About This Issue

This issue continues *CMJ's* longstanding tradition of interviewing composers of computer music. Miriam Richter converses with Brazilian-born British composer Eduardo Reck Miranda, who has worked for many years in Europe and currently teaches at Plymouth University in the UK. Miranda, who founded Plymouth's Interdisciplinary Centre for Computer Music Research, is noted for his work at the intersection of music and science. Besides composing numerous pieces for instruments and/or electronics, he has authored or edited various books and published many articles, including ones in this journal. His research spans multiple areas, including artificial intelligence (see, for example, his article in *CMJ* 19:2), cellular automata (*CMJ* 23:2 and 38:4), evolutionary computing (*CMJ* 26:2 and 34:1), brain interfaces (*CMJ* 27:2), biocomputing (*CMJ* 33:1), and sonification (*CMJ* 39:3). In the interview, he couches his creative process in terms of a dichotomy between the methodical and the intuitive, which he associates not only with the philosophical duality between the Apollonian and the Dionysian, but also with complementary brain functions that excite and inhibit each other. Among other topics, he explains his approach to growing an audience for Plymouth's Peninsula Arts Contemporary Music Festival, of which he is music director.

In this issue's second article, Sean Soraghan et al. describe research in timbre visualization that they conducted at the British music company ROLI (whose products have been noted in the Products of Interest section of recent *CMJ* issues). Previous researchers had come up with the idea of coloring the amplitude envelopes of sound waveforms, with different colors representing different frequency regions of the sonic spectrum. The article by Soraghan et al. extends this concept by introducing an approach to displaying stereo amplitude envelopes in which both color and texture represent timbral features. The technique uses various mappings from low-level, time-varying acoustic features (spectral centroid, spectral spread, and spectral flatness) to time-varying visual aspects rendered in the hue, saturation, value (HSV) color space. These mappings incorporate findings from research on semantic descriptors of timbre. The article also describes the authors' experiment that evaluated users' preferences for different mappings. Results included a preference for an inverse mapping from spectral centroid to color hue: The lowest frequencies are mapped to the blue end of the color spectrum, the highest to the red end, etc.

As evidenced by many articles in *CMJ*, one of the most intriguing areas of computer music research involves ways in which a human performer can control real-time digital sound synthesis. Throughout the entire history of electronic music, numerous physical controllers have been designed, many of them harnessing playing techniques borrowed from conventional musical instruments. But what of the voice? Some researchers have proposed the use of vocal gestures to control synthesizers. In the current issue, Stefano Fasciani and Lonce Wyse describe such a technique, in which they use machine listening and machine learning to map aspects of the user's voice to perceptual aspects of the synthesized sound. Their approach achieves generality by hiding any synthesizer-specific parameters, and it also maximizes the employed timbral range of the synthesizer. The authors conducted experiments with experienced musicians, who were able to achieve satisfactory control after a short practice period.

Our final article, featured on the front cover, lies in the area of algorithmic composition. As discussed in About This Issue in *CMJ* 35:3, compositional algorithms can serve either creative purposes or emulative purposes. The latter case, style

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Front cover. The opening measures of an automatically generated composition in the style of Milton Babbitt's later works. The complete piece appears as Figure 12 of the article by Bemman and Meredith in this issue. Its title alludes to Babbitt's famous 1958 article "Who Cares if You Listen?" (which he said an editor had renamed from "The Composer as Specialist" without his authorization), in which he describes the music of the modernist composer as being too complicated for the average person to comprehend.

Back cover. A rehearsal of Eduardo Reck Miranda's *Biocomputer Rhythms* for piano, percussion, and interactive biocomputer. See the interview in this issue. (Photo: Lloyd Russell.)

emulation, often involves research in how to imitate the compositional output of a given composer. Such efforts in computer music have often involved centuries-old styles, automating counterpoint construction in the style of Palestrina or chorale harmonization in the style of Bach, for example. By contrast, the article by Brian Bemman and David Meredith in this issue looks back only a few years or decades to the later works of the American composer Milton Babbitt (1916–2011). Their software generates music in Babbitt's late style, and they present here a complete sample composition, both as music notation in the article and as an audio recording on our Web site.

This issue contains the program notes for our annual sound anthology. We are indebted to Matthew Burtner of the University of Virgina for gathering this year's collection of music and for offering his insights into the works he selected.