



The Estill voice model: theory & translation

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**The Estill voice model: theory & translation**, by Kimberly Steinhauer, Mary

McDonald Klimek, and Jo Estill, Pittsburgh, PA, Estill Voice International, 2016, 226 pp., US\$78.00 (hardback), ISBN 9780985902308

Jo Estill (1921–2010) was an undisputed pioneer in the field of voice science and one of the first scholars to bridge the gap between voice science and voice teaching. A lifetime of singing, teaching, and research led her to develop the Estill Voice Model and Estill Voice Training™. This “logical and elegant system to cultivate and refine vocal skill” (29) is presented in *The Estill Voice Model: Theory & Translation*, written by Kimberly Steinhauer, Ph.D. and Mary McDonald Klimek, MM, MS-CCC/SLP, with a posthumous author credit to Estill. Steinhauer and Klimek currently serve as Estill Voice International President and Vice-President, respectively.

Starting in 1990, Estill attempted to write a book titled *Who Said You Couldn't Sing*. She eventually finished writing the book in 2003, but it was never published. Excerpts from the unpublished manuscript are used throughout *The Estill Voice Model: Theory & Translation*. The book is written for voice teachers, singers, speech-language pathologists, voice-acting teachers, and any other voice professional who may be interested in a vocal method which is rooted in physiology, acoustics, and kinesthetic awareness.

The book is organized into 17 chapters. Chapter 1: Prelude presents the purpose of the book and introduces the format that follows, particularly the extensive quotes from Estill's unpublished manuscript, which are printed in purple boxes throughout the text. The text defines the Estill Voice Model and states that the text “will not teach you to sing, but it will teach you quite a lot about *how the voice works*” (5).

Chapter 2: Origins & Evolution of the Estill Voice Model, traces the history of Estill's work, from her early memories of singing through her years as a research associate and lab technician for a five-year study of laryngeal cancer (1972–1979). During this time, Estill began to study a “number of voice qualities associated with different genres of music” (13). These voice qualities included “Speech” quality (modal), “Sob” quality (classical singing of art songs) “Twang” quality (country-western music), and “Opera” quality (Shakespearean actors and opera singers). Later, she added “Falsetto” quality and “Belt” quality. She was interested in the different physiologies that might be found in the sound production of each voice quality. Within the Power-Source-Filter

Model, Estill conducted research in acoustic analysis, which identified a unique spectral shape (“Voiceprint”) for each voice quality. In 1982, Estill delivered her seminal paper, *The Control of Voice Quality*, to the 11th Symposium, Care of the Professional Voice, in which she identified the physiological behaviors of seven anatomical structures associated with each quality. She then conducted videoscopic studies that “documented independent control of the structures” (23), which inspired the development of “Compulsory Figures™.” These are exercises to train independent control of each structure in order to learn “what the voice is capable of doing without regard to historical performance practice, cultural biases, or esthetic preferences” (24).

Over time, these seven anatomical structures grew to number 13. These are: True Vocal Fold: Onset/Offset, False Vocal Fold, True Vocal Fold: Body-Cover, Thyroid Cartilage, Cricoid Cartilage, Aryepiglottic Sphincter, Larynx, Tongue, Velum, Jaw, Lips, Head and Neck, and Torso. Chapters 3–16 each cover one of the anatomical structures listed above. Within each chapter, the authors present the following sections: Overview and Orientation, Estill Voice Model Translations, Anatomy, Physiology, Acoustics, and Theory to Practice. The Anatomy and Physiology portions provide baseline knowledge which can be found in most pedagogical texts. However, the Estill Voice Model Translations, Acoustics, and Theory to Practice sections are noteworthy.

The Translations present the structure options in Estill Voice Training™ and the common terms used in the voice studio to describe the resulting qualities. For example, the velum (Chapter 12) can manifest in three possible conditions according to Estill Voice Training™: low, mid, or high. Each of these conditions is described and illustrated via a cross section view of the mouth and pharynxes. The associated terms for the low velum are “dull, hummed, nasal.” Through this effective translation method, Estill bridges the gap between voice science and voice teaching. It is not an exaggeration to say that terminology is one of the most controversial topics in voice pedagogy. It is an important step toward consensus to employ scientific terms, but to still allow for descriptors which may be employed in the voice studio and understood by the layperson.

The Acoustics portion of each chapter provides a “Voiceprint,” or spectrogram of the applied conditions of each anatomical structure. For example, The Larynx (Chapter 10) can manifest in three conditions: high, mid, and low positions. These conditions are not fixed, but exist on a relative-spectrum. The voiceprint illustrates the changes in formant activity on an [i] vowel in the three different conditions. As expected, the narrow-band spectrogram shows that a high laryngeal position will yield formant activity around 3000–4000 Hz, and this formant activity range shifts lower with the mid-position larynx, and lower still for the low-position larynx. The source of these spectrograms is not offered in the text, but the implication is that they may be reproduced in real time through the Estill Voiceprint Plus™ software, which is available for purchase online.

The Theory to Practice portion of each chapter is divided into two sections: Vocal Living and Vocal Performance. The Vocal Living portion provides examples of how a given structure is used in various conditions in everyday life. For example, True Vocal Fold: Body-Cover (Chapter 6) may manifest in four different conditions: thick, thin, stiff, and slack. The text states the folds are thick when calling to a friend across the street, thin when lulling a baby to sleep, stiff when speaking in a hushed tone, slack when muttering exhaustedly (80). The Vocal Performance portion describes the use of the anatomical structure in professional voice use.

All of the anatomical structure chapters include extensive colored drawings by Klimek which provide detailed information to the reader. Many pedagogy texts include reprinted drawings from other anatomical sources, but Klimek provides consistency and specificity by creating original images. The downside to this is the occasional use of a term that is not well-known in general anatomy such as the “aryepiglottic sphincter,” or AES (Chapter 9). This term refers to a physiological combination of the epiglottis, arytenoid cartilages, and the aryepiglottic folds. In Estill Voice Training™, this “sphincter” can be narrowed to increase sound energy in the range of the singer’s formant. The narrowing of the AES was later studied by Ingo Titze and Brad Story (among others) and has been directly linked to the production of *twang* or *squillo* in the singing voice. However, because the term refers to the combined physiology of several structures, it is rarely identified as the “aryepiglottic sphincter” in anatomical texts.

Chapter 17: Postlude, organizes the information presented in the anatomical chapters into a concise visual system for practical application. Each of the six Estill Voice Qualities is represented by a detailed chart indicating the necessary condition of each anatomical structure. These charts are called Figure Combinations, and are meant to serve as a type of “recipe” (213) for the production of a desired voice quality. More advanced applications of the Figure Combinations are included as part of Estill Voice Training™.

This book represents a tremendous amount of research, development, and refining of the Estill Voice Model. Most notably, the book does not support any one stylistic application of the information over another. Opera is not considered to be superior to belting, nor vice versa. This impartiality assures the book even greater utility across all genres of singing.

My most significant criticism of the book is in regards to the citations. Neither the illustrations nor the Voiceprint Spectrograms are cited. I discovered that Klimek was the image illustrator via a passing comment in the acknowledgements, but there is no consolidated list of images and tables which would make the book more useful as a reference tool. Even after searching, I was not able to find information regarding the source of the Voiceprint Spectrograms. A standard voice study report would provide descriptive information on the subject(s) providing the sound source(s), when and where the spectrograms were created, and details about the equipment used to capture the results. While the authors have made some effort to connect Estill’s groundbreaking research to contemporary replications or confirmations of her results, some chapters succeed more than others. For example, Chapter 6: True Vocal Fold–Body-Cover) includes 16 endnote citations to research published before 1996, but only two references to research published after 1996. By contrast, Chapter 14: Lips contains a total of 10 endnote citations, all of which cite research published after 2003.

A more thorough connection to contemporary research would be great fodder for future scholarship, especially as interest in pedagogical systems is growing. The authors indicate that sensitivity toward change is inherent to the Estill system: “some Figures™ will evolve in response to research and pedagogic development” (76).

This work is one of the first in the contemporary pedagogical methods to openly share trademarked materials. This transparency is to be highly commended. Contemporary pedagogical methods often serve as for-profit businesses. The owners of these businesses might, understandably, want to protect their product in order to preserve its value. However, this prevents an open exchange of information which would serve to advance the field. All voice practitioners will benefit from adding *The Estill Voice Model: Theory & Translation* to their libraries.

Notes on contributor



Elizabeth Ann Benson is an assistant professor at Auburn University where she serves as the principal singing instructor and music director for the department of theatre. She specializes in performing and teaching crossover vocal technique, spanning from opera to musical theatre to rock. She holds a master of music degree from New England Conservatory, and a doctorate from the City University of New York Graduate Center. In 2016, she earned a position in the Intern Program of the National Association of Teachers of Singing (NATS). She has presented research at national conferences for The Voice Foundation, NATS, and the College Music Society.

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