Free Music Timeline

1874

American electrical engineer Elisha Gray demonstrates his Musical Telegraph or Electro-Harmonic Telegraph, which is able to transmit melodies over distances of hundreds of miles.

Elisha Grey's
Musical Telegraph keyboard

1882

Percy Grainger is born on July 8 in Melbourne, Australia. He later writes that:

I have heard Free Music in my head since I was a boy of 11 or 12 in Auburn, Melbourne. It is my only important contribution to music. My impression is that this world of tonal freedom was suggested to me by wave- movements in the sea that I first observed as a young child at Brighton, Vic., and Albert Park, Melbourne.

1897

American inventor Edwin S. Votey patents his design for an automated mechanical player piano, made publicly available in 1898 as the Pianola, produced by the Aeolian Company of New York.

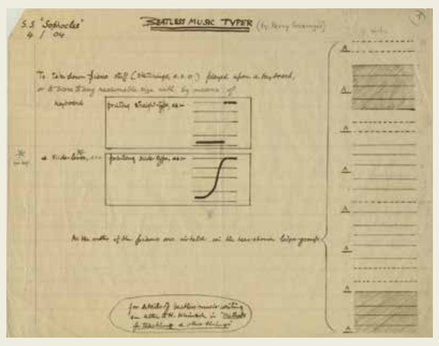
American inventor Thadeus Cahill successfully submits a patent for the Telharmonium, an electronic instrument designed to transmit music around New York via telegraph wires. The MkII Telharmonium , which weighed 200 tons, was moved to Telharmonic Hall in New York in 1906. The Telharmonium gave concerts and broadcasts for the next four years, before closure of the hall in 1910.

1901

In his notebook, 'Methods of Teaching & Other Things', Grainger predicts that 'music of the future will be performed by machines, not by musicians'.

1902–04

Grainger works on speculative designs for a Beatless-Notation Machine and Beatless Music Typer, devices designed to capture the performance of non-metrical rhythms and to translate them into graphic notation.



The first page of Grainger's 1904
design for the Beatless Music Typer

1913

Italian artist and musician Luigi Russolo publishes the influential Futurist manifesto, The Art of Noises, and constructs his first machines for controlling noises, the intonarumori.

1914

Russian artist and musician Nikolai Kulbin publishes his thesis, Free Music, in Wassily Kandinsky and Franz Marc's Der Blaue Reiter (The Blue Rider) almanac. Kulbin's description of Free Music is remarkably similar to Grainger's as expressed in his 1938 Free Music Statement:

The music of nature—light, thunder, the whistling of wind, the rippling of water, the singing of birds—is free in its choice of tones. Free music is based on the same laws of nature as music and the whole art of nature. The artist of free music, like the nightingale, is not limited by tones and halftones. He also uses quarter tones and eighth tones and music with a free choice of tones.

1915

Grainger begins a long association with the Aeolian Company, recording approximately eighty-two Duo-Art piano roll recordings up to 1932. Grainger often edited the paper piano rolls himself, gaining valuable knowledge that would inform his Free Music experiments.

1935

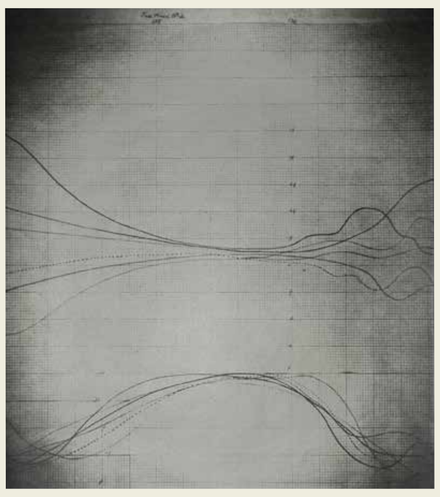
Grainger writes Free Music no. 1, for string quartet, to demonstrate his Free Music ideas as part of his Australian Broadcast Commission radio series Music: A Commonsense View of All Types.

1937

Free Music no. 1 is arranged for four theremins, with Free Music no. 2, a new work, composed for six theremins. Grainger also arranges his 1907 work, Sea Song, for six theremins, changing the title to Beatless Music.

1938

Grainger writes his Free Music Statement, displaying it in the newly-opened Grainger Museum in Melbourne, Australia.



Part of the score to Free Music no. 2

1946

Grainger begins work on his first Free Music machines at his home in White Plains, alongside physicist Burnett Cross, and with assistance from his wife, Ella. Instruments include the Sliding-Pipe Free Music Invention.

The Sliding-Pipe Free Music Invention of 1946

1948

Cross and Grainger begin experiments with banks of three simple keyboard synthesizers (melanettes), connected to and controlled by a Duo-Art player.

French composer, engineer and writer, Pierre Schaeffer, presents a concert of Five Studies of Noises, the result of experimentation with radiophonic techniques, which lays the foundation for what was to become known as musique concrete.

1950–52

Various Free Music machines are constructed at 7 Cromwell Place, in a process of continual experimentation and refinement. Titled Cross-Grainger Experiments, these are given further evocative names such as the Gliding Tones on Whistle machine (1950), the "Hills-&-Dales" Air-Blown-Reeds Tone-Tool (1951), the Oscillator-Playing Tone-Tool (1951–52), the Side-Ridge Clothes-Line-&-Scotch-Tape-Tin Oscillator-Player (1952), the "Butterfly" Piano (1952), and the "Kangaroo-Pouch" Method of Synchronising & Playing 8 Oscillators (1952), the largest of all of the machines, now housed in the Grainger Museum, Melbourne. Cross and Grainger recorded their experiments through audio recordings, photographs, illustrations, and through brief notes in Grainger's day books.

1951

British composer Daphne Oram independently begins work on what would become the Oramics system, which operates on a similar principle to the Cross-Grainger Electric-Eye Tone Tool. In 1966 Oramics eventually becomes fully operational.

Daphne Oram working on the Oramics systems

1955

Work begins on the Electric-Eye Tone Tool, the most sophisticated of the Free Music machines, using a system of a light-sensitive receivers that respond to shapes hand-drawn on a transparent film.

1956

New York-based husband and wife team Bebe and Louis Barron create a score of 'electronic tonalites' for the 1956 MGM movie Forbidden Planet, which Grainger saw twice in this year. Their work is informed by the cybernetic theories of Norbert Weiner.

Bebe and Louis Barron in their New York Studio

1961

Percy Grainger dies on February 20 in White Plains Hospital. While the full realisation of his Free Music machine ideas remained incomplete, his work as a pioneer and visionary in the field of electronic and experimental music would later be widely recognised.

1977

Greek composer, architect and engineer Iannis Xenakis, develops his UPIC system, which allows real-time music composition through the conversion of drawn lines and shapes to complex synthesised sounds.

I have called it "Free Music" because it is music liberated from the conventional limitations of scales, harmony & rhythm … As I regard all simplified interpretations of life as dangerously misleading to humanity I have tried, in my Free Music, to tally as far as possible the complexity & apparent confusion of nature. It seems to me that one of the main duties is to prepare mankind for the unforeseeable irregularities of the universe as we see it.