>> FROM MUSIC TO SONICS

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> Erkki Kurenniemi is one of the great unsung pioneers of electronic art. He is a nuclear scientist/inventor/artist, whose projects and ideas have been surprisingly ahead of their times. He is best known as a designer of unique electronic instruments at Helsinki University's Department of Music during the 1960s. He subsequently had an impressive career as a pioneer of industrial automation at Rosenlew in the 70s, an automation designer in Nokia's cable division in the early 80s, and as head of exhibition planning at the Heureka Science Centre in 1987-1999.
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> An exploratory search for totally new kinds of user interfaces for musical instruments and the semi-automatic generation of music have been among Kurenniemi's main goals throughout all these years.
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> The first "automated instrument" he invented was the Andromatic, a synthesizer purchased in 1968 by the Swedish composers Leo Nilsson and Ralph Lundsten. That same year, an old friend, M. A. Numminen, invited him to design a new kind of electronic "collective instrument". The result was called the S hk kvartetti ("Electric Quartet"), a mind-boggling combination basically made up of four instruments rolled into one: a drum machine, violin machine, voice machine and melody machine. After that, Kurenniemi developed a range of digital instruments. The first in the series was the DIMI-A (Digital Music Instrument, Associative Memory), which was played using two 'electric pens'. With the DIMI-S ("The Sexophone") four players generated six-voice music by touching each other. The instrument measured the electrical resistance between all the pairs of players. Kurenniemi also designed an instrument called the Electroencephalophone (DIMI-T), in which the electronic sound was controlled by electrodes behind the player's ears, recording changes in their brain activity. The DIMI-O (Digital Music Instrument, Optical Input, 1971) transformed video images into music in real-time.
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> According to Kurenniemi's own "principle of unity", all his projects articles, plans, visions of the future, films, home videos, lectures, TV interviews, his work at the Heureka Science Centre, musical compositions and the fantastic electric instruments he has built reflect the same holistic ideas.
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> MT: What do you feel about the younger generation's recently awoken interest in your projects from the 1960s?
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>EK: It's a bit irritating, but understandable. Young people who have lived the whole of their lives with computers, are interested in how we got here. For us in the 60s the question was more: what is all this actually leading to?
I have been lucky to the extent that I happened to be born in 1941 and to live my life in the second half of the 20th century, i.e. I have actually had a ringside seat to watch the entire development of computer technology up to the present.
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> MT: Which of your works do you yourself now in retrospect consider the most important?
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> EK: None of them. Art has never been a goal or end in itself for me. More important has been the process. My projects have been no more than scratching the surface, bringing technology and art together. The main thing has been the collaboration
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> MT: Does none of them stand out from the others?
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> EK: Perhaps I have retained an affinity for my own first composition On/Off (1963). I did it totally independently in a chaotic tape collage without over-dubbing, late at night in the studio at the Department of Music and I felt quite a major sense of achievement once I had finished it.
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> MT: What do you think of the electronic instruments you designed?
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> EK: They may have some historical curiosity value, from the time before microprocessors and home computers. But in their day they never went into serial production as was hoped.
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> MT: What kinds of role models have you had on the art scene?
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> EK: Well, generally speaking dadaism and surrealism have always attracted me and still do. I have had no permanent role models. But important individual names have been the musical philosophies of John Cage and a few science-fiction writers: Philip K. Dick, Robert Heinlein and Arthur C. Clarke. Of the new names, the most important have been John Varley, Greg Egan and Greg Bear. I try to read everything

there is of theirs. They are futurologists who are clearly trying to see where the world is heading, and to deal with it in earnest using changes in technology. Finding new favourites is getting to be quite a job nowadays.

> MT: What are you working on at the moment?

> EK: I am currently lecturing at the Sibelius Academy about the relationship between music and mathematics. I am investigating the theory of musical harmony and it really is, to put it mildly, prompting doubts among the composition students. I have not published much about it in written form yet. I did actually publish several articles in the 80s and 90s, but not about the results of the last few years, which are the 'best'. The theory of scalelessness has been hard to sell. My theory will diverge considerably from what has been taught about scales for over 200 years. Musical theory has stayed totally unchanged since the days of Rameau in the 18th century. We are needlessly the prisoners of traditional instruments and notation, since computers have already liberated us from them. The flypaper of tonal music does admittedly caress the ear, but it is interesting to investigate atonal music through some larger form. Such as sculptures or architecture. I am interested in what happens when we go from the art of music to the science of sound.

> These comments were made over coffee at Erkki Kurenniemi's home on February 24, 2003

> The writer is an artist and a film director working flexibly in the fields of documentary filmmaking, music videos and visual arts.

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