Singing Versus Speaking

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Speaking vs. Singing

- In speaking, intelligibility of the message is the primary goal.
- In singing, intelligibility is often sacrificed for aesthetic reasons.
Speaking vs. Singing

• In speaking, pitch, duration and intensity vary according to the speaker's wishes in order to express the content of the message.

• In singing, pitch, duration and intensity are prescribed by the composer and his/her interpretation of the message.

Speaking vs. Singing

• In general, speech occurs at lower overall intensity levels than singing and within a narrower range of intensities.

• Singing has a higher average intensity level than speech and features a wider variation in intensities than speech.
Speaking vs. Singing

- In general, speech occurs at lower frequency levels than singing and within a narrower range of frequencies.
- In general, singing occurs at higher frequencies levels than speech and covers a much wider frequency range.

Speaking vs. Singing

- In general, speaking uses only a small percentage of the vital capacity of the lungs (lower tidal volume with each spoken phrase).
- Singing uses much more of the vital capacity (larger tidal volume with each sung phrase).
Other differences....

• In singing, vowels make up a much greater percentage of the total phonation time relative to that in speech. Vowel to consonant duration ratio in speech averages around 5:1; in singing, this can range up to 200:1 (50 ms for a consonant followed by a 10 sec vowel)

To articulate or not to articulate...that is the question...

• In singing, there is much less co-articulation of consonants with surrounding vowels. Depending on the style of music being sung (Opera versus Musical Theater versus Jazz versus Pop), experienced singers vary the amount co-articulation. The more text-driven the style, the more co-articulation there is, and the more speech-like the singing becomes.
That idea really resonates….

• Because singing has a wider frequency and intensity range than speech, features vowels which are long in duration, and a larger overall vocal tract, one could say that singing is indeed “more resonant” than speech. Singers favor vocal tract changes which enhance optimal resonance, particularly at pitch extremes and register transitions (passaggi), while movements made in speaking favor clear articulation.

“We can’t hear you. You need to project more!”

• Can a singer or speaker “project” his or her voice in a large hall or theater? No.
• Why not? Once the sound waves exit the singer/speaker’s mouth, there is nothing you can do to make the words more intelligible or to make the sound travel farther or faster.
• So what can a singer do?
“Get a little closer, now don’t be shy…”

- Teachers typically advise young signers to move downstage to get closer to the audience. Intensity of sound is inversely proportional to the radius from the source squared. So if you cut the distance between you and the listener in half, the listener gets a 6 dB increase in SPL; if you double your distance from them, they lose 6 dB. They just have to be sure they don’t step off the front of the stage into the orchestra pit!

Here are some other strategies singers use to be heard:

- Increased subglottic pressure (respiratory effort)
- Resonance adjustments
- Adjust vocal fold adduction (less steep spectral slope – more intensity to higher partials)
“What do you mean you can’t hear me? I’m trying to project!”

When we push, we:

• Over-adduct our vocal folds
• Overwork breathing-wise
• Get constrictive tensions which negate good resonance