

TOD MACHOVER, CALLED "AMERICA'S MOST wired composer" by the Los Angeles Times, has written six operas, including the robotic *Death and the Powers*, scheduled to debut in Monaco in September. The 56-year-old composer and cellist is the inventor of *Hyperscore*, a computer program that enables even the untrained to write music, and his students created the popular computer-based toys *Guitar Hero* and *Rock Band*. He spoke with the magazine's Erica R. Hendry at MIT, where he's a professor of music and media.

How is technology democratizing music?

Art can transform people's lives. But it should be available and understandable to everybody. It should be serious but not elitist. Sure, if you want to study for 20 years and become incredibly skilled at a particular musical instrument, that's great. But I can also make an instrument that would allow you right now to take a piece of music and shape it. *Hyperscore*, which uses lines and colors to allow children basically to draw music, is pretty sophisticated but very easy to use. Kids have fantastic ideas, and if you can get them to try something with a tool like *Hyperscore*, within 20 minutes you can start to explore what structure is, what it means to tell a story with music. It's democratizing music because it lets everybody make their own music.

How did you end up at MIT's Media Lab?

My mom is a pianist, and a very creative music teacher, and my dad was in computer graphics. So there was music and technology at home. At the end of a piano lesson my mom would say, "Look around the house for something that makes an interesting sound." We'd run around and get a book, a lamp, a pot, a pan. She'd say, "What sound does it make? What's the loudest you can make it? What if you combined it with another sound? Can we make a story out of those sounds?" We'd work like that until we created a piece. Then she'd say, "Can you make a picture of what you just heard so we can play it again next week?" In that little bit of experimentation I learned that music wasn't just something printed, written by dead people you'll never see. Music comes from the world around you. It's ordered by people for particular reasons. Music is a way of telling a story—

whether it has characters or not, it has to have a progression.

Some musicians say people who use technology shortcuts don't understand what they're doing.

There are people who say you couldn't possibly get to an interesting musical experience without paying your dues. I agree that concentration and effort and sustained focus on anything are going to reveal richer and more exciting things you can do. But it's not always so obvious even when you study an instrument for 20 years how to get to the deep part of it. Most of the activities I'm involved with are getting people to the core of musical expression as fast as possible and then setting up an environment where they enjoy it enough to spend days or years getting better at it.

How will music change in 40 years?

Nowadays, composers and performers find

the simplest way to make music that appeals to the largest number of people. One way that music will develop is in the opposite direction—creating music that only you respond to, based on our growing understanding of the neuroscience of music. You could share such music with others. But we could fine-tune this personal music to have a specific emotional and a mental effect. Then music could be a tool for pulling someone out of depression or calming them down. Specialists who are partly psychiatrists and partly composers and partly neuroscientists could help create that music and prescribe it, then shape and tweak it during a listening experience for maximum impact. That might be a dream now, but it will soon be possible, and this seems an enormous change in the potential of music to reach us in the most powerful way. ○

GUITAR HERO

"Kids have fantastic ideas," says "wired composer" Machover (with an instrument from the Beatles version of Rock Band, the computer-based musical toy invented by his students at MIT).

ARTS & CULTURE

40 THINGS TO KNOW

Q&A

TOD MACHOVER MAKE YOUR OWN MUSIC

