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# About This Issue

Regular readers of *Computer Music Journal* are probably familiar with David Cope's work on automated composition in the style of a given composer. In this issue, Mr. Cope discusses another piece of software he wrote that searches for musical allusions, which in his lexicon range through five categories from outright "quotations" to loosely related "commonalities." The software, titled *Sorcerer*, performs incremental pattern-matching, searching a database of compositions for sequences of notes similar to those embedded in a target composition. Rife with excerpts from the Western classical repertoire, the article will likely interest musicologists as much as computer scientists.

This issue features two pairs of technical articles, describing mathematical models of expressive performance and physical models of

instruments, respectively. Patrick Zanon and Giovanni de Poli's article presents a technique for finding optimal weights for the parameters in the KTH rule system for musical expression (a system developed at Stockholm's Kungl Tekniska Högskolan, or Royal Institute of Technology). The article by Stefan Müller and Guerino Mazzola deals with the reconstruction and visualization of a "performance field" for a given rendition of a specific musical score. A performance field mathematically describes how the score data maps to the performance data.

In the arena of physical models, Eric Ducasse describes an object-oriented model of a single-reed wind instrument, such as a clarinet or saxophone. The model accounts for the performer's physical interface with the instrument, including tongue, lips, breath, and fingers. The article

by Vesa Välimäki, Mikael Laurson, and Cumhur Erkut discusses emulation of a stringed keyboard instrument, the clavichord, using a physical model of the string in conjunction with recorded samples of the excitation, reverberation, and "end knock" for each pitch. Sound examples for both this article and Mr. Ducasse's will be included on the annual audio disc accompanying the fourth-quarter issue of 2003.

This issue's reviews section covers a diverse set of events, writings, music, and software. One of the book reviews evaluates *Microsound* by Curtis Roads, the granular-synthesis pioneer and former editor of this journal. The reviewed software includes an educational CD-ROM that introduces children to techniques of electroacoustic composition and signal processing. Product announcements conclude the issue as usual.

*Front cover:* An assemblage of illustrations from this issue's articles: structural similarity between themes of Mahler and Händel (top); diagrams of the clavichord and a single-reed woodwind mouthpiece (center); and a passage by Dufay chosen to test the sound synthesis by a physical model of the clavichord (bottom).

*Back cover:* A sonogram of a woodwind physical model, including a glissando (top); and a representation of a performance field showing an excerpt from a Czerny exercise, performed with a "Chopin rubato" (bottom).