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THE *Annual*
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ISSUE

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DESIGN PULLS THE
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HIGH GEAR

*Going to Extremes with
YVES BEHAR, DAINESE
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CLOCK WORK

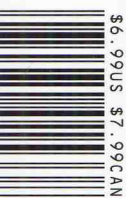
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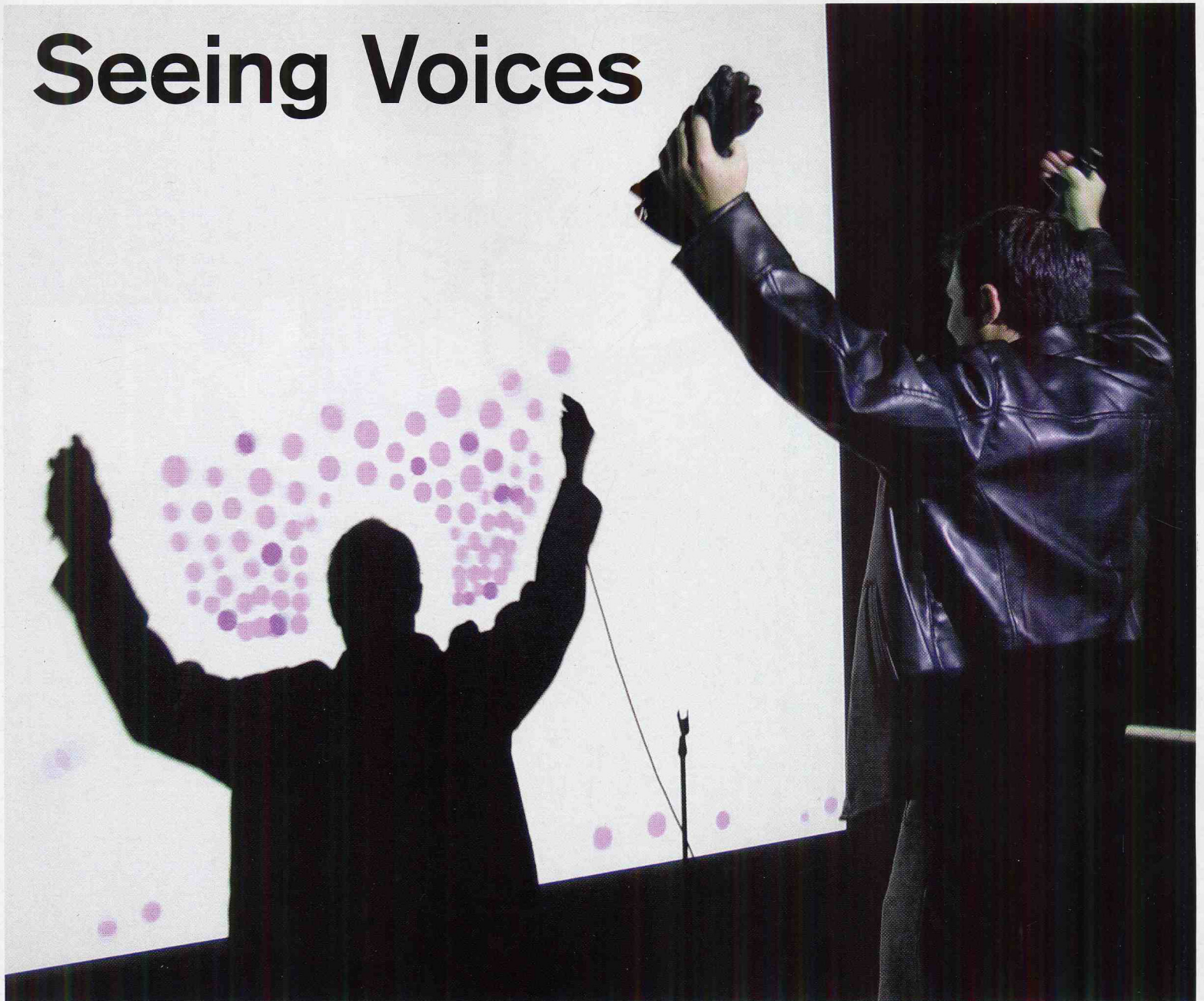
*Our Guide to the
BEST BATHROOMS*



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Seeing Voices



Tmema's computer technology enables them to visualize the full spectrum of the human voice

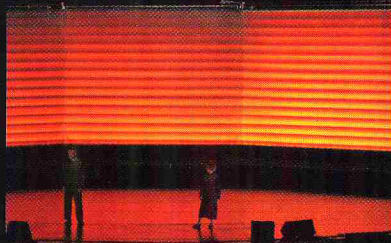
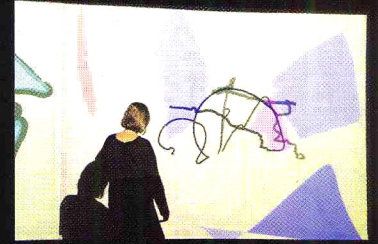
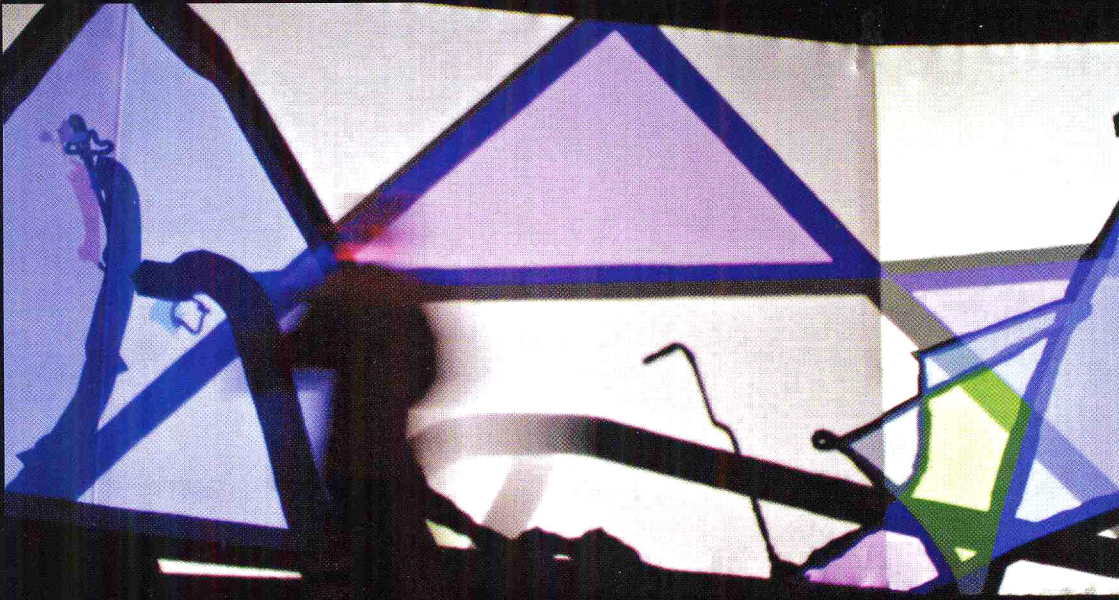
Story PAUL YOUNG

GRAPHIC STATEMENTS: An installation version of *Messa di Voce*, in which several of the performance's modules, such as "Bounce," were presented for public play at Eyebeam Gallery, New York (2003)

If your voice were a color, what color would it be? Or if it took on shape, what would it look like? Golan Levin and Zachary Lieberman, the two New York artists behind Tmema, have spent the past five years looking for the answer. Their result, *Messa di Voce*, is an amazing live show that has been performed in Great Britain and Austria.

In *Messa*, two vocal maestros, Jaap Blonk and Joan La Barbara, run through a wide range of voice techniques, from clicks and squeaks to operatic arias, while Levin and Lieberman mobilize a series of original software programs, synthesizers and projectors. (For interested comp-sci folks, they code in C++ using OpenGL and various other libraries like Intel's OpenCV.) The result is a sometimes comical, but always spellbinding audio-visual experience, in which the two performers literally throw their voices onto a large, canvas-like screen, creating a range of bold, abstract shapes and watery washes.

"We could have used words or lyrics," explains Lieberman, who was formerly Levin's student at Parsons School of Design. "But we really wanted this to be about communication, not language. It's about feeling and coming to an understanding of how we communicate feeling through sound." >



VISUAL SOUNDSCAPES: Performances from "Pitchpaint" (top grouping), in which performers paint on a canvas through singing, with the thickness and direction of the stroke determined by the loudness and pitch, respectively, of the voices; and "Stripe," (below), in which Jaap Blonk and Joan La Barbara sing a slowly-evolving duet – their pitches and timbres visualized by the softly-changing stripes behind them



In a segment called "Pitchpaint," Blonk and La Barbara manipulate sounds to create live, electric abstract paintings; they alter their vocal techniques to stimulate programmed software cues, which, in turn, create visual patterns and shapes on the onstage screen. A steady baritone produces a weighty, solid line, while a glissando yields delicate filigrees. And there's a kicker: A digital camera tracks the movement of the performers' heads, marrying this movement with the computer-generated imagery, so that no matter where the performers are on stage, the images appear to spill right out of their mouths onto the screen.

What's more, the images are totally malleable, both physically and sonically. In another segment, "Rothko," La Barbara sings a series of tonal phrases that create haunting, cloud-like columns of colored light. But these images are also sound recordings running in continuous loops. That means La Barbara can manipulate the loops at will and build an audio-visual score layer by layer in real time, adding harmonies and counterpoints when needed. "It's really about enabling people," explains Levin, now an associate professor at Carnegie Mellon. He sees technology as a new kind of artist's instrument. "It's about making a totally responsive system that enables people to discover themselves through an interactive medium. To me,

that's what it's about. It's not about how it looks or sounds, it's about how responsive it is." Creating a more responsive system has inspired Tmema – which translates to "small works" in Latin – to build on their findings and explore other areas of movement. "Manual Input Sessions," their latest design, does for the human hand what *Messa* does for the voice, while other works, like "Scrapple" and "Drawn," transform objects and line drawings respectively into musical notations. Tmema's new work will debut at the Public Museum in West Bromwich, England, this August, and will allow participants to don a voice-activated "costume" and take them on journeys through virtual landscapes – all shaped by the sounds produced by participants and the artists. Like *Messa*, which can also function as a stand-alone installation, these works are specifically designed for public use so you, too, can create your own audio-visual masterpiece.

"After doing this for a while and having some distance from it," says Lieberman, who now teaches at Parsons, "I can say that what we're doing is making magic, at least as much as magic is making the invisible visible." **PY**