

New system more accurately describes musical shapes

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Every square is a rectangle. But not every rectangle is a square.

And according to Scott Murphy, a professor in the University of Kansas School of Music, the prevailing neo-Riemannian musical theories have been classifying many musical squares merely as rectangles. So Murphy

has proposed a new nomenclature that gets at musical shapes—the relationships between the features that make up a song—much more precisely.

In his new paper, "An Eightfold Taxonomy of Harmonic Progressions, and Its Application to Triads Related by Major Third and Their Significance in Recent Screen Music," just published in the *Journal of Music Theory*, Murphy explains the theory and illustrates it both in diagrams and by reference to examples in recent popular and screen music, including the song "[Strange](#)" (2019) by Celeste and the soundtrack to the 2014 thriller "[Ex Machina](#)."

Murphy wrote that the main harmonic pattern in "Strange" differs just enough from the minor-chord-based "evil triad" featured in John Williams' "[The Imperial March](#)"—aka "Darth Vader's Theme" from the early "Star Wars" movie "The Empire Strikes Back"—that it dilutes the evil association into something more like melancholy. This can be felt in the song's use to score a scene depicting the breakup of a marriage in the Apple TV streaming series "Ted Lasso" as well as "the end of an affair in 'Sex/Life' and the heartbroken response to a suicide in 'Outer Banks.'"

This was even further stretched, Murphy wrote, when the song was altered ever so slightly and used to score "a blissful lovemaking scene" in the Regency-era romance streaming series "Bridgerton."

Thus, he wrote, a new system of analysis is needed to account for this stretching that places all the possible variables in accurate relationship to each other. Murphy's system uses the letters "IRK" to stand for Inversion, Retrograde and Key.

"The 'Darth Vader' theme is very much a square," Murphy said. "But neo-Riemannian theory says, 'Oh, it's a quadrilateral and has four sides.' I am

saying, 'No, it's way more than just a four-sided figure.'

"So what IRK does is let you set your degree of precision. Do you want to turn on the IR switches but flick off the K switch? You get to decide. And since you have three of these things—I, R and K—and each of them can be flipped in one of two ways, making eight possible combinations, that's where you end up with an eightfold system."

Murphy concludes the paper by showing how the "I" factor is used to liken two "Ex Machina" main characters—a high-tech businessman and his robotic humanoid creation—to each other, but as mirror images.

"I make the case that the excerpt from Schubert, which represents the CEO, and the underscore music, which represents the [artificial intelligence](#), are flipped-over versions of one another," Murphy said.

"We think of these two characters as set against one another. But I also really like the fact that if we go back to the R component—remember in the John Williams 'Imperial March' that the ordering of those triads is very much the classic bad guy sound—the way that ('Ex Machina' composers) Geoff Barrow and Ben Salisbury order them is actually turned around.

"So there is still the sense of, 'OK, that sounds like the Vader march, but it's in an order that's not the classic.' So it I think it creates this wonderful ambiguity about the motives of this character. Is it really intent on chaos and evil, or is it just trying to get by in this human world?

"I love how the IRK system gives you more tools so that you can specify some of these sounds and get into their intricacies for, say, a plot like 'Ex Machina,' which is also quite intricate. And it allows you to use more surgical tools, rather than this neo-Riemannian hammer, which feels like a very blunt instrument to describe some of these things."

More information: Scott Murphy, An Eightfold Taxonomy of Harmonic Progressions, and Its Application to Triads Related by Major Third and Their Significance in Recent Screen Music, *Journal of Music Theory* (2023). [DOI: 10.1215/00222909-10232093](https://doi.org/10.1215/00222909-10232093)

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