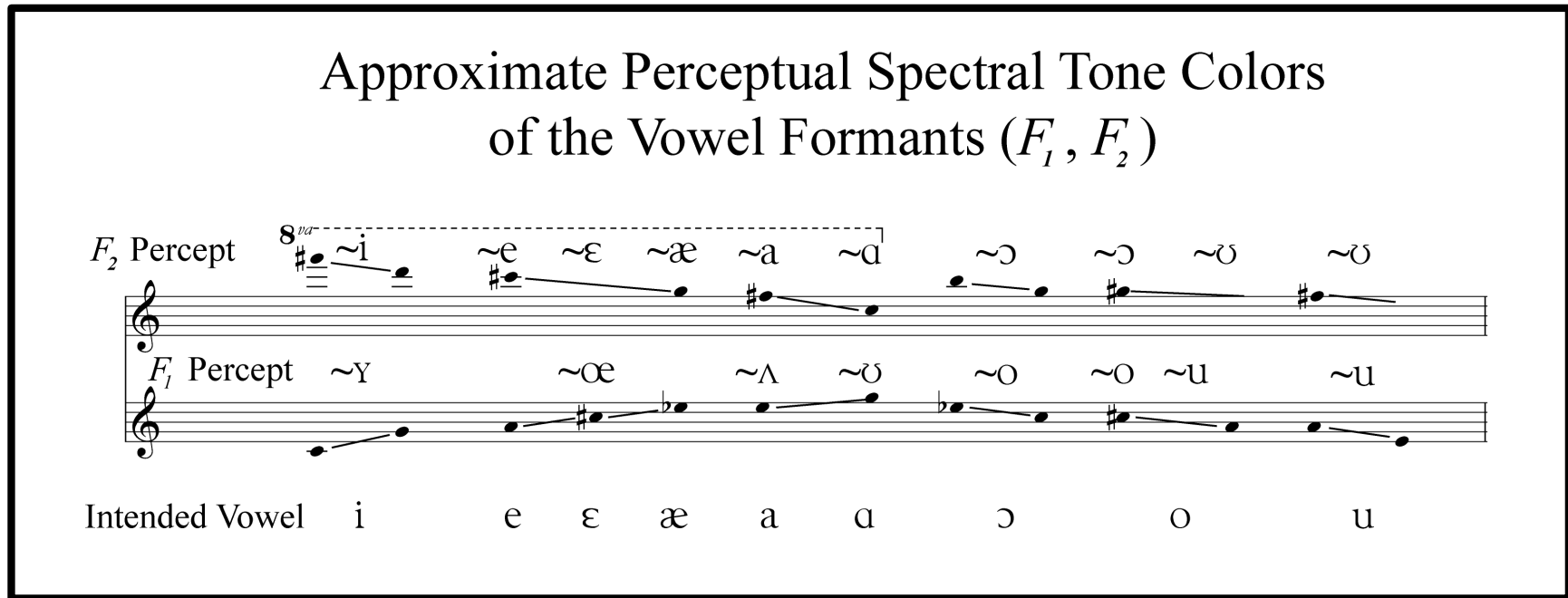


# Perception of Absolute Spectral Tone Colors and Vowel Formants



(From Bozeman, Kenneth. *Kinesthetic Voice Pedagogy: Motivating Acoustic Efficiency*. Inside View Press, 2017)

- Vocal tone is comprised of the tone colors of the harmonics being featured by the resonances (formants) of the vocal tract.
- There are essentially three such resonance areas:
  - The first two formants form our vowel percept
  - Higher formants cluster to add ring or projection
- The lowest or first formant—associated with the vertical pharynx—forms a kind of “under vowel” percept. It defines /u/ and /o/ and otherwise adds depth, warmth, and roundness.
- The second formant—associated with the “ceiling” and mouth of the vocal tract—forms a kind of “over vowel” percept, defining /ɔ/ through /i/ and adding clarity and brightness.
- The under vowel ( $F_1$ ) of the front to mid vowels is perceived as a mixed vowel.