Cort Lippe

Program Notes

Duo for Cajon and Computer (2011) was commissioned by the percussionist Patti Cudd for a tour of Korea and Thailand in May of 2011. The electronic part was created at the Hiller Computer Music Studios of the University at Buffalo, New York, using the software Max/MSP. Technically, the computer tracks parameters of the cajon performance using Miller Puckette's *bonk~* object. *Bonk~* does an analysis of the incoming cajon signal and gives out information as to when the cajon is struck, how loud it is struck, the timbre of each strike, and details about relative loudness across the frequency range in 11 independent frequency bands. All this information, from larger scale rhythmic and phrase tracking of series of attacks, down to micro-level frequency band information of individual attacks, is used to continuously influence and manipulate the computer sound output by directly affecting digital synthesis and compositional algorithms in real-time. Thus, while interacting with the computer system, the performer has a role in shaping all of the computer output. The intent is to create a certain degree of intimacy and interactivity between the performer and the computer in which the performer has the potential to influence the computer output based on aspects of the musical expressivity of his/her interpretation of the score. The computer part is to a certain degree an extension of the cajon, so the cajon can be considered more than just a purely acoustic instrument, while at the same time the computer part is an independent agent. The relationships exist simultaneously; yet have a certain level of musical and technical ambiguity. Much like chamber music playing, in which individual expressivity sometimes is meant to serve the whole and at the other times has a fundamental individual influence on the entire ensemble; the musical relationships between the performer and computer are fundamental to the musical results. The digital synthesis algorithms focus on various kinds of filtering, including resonant filter banks, formant filters, and comb filters, along with delay/feedback, spatialization, frequency shifting, frequency modulation synthesis, and sample playback. This piece is dedicated to Max Matthews, who passed away on April 21, 2011. Duration: 9 minutes.