

What do we really need to know about

**VOICE SCIENCE IN
PEDAGOGY AND
SINGING**

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The simple answer...

- Enough to not say or do something stupid



The better answer...

- Enough to assist your process of diagnosis and instruction



Anatomy & Physiology

- ◎ This is a test...
 - *Which muscles are responsible for closing the posterior of the glottis?*
 - *Which muscles help protect the ears from sounds that are too loud?*
 - *What nerve innervates the diaphragm?*
 - *What is the location and function of the rectococcygeus (for singing) and how is it controlled?*
 - *What is the deepest layer of the lamina propria and what is its structure?*

Singing anatomy & physiology

- ◎ What do we really need to *know*?
 - Names, locations & functions of primary respiratory muscles?
 - Names, locations & functions of secondary respiratory muscles?
 - Names, locations & functions of intrinsic and extrinsic laryngeal muscles?
 - Articulators, innervation, circulation, neurology, health & hygiene, postural...

Singing anatomy & physiology

- ◎ Is it sufficient to know...
 - *Big picture* facts about respiration
 - How is a student helped by an instruction to engage her transverse abdominis muscles?
 - *Big picture* facts about phonation
 - How is a student helped by an instruction to engage more TA contraction?
 - *Big picture* facts about articulation
 - How is a student helped by an instruction to contract her levator palatini?

I would be happy if...

- ⦿ All teachers knew the difference between physiologic fact and fantasy
- ⦿ All teachers understood that quality singing requires more than great breath support
- ⦿ All teachers understood the difference between direct and indirect control

Therefore...

- Teacher training programs – i.e. voice pedagogy courses and degrees – must delve deeply enough into A&P to enable gifted students to become *vocal mechanics*



Sound and resonance

⦿ This is a test:

- *For the pitch G^3 sung on /a/, which of the first 5 harmonics will dominate the spectrum?*
- *For the pitch E^4 sung on /ε/, which of the first five harmonics will dominate the spectrum?*
- *Why is /a/ so difficult for most women to sing well in the range from A^4 - C^5*
- *True or false: F_s is required for projection over an orchestra*

What can we control...

⦿ Resonance

- Interaction of pitch / vowel
- Optimal vowel selection for pitch / registration / efficiency / intonation
- Optimal tuning of vocal tract for best sound

⦿ Anatomy & physiology

- A few specific muscles, otherwise “big picture” items and suggestion

A&R versus A&P

- Is one more important than the other in teacher training?

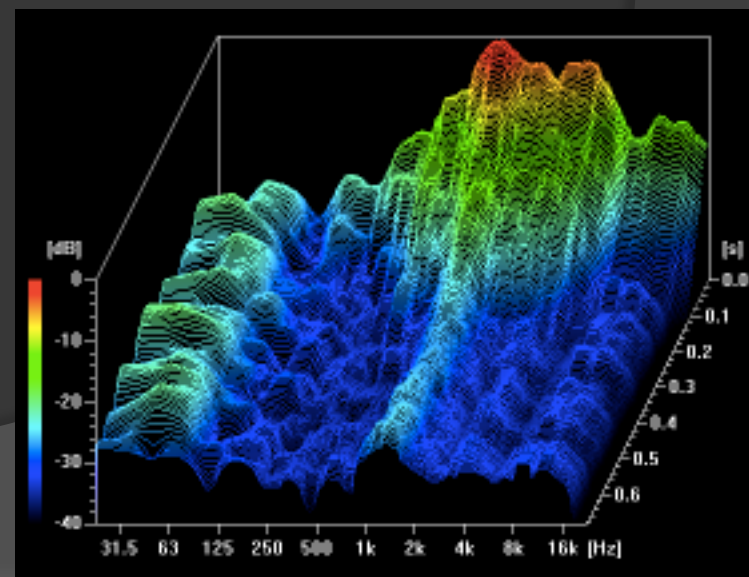


I would be happy if...

- ◎ Teachers understood formants and their significance for singing and language
- ◎ Teachers could think in three dimensions, immediately seeing, hearing, and *predicting* the intersections of harmonics and formants
- ◎ Teachers understood that defects in tone are as likely to result from bad resonance as from poor breath management or improper phonation

Therefore...

- Teacher training paradigms must delve deeply enough into voice acoustics that gifted students can diagnose and correct resonance issues through factual method, rather than trial an error



But do we have time...

- Is it possible that there simply is **too much to learn** to more than scratch the surface in a pedagogy curriculum, let alone a single course?
- Is it possible for someone to be a good teacher if he does not yet know his own voice or professional standards?
- Can we trust that required ancillary skills are acquired in supplemental classes?

