

Jean-Claude Risset (1938-2016) passed away in Marseille

While it is with ineffable sadness that I write these words following the death of Jean-Claude Risset, I also write with joy and wonder as we reflect on his musical and scientific contributions.

Trained in physics and music, from the beginning of his work in 1964 at Bell Telephone Laboratories, he found the center of his interests in applying digital technology to acoustics and music composition. Risset's scope included physical acoustics, psychoacoustics and auditory perception, fields that he saw to be critical to the evolution of the medium of computer music and therefore placed in the same frame. Risset's penetrating understanding and research in these often-speculative scientific fields led him to create compelling auditory illusions and perceptual paradoxes that greatly enriched these fields and that he magically integrated into his music.

While composing *Mutations* (1969), Risset realized, in an extraordinary moment of insight and invention, that the spectrum of a sound could be composed such that the frequencies of its partials are derived from a pitch space. Whereas in nature, the frequencies and amplitudes of a sound's partials, whether harmonic or inharmonic, are locked within boundaries defined by the source's physical properties. Risset had unlocked timbre or the quality of a sound from a physical source, creating complex structured sound spectra that cannot exist in the natural world. He created inharmonic spectra that are precisely organized, supple through time, that cohere, and are imprinted with the pitch material, providing an intimate structural link to the music of which it is a part. He had opened the door to the concept of composing spectra, an idea that he imaginatively extended in many of his works e.g. *Songes* (1979) and remains as a largely unexplored terrain, one of his great gifts to generations to come.

Jean-Claude Risset's commitment to the culture of which he felt so much a part was found in his extraordinary intellectual generosity, which gave purpose and direction to the many students and colleagues who were attracted to him. His knowledge was encyclopedic, but what he revealed to us was always in context, illuminating and enriching our thoughts, our research, and our music. Jean-Claude left us with his music and writings, beautiful and profound — he is gone, but he did not disappear.

John Chowning

Paris, November 28, 2016

Biography written by Jean-Claude Risset, composer and researcher (2016)

Born in 1938, Jean-Claude Risset studied piano, writing and composition with André Jolivet and in parallel sciences at Ecole Normale Supérieure (Paris). He continuously wrote instrumental works, from *Prélude* for orchestra in 1963 to the Violin Concerto, commissioned by the Suntory Foundation, including *Filtres* for two pianos, *Triptyque* for clarinet and orchestra, *Phases* (1989), *Escalas* (2002 for orchestra). Furthermore, he is known with Max Mathews and John Chowning as one of the pioneers of the computer sound synthesis. At the Bell Laboratories, he achieved in the sixties instrument imitations and acoustic illusions, which are the hearing counterpart of Escher's engraving: a sound increasing indefinitely, or a sound decreasing but ending up at a higher point. In Orsay he executed the first European system of computer sound synthesis. When IRCAM was created, he was asked by Boulez to head the computer Department. In works such as *Little boy*, *Mutations*, *Songes* or *Sud*, Jean-Claude Risset took advantage of synthesis for sculpting the sound, for making it expressive and musical. He went beyond composing *with* sounds by composing the sound itself and by playing the

sound within time instead of disposing sounds in time. He achieved many mixed works that bring closely together instruments and voices with computer sounds: *Dialogues*; *Inharmonique*; *Passages*; *Voilements*.

As composer in residence at the Media Laboratory in M.I.T., he implemented in 1989 the first *Duo for one pianist*, in which the pianist is accompanied on the same piano by a digital duplicate sensitive to his playing. In 2002 *Sud* was the first electroacoustic work ever proposed as the music option of the bachelor degree in France. He is carrying on his researches on Computer Music in the Laboratoire de Mécanique et d'Acoustique of the CNRS in Marseille. He has won in particular the Prize Ars Electronica (1987), the National Music Grand Prize en 1990, the first Digital Music Prize (1980), the *Euphonie d'Or* (1992), the Magisterium Prize of Bourges (1998), the Gold Medal of CNRS (1999) and the Giga-Hertz-Grand-Prize (2009). His works were published in 30 compact discs, in particular the monographic discs INA Sud (C103) and Elementa, WERGO 2013-50, GMEM EI-O6, INA C1019.

