

Cort Lippe and Esther Lamneck

### **Program Notes**

**“Trio for Clarinet and Two Computers”** (2002) is a work that came out of a ten-year professional friendship. I wrote an interactive piece for clarinet and computer in 1992 for Esther and was astonished by her enthusiasm and musicality. We performed this piece on numerous occasions, and since both of us have a strong interest in improvisation, we began to explore the rich possibilities that exist between musicians and interactive systems. This piece was the result of an intensive collaboration in Pisa during the summer of 2002. The electronic part was created using Max/MSP, which was originally developed by Miller Puckette, whose dedication to computer music makes pieces like this, in which the computer can truly be treated as a musical instrument, possible. Technically the computers track parameters of the clarinet, such as pitch, amplitude, spectrum, density, rests, articulation, tempi, etc., and use this information to trigger specific electronic events and continuously control the computer sound output by directly controlling digital synthesis and compositional algorithms in real-time. Thus, the instrumentalist is offered the possibility to interact with the computers, not simply triggering, but continuously shaping the computer output. At the same time, the software interface allows the computer operator (in this case me) to perform on the computers as another musician, musically reacting to the clarinet and the computer responses to the clarinet. Some of the sounds in the electronic part come directly from the clarinet, so that certain aspects of the musical and sound material for the instrumental and electronic parts are one and the same. Stored sound material, other than the clarinet, is also manipulated via a variety of granular sampling techniques. Much of the digital synthesis algorithms focus on frequency domain processing. Standard time-based signal processing such as harmonizing, delay, frequency shifting, phasing, reverberation, spatialization, etc., are also employed. The instrumentalist/computer relationship moves constantly on a continuum between the poles of an extended solo and a duo. Musically, the computer part is, at times, not separate from the clarinet part, but serves rather to amplify the clarinet in many dimensions/directions; while at the other extreme of the continuum, the computer part has its own independent voice. **“Trio for Clarinet and Two Computers”** is recorded on Esther Lamneck’s solo CD *“Cigar Smoke”* released on Innova Records.