



## Without a Song

*Just how much music can a nonmusician make?*

by Trey Popp in Philadelphia, Pennsylvania

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Anyone who's sat down at a piano after a lifetime spent evading lessons knows the feeling. These fingers will never make music. Why didn't I learn when I had the chance? Adulthood is no time to start. Will the sum of my melodic output forever be limited to punching out "Mary Had a Little Lamb" on a touchtone phone?

The notion that grownups with no musical training have blown their chance is more than conventional wisdom. There's science to back it up. If you're a North American adult, for instance, there's a good chance that your baby niece or nephew has a better ear for the beat than you do. A [recent experiment](#) by researchers at Cornell and the University of Toronto found that 6-month-olds can perceive subtle variations in the complex rhythms of Balkan folkdance tunes just as well as first-generation immigrants from Bulgaria and Macedonia who grew up listening to them. Adults unfamiliar with the music, on the other hand, struggle to keep up. Another study suggested that the comprehensive training received by music conductors, who significantly outperform nonmusicians when it comes to locating sounds in space, may actually change their brains.

Nevertheless, nonmusicians have been receiving a lot of attention from hopeful music researchers and computer scientists lately. Their goal is more ambitious than helping novices become better listeners: they want to catapult people with little or no training into the ranks of composers and performers.

"It's a shame that people have to sit in an audience and be passive," says Elaine Chew, an accomplished pianist and assistant professor of industrial and systems engineering at the University of Southern California. Chew has performed in venues ranging from Singapore to Slovenia, and has accompanied cellist [Yo-Yo Ma](#). More recently, she's been focusing her energies on enabling nonmusicians to experience the thrill of performance. Chew has yoked a steering-wheel console to a computer system that lets a user "drive" a piece of music, manipulating the tempo with an accelerator and brake pad. The visual display is like a race track whose curves prompt the driver to slow down or speed up, shifting the musical pace along with the car's movement through space.

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microprocessor into a 4-by-4-inch cavity in the instrument. Then there's the matter of how to let an inexperienced player know where his fingers need to be not only at the moment, but the moment after that.

The obvious difficulty of designing tools to turn amateurs into active but limited participants begs a basic question: Why do it at all? Does anyone really want to listen to music created by someone who hasn't taken the time to study it? Only a glutton for aural punishment would see fit to loose a rank beginner on a juiced-up violin, no matter how sophisticated its wiring is – or so some would say.

Grindlay takes a different view. "All the traditional musicians out there now come from this restricted pool," he says. "They've all been brought up on the same kind of tradition rooted in western tonal harmony. Maybe one thing to be gained [from novices] is bringing other perspectives of what the definition of music is – bringing in musical ideas that might not be thought of by somebody who's classically trained, because it's so far out of the sphere of what's allowed."

When it comes to expanding the boundaries of what's allowed, Max Neuhaus has devoted his life to knocking down walls. A world-class percussionist in the 1960s, he abandoned traditional musical instruments – and the conventional concept of music itself – when he was 28. Over the last 40 years, he has experimented with sonic networks that allow absolutely anyone to create new forms of music with no training whatsoever. His initial efforts relied on radio stations and telephone lines, but the birth of broadband internet has propelled his work to a whole different level. His current project, termed [Auracle](#), is an online system in which voice is used to manipulate a theoretically unlimited array of virtual instruments.

Users log into the site and select (or program) an instrument to their liking. As many as five players can jam together at once, each using his own voice to control the entirely different sounds produced by his instrument. Since Auracle's "Constitution" requires that players "be free of obvious musical conventions," you won't find anything in the

way of a trumpet or a flute in the quintet. The whole idea is to push people in new directions. Your virtual instrument can't defy the laws of physics, but that still allows for some pretty wild possibilities. "For example, using software you can make a string instrument with a string that's a mile long and two feet thick," Neuhaus says. "It will sound like something real, but of course it would be very hard to make."

What that means for the casual listener is a sonic environment that's a far cry from Beethoven, bebop, or even the most ear-stretching experiment in free jazz. But nonprofessionalism is just the point. "Music, I believe, began as a nonverbal dialogue, and it's still found that way in cultures that haven't had contact with modern man," says Neuhaus, citing the Balinese gamelan orchestra and the music-making of New Guinea as examples. "But we've refined it and transformed it all the way from a communal activity, a communal conversation without words, into a product ... recording it and producing objects called CDs, which we sell. This is fine. It's one possibility. But the original impulse for me is a dialogue. And I'm interested in reinstating the possibility for that dialogue with modern means."

By bringing his inclusive ideology to the Internet, Neuhaus aims to bridge the gap between the professional and the novice by inviting them to re-create an ancient and highly democratic musical ethos on a global scale. It's music not as entertainment but as an exercise in pancultural communication, and he believes fervently that untrained players are the key.

"If we try to think of the layperson becoming a professional musician, it's the wrong direction," he says. "The thing he can offer is something much different than what the professional musician can offer. You know, when classical musicians try to play jazz, they can't. And that's because they know too much, in a way. With Auracle we are expanding that even more."

So in one musical forum, at least, it would seem that dodging those childhood piano lessons may have been the wise course, after all.



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