

Diarmid Flatley

Spectral Variations on a Theme by Slayer

Program Notes:

Spectral Variations on a Theme by Slayer uses spectral analysis, sinusoidal decomposition, generative re-synthesis, and multichannel spatialization to radically recast the central guitar theme of Slayer's thrash metal classic, Raining Blood. The result is a durational multichannel audio installation which drastically alters the rhythmic proportions and spectral content of Slayer's riff. The guitar theme, which in Slayer's hands lasts a few seconds, in this work, lasts a half-hour or more. Temporally distorted and spatially redistributed over a 16.2 channel speaker system, the work places the listener inside a deconstructed electric guitar sound. The result, is a installation space activated through densely textured acoustic phenomena such as standing waves, combinations tones, and acoustic beating.

The work consists of two major components: a large, pre-recorded collection of partials derived through spectral analysis of the guitar theme; and a generative playback engine programmed in Max/MSP.

Each of the note in Slayer's riff was analyzed and manipulated using the open source software SPEAR. Following a detailed frequency analysis of each of the ten notes, the sixteen most prominent sinusoidal components were extracted. The result was a gamut of 160 sinusoidal components; the fundamental materials for the work.

The generative playback engine is programmed in Max/MSP. Formally, the piece is an endless loop of Slayer's riff. The materials are subject to stochastic processes which time-stretch, transpose, and spatialize each sinusoidal component in real-time. Temporal structure, while following the rhythmic proportions of Slayer's riff, expands the durations of the partials to extreme lengths. Spectral content, while derived from the pitch content of the riff, is algorithmically manipulated and re-synthesized. The result transforms Slayer's aggressive thrash into a glacial cycle of endlessly varied, stochastically mutating, drones, textures, and timbres.