

Composer of the Year

Tod Machover

He electrified Yo-Yo Ma's cello, directed musical research at Pierre Boulez's IRCAM, composed a "robotic" opera, and rethought the symphony as a community event. He has also helped Alzheimer's and cerebral palsy patients to communicate through music. He is the true futurist.

By Mark Swed

Musical America's Composer of the Year is a futurist. He has the Einsteinian wild hair and the academic titles to prove it. He directs *Opera of the Future* and *Hyperinstruments* groups at M.I.T.'s Media Lab, where, over the past three decades, he also has been involved in such heady hi-tech programs as *Things That Think* and *Toys of Tomorrow*, or TTT and TOT.

It is incredibly easy to be seduced and dazzled by the technology Tod Machover manipulates. *The Brain Opera*—part interactive opera, part multi-media installation with many fanciful electronic instruments that the audience plays, including a chair that allows the listener's body to influence the score—is a Machover brainchild. The cello he and his M.I.T. team electrified for Yo-Yo Ma in the hypercello concerto, *Begin*

Again Again..., is another. Machover has begun again and again, ever anew, with concertos for hyperviola, hyperviolin, and hyperpiano, each further extending a virtuoso performer's range and sonic possibilities.

One of the pieces, *Fensadense*, that Machover wrote last summer for the Lucerne Festival (where he was a composer in residence), utilized electronic armbands that allowed the players' physical movements to alter their amplified instruments' sound. At an early rehearsal, young musicians quickly lost their conservatory-trained inhibitions as they experienced first gleeful awareness, then awe, over their newfound instrumental powers.

The power of this technology is, indeed, extraordinary. Machover has gainfully employed it for education. His

(pictured) For the Lucerne Festival's celebration of Pierre Boulez's 90th birthday last summer, Machover composed *Re-Structures* for two pianos and electronics. Photo: © Lucerne Festival/Priska Ketterer.





In the late 1970s at Juilliard with Elliott Carter, one of his mentors.



At the London premiere in 1981 of Pierre Boulez's *Répons* are (left to right) Boulez, his longtime assistant Andrew Gerzso, and Machover.

Hyperscore software enables anyone, child or adult, to compose by drawing notes on a computer screen. That has led Machover and his colleagues to explore the use of the program as a tool for musical therapy. Thanks to Hyperscore, patients with Alzheimer's disease and cerebral palsy otherwise unable to communicate are given the curative opportunity to express themselves with music.

Yet despite all the splendid musical inventions made by the Media Lab, Machover's music does not necessarily speak

a new language. A kitchen with all the latest equipment may ease experimentation, but you still need a good cook. For Machover, the medium is more often the messenger than the message, electric glitz enhancing traditional musical

The MIT Media Lab congratulates Tod Machover on being named Musical America 2016 Composer of the Year.



resources. Ultimately, all of his work is a brain opera, a vast network of musical neurons enthusiastically making connections between musical traditions, past and present, not normally joined.

Born in 1953, Machover grew up with a footing in music and technology, his mother being a pianist and his father a pioneer in computer graphics. Trained as a cellist, Machover studied composition at Juilliard (Elliott Carter was among his mentors) and, in 1980, he became director of musical research for Pierre Boulez's electronic-music institute, IRCAM. The young composer was involved in the creation of Boulez's computer-music, surround-sound *Répons*. At IRCAM, Machover also came into contact with John Cage, whom Boulez had commissioned to make *Roaratorio*, an "Irish circus" that included field recordings of all the sounds mentioned in James Joyce's *Finnegans Wake*.

Machover eagerly embraced the then-seemingly incompatible aesthetics of Boulez and Cage, drawn to both compositional control and freedom. Machover was additionally the first American to significantly employ IRCAM's new spectral compositional techniques, in which harmonies are



Machover's "robotic" opera, *Death and the Powers*, takes place in a future where computers can absorb human DNA. Pictured, in the 2010 Monte Carlo Opera production, is Hal Cazalet as Nicholas. Photo: © Jonathan Williams.

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The high-tech layout for a rehearsal of *Fensadense*, written by Machover in summer 2015 while he was a composer in residence of the Lucerne Festival. Photo: © Stefan Deuber/Lucerne Festival.

produced through studying the properties of overtones. On top of all that, he added a healthy embrace of minimalism, pop music, science fiction, and electronic gadgetry to his first opera, *Valis*, based on Philip K. Dick's dystopian postmodern novel.


The 1983 opera contains musical, technological, and thematic seeds of much of what would follow in Machover's career, beginning with its worry over whether artificial intelligence empowers our angels or our devils. In *Valis*, Machover first developed dramatic structures through which he could employ a wide variety of musical styles, a technique he went on to use in instrumental pieces. Passages from Wagner's *Parsifal*, electronically transformed in the opera, presaged yet another Machoverian preoccupation, that of technologically revivifying older music (the new *Fensadense* for Lucerne is introduced by hyperinstrument versions of Bach and the Beatles). *Valis* had an experimental multimedia staging at IRCAM, with extensive use of video, and that, too, was a fruitful beginning for Machover's installation works developed at M.I.T.

Machover's latest large-scale opera, *Death and the Powers*, a finalist for the 2012 Pulitzer Prize, is a mature reappraisal

of the temptations and dangers of artificial intelligence first broached in *Valis*. In this "opera of the future," a corporate megalomaniac finds immortality by morphing into a machine. As well as *The Brain Opera*, he has produced a music-theater piece about deception and reality for the magic team of Penn and Teller. On the other hand, Machover presented Houston Grand Opera with something Tchaikovskian. *Resurrection*—based on Tolstoy's visionary last novel—may seem on the surface a retrogressively 19th-century Russian opera, but it features, as in *Valis*, a protagonist finding spiritual awakening in a soulless society.

This larger issue of how technology touches society has blossomed most fully in Machover's recent city symphonies. These are the composer's answer to the dangers of technology's potential for soul-sapping artificiality. First in Toronto in 2013 and most recently with the Detroit Symphony in November, Machover has begun to bring the many strands of his musical career together, including his work in health, education, and invention.

Noting that social media does little to actually bring people together, he has rethought the symphony as a community event. As Cage did with *Roaratorio*, Machover



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Machover (left) has rethought the symphony as a community event. He is pictured with Detroit Symphony Music Director Leonard Slatkin (center) and Dennis Scholl, formerly with the Knight Foundation, which was instrumental in its support of the composer's *Symphony in D* in Detroit.

collects sound samples from the region, but he also invites participation from anyone who cares to contribute sound samples or create music on Hyperscore. Machover then composes an orchestral work that incorporates all that he

finds interesting and evocative. Three hundred school kids had a hand in the *Toronto Symphony*. Water plays a major role in *Symphony for Lucerne*, as does the surf (along with birds and both Aboriginal and urban musics) in *Between the Desert and the Deep Blue Seas: A Symphony for Perth*. *Festival City* dwells on Edinburgh's past. For *Symphony in D*, Machover discovered just how steeped in music is Motown, a city with stories to tell but that thinks about its future.

That last bit is the real key to Machover. A true futurist understands the past and thinks about things to come, but the real work is to make the moment matter. At Lucerne, Machover presented a tribute to Boulez. *Re-Structures* for two pianos and electronics morphs from hardcore 1950s serialism into fresh, rhythmically driving, all-cylinders-firing, electronically enhanced Machover. The thrilling transition should be radical. In fact, the progress is so smoothly natural you hardly sense it as a transition at all, merely the past foretelling, as it should, what comes next. ●

Mark Swed is the music critic of the Los Angeles Times.



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