

Geste Electronique

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Analogique A (1958), a composition for nine string instruments, is dedicated to Fred Goldbeck. It is an abstract structure based on probability computation. Eight different tonal states are interlinked using the methods of Markov.

Analogique B (1959), dedicated to Oliver Messiaen, is electronic music on a magnetic tape that has been cut up into hundreds of tiny pieces and then reassembled in a new sequence—one of the first musical compositions to use the method of granulation.

The concept calls for performing *A* and *B* together—originally directly, in a situation of “call response”; here through the playback of the piece heard previously. Thus, it is one of the few works (aside from *Kraanerg*) that places two media which Xenakis normally preferred to use separately—electronic music and the orchestra—in a situation of juxtaposition and confrontation. The string instruments are set off by sinusoidal tones.

Persepolis and *Mycenae Alpha* are both pieces for “polytopes,” those audiovisual mise-en-scènes in which numerous spatial configurations consisting of sound, light and architecture overlay one another at a single physical location. The various dimensions of the space are not synchronous but rather independent of one another. According to Xenakis’ view, tonal masses and masses of visual elements are equivalent with respect to their structure and can therefore be treated with the same principles, the implementation of which is referred to as a “geste electronique.”

“Graphic densities”—that is, sketches of a graphic nature (with reference to his work as an architect)—preceded the process of writing down the score. They varied in form and gestalt; the most outstanding of them were renderings in tree-like form, the so-called “arborescences” that were brachiated curves drawn on graph paper as the written manifestations of mathematical formulas and matrices. Mathematical theories were drawn upon for the purpose of mastering clouds (or Milky Ways) of sound. What Xenakis himself termed “stochastic music” had recourse to the theory of probability; game theory engendered “strategic music”; set theory led to “symbolic music.”

In 1979, Xenakis produced the first example of a UPIC (Unité Polygogique Informatique de CEMAMu), a “composing machine” that turned the curves drawn on a light shade into sounds in real time. Interesting sounds are generated by dense notations and curves assuming complex shapes. Well-known processes including granular synthesis and frequency modulation synthesis were utilized.

Mycenae Alpha (1978) was the first work entirely composed with the UPIC system. *Gendy* (“general dynamic stochastic synthesis”) is the next step, in that composition was done with the help of software. Here, though, there was no longer a need for a graphic interface; rather, the work is hard coded.