

How Do People Sing in Tonal Languages If They Rely on Pitch?

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You're reading this article in English. If you read it out loud, you'd probably adjust the way you say certain words, like using a rising tone if there was a question or emphasizing different syllables of "complex" depending on whether you were talking about a group of buildings or something really complicated. But even if you didn't — even if you heard it from a robot voice — you'd still understand the meaning.

That's not the case in tonal languages like Mandarin Chinese, Thai, Vietnamese, Hmong, and Punjabi. In those languages, a change in tone comes with a change in meaning. Which begs the question: If singing involves setting words to musical tones, how do you sing in a language that relies on tones for meaning?

Watch Your Tone

Take Mandarin, for example, which has [four tones](#). If you say the word *ma* without any extra zing, that means "scold." Say it with a rising tone like a question, and it means "rough"; say it with a falling and rising tone and it means "horse"; say it with a high pitch and it means "mother." You can understand why pairing the correct syllable with the correct tone is incredibly important — you wouldn't want to accidentally announce that you'd like to board your mother in a stable.

In English, you could sing "I'm gonna take my horse to the old town road" and "I've been through the desert on a horse with no name," and even though the note you use

for "horse" is different in each case, everyone still knows you're referring to an equine. How is that even possible with a language that relies on pitch?

"There are sort of three parts to the answer," says [James Kirby](#), a reader in phonetics at the University of Edinburgh who studies the relationships between language and music. "The first part is that you can get a lot of information from context. You hear the first three or four words of the lyric and you're going to be able to predict what the fifth word is."

For example, Kirby said, if you heard "Come on in, the water's ..." you could probably predict the next word from a limited number of possibilities: "fine," "warm," "perfect." The same thing happens with lyrics in tonal languages.

The second part to the answer is that singers can sneak in the necessary tone as a stylistic effect, even if the musical note itself doesn't match. We do this in English too; think about how many times you've heard someone [sing the national anthem](#) and ornament it with a smorgasbord of trills, melismas, and glissandos. Those aren't in the original composition; they're just added by the singer for a little personal style.

The final element comes down to what scholars call "text-setting constraints," or the rules that govern how you assign notes to words. Basically, songwriters tend to write lyrics that match the notes in a way that the listener can understand.

Kirby gave us another example: "white rice" in Thai is "[khaao khaao](#)" (pronounced "cow cow"), with a high, rising first syllable and a low, falling second syllable. The best notes to set those words to would go from high to low — go low to high, and you'd twist the phrase into "something like rice news, which doesn't make any

sense," says Kirby. In fact, the relationships between the notes are even more important than the notes themselves when it comes to communicating meaning.

Rules Were Meant to Be Bro-KEN

But don't pity those languages for their harsh musical restrictions just yet — not only does English have its own text-setting constraints, but neither tonal nor non-tonal languages adhere to these rules every time.

Our text-setting constraints come down to putting emphasis on the right syllable. In music, the biggest emphasis is usually on the downbeat. In speech, it depends on the word: "Johnny loves Mary" puts the emphasis on the first syllable of "Johnny" and of "Mary," and none on "loves." If you sang "Johnny lo-oves Mary" in that sing-songy playground melody that sounds a whole lot like "Ring Around the Rosie," the emphases of "Johnny" and "Mary" both land on the downbeat.

But what if you switched out "Mary" for a three-syllable name, like "Pamela"? You wouldn't sing "Johnny loves Pam-EL-a." No, you'd keep the notes as they are and add a note at the end to fit in the third syllable: "Johnny lo-oves PAM-el-a."

Why do this? Did someone teach you? Did you pull out a rulebook and determine which ways were musically appropriate for teasing your friend Johnny? No — you just knew that this was how to do it if listeners were going to understand you. Same goes for putting the right words on the right notes in tonal languages. "These aren't rules," Kirby says. "Composers aren't taught to obey these rules just like we're not taught that Johnny loves Pam-EL-a is wrong."

And as you might expect from creative types like composers and lyricists, in both tonal and non-tonal languages, these non-rules are also constantly broken. In English, rappers and pop singers do this constantly: the first line of Taylor Swift's "[You Need to Calm Down](#)" ("You are somebody that I don't know") switches the emphasis of "somebody" from the first syllable to the last to make it rhyme with "me" in the second line ("But you're taking shots at *me* like it's Patron"). The meaning is still there, and there's an added pleasure in the unexpected twist to a familiar word.

The same goes for tonal languages. By breaking the so-called rules and messing with listeners' expectations, composers and lyricists can make songs more interesting and creative than they would be normally. And that's universal — whatever language you speak.