

The Singer's Library

The Tongue as a Gateway to Voice, Resonance, Style, and Intelligibility

BY BRIAN MANTERNACH



Voice science and vocal pedagogy meet in this publication exploring the role of the tongue as a crucial part of singing and speaking.

Those who pick up the new book by singer, pedagogue, and vocologist Angelika Nair may first notice the big, black, all-caps letters at the top of the cover proclaiming the subject: THE TONGUE. Voice pedagogy texts commonly contain depictions and descriptions of the tongue, especially in chapters on articulation and resonance. But readers may wonder whether an entire book dedicated to the tongue is really necessary. What can singers gain from such a publication?

The justification comes in the remainder of the title: As a Gateway to Voice, Resonance, Style, and Intelligibility. The word “gateway” reveals that this in-depth exploration of the tongue is not simply information with no useful application. Rather, as discussed in the author interview below, the book is dedicated to practical understanding, complete with exercises that examine how the tongue can influence many crucial aspects of voice use.

Early in the Preface, you state that the book is a continuation of your “mission to show that there is no dichotomy between voice science and voice pedagogy.” Have you always embraced voice science or did this come about gradually?

I suppose one could say that it evolved out of my curiosity and autodidactic nature to acquire knowledge no matter what I am doing, facing, or coming across. I believe that learning the craft of singing begins by learning how your instrument works—that is, learning the anatomy and physiology of one’s body and how to transfer and apply it practically.

I had a lot of questions about that, and I felt that I was missing something [in my voice training]...I wasn’t able to truly convey my musical thoughts and interpretation

to the audience, to use the entire potential of my voice or accommodate requests from conductors and music directors without harming my voice. That is when I went on a mission. I obtained this knowledge by reading all the “holy books” of voice production by Titze, Sundberg, Miller, Garyth Nair, Stark, Vennard, etc. This opened up a new world to me: voice research!

All of a sudden, I saw that there was more to learn. It has helped me to be the pedagogue I am today and led me to become a voice researcher. I know how important it is to continue to understand the complexity of the human voice as well as to find new methods to help make this knowledge accessible and applicable for everybody who wants to enjoy using their voice.

You point out how both voice users (singers, actors, teachers, etc.) and voice scientists agree that the tongue is a crucial part of singing and speaking. And yet, as you also highlight, there is no published literature that solely addresses the tongue’s acoustic influence in the context of vocal technique. Why do you think it has not received this kind of attention before now?

I believe there are a myriad of reasons. One may be the marked advancement of technology,



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such as dynamic MRI, ultrasound, and so forth. Most of the time, new discoveries in any field are in concert with new technological developments that enable us to look deeper. Before, one of the major limitations was that most material was limited to the two-dimensional midsagittal plane (showing only high/low, front/back movements) and a low frame rate. However, constrictions and expansion in the vocal tract have to be seen through a three-dimensional lens.

Another reason may be that, until now, we have mainly been focused on the voice box and phonation and did not look at the voice as a whole. All of that is good and necessary, but at some point we have to expand.

In the “Applied Knowledge” section of the book, you often repeat the phrase, “Let the physics work for you.” Could you explain what you mean by that?

I love physics because it is one of the most fundamental scientific disciplines. Its main goal is to understand how the universe behaves on both the macroscopic and submicroscopic levels with the formulation of the comprehensive principles that bring together and explain all such disparate phenomena.

When I know how an object behaves under the action of given



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Review

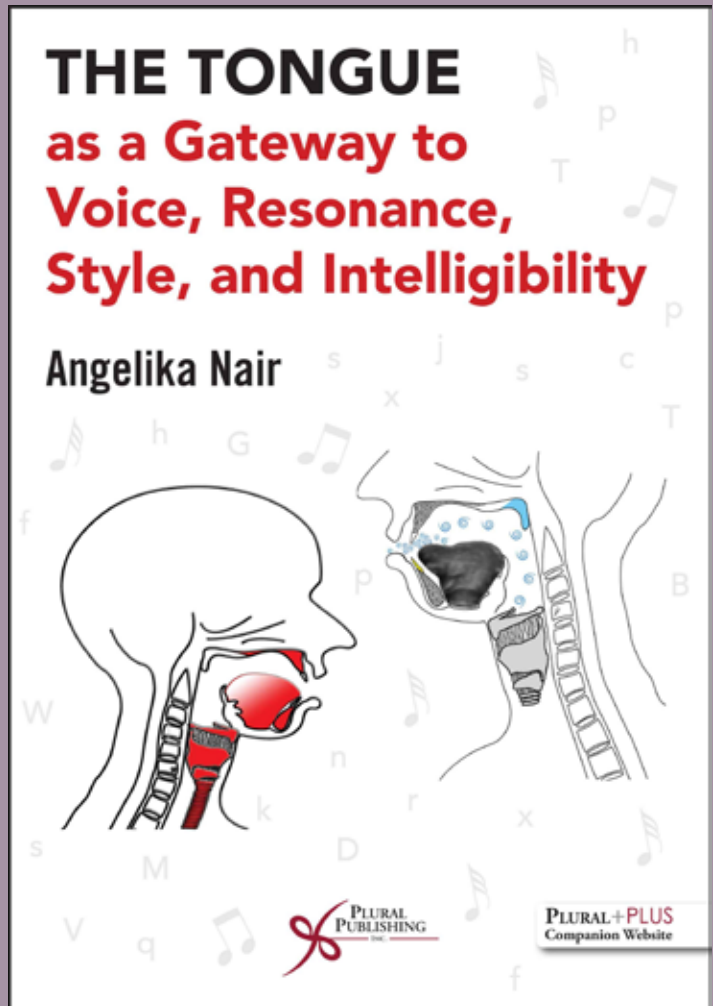
In many of the books dedicated to anatomy and physiology in singing, there is a tendency to gloss over (pun intended) the tongue. Authors often discuss its importance in articulating consonants and shaping vowels, but that is often all the depth it receives. Author Angelika Nair, however, calls the tongue “a major puzzle piece” that deserves to be on the same list of “fundamentals in voice production” as other primary elements of singing technique. With her new book, *The Tongue as a Gateway to Voice, Resonance, Style, and Intelligibility* (Plural Publishing, 2021), she makes a convincing case.

Writing for a wide-ranging audience, Nair makes a concerted effort to keep her explanations of voice science tied directly to application. Although readers with minimal exposure to the language of voice science may struggle with information overload in these sections, she helps them along by making connections to running themes presented throughout the book. She further encourages self-exploration as a way to feel and experience what the text describes.

Among the many ideas and concepts presented, she returns frequently to three techniques that were developed as a result of research she conducted with her late husband, Garyth Nair. The first is consonant resonance (CR), accomplished in part by establishing the shape of the vowel that follows a consonant on the consonant itself.

The second is “Say it as a singer” (SAS), which involves speaking a phrase through the same vocal tract configuration used when singing. Nair provides images from spectrographic analysis to demonstrate the acoustic differences between everyday speech and SAS production.

The third technique is the low mandible maneuver (LMM), which involves lowering the back of the jaw (posterior mandible) as a way to allow for more oral cavity/oropharyngeal resonance. She uses magnetic resonance images to demonstrate the impact LMM has on the tongue.




In the Preface, Nair states her goal of making scientific knowledge readily available and practically applicable “to anyone who wants to learn how to sing or speak in a healthy manner” in order to discover the full potential of their voices. To this purpose, her book serves as a helpful guide with page after page of theory and application, providing voice users of all levels much to explore.

forces, I can tailor how I start, continue, and maintain an action to be as efficient and effective as possible. To illustrate this in a very simplified example, a /z/ has a percussive noise as well as a pitch. Where and how do I generate both elements of this voiced fricative? Sustaining a “noisy” pitch can often be a challenge. We know the vocal folds are in our voice box (larynx) and, as a result, we intuitively feel the need to squeeze and push in the neck and larynx in order to ensure phonation. However, I know two things: A) I generate pitch through the oscillation (vibration) of the vocal folds, and B) We have flow-induced oscillation (positive and negative pressure). This means we only need to let air through to start the vibration of the vocal folds and then guide the air flow with everything above and below the larynx. Of course, that is easier said than done.

Although the book contains information pertinent to voice users, you also believe that voice scientists and voice therapists (as well as voice professionals in related fields) may also find the book to be useful. With your training and background in vocology (the science and practice of voice habilitation), was it your intention from the beginning to create a resource that would be applicable across voice disciplines?

Fifteen years ago, if you would have asked me if it was my intention to write a book, I would have answered, “No.” The more I learned about the workings of the voice, the more I started to realize how complex it is and how many disciplines are involved. My training and background in vocology confirmed and expanded that horizon for me. At the risk of sounding biased, I believe that vocology should be an integral component of any voice program (speech and singing) as well as education in general.

Voice is one of our most important means of communication and, while most people are born with it, we don’t really learn how to use it. To work with and learn from other disciplines has benefits vocally and also interpersonally. As I say in the book: “This may sound like a lot of work, but the benefits of artistic excellence are for both artists and listeners. [...] Thomas Hampson, once so beautifully said, ‘We don’t present our voices to the audience, we resonate our souls.’” Let us all resonate our most inner instrument and convey our personal message in the most efficient and healthiest way we possibly can.

Brian Manternach bio can be found on page 31. 



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