

**The Telharmonium:****Art of and apparatus for generating and distributing music electronically****Rodrigo Trevisan Braga\*****Master Dissertation****Pontifical Catholic University of São Paulo, Brazil**

The Telharmonium was a musical instrument created in the late 19<sup>th</sup> century, of great technical complexity and size, to the point it came to occupy a three-story building in New York City. Telephone cables were used to stream music for homes, restaurants, clubs and other places through a subscription service. The instrument, fruit of the labor of Thaddeus Cahill (1867-1934), an electrical engineer, enabled changes in tons as it was played, thus resembling an orchestra. Cahill filed several patent applications, reformulating them every time, for over twenty years until 1897, when he finally obtained the desired registration.

For a number of reasons – many of them related to the music streaming system to subscribers – the Telharmonium had to be shut down. Leaving, however, a great legacy for the construction of electric musical instruments.

The present study focuses on the theoretical scientific grounds of Cahill's work. Thus, I approached the ideas of Hermann L. F. von Helmholtz (1821-1894), as described in his book on acoustics, tuning and music theory titled *On the Sensations of Tone as a Physiological Basis for the Theory of Music* (1863), and on the other, the patents filed by Cahill during the development of the Telharmonium. The results show that Helmholtz's theories were used as basis for the development of this musical instrument.

**Keywords**

History of Science; History of music; History of technology; Telharmonium; Cahill; Helmholtz

---

\* ✉ [trevisan.rodrigo@gmail.com](mailto:trevisan.rodrigo@gmail.com)