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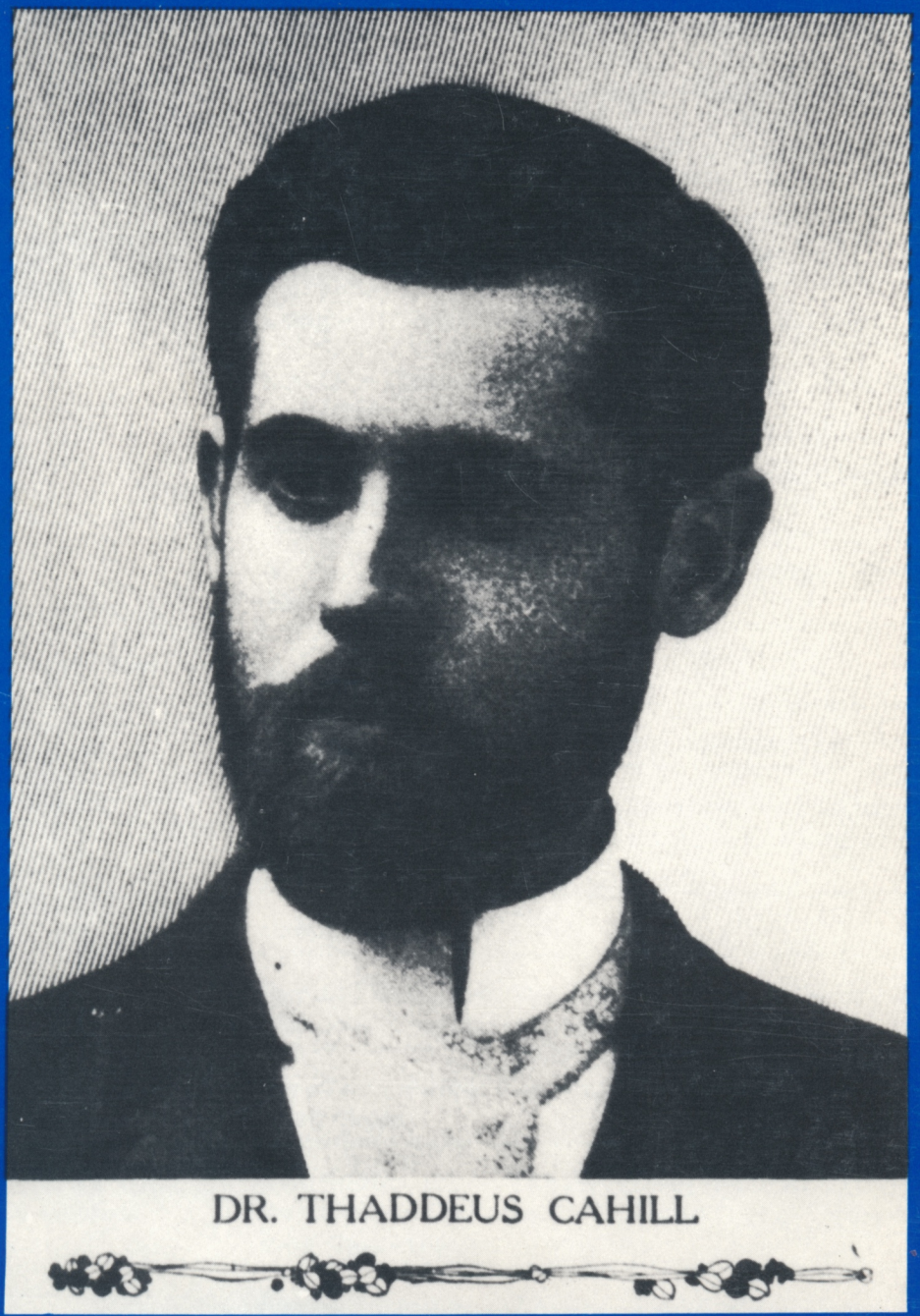


DR. THADDEUS CAHILL

Publications

Reynold Weidenaar: The Telharmonium: A History of the First Music Synthesizer, 1893–1918

Ph.D. dissertation, New York University, 1988

Are Mozart's and Beethoven's pianos important? Plush velvet cordons whisper the answer. Brahms's manuscripts? They breathe rarified atmosphere under glass. Is it possible to have too many of Caruso's original recordings? Now we want them all. Don't you think it's about time we started looking for Varèse's tape recorder?

There's a hackneyed joke that a musicologist is a person who digs up something here, and buries it over there. Which is a jocular way of hinting that detailed knowledge is gained at the expense of traversing a curve of diminishing returns. The most-traveled trajectories approach asymptotes; their choice enhances the risk of learning more and more about less and less. If this is the case, we owe those who point out the beginning of a learning curve.

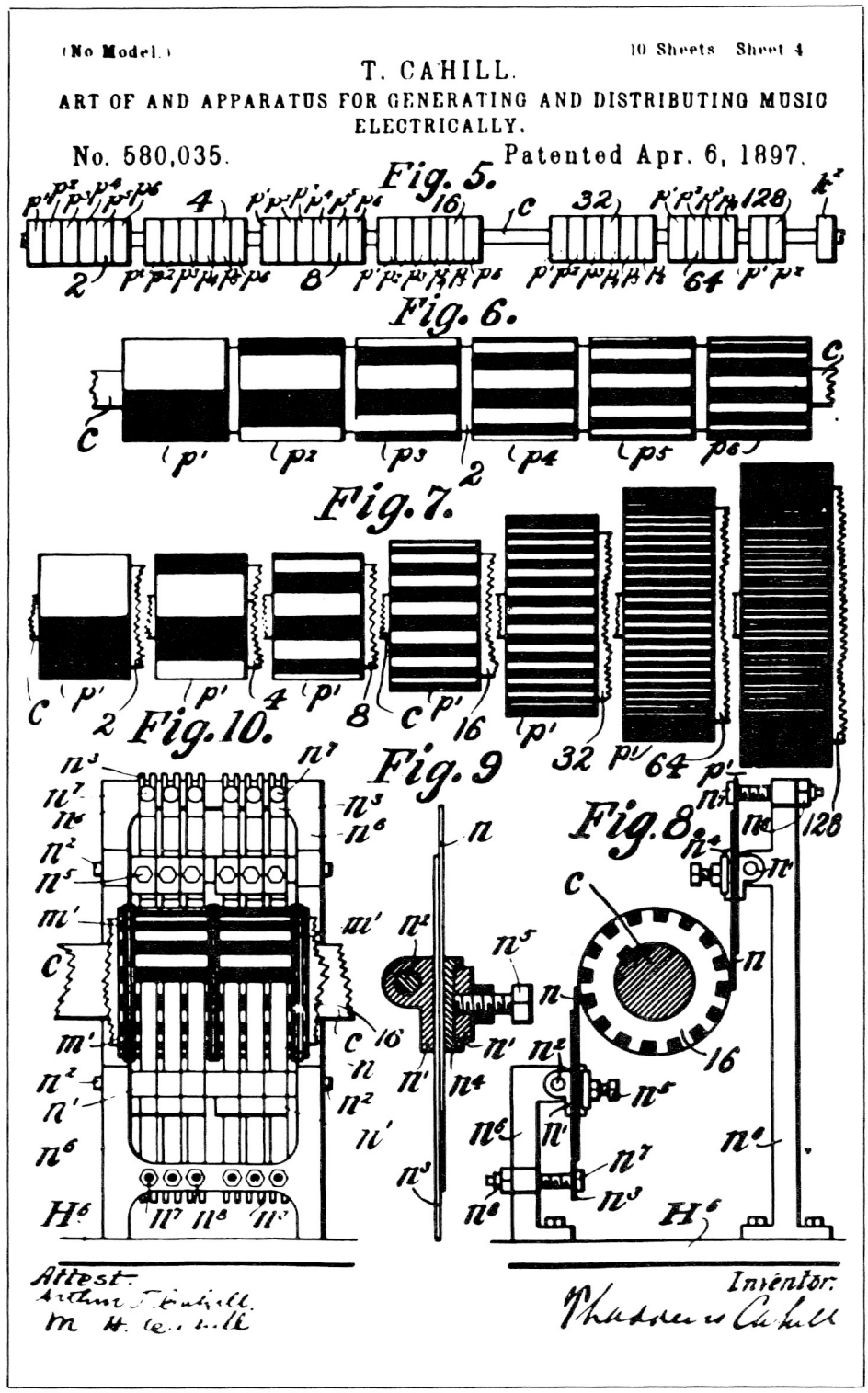
Reynold Weidenaar is not a musicologist by trade. He's a composer and videographer. But he's written a dissertation that really is an original and significant contribution to knowledge: *The Telharmonium: A History of the First Music Synthesizer, 1893–1918* (Weidenaar 1988). It will undoubtedly tell some readers more than they wanted to know about Thaddeus Cahill's turn-of-the-century behemoth, a 200-ton additive synthesis Muzak system. But that's not the point. The importance of Weidenaar's document is that it limns a field we should begin knowing about. He is pointing to a new trajectory, and for this we owe him, and his doctoral committee: John V. Gilbert, Philip Hosay, and Lawrence Ferrara.

But, I'm biased. I godfathered elements in this in my dissertation, *The Evolution of Electronic Musical Instruments in The United States* (Rhea 1972). I, too, had a lot of support from my committee: Charles H. Ball, James H. Hogge, and Gilbert Trythall. This research was serialized in *Keyboard Magazine* (Rhea 1977–1981), and eventually became part of a compilation called *The Art of Electronic Music* (Rhea 1984). As years passed, I began to wonder (while I collected four tons of artifacts!) if the history of electronic musical instruments would ever be recognized as a legitimate topic for further rigorous research.

Reynold Weidenaar has answered this question, with eloquence as well as rigor. He tells the story of Thaddeus Cahill and his siblings, who constructed the Telharmonium, a mammoth electrical generating plant and distribution system designed to provide music for the millions over telephone lines. It is the hopeful tale of a vestige of the Industrial Age: five U.S. patents, begun in 1895; three completed instruments, including commercial models in 1906 and 1911; multimillion-dollar investments in Telharmonic Music by otherwise astute capitalists; the euphoria of inaugural triumphs in 1907 at *Telharmonic Hall* in New York City; and the early success at piping music into very correct Manhattan restaurants and other venues.

It is a sad tale, involving the construction of massive alternator tone wheels that tantalizingly predated amplification technology; a business marriage with the New York Telephone Company that soured when Telharmonic Music proved to interfere with phone service; Thaddeus Cahill's fixed ideas about Just intonation, and the problems his 36-note-per-octave keyboard caused Telharmonium performers; Lee DeForest's early radio transmissions of the Telharmonium, and the Cahills' inability to perceive the implications; an ill-fated second season at Telharmonic Hall, that was exacerbated by the financial panic of 1907; the deterioration of the Telharmonium into a musical freak show, and failure of the licensee companies in 1908; and an abortive comeback in 1911 that struggled all the way into 1918.

It is a poignant tale of the wooden refusal of the Cahills to realize that a musical instrument chipped from iron was an anachronism even in the early twentieth century; Arthur T. Cahill's crusade to carry forward the ideas of brothers Thaddeus and George following their deaths; and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T. CAHILL.

ART OF AND APPARATUS FOR GENERATING AND DISTRIBUTING MUSIC ELECTRICALLY.

No. 580,035. Patented Apr. 6, 1897.

Fig. 5.

Fig. 6.

Fig. 7.

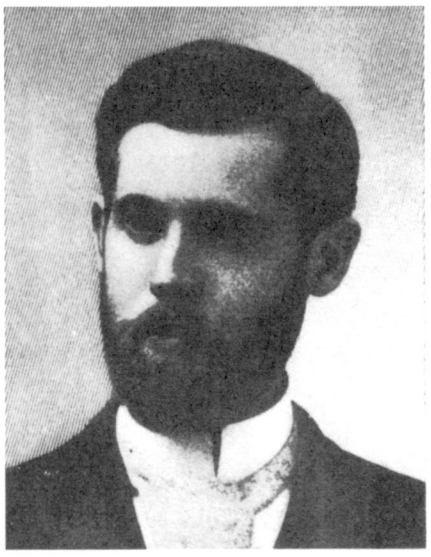
Fig. 10.

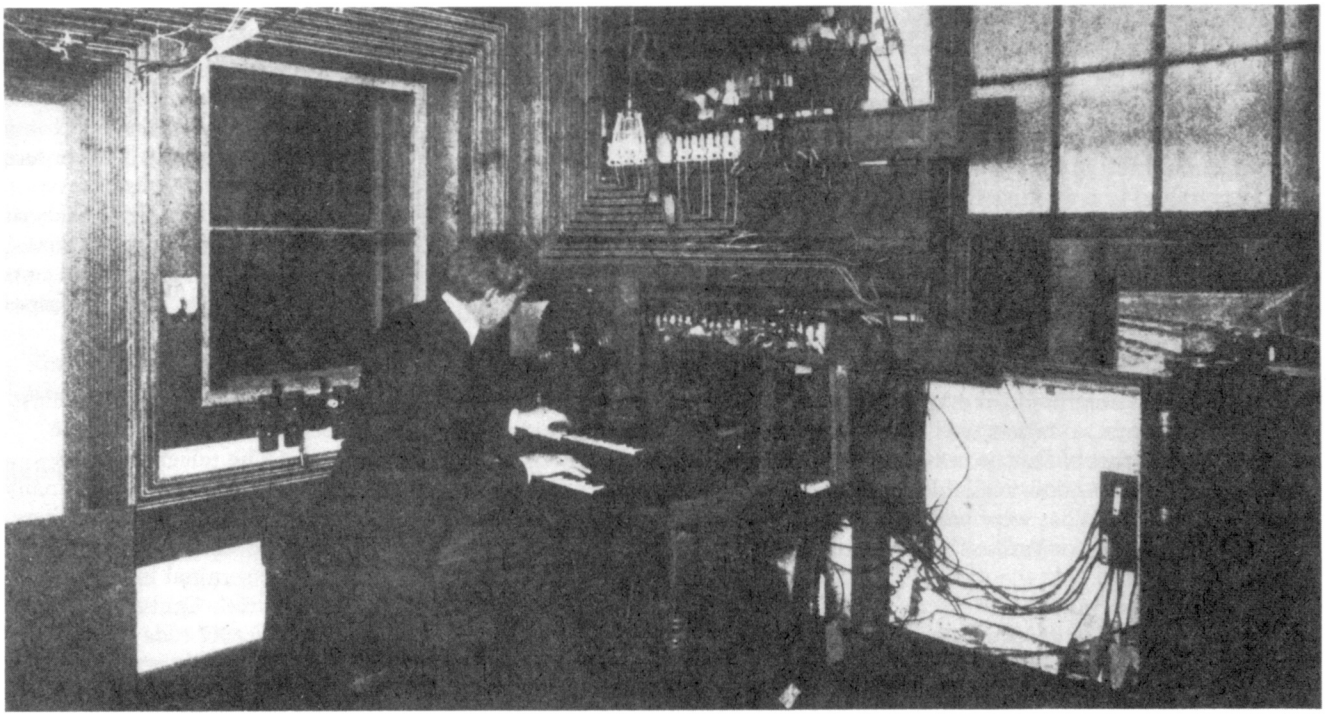
Fig. 9

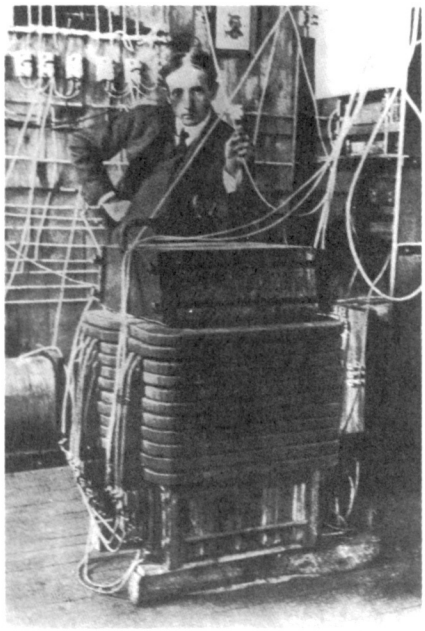
Fig. 8

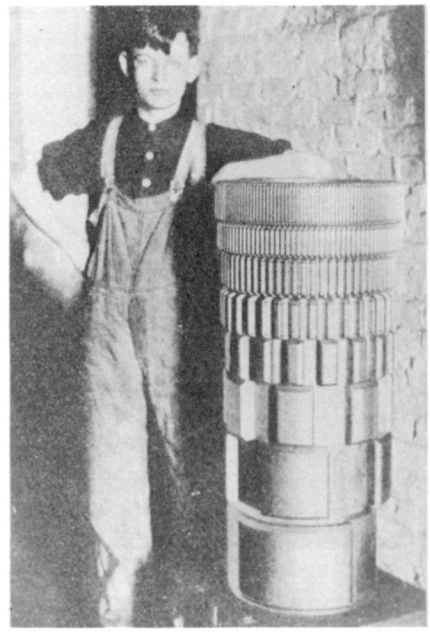
Attest

Inventor:









Arthur's circulation of a letter as late as 1951 trying to find a refuge for the first Telharmonium.

Arthur had been keeping the historic 14,000 lb Telharmonium prototype in storage at his own expense for almost 50 yr, and finally sought ". . . a permanent and a public home for this priceless monument to man's genius." There were no takers, and not even a small part of this incredible music machine is now available for us to wonder at. What were we saying about looking for Varèse's tape recorder?

Weidenaar spared no effort in documenting this story. His research is voluminous and exhaustive. It's hard to imagine a primary source that he has overlooked. His exposition of the Cahill patents and documentation of related correspondence files is meticulous. He interviewed the 87-year-old son of Telharmonium performer Edwin Hall Pierce. He mailed queries to every residence located within a block of Arthur T. Cahill's last home. He traveled to and photographed relevant buildings, and included extant photos in his manuscript. He explored corporate records in the states of Maine, New Jersey, and New York to plumb the financial side of the topic. He rescued the record of the Telharmonium preserved by the Cahills themselves, via the widow of Arthur T. Cahill's landlord. His review of newspaper, magazines, and secondary sources shows the same tireless concern for detail, despite his inevitable discovery of the redundancy and inaccuracy of these sources.

A scholar places events in their cultural milieu, and adds perspective to the bare bones that sources provide. Weidenaar has done this. He places the use of telephone lines to transmit Telharmonic Music within the broader context of early "musical" (multiplex) telegraphy, and details three decades of antecedent uses of telephone technology to transmit acoustically generated sounds. He explores the musical implications of the tradeoffs between Just and equal-tempered harmonics forced on Thaddeus Cahill, and discusses the 36/48-note-per-octave keyboard that previously had been a Telharmonium mystery. He discusses the relationship between the Telharmonium and nineteenth century socialist utopian novels that promised the "democratization" of commodities (such as the arts?!). We get a fascinating detailed tour of the sumptuous restaurants of the New York of the early 1900s, and learn why the mix of gastronomic, sonic, and conspicuous consumption seemed a surefire bet.

Weidenaar provides a keen perspective on why we should explore "failures" such as the Telharmonium. He correctly points out the fallacy of imagining that technology is a result of ". . . an autonomous and inevitable march to perfection." He argues that failure sows the seeds of redirected energy, and that the study of technology, successful or otherwise, can illuminate the sociocultural context of an era. He concludes the argument by noting, with irony:

> In the very long run, the wildest successes utlimately become detritus. The telegraph transformed American life; how many telegraph delivery boys are there today? The vacuum tube was one of the seminal inventions of the Twentieth Century; just try to buy a 12AX7 today. Even the Moog synthesizer is no longer made. These have all been reduced to cultural artifacts, as which diverse technologies may profitably be studied, and as which their value is a good deal greater than the neutral tools of progress in some authorized company history.

Singularity is not the *sine qua non* of legitimacy. Consensus is a social creature. It is gratifying to see a nascent consensus that legitimizes the idea that artifacts related to electronic music are worth preserving: Reynold Weidenaar's dissertation, Gayle Young's LP (see Young 1985) and biography (soon to be published by The Chicago Press) of the Canadian pioneer Hugh LeCaine, and Robert and Shirleigh Moog's production of the LP and CD featuring Thereminist Clara Rockmore (see Rockmore 1987) point out a trajectory that helps us better understand electronic music and instruments. We owe these people.

Perhaps we are finally moving toward a new musicology. One that will study in detail the bizarre and sublime landscape populated by hundreds of different instruments that plug(ged) in. The study of the past may provide the vision to see the present in a new light. Maybe we'll notice what we're missing. Varèse's tape recorder? A century from now, people will be dismayed at the variety of things we haven't bothered to look for.

Reviewed by Thomas L. Rhea
Boston, Massachusetts USA

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