WEBSTER'S DICTIONARY defines an "albatross" as "something that causes persistent deep concern or anxiety" and "something that greatly hinders accomplishment: encumbrance." What a fitting definition for the problem of adolescents with changing voices. Whether male or female, such students present vocal challenges to music teachers who often feel encumbered with the problem of how to guide these emerging adult voices safely. In referring to the voice-change phenomenon, early-twentieth-century music educator John Dawson observed, "So complicated is it that even today, after the lapse of centuries, it is misunderstood, neglected, and abused." Little has changed.

The problem of the adolescent changing voice is not that the voice changes—this is a natural part of growing up for both males and females. While it may be, at times, unsettling, nature has dictated that this change occur. The phenomenon is more noticeable for males, but females also experience a certain realigning of the voice, and vocal teachers are becoming more aware that not only male voices need special attention during this vocal transition. The real problem of the changing voice is that music teachers often are unfamiliar with the pedagogy for instructing students in singing during the early adolescent years.

**Vocal Registers and Vocal Ranges**

Healthy vocal production in the junior high and middle school years requires a good understanding of how vocal registers impact on vocal range. Girls who sing only the alto part often develop a one-register quality—chest voice. Some girls who sing only soprano also learn to sing in one vocal register—upper, much like boys in the English choral tradition. While this may be a safer vocal production, it results in a weak vocal quality below e1.

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The limited-range concept is at the core of what I believe to be the fundamental problem in working with the boy's changing voice.

Adolescent girls should have a two-octave range from g to g2, which is possible only when they can shift easily from lower to upper vocal registers. Phoneratory exercises (e.g., pulsing the voice like a dead car battery for lower voice and imitating the wind for the upper voice) will help establish a kinesthetic feeling for lower and upper registers. Also, all girls should be given the opportunity to sing both melody and harmony parts. Junior high school is too early to limit a girl's voice to one vocal classification.

In any group of seventh- and eighth-grade boys, there will be those with unchanged, changing, and newly changed voices. If these boys are not taught to sing in the proper vocal register(s) for their stages of maturity, they will try to sing pitches that they cannot produce well, if at all, in a mismatch of vocal register and range. Boys are approaching the voice change who have not been taught to sing in the chest register below c1 carry the vocal production of their boy's voice (middle-register quality) too low, thus limiting the descent of the vocal range to a weak g. Research has shown that many pubertal boys can immediately lower their vocal ranges when introduced to chest-voice quality.2 Pulsing the voice in imitation of a dead car battery, or barking like a big dog ("woof"), will help these boys to locate the chest register, the voice that most of them are using already for speech.

The boy with a quickly changing voice often loses the ability to sing in the upper range for some time. The laryngeal change occurs so fast that he can sing only in his lower chest voice. Any attempt to sing above g usually results in straining. This boy has to relearn the use of his upper voice from the top down through phonatory exercises such as descending sirens or vocal glissandi.

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**The Limited-Range Concept**

One commonly held belief maintains that the changing voice necessitates a "middle-of-the-road" approach, which translates to singing a limited vocal range of an octave or less. The limited-range concept is at the core of what I believe to be the fundamental problem in working with the boy's changing voice.

The theory of limited vocal range for pubertal males can be traced to the writings of Irvin Cooper, who, with the publication of Changing Voices in Junior High: Letters to Pat, first used the word "cambiata" to denote the boy's changing voice. Cooper recommended a tessitura of one octave (a to a') for the cambiata voice; the range for this voice he recommended was f to c2. Cooper also noted that some boys in junior high school can still sing soprano and that others will already be baritones.

Kenneth H. Phillips is Associate Professor of Music and Education at the University of Iowa, Iowa City. He is the author of Teaching Kids to Sing (Schirmer Books, 1992).

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Three voice parts for junior high male singers are clearly delineated by Cooper. Why, then, do so many junior high middle school choral directors put all the boys on one part, a part which many of them cannot sing comfortably? Perhaps it is because the profession has become fixated on the term “cambiata” to the exclusion of other vocal-part possibilities for young adolescent males. It also may be due to a lack of knowledge about how to instruct boys in the use of upper and lower vocal registers.

The Royal School of Church Music in London traditionally permits boys to sing in only the soprano voice, even as voices are changing. While this type of vocal production is responsible for creating the beautiful vocal quality associated with the English choirboy tradition, it also is responsible for creating the voice “break” and an ensuing period of vocal silence when boys do not sing. Most American teachers do not consider this a safe practice. It does, however, show one thing: boys can continue to sing during adolescence in the upper vocal register when instructed properly.

The Extended-Range Concept

Frederick Swanson was a leader in cultivating the adolescent male voice, and his understanding of the emerging voice produced outstanding boychoirs in the public schools of Moline, Illinois. Swanson advocated that boys be taught to use the entire extent of their vocal range, from top to bottom. He understood the impact that vocal registers have on vocal range, and he commonly had boys singing three- and four-part music. Swanson knew that boys could sing in the chest register, and he regularly produced bass voices in the eighth grade. Similarly, he knew that boys could continue to sing in the soprano range, at least to $c_2$. Boys in the middle he assigned as altos or mezzos, depending on how comfortably they could sing in both upper and lower voices. Swanson would never have placed all seventh- and eighth-grade boys on one part; he understood the voice and how to develop it in all three vocal registers. While Cooper stated that the junior high school bass was a rarity, like Swanson, he never would have placed all young male singers on one vocal part.

Boys whose voices have changed and are limited to singing in a midvocal range around $d_3$ will strain in the upper part of this voice unless taught to switch to a lighter male alto sound. Again, phonatory exercises (e.g., imitating the sound of a whistle) will help to establish this vocal quality. Boys with changing voices will be more comfortable singing a midvoice range but also must be introduced to a fuller chest quality below $c_1$ and a lighter male alto sound above $e_1$. If they attempt to sing the entire midvoice range in a mixed voice, the bottom will be weak and the top will be strained. Finally, boys whose voices have not yet changed can continue to sing either treble I (soprano) or treble II (alto).

In the early stages of voice change, I recommend cultivating only two vocal registers—upper (male alto) and lower (chest). Boys can be taught to shift from

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In the early stages of voice change, I recommend cultivating only two vocal registers—upper (male alto) and lower (chest). Boys can be taught to shift from
the chest mechanism to the alto mechanism (and vice versa) at around e'. Once this is done easily, the top voice, when well-supported, will begin to take on the quality of the true male passaggio, which is very different from the boy's mixed voice. This technique has been recommended by vocal and medical authorities Robert Sataloff and Joseph Spiegel.6 Once the realignment of the vocal registers takes place, the true tenor head voice (fuller and more resonant than the male alto sound) can be developed in the late- or post-high-school years.

The changing voice need not be an albatross when one understands how vocal registration affects vocal range. For both girls and boys, upper and lower registers must be developed independently before a correct "smoothing over" between the two adjustments can be learned as part of the emerging adult vocal production. Range often is limited because students have not experienced the correct vocal "gear" in which to sing. The solution: teach students to sing in all three vocal registers: upper, lower, and then, middle. The results will be manifested in healthy vocal production, beautiful singing, and removal of one heavy albatross.

NOTES
1 Frederick C. Mish, ed., Webster's Ninth New Collegiate Dictionary (Springfield, MA: Merriam-Webster, 1985), 68.
5 Frederick J. Swanson, "Growlers, Fryers, and Other Rejects," Choral Journal 23 (November 1982), 5-10.