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Applied Voice Lesson Case Study
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About the Collaborators

I taught two students, Jeff and Johnny, in a double lesson environment. We met for five one-hour sessions. The general format was to start with a 30 minute warm up together, followed by 15 minutes each for repertory work. Of course there was flexibility in this routine depending on what we were working on and what progress was made. Neither singer has a musical background congruent with mine, which primarily consists of bel canto technique. In these lessons, Jeff was interested in exploring a more classical style, while Johnny primarily wanted to pursue more contemporary technique. Both are experienced guitarists and have pop and rock singing experience[1]. I have selected five major aspects we have been working on, some individual and some universal, to explore in depth in this analysis of our process. The five issues are classified into the three components for analysis: "what I heard/saw," "what caused it," and "what I recommend."

What I Heard/Saw

1. One of the first aspects I noticed from warm ups in early lessons were the vowels they were using. As an objective observer they seemed very unusual. Their [u] vowel used either no lips (Jeff) or lips pulled downwards (Johnny), and [i] was poorly tuned as well. This initially made it difficult to work in their ranges above about C4, as these overcompensations became further pronounced as they ascended through their ranges. Eventually it would reach the point where they were completely cutting off their own sound. These unusual resonance positions also made it difficult to negotiate the "narrowing" the male (especially tenor) voice needs to experience in order to tune to the formants as it approaches F4.

[1]This is smoothing over much of the diversity of their previous experiences, but I characterize them as such due to the similar effects on vocal technique alone.

2. Johnny came to me with a really airy tone. In warm ups and technical exercises he found a good level of vocal fold closure coordinated with breath for a rich tone. However when he moved into repertory the progress would always instantly disappear; when he sings his songs the breathy tone returns. The mechanical issues this causes haven't been as aparent to him because his songs feature phrases that are very short (composed in response to this very issue, as is the majority of pop and rock style music). Nevertheless, this issue must be addressed in the context of healthy phonation.
3. Jeff employs an overall tone quality frequently heard in beginning to intermediate adult singers that is sometimes described as "too far back," "bottled," or perhaps "muffled." The tone is not yet clear, there could be more high overtones, and it is not yet employing the singer's formant. At first listen, one may be quick to say he's "making too much space" or something else relating to the position of the velum. However, I believe the true cause to be more complex.
4. As we worked to increase breath support (and therefore subglottic pressure) I began to observe harsh onsets from both of them. This issue, if not corrected early on, could ultimately be harmful for vocal health due to the increased risk of nodule development it causes. This effect was noticeable both chest voice and falsetto singing.
5. Both singers experience a high and visible amount of neck tension when singing, especially at the extent of their ranges. This has far reaching detrimental effects from vowels and resonance to vocal fatigue to breath efficiency.

What Caused It

1. Direct application of speaking vowels to the singing voice without modification, or over modification toward an expected singing position that was ultimately detrimental. "Strictures or narrowing at the tongue and lips must be wider than for spoken vowels. 'Otherwise, the high overtones that characterize singing voice quality cannot be 'passed' by the vocal tract.'"

(Doscher 109). Tongue root tension could also be a contributing factor here. "Articulatory signs of tongue-root tension include distorted or homogenized vowel articulation" (Chapman 121). The right proportion of opening needs to be attained through guided practice and experience.

2. He has developed this sound over time as he's practiced his contemporary singing style. Often, one originally acquires this sound from listening to singers who perform this way and emulating their sound. A breathy tone could be caused by many combinations of factors that could be related to any of the three parts of the instrument (Doscher 54). For Johnny, my theory is that it could be due to lack of closure of, or extra air escaping through, the vocal processes. For a person his age, this is likely caused by a lack of subglottic pressure, effecting the natural cord closure due to the Bernoulli effect. It would *not* be air flowing through the mutational chink due to lack of inter-arytenoid closure, as you would only see this in an adolescent singer (Doscher 43). “Breathiness is more commonly caused by poor breathing and/or inefficient resonation” (Doscher 54). The contrast in tone quality between his technical exercises and his repertory performance gives further credence to my theory.
3. A misguided effort in lowing the larynx to produce a rich, bel canto sound (Chapman 107). A lack of breath support can be the root of this issue as well (Chapman 121). The root of his tongue is too tight and his vowels are out of tune with his formants. This is a frequent and easy mistake to make because when the root of the tongue is depressed it increases internal sympathetic resonance and creates a sound that is "warm and full" to the inner ear of the singer, but "dark, wooly, bottled, or muffled" to the objective listener (Chapman 107). This also has an effect on how he tunes his vowels with the above portions of the instrument like upper tongue, jaw, lips, and pharyngal space (Chapman 108). This connects this issue with issue number 1 examined in this paper. The immediate response to decrease the amount of pharyngeal space would actually be ill advised, because muscular tension

making "the laryngopharyngeal space ... smaller" results in the "dark, woolly, and bottled sound" (Chapman 79).

4. A misdirected attempt at providing strong breath support extended into their not only tensing their abdominals and incorporating more antagonistic motion between their external and internal intercostals, but a sympathetic rough glottal plosive. "The glottal plosive is destructive" and consists of slamming the arytenoids together followed by applying air pressure until they overcome the tension (Doscher 54). Doscher (54) even specifically names "rock singing" as one of the various situations in which this is prevalent, something both my students have ample experience with. In addition, during glottal plosives the larynx is "constricted and elevated in the throat" (Doscher 54), which is externally visible in both students during these harsh attacks.
5. Too much tension in the various extrinsic muscles around the larynx, "particularly the depressors" (Doscher 50). This causes issues because when the larynx is held too firmly in place, it necessitates extra crico-thyroid muscle engagement (Doscher 42); with enough tension, it "limits the ability of the thyroid cartilage to tilt, creating difficulties with upper registers" (Chapman 79). Lack of breath support makes the instrument think it needs all this muscular action. "In the act of phonation the primary task of the singer is to achieve the most efficient balance between the air stream and the tension in the muscles of the vibrator" (Doscher 52). When the appropriate balance is not present, compensations are made in the musculature to obtain the right amount of length in the vocal tract, shape of the resonator, glottal closure, and subglottic pressure to obtain the desired overall sound. For example, tongue root tension can result in part from this compensation (Chapman 79) (see issue number 3).

What I Recommend

1. I was spending my time at first working on tuning the [u] and [i], especially at the extent of the ranges, to try to help them access them more. But now I wonder if the [u] and [i] need to be tuned in the midrange before that can happen. I avoided working with [a] and [ʌ] because those vowels are harder to tune, but now I recommend tuning the vowels from open to closed in the middle voice, and then extending the well tuned closed vowels to the ends of the range (with slight modification as it naturally necessary), followed by finally building a degree of open vowel tuning at those ends.
2. Inherent in this issue is the conflict (the antagonistic tension, if you will) between style and technique in contemporary singers. I don't want him to abandon his contemporary singer/ songwriter style for a bel canto one, but at the same time he is not using his instrument efficiently and he has difficulty singing through long phrases because of it. I've been sensitive to his style but attempted to establish a firmer foundation of "hooked up" technique between the breath support and the vibrator. His vocal inefficiency causes him to run into trouble with certain phrases in music he sings. For example, there is one phrase in "How Deep is the Ocean" he wants to sing on one breath and it has been difficult for him to accomplish that goal. I abstracted the melodic line, had him practice it on a more efficient neural closed syllable (like [i] or [u]), and then reapply the words. Usually following this exercise he was able to sing through the phrase due to his more efficient use of air, but he didn't usually retain the progress from week to week. Because this technique is new to him, he likely practices with a different technique during the week between lessons (as all singers do at first when working a new skill). In time he will be able to incorporate this efficiency more completely into his technique.
3. He needs to develop more independence of control between the structures of the resonator, such as the tongue, jaw, lips, and pharyngal space (Chapman 108). I've been working with

vocalizes on closed vowels with him ([i], [e], [u]). My thought process being that bringing slightly more closure and elongation to the vocal tract would help him tune his vowels better and reduce the emphasis on the pursuit of the operatic sound. However, good closed vowels have been slow to develop and guided practice significantly beyond these few short lessons is needed for this coordination. In the future I will try the method Chapman (107) suggests to build awareness of tongue root tension, which involves adjusting tongue position while saying and singing an [i].

4. The "simultaneous" or "sweet" attack is the result of a coordination of the 1) flow of the breath sucking the glottis closed, 2) flow stops and breath pressure opens the glottis, and 3) air flow resumes (this 3 step process from Doscher 53, and a more detailed 10 step description of the process can be found in Chapman 65-66). This coordination lies somewhere between the tight glottal plosive and the loose aspirated sound. To move toward that happy medium we began working with adding more aspiration at the start of phrases. I would ask them to add an "h" sound before their vowel onsets, moving quickly to the core of the vowel sound. This way they bring their cords together efficiently, but not too tightly. This helps reduce the risk of damage, but the issue is not yet solved; "an aspirate attack is not vocally destructive, merely an inefficient kind of voice production" (Doscher 54). Eventually they will be able to begin including more tension, but just enough for proper coordination and a clean onset. This coordination is essential to preventing unnecessary friction, fatigue, and eventually injury.
5. Working with exercises to build breath support may not necessarily alleviate the problem exclusively, but would enable the process to begin to be solved. Once the support is present, habits of tensing can be changed. Drawing attention to neck tension is also important. "...Important is the singer's awareness of the muscular holding and their agreement to make changes" (Chapman 80). As the old adage goes, the first step to

solving a problem is admitting one has a problem. Manual manipulation and massage of the muscles around the neck may be helpful toward building the healthy "collar connection," as Chapman (80) calls it. The building of support and the conscious effort to relax tension will retrain the mechanism in time. "Proper use of this system [of extrinsic musculature] is a prerequisite for optimum phonation and resonation, both of which are influenced by laryngeal positioning" (Doscher 46).

Additional Thoughts about the Process

In working with Johnny I found a unique challenge. He originally wanted to work on music he had no notation for, original songs of his for his voice and guitar that he would compose and memorize. I found it very challenging to work with him on vocal technique and musicianship as it applied to the specific songs he was performing because I had no visual reference and my short term memory was not good enough to recall the specifics of what he had just sung. I was unable to do what I normally do when a student encounters a challenging section of their repertory, to abstract the section and work on associated vocal technique or musicianship skills. For example, trying a difficult line on a different vowel, with a different articulation, or incorporating different physicality and gesture. Even though I was able to give instruction to do these things, I was unable to model because I didn't have a reference (whether memory or paper) to sing back the melody with the sound I was looking for.

This process really made reconsider the role of notation in vocal pedagogy. Do I demand my future students only work on music with me that is notated or that they have the skills to transcribe?[2] I don't think I could, in good conscience, set that requirement. However, if I do not, how do I work with a student I can't model for, and without abstracting lines to work on technique? Eventually, for the purposes of this project, we instead worked on a different song

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[2] Technically, I have the skills to transcribe these singer/songwriter style songs, but in practice that would require a number of non-billable hours I can't afford in the future, necessitating an alternate solution.

that was still within his style preferences and we also had notation for. I will need to develop a pedagogically appropriate solution to this issue in the future.

The inherent interconnectedness of the vocal system makes problems difficult to diagnose. Even in this analysis I couldn't help but draw connections between the separate issues I was exploring. We can discuss the vocal system in terms of three categories or in finer detail, but ultimately the solutions rely on the coordination of all the multitudes of the involved structures. I need to give credit and my sincere thanks for the devoted, hard work of my two collaborators. They were always willing to try anything, and I believe I learned as much, if not more, from them as they learned from me. I wish them the best in their future vocal and musical endeavors, and I hope we can work more in the future.

Works Cited

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