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MUSE 258

Citation

*The Singers Voice Part 2*  
Joan Wall and John Caldwell  
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Summary

I. Introduction

- A. The vocal folds' vibration is the heart of vocal sounds.
  - i. The vocal folds are located in the larynx, and vibrate because of air pressure, muscles, and elasticity.

II. The Bernoulli Effect

- A. When air flows through a tube, the air pressure stays constant as the air passes through.
- B. The vocal folds vibrate and create different pitches because of the tube changing shapes. The narrowing of the tube in the middle section creates a vacuum in which the air flows faster.

III. Cartilages

- A. Cricoid: a circular cartilage that is smaller in the front and larger in the back. This creates the foundation for the other parts of the larynx.
- B. Thyroid:
  - i. This is located above the cricoid, and is the largest of the cartilages.
  - ii. The front is solid and has a protruding notch called the Adam's apple, and the back is open with four extensions called inferior and superior horns, which can rock up and down and slide back and forth.
- C. Arytenoids:
  - i. Sit on the back of the cricoid
  - ii. The muscular process is located in the back, the apex is located on the top, and the vocal process is located in the front.
  - iii. These are attached with a joint that allows them to slide from side to side and pivot.
- D. Epiglottis
  - i. This moves down when swallow to keep food and liquid out of our lungs and trachea.
  - ii. This does not directly affect phonation.

IV. Intrinsic Muscles: located inside larynx. Consist of the crico-thyroid, crico-arytenoid, inter-arytenoid, and thryo-arytenoid.

V. The vocal folds have four layers:

- A. 1<sup>st</sup> layer the muscle is called the vocalis.
- B. 2<sup>nd</sup> layer the muscle is vocal ligament and is the top edge of the conus elasticus.
- C. 3<sup>rd</sup> layer is Reinke's Space and is loose.
- D. 4<sup>th</sup> layer is the stratified squamous epithelium

VI. Vibration Controls

- A. Adduction-closing of the vocal folds

- B. Thickness of the vocal folds controls pitch
- C. Length of the vocal folds controls pitch and vocal sound
- D. Tension- too much tension can create a harsh tone, but too little can create a breathy tone
- E. Breath- more breath produces a louder sound, while less breath produces a softer sound

#### VII. The Fiber-Optic View

- A. Placing a camera down the throat or through the nose of a singer to see the vocal folds
- B. High pitches make the vocal folds lengthen and thin out, and the opposite is for lower pitches.

#### Discussion

This video was very interesting to me, because like the first video, I was finally able to understand what my vocal teachers mean when they are talking about the vocal folds and how they create the sounds they do. The vocal process requires a great amount of muscles, ligaments, and cartilages, that all affect the production of sound when singing. In my classroom, I will teach my students about the vocal process, and what they can be aware of when singing. They will know how the vocal folds produce sound, and what sensations to be aware of when singing correctly. By knowing the muscles and the process to which sound is produced, I will better understand how to engage my body and my students' bodies when singing.