

Video explanations about Chaosynth

Video interview with Eduardo Reck Miranda


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Olivine Trees is perhaps the first piece of electroacoustic music ever composed using a parallel computer. The piece was specifically composed using sounds synthesised by Chaosynth, a granular synthesis system that I created at the Edinburgh Parallel Computing Centre (EPCC). It works by generating a rapid succession of very short sound bursts called granules that together form larger sound events; the results tend to exhibit a great sense of movement and sound flow. This synthesis technique can be metaphorically compared with the functioning of a motion picture in which an impression of continuous movement is produced by displaying a sequence of slightly different images at a rate above the scanning capability of the eye. Chaosynth uses cellular automata algorithms to control the production of the granules. Cellular automata are computer modelling techniques originally introduced in the 1960s to simulate biological behaviour.



Olivine Trees is inspired by Vincent van Gogh's painting "Olive Trees". As with impressionist painting, where small touches of unmixed colour mingle in the spectator's eyes, *Olivine Trees* is composed of small sounds segments that mingle in the spectator's ears. Apart from Chaosynth, I also used a number of CDP tools for moulding the sounds. The sounds were synthesised on a parallel Connection Machine running Chaosynth at EPCC, but the final mix was done at the University of Edinburgh's music studios. Premiere: Royal College of Music, London, England (March 1995). Prize winner at "Concorso Internazionale Luigi Russolo", Italy (1998).

Composition Example

 [Click here](#) to listen to the composition *Olivine Trees*

Books by Eduardo Reck Miranda

