

Transcript

People have claimed that the music of Sir Edward Elgar sounds like British English speech somehow.

(Did you read the reviews this morning?

No, I never read reviews.

You should look--

Unless they're good.

Well the Oxford Times, it was a--)

And the music of Claude Debussy sounds somehow like French, spoke French. And obviously, no one would ever confuse spoken French with piano music by Debussy. And yet, somehow they're claiming that Debussy's music reflects the French language. How is that possible?

[MUSIC PLAYING]

So this idea's been floating around for a while, but nobody had ever been able to provide empirical evidence for it. And we recently took advantage of some very nice work that linguists have been doing showing that you can measure rhythmic differences between languages in a scientific way, by looking at the patterning and timing of syllables and constants and vowels. And showing for example, that English and French are very different rhythmically. And so we took those tools and we applied them to instrumental music. It turned out that the same equations, the same mathematical equations that you can apply to language to show their rhythmic differences can be directly adapted to music, which is what we did. And we looked at music of composers from around the turn of the century in England and France, the kinds of composers that people have made these claims about. And much to our delight, we found that the music differed in a way that reflected the language differences. And then we recently did this also with melody. So that is the voice moves up and down in time in speech, the intonation of English is also different from the intonation of French. And that is also reflected in the music of these composers.

[MUSIC PLAYING]

This has been a really fun project because it shows how-- we think it has to do with learning your native sound patterns, which everybody does. But composers are particularly sensitive to the structure of sound patterns. And we think that what's happening is that they internalize them just as everybody in their culture does, but then when they go to compose music, those patterns are there for them to draw on. Either consciously or subconsciously when they are trying to compose music that's particularly of their culture. So it's about how learning in one domain can influence another domain.

[MUSIC PLAYING]