

***Tracer***  
**David Taddie**  
**Analysis by David Mitchell**

David Taddie is an associate professor of music theory and composition at the University of West Virginia. He is also the director of UWV's electronic music studio. He has a Ph.D in music composition from Harvard and a graduate degree from the Cleveland Institute of Music. According to his biography on the University of Virginia website,

His principal teachers were Mario Davidovsky, Donald Martino, Bernard Rands, Edwin London, Bain Murray, and Rudolph Bubalo. His music has been widely performed in the United States and Europe by soloists and ensembles such as the Cleveland Orchestra, Alea III, the New Millennium Ensemble. . . Among his awards are the Adelbert W. Sprague, Francis Boott, and Bohemians prizes in composition from Harvard University, the Kaske Fellowship to the Wellesley Composers Conference, a Charles Ives Scholarship. . .<sup>1</sup>

*Tracer* was written for and commissioned by pianist Mark George in 2003. The following quote is David Taddie's explanation of this piece.

Use of the stereo field produced by electronics to increase the apparent acoustical space of a solo instrument is a process which has interested me for a long time. *Tracer* makes extensive use of digitally processed piano samples as well as purely synthesized sounds to provide expanded resonance of the harmonic fields implied by the piano's lines and to expand the piano's apparent acoustical sound space. At times, the roles are reversed as the piano supplies harmonic and/or gestural intensification of the electronics. Overall, the piece

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<sup>1</sup> College of Creative Arts-Divisions of Art & Design, Music, and Theatre and Dance, "David Taddie," University of West Virginia Website, [http://music.wvu.edu/faculty\\_staff/david\\_taddie](http://music.wvu.edu/faculty_staff/david_taddie), (accessed 16 September 2010).

involves a kind of developing variation where the material is developed and varied, those variations providing the basis for further variation. In addition to "traditional" electronic type sounds, the electronic part often serves an orchestral function.<sup>2</sup>

Taddie uses the sostenuto pedal to expand the acoustical space of the piano. In measures 1-40, He calls for the pianist to hold the dampers open with the sostenuto pedal for notes A sharp through A natural, one octave below middle C. With the pedal held down, any note that is struck on the keyboard will create sympathetic vibrations. These sympathetic vibrations include the principle note plus all of the harmonic overtones that are available from A sharp to A natural. This creates some interesting interactions between the notes that are played on the keyboard and the harmonic overtones from A sharp to A natural. As each principle note is struck, some overtones are emphasized while others are canceled out.

Taddie uses octatonic and diatonic collections to activate these overtones. In measures 4-14, the piano plays notes that are primarily from Oct. 0 which contains A, Bb, C, Db, Eb, E, F#, and G. The notes of Taddie's referential collection in measures 4-14 are A, Bb, C, Db, E, F, F#, and G. The only difference between Taddie's referential collection and Oct. 0 is that F is not part of Oct.0 and Eb is missing. A careful analysis reveals that notes A, Db (C#), E, F#, and G in Taddie's collection are part of the A harmonic overtone series, and notes C, E, G, A, Bb are part of the C harmonic overtone series; therefore, when these notes are played they will activate the harmonic overtone series associated with notes A and C.

In measure 15, there is a diatonic cluster in the bass clef of the tape part that contains notes from DIA -5. Taddie's diatonic collection in measure 15 contains notes F, G, Ab, Bb, and C. Notes Db and Eb are missing from the referential collection DIA -5 that Taddie uses in measure

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<sup>2</sup> HMA Composers Festival, Oct. 11-12, 2003 "Tracer," HMA website, <http://www.hmoa.org/pages/composers/taddie.htm>, (accessed 16 September, 2010).

15. Db, the principle note in the Db overtone series, is part of Oct. 0 collection that the piano has in its referential collection. The combination of Oct. 0 in the piano part and DIA -5 in the tape part activate notes that are part of the Db diatonic overtone series. This means that notes from overtone series Db, A, and C are active from measures 15-40. Taddie's use of simultaneous-referential collections and the sostenuto pedal expands the acoustical space of the piano.

Taddie also expands the acoustical space of the piano in this piece with tape techniques. The very high noises that sound like gurgling water are piano gestures recorded to tape and modulated up by bouncing them from low to high speed on a tape machine. The low piano sustained chords that include the DIA -5 collection are likely a reversal of this process. It also sounds like there are some dual and multi-reflection tape techniques that add an element of spatialization to the tape portion of this piece.

This piece is a very effective expansion of the pianos sound world through natural acoustics and tape techniques. Taddie uses the natural overtone series on the piano to broaden the timbre and pitch content of the instrument. He uses tape techniques to expand the pitch world beyond the capabilities of a normal piano. Many of the gestures are much faster than what most pianists are capable of playing on a traditional keyboard. *Tracer* is a very effective piece that demonstrates that David Taddie is an innovative electronic and acoustic composer. He has achieved his goal "to increase the apparent acoustical space of a solo instrument."