

The relationship of language and music from an evolutionary perspective and the role of vowels

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In this paper, I emphasize the role of vowels in the music-language relationship and present arguments (cf. Fenk-Oczlon 2017, Fenk-Oczlon & Fenk 2009) that reinforce the hypothesis of a prosodic protolanguage or 'protomusic' (Fitch 2010). Vowels play a decisive role in generating the sound or sonority of syllables, the main vehicles for transporting prosodic information in speech and singing. Timbre is, beyond question, the primary parameter that allows us to discriminate between different vowels, but vowels also have intrinsic pitch, intensity, and duration. There are striking correspondences between the number of vowels and the number of pitches in musical scales across cultures: an upper limit of roughly 12 elements, a lower limit of 2, and a frequency peak at 5 to 7 elements. Moreover, there is evidence for correspondences between vowels and scales even in specific cultures, e.g., cultures with three vowels tend to have tritonic scales. I report a match between vowel pitch and musical pitch in meaningless syllables of Alpine yodelers and yodelers of African Pygmies. The relevance of vocal timbre in the music of many non-Western cultures, in which vocal timbre/vowel timbre and musical melody are often intertwined, further supports a close relationship between vowels and music. Studies showing the pivotal role of vowels and their musical qualities in the ontogeny of language and in infant directed speech, will be used as further arguments supporting the hypothesis that music and speech evolved from a common prosodic precursor, where the vowels exhibited both pitch and timbre variations.

References: • Fenk-Oczlon, G. 2017. What vowels can tell us about the evolution of music. *Frontiers in Psychology Cognition* 8.1581. • Fenk-Oczlon, G. & A. Fenk. 2009. Some parallels between language and music from a cognitive and evolutionary perspective. *Musicae Scientiae* 13. 201–226. • Fitch, W. T. 2010. *The evolution of language*. Cambridge: CUP.