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Music for Monkeys



When David Teie, a cellist with the National Symphony Orchestra, wanted to test his ideas about where our emotional response to music originates, he decided to try them out on monkeys. He figured that if his theories were right — namely, that our response to the "emotional vocalizations," pulses and heartbeats that we first hear in the womb establishes our sense of music — then he should "be able to write music for another species that's effective for that species." He contacted Charles Snowdon, a psychology professor who ran a colony of cotton-top tamarins in Madison at the University of Wisconsin, who sent him recordings of tamarin calls that demonstrated fear and calm. The fear-based calls "showed evidence of tritones and minor seconds," Snowdon says, and the calming calls had "long slow notes with some nice harmonic structure."



ILLUSTRATION BY HIMI KOZUE [ENLARGE](#)



ANIMATION BY KRISTIAN HAMMERSTAD

Teie wrote four pieces for cello and voice based on the tamarin vocalizations, two "threat-based" and two "affiliative." So that the tamarins could hear the compositions on their own terms, he sped them up three octaves. Even at human tempo, the threat-based music sounds martial and alien. Teie also chose four pieces originally designed for human listeners and played them to the tamarins for comparison, including bits of Barber's "Adagio for Strings" and Metallica's "Of Wolf and Man." Over two months, seven pairs of adult tamarins heard all eight pieces of music. Monkeys "really don't care much for human music," Snowdon says, and they showed very little response to it, with the weird exception of excerpts from Metallica and "The Grudge," by Tool, both of which soothed the monkeys slightly.

The monkeys responded more profoundly to Teie's music. The threat-based pieces led to "tongue-flicking, head-cocking, scratching," and other signs of anxiety, Snowdon says. The calming music "increased foraging behavior, eating and drinking." As he composed, Teie was careful not to replicate any of the tamarins' natural vocalizations; otherwise the animals might simply respond to what they already knew. Snowdon and Teie published their results online in September in the journal *Biology Letters*. Teie has since written other examples of "species-specific music" for cats and mustached bats. "It's certainly music," he says. "It's patterned. If I hand it off to other cellists, they can play it." AARON RETICA