Vowels, Musical Intervals, and Alpine Yodeling
Gertraud Fenk-Oczlon & August Fenk, Alps-Adria University of Klagenfurt, Austria

1 Vowels and musical intervals: Correspondences in the inventory size

All forms of singing as well as speech comes about in syllables, and the sound (sonority) of syllables comes by their vowels. Thus we expected correspondences between the inventories of vowels and musical intervals across cultures and found them at least in the corners: Lower limit, upper limit, and the 5 vowel system and the pentatonic scale as the most frequent pattern (Fenk-Oczlon & Fenk, to appear).

2 Vowels and musical pitches: Correspondences between vowels’ F2 and melodic direction

A more detailed and empirical search for related coincidences was inspired by Hughes’ (2000) finding that acoustic-phonetic features of vowels are used in almost any culture as a mnemonic system for transmitting or representing melodies. For instance in shoga, the Japanese mnemonic system, a succession of the vowels [i], showing the highest frequency in F2, and [o] was most often accompanied by a succession of high and low pitch.

3 Evolutionary perspectives

The above mentioned parallels need not be explained on evolutionary grounds but may contribute to the understanding of the emergence of language and music: language descending from music, or music from language, or both from a common precursor as described in Brown’s (2000) musilanguage model?

Singing without words – as in certain Arapaho songs Nettl (1956), in many utterances of our infants, and in yodeling – is cognitively less demanding than the use of a more or less arbitrary code. And it is more plausible to assume that singing prepared the vocal tract for speech than the other way round. Thus we are sympathetic with Morley’s (2003:149) assumption of a “progressively increasingly complex proto-language based on tone-dominated affective social utterances.” The most archaic singing, as described in Nettl (1956), may serve as a model: Simple musical phrases repeated, modified, and repeated again, are an appropriate production system as well as an ideal carrier current system for transmitting symbols, i.e. elements of a coding system associated with particular meanings by virtue of their rule-based use. This model also sheds some light on the key role of the vowel system: sound and color are inherent properties of vowels, and in speech – the specialist for referential meaning (Brown 2000) – this sound diminished as compared with a less specialized, “half-musical” (Jespersen 1895) precursor of song and speech.


