

Science-based, Futurist Megatrends: Vocal and Choral Pedagogy in the Year 2097

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Music makes it possible for human beings to express what our experiences have put in our hearts; to share what it means to be a human being on this earth with our fellow human beings.

Music can entertain us away from the daily concerns of our lives—and that is good. It can arouse us, engage us, dance us, calm us, restore us, make us weep, and even help heal us when we are ill — and that is good.

The roots of what we call singing began before language, with expressive sound-making. Mothers and fathers lulled their babies to sleep. Whoops, shouts, and rhythmic leaping erupted at the kill of an animal that would feed several families. The wailing moans of a man or woman that poured out at the death of a mate.

These human roots of singing are the important reasons that we do what we do. For the most part, this paper will address how neuromuscular skills and brain-compatible teaching can serve those roots, helping self-expression through music become richer and deeper in expressive power. No matter how analytical and technical any discussion of singing or voices becomes, may we always remain connected to our roots.

First-words

Irma Lee Batey gave me my first college singing lesson. In that lesson, she slapped her abdomen with her hands and said, “You have to breathe with your diaphragm.” For quite a few years after that, I believed that my several abdominal muscles were my diaphragm muscle. When I found out the truth, I still remembered her with great affection, but I wondered about the depth of her vocal knowledge.

During the past forty years, I have sung in a fairly large number of amateur and professional choirs; and have performed in solo recitals, and operas; acted in plays, musical plays, and radio/TV commercials; and announced on radio. I have studied choral conducting and music education methods in several prestigious settings, and have studied singing privately with about 9 singing teachers.

I was asked to use many different vocal techniques in my singing lessons. In my music education and choral methods courses, in the choirs in which I sang, and at the professional convention sessions that I have attended, I learned many quick-fix gimmicks to get my student-singers to sing the music correctly. I developed quite a bag of teaching tricks.

history. The tradition began, and has continued, with people doing the best they know how to help other people sing well. In order to devise tasks that would help people achieve the goal of singing well, assumptions had to be made about the nature and workings of voices. The assumptions had to be based on incomplete anatomical, physiological, and acoustic information. Because the knowledge was incomplete, some of the assumptions had to be inaccurate, resulting in practices that produced inconsistent results in the training of singers; and, undoubtedly, some of the assumptions were accurate, resulting in practices that produced more consistent results. The current evolutionary form of the vocal pedagogy tradition teaches that the vocal skills that are necessary for singing Western civilization opera — including the “ringing” singer’s formant — constitute the only correct way to sing.

Choral singing has a long tradition of being conducted by instrumental musicians who have applied musical concepts and practices to the development of choral ensembles. But they had little or no knowledge of how “vocal instruments” were “played” to achieve appropriate tone qualities and other skills of expressive music-making. As a result, numerous “tricks” and “gimmicks” have been invented and used to solve immediate, short-term musical problems of accurate pitch, precise timing, clear diction, expressive dynamics and phrasing, and a blending and balancing of voices with appropriate tone color. Before the 1950s, the training of choral conductors in the United States focused on rehearsal techniques and getting a chorus to make the conductor’s preferred choral sound. In the 1950s, choral musicology came to dominate the education of choral conductors. In the 1980s, the education of choral conductors and choirs began to include voice skill and voice health training, and the term choral pedagogy became popularized. The source of the vocal training has been teachers who are educated in the tradition of vocal pedagogy with its operatic bias.

The question is, “Can we validate or ‘dis-validate’ the traditional voice skill practices of vocal and choral pedagogy, and if so, how?” Is there a way to filter the diverse terminologies to make them more consistent with anatomical, physiological, and acoustic reality, yet remain interesting and engaging to human beings?

Sunsets?

To begin each day, does the Sun really rise in the direction we call the East, then move across the sky as the day passes by? And to begin each nighttime, does it set in the direction we call the West?

If you’ve learned something from the legacy of Nicolas Copernicus and Galileo Galilei, you would be inclined to say, “No.”

But, wait a minute. Nearly everyone — including you—has been awake early enough in the morning to directly experience the Sun rising—and it moves across the sky and sets below the horizon as described above. In fact, the moon changes its location in the night sky as do the stars. Clearly, Earth is the center of the universe and the Sun, moon, and stars revolve around it. How can anyone possibly say otherwise?

If you believe Copernicus and Galileo, however, you would say that Earth orbits around the Sun, and as it does so, it revolves on its own axis. The half of the

Earth that faces the Sun is in daylight and the half that is away from the Sun is in nighttime. As any area of the Earth rotates into the sunlight, people standing on the planet will experience the illusion that the Sun is moving up from the horizon, thus the expression sunrise. The illusion continues through the daylight, and daytime ends with sunset, as their part of the Earth revolves away from the Sun.

Elephants?

Three men — blind from birth — approach an elephant. They are asked to describe the elephant. The first encounter with the elephant by man number 1 is with the elephant's leg. "Aha! Elephants are like trees!"

The first encounter with the elephant by man number 2 is with the elephant's tail. "Aha! Elephants are like ropes!"

Man number 3 first encounters one of the elephant's sides. "Aha! Elephants are like curved walls!"

Are their perceptions accurate? Basically, yes. So, what's the problem?

Human Beings

Can we human beings make logical assumptions about what is real—based on direct personal experience — then accept those assumptions as the way things really are, and convey the assumptions to others as *truth*? Can what we directly experience with our senses always be reliable?

How might human beings react when the secure accuracy of long-held assumptions about reality is challenged by evidence that a different interpretation of reality is more accurate?

Could the perceptions of the blind men be limited because they had not yet perceived "whole elephantness"? Is it possible to have a partial perception of people, places, things, and events, and assume that it reveals the nature of the whole person, place, thing, or event?

Can perspectives that are limited to parts of a whole reality, seem to be the whole reality, until placed in the context of The Big Picture?

Human beings bring to any life-experience previously established conceptual frameworks and a collection of automatic behavior patterns. The conceptual frameworks and behavior patterns include complex memories that might be called familiarity, that is, habitual patterns of experiential processing, language labeling, and behavior. These biases are based on our history of unique experiences, our personal sense-making of the world as only we have experienced it, and our personal mastery of that world and ourselves in it.

The method of science was invented by human beings in order to remove the influence of human biases, that is, eliminate subjective bias in favor of objective reality. Enough is now known about human brains to know that this is just not possible. To be completely objective, we would need to disconnect the regions of the brain that produce what we call feelings and emotions along with their intimate involvement in memory formation — brain regions such as the amygdala, hippocampus, and hypothalamus. On the other hand, the method of science is still the best means that we human beings have of minimizing human bias—the best means we have of accumulating evidence that can eventually explain our world in ways that all of us, or nearly all of us, can accept.

The tradition of vocal pedagogy is currently undergoing a major evolutionary transition. It was triggered in the early 1970s when the Voice Foundation of America (main offices are currently in Philadelphia, Pennsylvania, USA) was formed to marshal the resources of ear-nose-throat physicians, voice scientists, speech pathologists, singing teachers, and speech and theatre trainers from all over the world. These constituencies come together annually in a week-long symposium to focus on voice research findings, voice health, and how they bear on the practices of speaking, singing, and the teaching of skilled, expressive voicing. The National Association of Teachers of Singing and the Voice and Speech Trainers Association are closely connected to the Foundation's efforts. A recent result of that pioneering work was the establishment, in the United States, of the National Center for Voice and Speech, funded by the National Institute on Deafness and Other Communication Disorders, one of the federal government's National Institutes of Health. The NCVS is a consortium of voice and speech research institutions from around the U.S.

Those of us who guide other human beings who sing and speak athletically, need reasonably clear translations of scientific findings about voice so that validations and dis-validations of current practices may occur. The findings need to be translated from the necessary jargon of science to the comfortable, colloquial language of everyday speakers and singers. Such a project is underway. Seventeen voice educators, voice scientists, ear-nose-throat physicians and other physician specialists, choral conductors, and music educators are attempting to do just that in a book to be published in early 1998 titled *Bodymind and Voice: Foundations of Voice Education*.

Skilled vocal self-expression and the neuropsychobiological sciences

Over the past 15 years and more, there has been a virtually worldwide explosion of research and theory in the various neurosciences. The formerly separate disciplines of neuroscience and psychology are collaborating to remove the remaining vestiges of mind/body duality. The results have been astounding and more are accumulating nearly every day. The neurosciences are concerned with all aspects of nervous system function, mainly the anatomy, morphology, and electro-chemical function of brains. All of what we refer to as human psychology, including conscious awareness, results from functions of the nervous system that interact extensively within whole bodies. The internationally acclaimed neuroscientist, Candace Pert, has coined the term *bodymind* — with no dividers such as hyphens — in an attempt to eliminate body versus mind duality.

Neuropsychology is concerned with linking neuroanatomy and its functions with psychological phenomena. Neuroendocrinology is concerned with the interactions of the nervous system and the endocrine system by means of (1) innervation of endocrine glands and (2) the numerous transmitter molecules of the body and their receptor molecules. A new field of study explores how the immune system is affected by interactions with the nervous system, the endocrine system, and how they are manifested in human psychology and health. The field has come to be named *psychoneuroimmunology*. A comprehensive, all-inclusive label for the study of all of these processes is *neuropsychobiology*.

Because the parts of human beings that produce the phenomenon referred to as voice are initiated by the nervous system and are richly intertwined with

human neuropsychobiologic processes, then the voice and voice medicine sciences may be included under the umbrella of the neuropsychobiological sciences. In other words, voice scientists must be interested in the neuroanatomy, neurophysiology, neuroendocrinology, neuropsychology, and psychoneuroimmunology of human voices, that is, the neuropsychobiology of the voice.

In order to understand human voices comprehensively, our knowledge base cannot be limited to the cartilages, muscles, and ligaments of voices and their functional relationships. It has to include how complex human beings respond to sung music, to their unique history of life-experiences, to a teacher's manner of communication, and so forth, and those are some of the areas of knowledge and practice that a neuropsychobiology of voice addresses. It has to include knowledge about and practices related to:

1. explicit and implicit memory and learning (in conscious awareness and outsideconscious awareness, respectively),
2. the near-simultaneous interaction of cognitive and emotional processing,
3. how human vocal self-expression is affected by teaching-learning interactions, and
4. how human vocal self-expression is affected by the verbal and nonverbal communication between human beings who are called teachers, human beings who are called learners, and human beings who are called audiences.

Teaching-Learning Principles that Are Based on the Neuropsychobiology of Perception, Memory, Learning, and Health

In order to survive, we human beings must make sense of and gain mastery of our experienced "world" (people, places, things, events) and mastery of ourselves in that world. Our bodyminds are programmed during fetal life to do that throughout our lifetime. The *modus operandi* is to:

- seek visual, auditory, and kinesthetic sensory input and categorize it in memory;
- detect patterns within familiar and unfamiliar input and categorize them in memory;
- elaborate "programs" for interacting with the people, places, things, and events of the perceived world and categorize them in memory.

Brains are not taught to do these things. They are innate "drives". Human beings are born to learn. Brains are our organs of learning. Learning is constant and lifelong—always was and always will be.

When we human beings make sense and gain mastery, an increasingly documented array of dynamic physio-chemical states occur in our bodies. Three of those states are called focused attention (concentration), heightened "energy" level (arousal), and feeling states that may range from pleasant to ecstatic. Generally pleasant sensory experiences, and their concurrent feeling and "energy" states, are formed into memories. Such memorized states increase the

probability that we will choose to re-experience the people, places, things, and events that were part of the original experience.

When we make sense and gain that mastery in a world that is predominantly safe and rewarding to personal well being, we commonly display a range of behaviors that can be described as: productive, cooperative, independent, purposeful, alert, on-task, involved, respectful, empathic, expressively communicative, humorous, divergent thinking, creative, innovative, resourceful, self-starting. These are learned constructive behavior patterns. When we mostly behave that way, we are said to have high self-esteem, self-confidence, self-reliance, and self-realization. Such experiences result in a risking of the unfamiliar, an openness to new experiences and new learnings, and to overcoming challenges creatively.

Threats to well-being trigger built-in protective brain programs. When under threat, well documented physio-chemical states occur inside our bodies that are quite different from the states that are triggered by safe sense-making and mastery. They also produce focused attention and heightened "energy" level, but protective programs produce feeling states that may range from minimally unpleasant to intense fear, rage, and anger. These experiences also form memories, but they decrease the probability that we will choose to re-experience the people, places, things, and events that were part of the original experience.

When we make sense and gain mastery in a world that is predominantly threatening to personal well being, we commonly display a range of behaviors that can be described as: passive, withdrawn, reticent, untrusting, and dependent; to tense, anxious, afraid, immobilized, and frozen; to uncooperative, disruptive, disrespectful, imposing, and counter-controlling; to resistant, belligerent, rebellious, smart-mouthed, manipulative, and cynical; to angry, counter-attacking, and violent. These are learned protective behavior patterns. When we human beings frequently behave in these ways, we are said to have low self-esteem, and to be withdrawn, self-conscious, self-denying, self-defeating, defensive, anti-social, or destructive. Such experiences tend to result in anxiety or "burnout" (depression), tense bodies, and they close people to new experiences and learnings, except for new ways to protect oneself.

One major way we human beings learn to make sense of the people, places, things, and events of our world, and to master them and ourselves, is through the symbolic modes we have evolved. When we categorize, conceptualize, and ensymbol our life experiences through the symbol systems of denotative language and mathematics, we primarily use our bodyminds' conscious, analytic capabilities.

When we ensymbol our experiences in feeling-based symbolic modes that are based in the visual, auditory, and kinesthetic senses, we primarily use our multi-modal, integrative, synesthetic capabilities (that process our life experiences mostly outside of conscious awareness). These symbolic modes involve spatial designs of shapes and colors, sound and time designs, metaphor and story designs, physical movement designs, and combinations of same. These symbolic modes can enable an "expressing out" of accumulated life experiences and a "working out" of personal insights that can result in constructive behavior patterns, emotional equilibrium, and biological and social benefit. These expressive symbolic modes are now referred to collectively as the arts but may be referred to as the visual arts (drawing, painting, sculpture), the auditory arts (music, poetry,

literature), the kinesthetic arts (dance, mime), and combination arts (theatre, film, opera).

Another major means by which we make sense and gain mastery of our world and ourselves is through the expressive sounds we make with our voices. Our first learning and our first experience of voice occurs while we are still in our mothers' wombs. Human beings begin hearing sometime around the 20th week of womb life. The most frequent sound we hear is the rhythmic pulsations from the womb's main artery. The second most frequent sound we hear is the sound of our mothers' voices. Conversation, music, and many other sounds are identifiable from within the womb.

Following birth, and throughout life, our voices are a primary means by which we communicate our needs, wants, thoughts and feelings with others; and the voices of "significant others" richly affect our emotional and intellectual learning. The voices of our mothers-fathers are important parts of our bonding (and possibly disbonding) with our parents, laying foundations for the elaboration of both constructive and protective life behaviors. By far, most of these processes occur outside our conscious awareness. The overall effect of our voices influence (consciously or other-than-consciously) the degree to which others wish to interact with us, and thus our "connectedness or disconnectedness" with other human beings. Our voices are, therefore, connected to the deepest, most profound sense of "who we are".

Brains learn by taking target practice. In neuropsychobiological terms, that means that target practice enables collections of neurons within many neuron networks to arrange or rearrange which ones need to be recruited for firing (long-term potentiation) and which ones need to be inhibited from firing (long-term depression). But brains will learn only when the people who own them feel safe and the pleasure of personal mastery and self-expression is likely. When learning novel skills and cognitive-emotional processes, or when changing well established habitual ones, conscious awareness of the difference between the habitual processes and the alternative processes is necessary. Target-practicing brains are helped, therefore, when they have a "sense" of the outside limits of the target, and a sense of "where" the bullseye is.

A major implication of this orientation is that, when people are learning new patterns of thinking, feeling, or behaving, or are altering an habitual pattern, there is no such thing as mistakes, errors, and failure. When bullseyes are missed, brains are just taking target practice, so give it another go. In this context, the concepts of good-bad, right-wrong, correct-incorrect, and proper-improper have been made up by human beings to hurt human beings, that is, to give human beings an opportunity to rehearse how inadequate they are. Also, real bullseyes are not the size of pinpoints. Only perfectionists have learned to make their targets that way. Pinpoint-sized bullseyes ensure that failing during the exploration of mastery is likely in the extreme, and very unpleasant feelings are almost guaranteed after repeated rehearsals of inadequacy. When these orientations are present in singing education, they will almost always contribute to a disconnection between people and singing.

Bullseyes that lead to pleasant mastery may be of varying sizes, and their size can be increased or decreased depending on various circumstances. When learning a novel skill, bullseyes can almost be the same size as the whole target, if appropriate to the specific situation. Pathfinder experiences can help brains

develop a sense of what the outside limits of life's targets are and where the bullseyes are. Pathfinders to efficient voicing are selected vocal sound-making patterns, speech patterns, or musical pitch patterns that are likely to be mastered easily by learners. They enable the learners' bodyminds to focus conscious attention solely on a single bullseye, because the parts of human beings that process conscious awareness have limited processing capacity compared to the parts that process outside conscious awareness. This focusing on one bullseye, over several attempts to accomplish the bullseye (target practice), makes it possible for brains to evolve desired inhibitory and excitatory combinations in the neural networks that initiate the desired coordinations.

For instance, before singing a simple pitch pattern, suppose learners are asked to notice sensations in their neck-throat areas. Suppose they are guided through an experience in which they are likely to sense excess effort in their neck-throat area and then an experience in which they are likely to experience less effort (increased neuromuscular efficiency). A teacher can then ask questions such as, "Did you notice a difference in how you sang the two versions of that pitch pattern?" "What differences did you notice?" "Did you feel like you had to work harder in your neck during one compared to the other?" "Did you notice a difference in the sound of your voice?" "Do them again and observe."

After the person has made various observations, then a teacher can provide science-based information about vocal efficiency that confirms the learner's observations and demonstrates a connection between the new skill and voice health and longevity, that is, reduction of vocal fatigue rates and vocal fold impact and sheer forces. After sufficient opportunities to take target practice on that new skill, a template coordination is established in memory that can then be used in more complex situations such as short song phrases or song sections.

Pathfinder sound and pitch patterns can easily be perceived and used as quick-fix tricks and gimmicks that enable singing teachers and choral conductors to control the learning process so that short-term vocal or musical skills are accomplished, with no long-term learning. Learners then become dependent on an outside expert to always tell them what to do and when it's "right". The job of effective teachers is to become less and less necessary as the learners take on the skills they need for lifelong expressive speaking and singing.

Through a process of (1) an experience that guides conscious attention to a target, (2) questioning that engages the pattern detecting capabilities of learners' brains toward sensing a bullseye, increases the learner's ability for self-perceived feedback. Feedback is used for changing the size of bullseyes or taking on new targets. In this way, goal-setting, feedback, and assessment by both teacher and learner are inherently integrated into the teaching-learning process.

A Relationship between Verbal and Nonverbal Communications and the Neuropsychobiology of Perception, Memory, and Learning

Music educators and choral conductors are significant models for learners of both verbal and nonverbal communications during singing and speaking. UCLA psychologist Dr. Albert Mehrabian, in his book *Nonverbal Communication*, used much data to estimate that when people deliver spoken communications, about 45% are delivered vocally; 55% are delivered by facial expression, arm-hand

gestures, and postural arrangements of the body. His breakdown is shown in Table 1.

If Mehrabian's observations are accurate, about 90% of our delivered and received communications occur outside our conscious awareness (they are automatic and habitual). In other words, what we are not aware of may help or hinder our goal of effective teaching.

Table 1

Classification and percentage breakdown of gestural and voiced communications during spontaneous spoken conversation.

GESTURAL COMMUNICATIONS.....55%
[nearly always produced and perceived outside conscious awareness as part of the nonverbal "context" of spoken communication]

VOICED COMMUNICATIONS.....45%
Verbal Content: Denotative, "dictionary meanings" of words.....7%
[nearly always produced and perceived in conscious awareness as the "text" of spoken communication]

Nonverbal Content: Connotative, "feeling meanings"38%
[nearly always produced and perceived outside conscious awareness as part of the nonverbal "context" of spoken communication, imbedded in variations of vocal pitch, volume, timbre, and timing-pacing-pausing]

For instance, consistent use of a language of coercive control in implementing learning situations tends to result in some degree of student withdrawal, freeze-up, or counter-attack—in both the short and long-term. Terms like "You must...," "You will...," "You have to...," "I want you to...," may apply. There always are facial expressions, arm-hand gestures, and postural arrangements of the body that accompany the verbal expressions. Typically, they are consistent with the emotional content of the verbal communications. These forms of communication also tend to stifle the pattern detection of self-perceived feedback and assessment and the learning and growth that arises from learner and teacher selection of goals.

A language of exploration and discovery encourages safe, rewarding target practice by brains. Facial expressions that connote interest and a pleasant emotional state are commonly associated with this language. This orientation is not in opposition to the need to create conditions that reduce and eliminate uncooperative, unproductive, or disruptive behavior in group settings. The challenge is to create the conditions in a way that withdrawal, freeze-up, or counter attack reactions rarely or never occur, and cooperative involvement happens.

Use of a language of punitive and accusative judgment in giving feedback—by an adult or peer—would take safety away and inhibit target practice and self-perceived feedback and assessment for lifelong singing skills. Terms like right-

wrong, correct-incorrect, good-bad, and proper-improper tend to have a long history of being “emotional ouches” if not emotional hits. A language of accepting assessment, on the other hand, will ask questions of learners to facilitate the pattern detection of self-perceived feedback and assessment, followed by a mutual selection of next goals.

Futurist megatrends for the year 2097

1. The practices of vocal and choral pedagogy and speech training will be globally grounded in the theory and research of the neuropsychobiological sciences, and the related voice and voice medicine sciences. Physically and acoustically efficient voice skills will be the foundations for the learning of expressive singing and speaking skills by people of all ages.

2. Terminologies and practices within the pre-scientific traditions of vocal and choral pedagogy, and in speech training, will have been replaced or modified — when necessary — so as to be consistent with widely used terminologies and practices that have been derived from scientific theory and research (including the appropriate use of various technologies).

3. Self-expressive voice skills will no longer be thought of as the separate and unrelated skills of speaking and singing. The terms speaking voice and singing voice will be quaint, historical anachronisms. They will have been recognized as inaccurate and misleading because skilled vocal self-expression emanates from the same neural and vocal anatomy. Human beings have one voice — not two — and the functions for speaking and singing are much more similar than they are different.

4. The terms vocal pedagogy and speech training will be replaced by voice education, so that all singing teachers, choral educators, general music educators, and speech and theatre trainers will regard themselves as educators of self-expression for the societies in which they live. Voice educators will be:

(a) skilled in expressive verbal and non-verbal communication and will be teachers of same;

(b) skilled in the use and teaching of efficient, expressive body balance, alignment, and movement (including the quasi-dance movements used when rehearsing choral ensembles);

(c) able to guide learners in the creation and performance of their own self-expressive songs, choral compositions or arrangements, and theatrical scenes or plays.

5. The teaching of singing skills and speech skills will be carried out by one profession, so that the separate professional categories of singing teacher, choral educator, and speech trainer will be replaced by one category — voice educator.

6. Voice educators will use developmentally-appropriate, “brain-compatible” teaching-learning interactions that are grounded in the theory and research of the neuropsychobiological sciences.

7. Voice educators will be able to teach efficient, expressive singing and speaking skills with human beings of all ages [from the time human auditory function begins before birth, and through childhood, the pre-teen and early-teen voice transformation, the late teens, adulthood, and the geriatric years]. The result of such teaching will be:

(a) people who speak and sing with expressive skill and healthy voices;

(b) people who frequently use those skills throughout their lifespans, and passionately pass them on to future generations;

(c) societies of people who sing with expressive skill and robust confidence — alone and with others — in family settings, learning centers, common social gatherings, official meetings, and in what were called performances in the earlier years of the 21st century.

8. Voice educators will be able to competently guide learners who sing music from all of the world's cultures, as well as actors, impersonators, vocal mimics, and comedians who use "character voices". They will be equally skilled and experienced in teaching the voice skills needed to produce:

(a) basic, efficient "flow" speaking and singing [for use in everyday expressive conversation and in singing such musical styles as art songs and ballad-oriented folk and popular musics;

(b) speaking for classical theatre in various cultures and Western operatic singing with the singer's formant;

(c) "belted" singing in folk, spiritual, gospel, and popular music styles;

(d) non-nasal "twang" singing in folk, bluegrass, and country-western singing; and

(e) efficient loud shouting and "screaming" for the theatre and sports cheering.

9. Skilled choral ensembles will rarely, if ever, perform with a conductor in front of them. The enormous capabilities that are available to human beings outside of conscious awareness will commonly be engaged to skillfully and elegantly perform group singing without a person in front of them to distract them from expressive group cohesion. Thus, voice educators can be members of their singing ensembles because their rehearsal teaching will have resulted in vocal and musical independence. They will become less and less necessary—never unnecessary.

10. Voice educators will be skilled and experienced in assisting people of all ages in: (1) the prevention of voice disorders and diseases, and (2) appropriate cooperative treatment of voice disorders and diseases (cooperating knowledgeably with voice-ear-nose-throat physicians and speech-language pathologists).

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