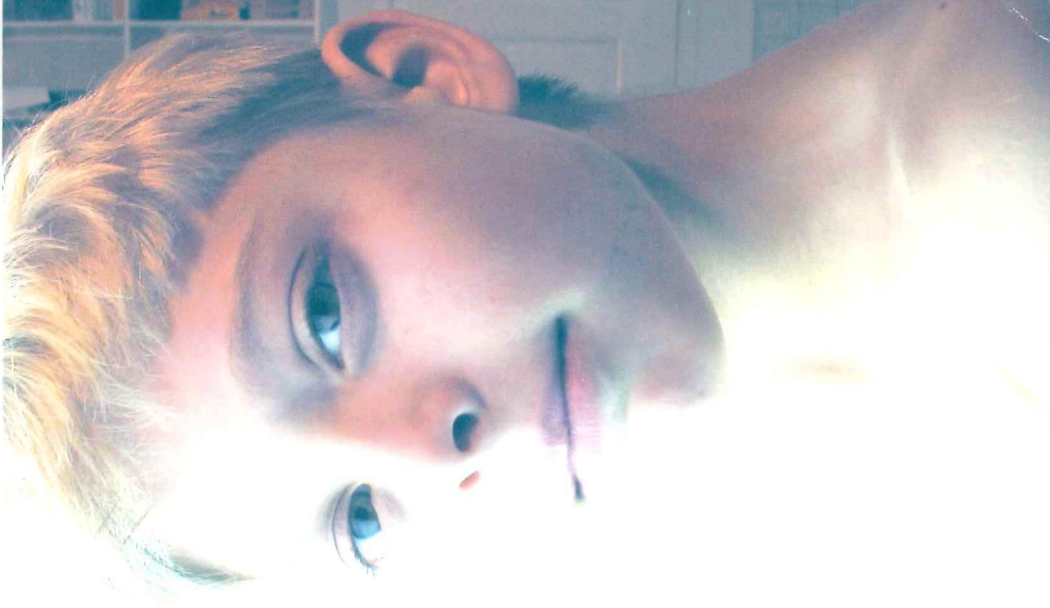




THEREMIN. Ether Music and World History Concept, Direction: Kirsten Dehlholm & Willie Flindt. Music and Sound Design: Gert Sørensen. Libretto: Michael Valeur. Scenography and Light Design: Steffen Aarfing. Costume Design: Anne Mette Sørensen. Sound engineer: Mogens Laursen. Performers: Sarah Boberg, Bo Madvig, Laurie Grundt and three children. **THEREMIN** is produced by Hotel Pro Forma with financial support from Statens Kunstfond, Wilhelm Hansen Fonden, Tuborg Fonden, Berlingske Tidendes Fond, Dansk Musikerforbund, Københavns Kommune and Beckett Fonden. Hotel Pro Forma is sponsored by The Danish Theatre Council. Hotel Pro Forma, Strandlodsvej 6, DK-2300 Copenhagen telephone +45 32 54 02 17, mail@hotelproforma.dk, www.hotelproforma.dk

THEREMIN

Ether Music and World History

ELKTRONC
PRFORMNCE

Hotel Pro Forma

Leon Theremin / Lev Termen (1896-1993) – Russian Physicist and Inventor

In 1920 as a student at the university of St Petersburg, Leon Theremin develops an instrument which is, based on the principles of interference between high-frequency oscillations. It ranges over a spectrum of three to four octaves according to the distance of the person's hands from an antenna. One plays, then, on an invisible string by moving one's wrist and fingers at a distance of 10 to 50 cm for each octave. Theremin refers to this as an 'aether-phone', and the same year he demonstrates for the first time a playable version of this instrument – one that today stands as a substantial element in the DNA of electronic music. The instrument has since become known as the theremin.

He meets Lenin, who is enthusiastic about the instrument and wishes to see it become part of everyone's home as a replacement for the piano. In 1927, Leon Theremin embarks on a European tour with his musical instrument. His concerts in Frankfurt, Berlin, London and Paris are received with unreserved enthusiasm. The audiences are amazed that this apparently inaccessible electronic technology can be utilised in such a way that a musician is able to create music simply by moving his or her hands through the air. At the Paris Opera, the police has to be called in to control the ecstatic crowd that flocks to Theremin's concert demonstration.

After his success in Europe, Theremin travels to America, where the rumours of his fantastic invention are already rife. The support he receives is so great that he decides to stay in America, settling in New York. He sets up his own firm, the aim of which is to mass-produce the theremin, and he teaches those interested in the difficult art of playing it.

His adventure in the Western world comes to an end before the outbreak of the Second World War. He voluntarily returns to Russia, but is soon arrested on suspicion of counter-revolutionary activity and is sent to a prison camp in Siberia. Theremin is released after the war, but is forced to work in the KGB laboratories, where, among other things, he develops eavesdropping equipment for espionage. In 1964, he retires from the intelligence service and is given a professorship in acoustics at the Moscow Academy of Music, and later at Moscow University. Apart from his official tasks, Theremin continues to work on his dream: the development of electronic musical instruments.

Theremin has not, however, only worked on acoustics. In 1922, he begins to develop a system that can record moving images in one location and then show them in another. Theremin's first television is demonstrated in 1925 to an audience of a thousand people. It becomes an enormous success and he is given the nickname of 'The Russian Edison'. This early TV system is used, among others, by the Russian border police and, because of the security aspect, the television project is stamped 'top secret'. Today his name is not connected with the most used and powerful medium in the world.

The conditions for experimental and electronic music in Cold War Soviet are far from favourable. Electricity is not to be used artistically, but for something concrete and functional. With the perestroika era in the Soviet Union of the late 1980s this view is somewhat softened, and the door to the West now stands slightly ajar. Once more it is possible for theremin enthusiasts in Europe and USA to make contact with the ageing inventor. He performs during the last years of his life at a number of festivals, where he gives demonstrations in the same way as in the 1920s and 1930s. Towards the end of his life, Theremin is given several awards for his great commitment to the development of electronic music, thus finally gaining the recognition he deserves for his work.

Leon Theremin dies in Moscow on 3 November 1993, 97 years old. All his life, he believed in 'the new body'. The body that can be frozen and later brought back to life with the aid of technology. A body that without decaying can travel through the infinities of the universe and back.

“On my return journey across the sea to Russia, I give free rein to my thoughts: I will live for ever. This is an idea I have played with from time to time. But I realise that this will not be possible with my present body. The human body has long since been completed and in order to build further on what is complete, the physical appearance of the body must be rethought. Is the new body, with all its limbs, forms and functions we cannot yet conceive, to resemble our old one? Is a new artificial body to be created, one based on no human model? I devise a machine that can recollect my consciousness. With the electronic components at present available it would be so vast that the artificial body would collapse under it. But the machine can be built in an area that in terms of size corresponds to Siberia and then be equipped with an extraordinarily powerful transmitter, the signal being picked up by the artificial body. And will this body ever become autonomous?”

- 1897 Telharmonium or Dynamophone is patented.
- 1898 The Telegraphone (a devise for magnetic recording).
- 1902 Enrico Caruso is recording the first gramophone record.
- 1904 Wireless transmission of music.
- 1906 Telharmonium/Dynamophone fills an entire storey of a building, weighing a total of 200 tons.
- 1909 ‘Choralcello’. A hybrid between an electric and electro-acoustic organ.
- 1911 Electronic amplifier.
- 1914 Luigi Russolo creates the noise instrument Intunarumori.
- 1915 Condenser microphone. Audion Piano (the first musical instrument that makes use of radio valves). Oscillator (electric swing generator).
- 1916 Noise music as part of happenings.
- 1920 The Theremin is invented. The electric organ. First recordings by microphone.
- 1921 Electron tube amplifier.
- 1922 Muzak.
- 1923 Staccatone: instrument with radio valves.
- 1924 Electro-dynamic loudspeaker.
- 1925 Tape recorder (Magnetophone).
- 1928 OndesMartenot’ and the Claviaturspherophone are developed. Both inspired by the theremins use of radio valves and spherical nature. Both are developed into keyboard instruments.
- 1931 Electric guitar. Stereophony.
- 1932 Terpsitone: an ether-wave dance-floor where the movements of the dancer influence the formation of sound.
- 1934 Edgar Varèse presents Ecuatorial using the theremin and other instruments.
- 1935 The Hammond organ. Light organ. Reel-to-reel tape recorder.
- 1937 Olivier Messiaen: Oraison (a composition only for electronic produced sounds).
- 1939 The Kalaidophone. An electronic monophonic instrument with kaleidoscopic tone mixtures. John Cage presents Imaginary Landscape #1, a composition for two gramophones with test sounds from the oscillator.
- 1940 Vocoder (Voice Operated reCOrDER).
- 1945 Milós Rózsa composes scores for Hitchcock's Spellbound using the theremin.
- 1947 ‘Melochord’: Monophonic keyboard instrument. Ligeti and Stockhausen among others compose for the instrument.
- 1948 LP records. Pierre Schaeffer: Etude aux chemins de Fer.
- 1951 John Cage: Imaginary Landscape #5 – randomly selected excerpts from 42 records.
- 1953 Stockhausen: Elektronische Studie 1 – only using sinus notes.
- 1954 Sam Philips is adding reverb to Elvis Presleys voice.
- 1956 Stockhausen composes the electro-acoustic work: Gesang der Jünglinge. Forbidden Planet – first electronic film soundtrack.
- 1957 IBM develops software for making music.
- 1958 Else Marie Pade: Symphonie magnétofonique (electro-acoustic work).

- Edgar Varèse: Poème Electrique.
- 1960 Programme for synthesizer music.
- 1961 Robert Moog produces and sells theremins.
- 1962 Cassette tape and recorder.
- 1964 The Moog synthesizer is produced, inspired by the theremin and melochord.
- 1965 Variations V by John Cage is inspired by the theremin. Steve Reich: Its Gonna Rain (two identical tapes played simultaneously on two reel-to-reel tape recorders).
- 1966 The Beach Boys Good Vibrations uses the theremin.
- 1967 Dolby Sound. Samuel Hoffman plays the theremin on Captain Beefhearts album Safe as Milk. Jørgen Plaetner: founder of the first Danish studio for electronic music.
- 1968 The Beatles: Revolution 9 (a complete piece for reel-to-reel tape recorder).
- 1969 Miles Davis: In a Silent Way.
- 1970 Per Nørgaard: Calendarmusic. Iannis Xenakis composes Hibiki-Hana-Ma for 12 channels and 800 loud speakers. Tangerine Dream: Electronic meditation (electronic rock and real sound).
- 1972 Per Nørgaard: Gilgamesh, composed with high-frequency oscillations of interference. Neu!.: New.
- 1973 Pink Floyd: Dark Side of the Moon.
- 1974 Kraftwerk: Autobahn.
- 1975 Brian Eno: Discreet Music
- 1976 Jean-Michel Jarre: Oxygene. Philip Glass: Einstein on the Beach.
- 1977 Gunner Møller Pedersen: Soundyear – 12 months in electronic music. Andrei Smirnov founds The Brain Wave Biofeedback System, builds theremins and starts the Theremin Center in Moscow.
- 1981 Video killed the Radio Star is the first video to be shown on the music channel MTV.
- 1982 CD players. Laurie Anderson: Home of the Brave.
- 1984 The ghetto blaster.
- 1985 The company Big Briar is founded by Robert Moog, mass-producing theremins.
- 1986 DAT tape recorder.
- 1987 DIEM – Denmark's center of electronic music is founded by Wayne Siegel among others. Ivar Frouenberg: What did the sirens sing when Ulysses sailed by?
- 1988 Disclavier piano (an electronic digitalized version of the automatic piano, which uses CDs to control the keyboard). SKRÆP Experimental Music Forum, Copenhagen is founded by Niels Winther and Dan Marmorstein among others. Morten Carlsen starts composing and programming in the realm of interactive computer music.
- 1990 Tricky Disco: Tricky Disco.
- 1991 The Orb: The Orbs Adventures. Massive Attack: Blue Lines. Museum of Contemporary Art, Roskilde, opens an 'Inter Medial Art Collection'.
- 1992 Aphex Twin: Selected Ambient Works 85-92.
- 1993 Björk: Debut.

THEREMIN

Ætern musik og verdenshistorie

ELKTRONSK
PRFORMNCE

Medvirkende:

Sarah Boberg, Bo Madsvig, Laurie Grundt
Frederik Orth Kølbel (cello), Iris Dager (cello)
Sophus Moseholm (violin), Magnus Torpp Larsson (violin)
Nanna Treu (violin) og Johannes Ernme Jørgensen (violin)
Thereminvirtuos: Lydia Kavina

Mandestemmer: Per V. Brühl, Dimitri Golovanov, Vladimir
Illych Lenin
Barnestemme: Frederik Orth Kølbel

Produktion: Hotel Pro Forma
Koncept og instruktion: Kirsten Dehlholm og Willie Flindt
Lydbilleder: Gert Sørensen
Libretto: Michael Valeur
Lysdesign og skærbilleder: Steffen Aarfing
Kostumer: Anne Mette Sørensen

Tonemester: Mogens Laursen
Scenemester: Adalsteinn Stefansson
Forestillingsleder: Lise Klitten
Animationer: Ralf Richardt Strøbech

Projektleder: Lisa Grunnet
Produktionsleder: Arthur van der Zaag
Producer: Tine Mosegaard
Manager: Bradley Allen

Tak til:
Århus Teater, Kulturhus Århus