
POINT, LINE, CLOUD

Electronic music by Curtis Roads 1999-2001

Half-life (1999)

Beneath the level of the note lies the realm of *microsound*, of sound particles. Each particle is a pinpoint of sound. Like the quantum world of the quarks, leptons, hadrons, gluons, and bosons, the microsonic domain remained invisible for centuries. Recent advances let us probe and manipulate the microacoustical world.

Sound particles dissolve the rigid bricks of musical composition—the notes and their intervals—into more fluid and supple materials. The sensations of point, pulse (series of points), line (tone), and surface (texture) emerge as the density of particles increases. Sparse emissions produce rhythmic figures. By lining up the particles in rapid succession, one can induce an illusion of tone continuity or pitch. As the particles meander, they flow into streams and rivulets. Dense agglomerations of particles form clouds of sound whose shapes evolve over time.

Half-life, composed in 1998 and 1999, explores the birth, replication, mutation, and decay of sound particles. The composition is the fruit of a long period of study and experimentation with microsound. The work is divided into two sections: *Sonal atoms* and *Granules*. The first version was premiered in May 1998 in the large hall of the Australian National Academy of Music, Melbourne, with sound projection over 28 loudspeakers. *Half-life* is dedicated in memorium to my friend, the composer Ivan Tcherepnin.

Tenth Vortex (2000) & Eleventh Vortex (2001)

In the night of 20 October 2000, I performed eleven "sound cloud vortices." These consisted of real-time granulations of a single sound file: a train of electronic impulses emitted by our PulsarGenerator program. Granulation decomposes a given sound into a cloud of thousands of sound particles. This operation also changes the time base of the original, in this case extending it by a factor of up to six. In addition, each sound grain passes through its own filter, and is scattered to a random point in space. Thus each grain has a unique identity. It is the swirling combination of thousands of individual grains that makes up the vortex.

I chose the tenth and eleventh performances for further treatment. I divided the *Tenth Vortex* into four sections, then nine sections, tuning and editing on a micro time scale. The work proceeded rapidly. I linked the sections into the final version on Christmas Eve 2000. The *Eleventh Vortex* called for more nonlinearity in the macrostructure. I broke it in to over 80 fragments, which resulted in a more complicated compositional puzzle that took months to assemble. The *Eleventh Vortex* has a more idiosyncratic structure, alternating between coalescence and disintegration.

Sculptor (2001)

The source material of *Sculptor* was a monaural percussion track by the group Tortoise, sent to me for processing in August 2000 by John McEntire. I granulated and filtered the material by means of custom software (my constant-Q granulator), which disintegrated the beating drums into a torrent of sound particles scattered across the stereo field. Beginning with this turbulent sound mass, I articulated the internal morphologies and implied causalities within the current of particles. This meant shaping the river of particle densities, squeezing and stretching the amplitudes of individual particles and particle clouds, carving connected and disconnected frequency zones, and twisting the spatial flow. Over months of intermittent editing on different time scales, I was able to sculpt this material into its final form. The composition was completed in July 2001 in Santa Barbara.