

Describing different styles of singing

A comparison of a female singer's voice source in "Classical", "Pop", "Jazz" and "Blues"

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The voice is apparently used in quite different manners in different styles of singing. Some of these differences concern the voice source, which varies considerably with loudness, pitch, and mode of phonation. We attempt to describe voice source differences between Classical, Pop, Jazz and Blues styles of singing as produced in a triad melody pattern by a professional female singer in soft, middle and loud phonation. An expert panel was asked to identify these triads as examples of either Classical, Pop, Jazz or Blues. The voice source was analysed by inverse filtering. Subglottal pressure P_s , closed quotient Q_{closed} , glottal compliance (ratio between the air volume contained in a voice pulse and P_s), and the level difference between the two lowest source spectrum partials were analysed in the styles and in four modes of phonation: breathy, flow, neutral, and pressed. The same expert panel rated the degree of pressedness in the entire material. Averages across pitch were calculated for each mode and style and related to their total range of variation in the subject. The glottogram data showed a high correlation with the ratings of pressedness. Based on these correlations a pressedness factor was computed from the glottogram data. A phonation map was constructed with the axes representing mean adduction factor and mean P_s , respectively. In this map Classical was similar to flow phonation, Pop and Jazz to neutral and flow phonation, and Blues to pressed phonation.

Key words: voice source, singing, subglottal pressure.