Program Notes

Music for Tuba and Computer (2008) was commissioned by and realized at ZKM, and written for and dedicated to the tuba virtuoso Melvyn Poore, whose wisdom, patience, and musicality helped nurture this piece. Like with all my pieces for acoustic instruments and live computer over the past 20 years, the electronic part was created using the software Max, developed by Miller Puckette, whose scientific support made this piece possible. In particular, I made use of a beta version of a new Max/MSP object, developed by Puckette originally for the software PD, for analysis/resynthesis. Technically, the computer tracks parameters of the tuba during performance, including pitch, amplitude, spectrum, density, rests, and articulation, and uses this information to continuously influence and manipulate the computer sound output by directly affecting digital synthesis and compositional algorithms in real-time. Thus, the performer is expected to interact with the computer, shaping all of the computer output. Standard signal processing such as sampling, harmonizing, frequency shifting, phasing, spatialization, and reverb are employed. Less standard frequency domain spectral processing of individual FFT channels is also explored, including filtering, phase distortion, delay/feedback, spatialization, timbral snapshots, cross-synthesis, noise reduction/enhancement, and component reordering. In addition, phase aligned format synthesis (a form of synthesis developed by Puckette), significant use of analysis/resynthesis via oscillator banks, and FFT-based control of oscillator amplitudes is explored. Compared with previous works, this piece makes use of analysis of performer input in more detail than most of my compositions. Having had the opportunity to work closely with Poore during the composition of the piece on numerous visits to ZKM allowed me the opportunity to explore in more detail the relationship between performer and machine, and in particular performer musicality and expression and its influence on an electronic part. Formally, the piece is in two large sections, and the instrument/computer relationship moves on a continuum between the poles of an extended solo and a duo.

Duration: 16 minutes.