



stereophile

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NEWS DESK

Looking For the Soul of Music

By Wes Phillips

▶ April 9, 2006 — Two scientists from McGill University—Daniel Levitin, a cognitive neuroscientist, and Stephen McAdams, a cognitive psychologist—and a professor from the College of New Jersey joined forces with the conductor and five members from the Boston Symphony Orchestra, not to mention 50 audience members, this past weekend to attempt to measure how people process music.

Conductor Keith Lockhart wore a specially constructed "conductor's jacket" (more of a shirt, actually), equipped with sensors that measured his heart rate, muscle movements, and other physiological responses as he led the orchestra. Five musicians and 15 people in the audience also wore skin response sensors, and an additional 35 people in the audience charted their emotional responses with a sliding mechanism.

The project grew out of research by Teresa Marrin Nakra, a former MIT doctoral student now teaching at the College of New Jersey, who was an assistant conductor at the Boston Modern Orchestra Project. Nakra used the sensor shirt on conductors—including Lockhart—while doing research for her doctorate and found a correlation between the emotions experienced by the conductors and their gestures. What many of her readers wanted to know, she told *The Boston Globe*, was whether the conductor managed to communicate those feelings to people in the audience.

Toward that end, Nakra, Levitin, and McAdams created an interesting test that required \$80,000 worth of sensor equipment and an interesting twist: they taped the BSO's performance on Saturday, April 8 and intend to show it to an audience in Montreal wearing similar measurement devices to determine if people react differently to live and taped musical performances.

That's the aspect that fascinates Lockhart, who opines that live music has a physical impact that even the best recorded playback still lacks. "I prefer the old-fashioned way of [evaluating my performance]," he told the *Globe*, citing "the sharp intake of breath from the audience, the simultaneous sigh of 2000 people, seeing them jump to their feet and yell 'Bravo.'"

"I'm an analog guy in a digital age."

Yes, but as we asked last week in our [Vote](#), is he a tube guy in a solid-state age?

We look forward to learning more about the physical and cognitive changes that occur during music listening and music making, but we doubt that the true mysteries of music will ever be answered. For example, despite millennia of attempts, we haven't even agreed upon a definition of what music *is*. Ask any parent of a 15-year-old—or, for that matter, any 15-year-old.

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