USING DIGITAL TECHNOLOGY IN A VOICE LESSON

Donald Bell
Department of Music, Faculty of Fine Art
University of Calgary
2500 University Drive
Calgary, AB T2N 1N4
25 min.

The following presentation will demonstrate through analysis, (1) a front {i}, neutral { ɘ }, and back vowel { ɔ } and the imbalances in their formants as required for a professional singing performance, (2) how resonance balancing equates the imbalances {resonance balancing} in the three chosen vowels, (3) the required formant/vibrato relationships in a professional voice necessary for carrying power, (4) how poor posture and various breath support {management} systems alter the sung sound, (5) the effects of vocal tract stress and how its removal drastically alters-improves the sound spectrum.

These factors are important because (1) a professional singing voice must fill a hall of circa 3,500 seats, and be heard above a 90 piece orchestra, (2) stress, improper posture, and a non-flexible breath management system reduce quality and agility, (3) performer reliability is a prime factor enabling frequent performances. Therefore, the technique must fulfill these requirements. The voice suffers physical changes during lasting phonation and requires a rest period, hence the effects which could increase this trauma must be kept to a minimum. A stressed voice does not warrant attentive listening.

Digital analysis of the singing voice is recommended for the following reason: Not everyone has the same hearing. Some auditory defects can cause disabilities in judgement. By having them pointed out analytically, compensations can be made in the teaching and in the performing area. Sound analysis leaves little room for subjective arguments and can therefore become a binding tool in the field of pedagogy. Sound analysis points out important missing elements such as irregular vibrato, poor harmonic structure, noise and low energy, etc. The screen becomes a strong biofeedback device for both the student and the voice instructor. Many things go unnoticed in the heat of the moment but a machine is impartial and records everything. The lack of vocal energy and a sameness of sound {a non-distinctive singing style} in singing might limit the success of our young singers.