

Songs in the key of life: The linguistic universals of adapting sound to artistic expression

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A new study of how tone languages are sung has implications for the way humans manipulate and adapt the sounds of their language to artistic expression. The study, "Tone-tune association in Tommo So (Dogon) folk songs", by Laura McPherson (Dartmouth College) and Kevin Ryan (Harvard University), will be published in the March, 2018 issue of the scholarly journal *Language*.

The article explores a singular aspect of tone languages, which are defined as those which use tone, or pitch, to distinguish the meaning of a word. While this may seem unusual to speakers of most European languages, tone is actually a feature of at least half of the world's 7000 or so languages.

If pitch makes such a big difference in meaning, then how can anyone sing in a tone [language](#)? This paper looks at a set of women's folk songs in Tommo So, a language spoken in Mali in West Africa. The vast majority of African languages are tonal, including languages like Xhosa and Igbo that were recently featured in the smash movie *Black Panther*, and Tommo So is no exception. In this paper, the authors ask whether the songs follow the natural melodies of speech, or whether artistic expression wins out - possibly at the expense of comprehensibility.

In Tommo So, combinations of high and low pitch on different syllables can change the meaning of a whole word (the difference between 'cow'

and 'mother') or more subtle grammatical parts of meaning (the difference between 'run' and 'running'). The authors looked at 2232 two-syllable sequences to see if the musical melodies moved in the same direction as the linguistic tones on the words, in the opposite direction, or something in between. Overall, they found that Tommo So music generally avoids making singers sing words in pitches that directly contradict how they are spoken in non-musical contexts, especially if changing the tone would change the word's whole meaning.

Studies of this sort have been carried out on quite a number of tone languages from all over the world, from Zulu to Navajo to Hmong. Languages differ in how strictly their music follows their tone. But the novel contribution of this paper is digging deeper into what factors affect the assignment of a melody to words. While speakers of other languages may think that it would be confusing for a speaker of a tone language to understand a word sung with the wrong pitch, these same listeners generally have no problem at all understanding song lyrics where the emphasis or stress seems to fall on the "wrong" beat. The very same principles the authors found in Tommo So tone-tune association (the effect of word boundaries, their place in the line, whether the words are improvised or rote) are the principles governing the organization of poetic meter in languages like English or Latin, where stress takes the place of tone. In short, it seems there are universals to the way humans manipulate and adapt the sounds of their language to artistic expression.

More information: [www.linguisticsociety.org/site ...
06_94.1McPherson.pdf](http://www.linguisticsociety.org/site...06_94.1McPherson.pdf)

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