Drops – Compositional Study #2

Holger H. Hoos (1996)

This aleatoric piece is based on a steady repetition of a single bass note interleaved with probabilistic upward leaps. These leaps are taken from a small set of intervalls; in general, big leaps are less frequent than smaller ones. Depending on the size of the leap interval, the probability for successive leaps is decreased whenever a leap has occurred and subsequently increased slowly until the original value is reached or another leap occurs (this is roughly analogous to the refractory phase that occurs after a neuron has emmitted a spike).

This mechanism is used to define an instrument "drops" which can be used to play arbitrary note sequences (which define the base notes for the aleatoric sequence). The compositional study is based on two relatively simple cadential sequences which are used in this manner. At the beginning, an unsteady, sparse sequence is generated by probabilistically (random) erasing of notes. Subsequently, the density of the sequence is gradually increased until a steady, dense sequence is obtained. Now, other voices join in (which are also based on the same sequence) to produce a polyphonic interaction of the aleatoric sequences based on different transpositions and augmentations. The end of the piece is inverse to the beginning: first, the number of voices is reduced, and then the remaining aleatoric sequence is dissolved by random erasing.

"Drops" is a computer-assisted composition; it was created and realized using the Salieri-System. This recording was generated electronically, the instrumentation is chosen in such a way that, besides achieving the intended timbral effects, the individual voices should be easy to distinguish. Of course, the piece can also be performed using conventional, acoustic instruments; in this case, various percussion instruments, such as marimba or metallophone, should be used.