

Ingo Titze, Associate Editor

Making Decisions by Voice Voting

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WE DON'T SING WHEN WE CAST a vote by voice, but the acoustic output of a trained vocalist can be a blessing or a curse in the midst of a group making decisions by voice voting. A colleague and I just published an article on voice voting that was motivated by a bizarre occurrence at the 2012 Democratic National Convention in Charlotte, North Carolina. Mayor Antonio Villaraigosa of Los Angeles tried to get a voice vote on a party platform issue,¹ but the attempt failed three times. No resolution could be obtained by listening to several thousand delegates expressing their opinion vocally in a large convention hall. Why?

We provided the answer by doing a formal classroom study at the University of Iowa. My acoustics class (54 students) was engaged to vocalize repeated “yea” and “nay” responses with different group sizes and different (but controlled) loudnesses. There was also a systematic variation of the words used: *yes*, *no*, *yea*, *nay*, *aye*. In all, several hundred voice responses were uttered by members of the class. They were recorded and analyzed acoustically as well as perceptually (with a panel of five listeners). Results were as follows: (1) with all speakers speaking at the same loudness, a majority of 63 : 37 % was reliably detected by all five judges, but errors were recorded for smaller group size differences; (2) a single loud voice (10 dB louder than the rest) in a group of about 50 people biased the vote enough that a 30:20 majority could end up being judged a draw; (3) soft voices (5–10 dB below the average loudness) added nothing to the group loudness, suggesting that a soft voice vote is basically an abstaining vote; (4) the choice of words (yea, nay, aye, yes, no) did not seem to matter much.

So, if voice voting is so unreliable, why is it used at all? I presented that question to a U.S. congressman. His answer was that parliamentary voice voting is fast and void of voter identity. Historically, he stated, voice voting has been used to drum up emotions and get issues resolved that would otherwise be tabled or defeated with longer deliberation. To add to this somewhat devious motive, nobody can be held accountable for his/her vote. The next day, a person can vote differently, or claim he/she voted differently. Based on the study we conducted we now know that a loud voice vote can be the equivalent of three or four votes of moderate loudness, in a group as large as 40–70 people. Conversely, a person with an inherently soft voice (an elderly person, a person with low affect, or a person with a voice pathology) is never counted.

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So, my fellow Americans who aspire to represent us in important places, get some lessons or some therapy so your voice is loud enough to count and pleasant enough to be persuasive.

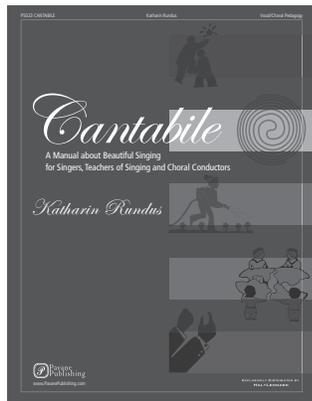
NOTE

1. Ingo Titze and Anil Palaparathi, "The Accuracy of a Voice Vote," *Journal of the Acoustical Society of America* 135, no. 1 (January 2014): 362–368.

Ingo R. Titze is Distinguished Professor of Speech Science and Voice at the University of Iowa and Executive Director of the National Center for Voice and Speech at the University of Utah. His formal education is in physics and electrical engineering, but he has devoted much of his studies to vocal music and speech. Dr. Titze has published more than 400 articles in scientific and educational journals, coedited two books titled

Vocal Fold Physiology, and now has three books in print: *Principles of Voice Production*, *The Myoelastic Aerodynamic Theory of Phonation*, and *Fascinations with the Human Voice*. He has lectured throughout the world and has appeared on such educational television series as *Innovation*, *Quantum*, and *Beyond 2000*. He is a recipient of the William and Harriott Gould Award for laryngeal physiology, the Jacob Javits Neuroscience Investigation Award, the Claude Pepper Award, the Quintana Award, and the American Laryngological Association Award. He is a Fellow and a Silver Medalist of the Acoustical Society of America, and a Fellow of the American Speech-Language-Hearing Association. Dr. Titze has served on a number of national advisory boards and scientific review groups, including the Scientific Advisory Board of the Voice Foundation and the Division of Research Grants of the National Institutes of Health. In addition to his scientific endeavors, Dr. Titze continues to be active as a singer. He is married to Kathy Titze and has four children and eight grandchildren. Mail should be addressed to Ingo R. Titze, National Center for Voice and Speech, 330 WJSHC, Iowa City, IA 52242. Telephone (319) 335-6600.

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