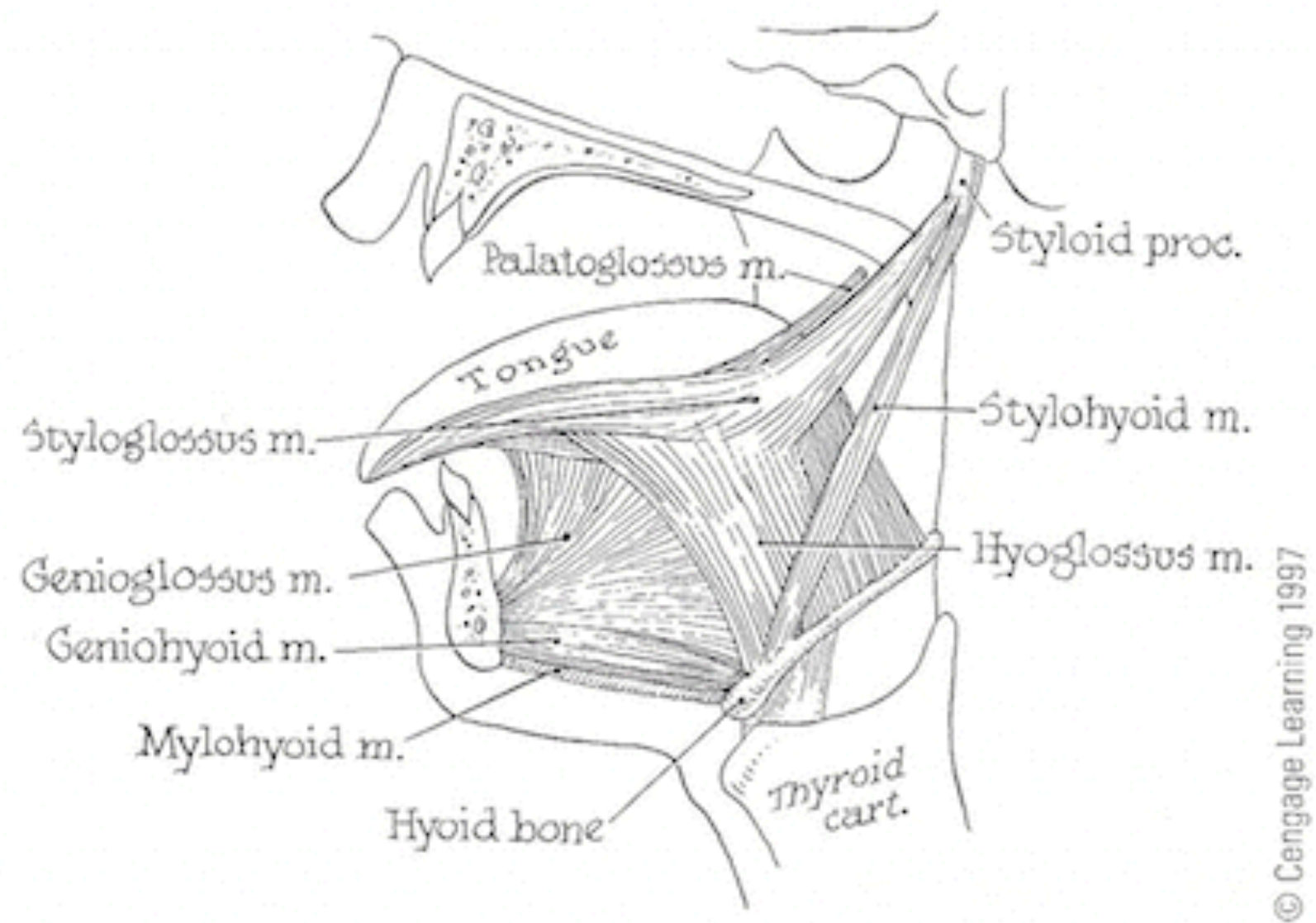
FIGURE 10.2
*Bony structure
 of the pharynx*

(With permission of Springer-Verlag
 and M. Bunch, From *Dynamics
 of the Singing Voice*, M. Bunch.)

#10 Constrictors!

- Important muscles that form the pharynx. To swallow something the muscles need to contract and narrow the back of the throat in order to squeeze the food down. The larynx comes up under the tongue as part of the same action. What muscles are contracting to cause these actions to happen? **Constrictors!** When they contract, they exert a pull on the least stable area – in this case, the back of the throat – and cause a narrowing of the throat. Release or relax these muscles to have a wide, long pharynx.

Swallowing Muscles (Constrictors)



#11 Soft Palate

- Not considered part of the pharynx, but through shared muscles the two are linked intricately. Soft palate is very flexible and capable of moving up and down. Closes off the back of the nose to prevent food from entering the nasal passages. In efficient vocal production, the palate does the same thing to prevent air from going into the nose and causing an unwanted nasal resonance. Raising of the soft palate also creates more resonance space in the throat. Palate will be lowered during intentional use of nasal consonants or sounds. [Note the tip offered in the book for determining nasality in sound.]

#12 Muscles of the Soft Palate

- Muscles of the soft palate. Four main muscles form the soft palate: two that are above it and two below it. There is a pair of muscles that lifts the palate (*levator palate*) and a pair that widens it (*tensor palate*). See Fig. 10.4. On each side of your tongue is a fold that forms an arch with the uvula hanging down in the middle. That fold is the *palatoglossus muscle*.

#13 Tongue and Palate

- The tongue and the palatal relationship is a particularly important one. When a singer has the habit of tensing the tongue or pulling it town in the back to make sound, the soft palate can be prevented from going up because the *palatoglossus* is acting as an antagonist to the *levator palate*. The sound that results is a bit garbled and not too pleasant.

#14 Pharynx and Larynx

- Relationship between Pharynx and Larynx. Notice illustration that shows relationship between skull, jaw, hyoid bone, and larynx. When these structures are in alignment, the muscles of the pharynx and the position of the larynx is freely suspended in the neck. They are in position to respond easily to what is asked of them. When the head or jaw pushes forward, this alignment is distorted and the pharynx and larynx are put at a disadvantage.

#15 Acoustic Deception

- How you think you sound and how you actually sound can be very different. Reason: you have so much feedback inside of your head. Your bones act as conductors of vibrations. Larynx buzzes, and sound bouncing around your throat can be noisy and deceptive. Your audience does not hear all of this! This is why “outside feedback” (voice teacher, friends, video, etc.) is so important.

#16 Even Tone

[Consistent Sound]

- Many singers, especially classical ones (bel canto), aspire to create beautiful, even sounds throughout their ranges: creating a consistent sound from top to bottom!! Trying to do this by exerting excessive control over everything in the throat and mouth results in an even sound inside the head and an uneven or tight one to the listener. With freedom and pure vowels your voice will be consistent throughout.

#17 Expression and Timbre

- Your expression and vocal color (timbre) will respond to your understanding of the text and to your imagination and energy. Focusing on and deeply understanding your message will go a long way toward creating the vocal effects you want—whether they are dark, bright, light, or heavy. You can sing any song in a variety of characters—old, young, king, queen, witch, or any other you desire.

#18 Primary Resonator

- A resonator needs to be hollow and have an opening for the sound to escape. In singing, your throat acts as the primary resonator with help from the nose (nasal sounds) and mouth.

#19 Primary Pharynx

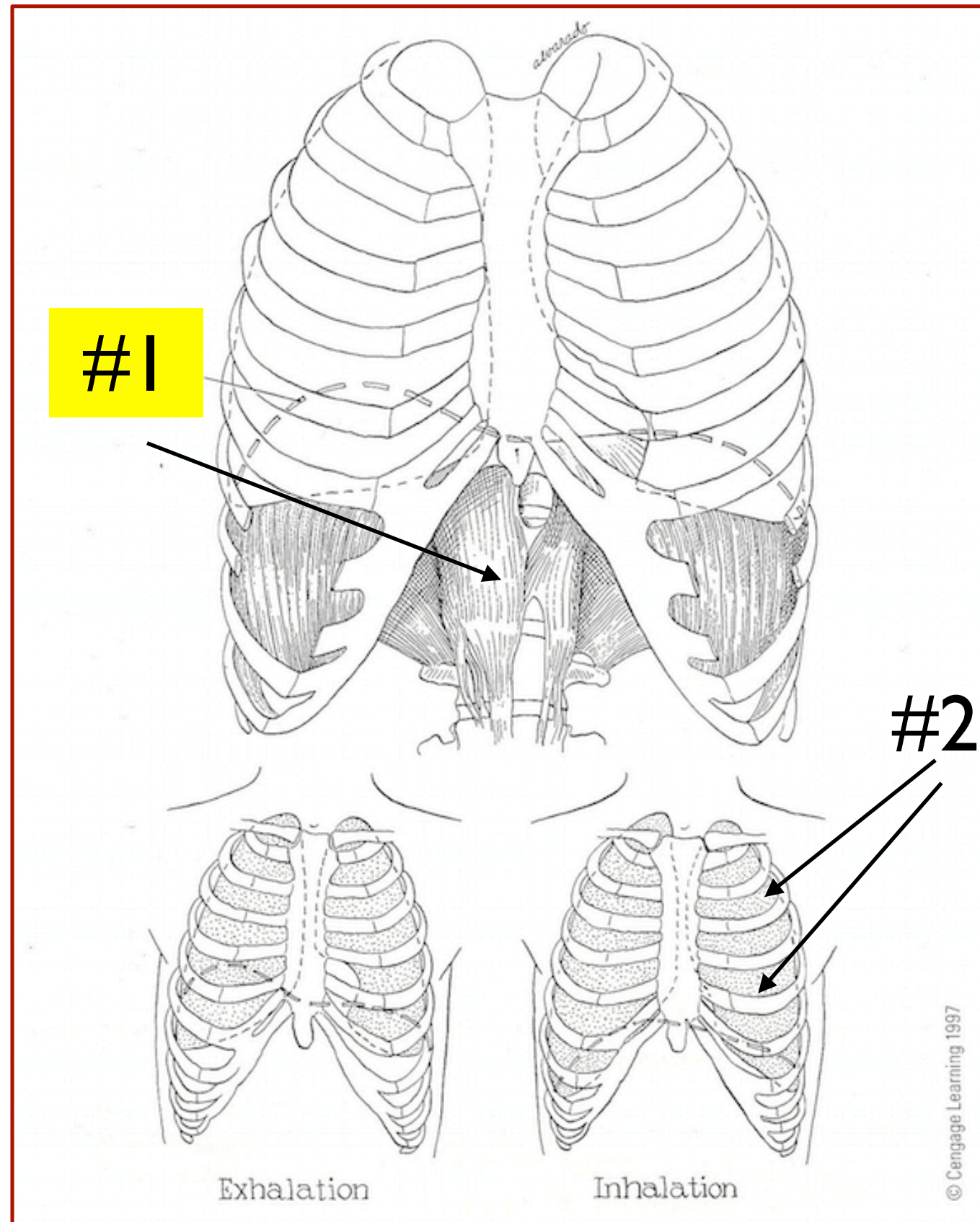
Problem: Tension

- Tension is the main problem associated with the pharynx. Tension will narrow the space of the throat and cause the larynx to rise under the tongue. Misalignment of the head and shoulders is another major contributor to poor tone quality and to potential vocal damage.

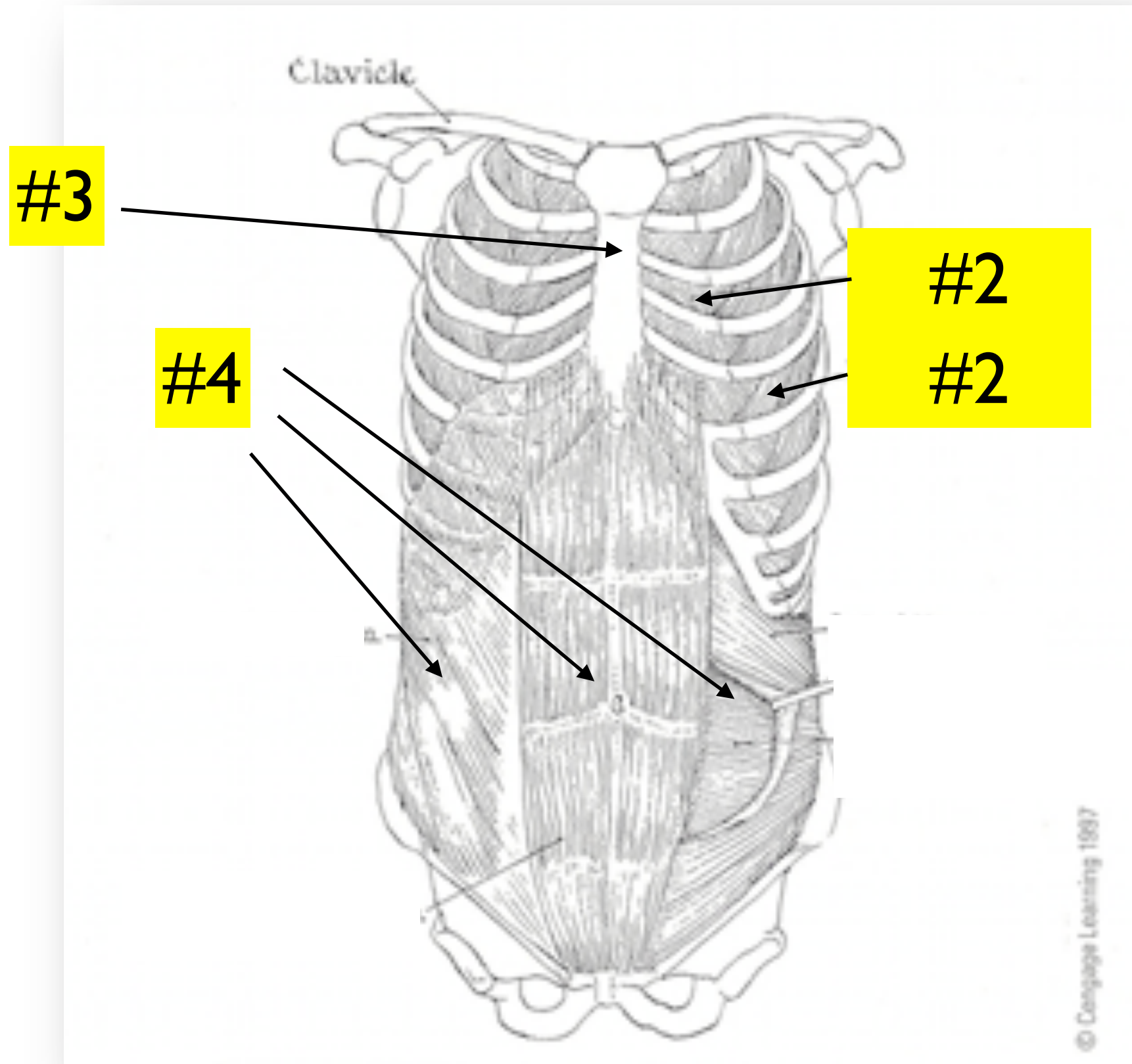
#20 Take Care of Your Speaking Voice!!

- You speaking voice needs the same careful attention that you give to your singing. Using good speaking habits may feel artificial to you at first, but keep working at it!

Major muscle of Inspiration (Inhalation)



Major muscles of Expiration (Exhalation)



#20

#21

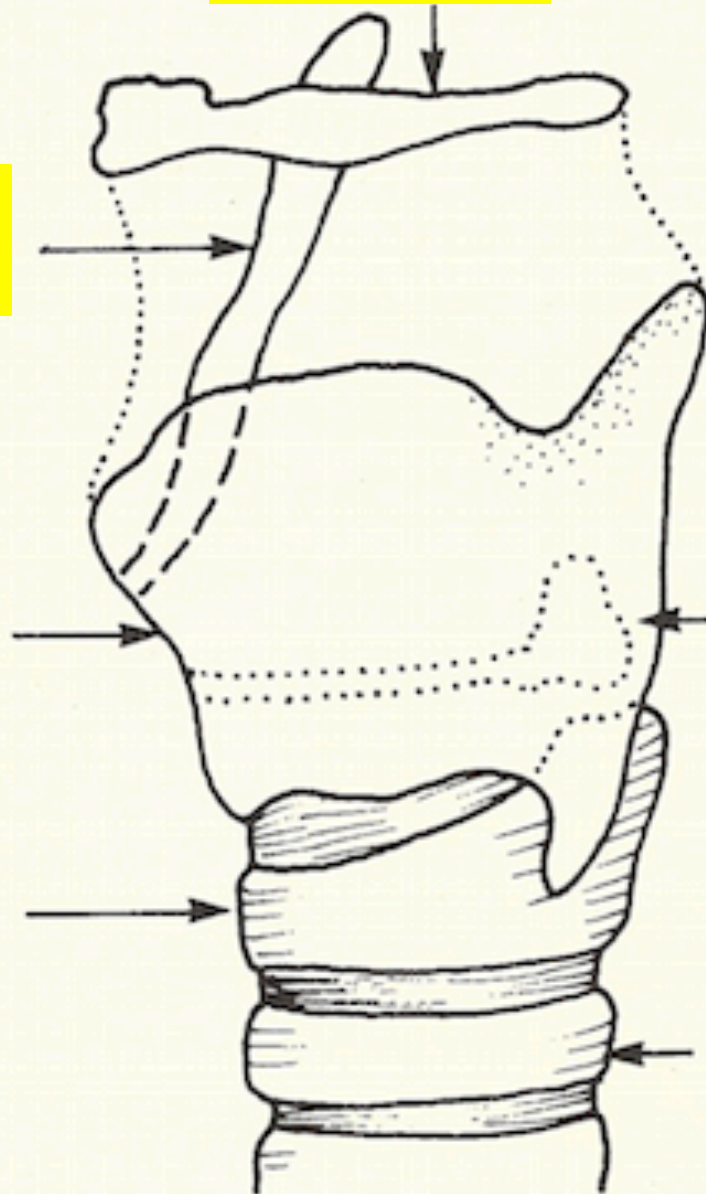
#22

#23

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These cartilages are
inside the Larynx

#25



Anatomy of the Larynx

