

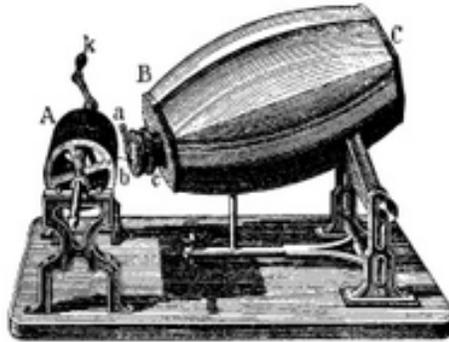
# Phonautograms--Édouard-Léon Scott de Martinville (c. 1853-1861)

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Essay by David Giovannoni (guest post) \*



*Edouard-Leon Scott de Martinville*



Phonautograph.

*B*, barrel with opening at *C*; *c*, brass tube with membrane and style at *A*, and movable piece *a*, by which the position of the nodal points can be regulated; *A*, handle to turn cylinder (*D*) covered with lampblack paper.

*Photoautograph*

## *Humanity's First Recordings of Its Own Voice*

Édouard-Léon Scott de Martinville invented sound recording when he conceived of a machine that would do for the ear what the camera did for the eye. His phonautograph inscribed airborne sounds onto paper, over time, to be studied visually. He called his recordings “phonautograms.”

Collections of his work lay silent and forgotten in venerable French institutions for 150 years—their provenance indisputable and their chain of custody uninterrupted. Between 2007 and 2009, I led the effort to locate and digitally preserve several dozen sound recordings made by Scott de Martinville in Paris between 1853 and 1860 in Paris, France.

Neither Scott de Martinville nor his contemporaries conceived of playing back his recordings, but today technology allows us to do just that. We have opened a window that lets us hear humanity’s first recordings of its own voice.

Scott de Martinville envisioned an apparatus to gather and fix airborne sounds while editing a physiology textbook in 1853. In approaching “the problem of speech writing itself,” he aspired to invent a device that would automatically “inscribe sounds from the air by means of an artificial ear”—a mechanical stenographer of sorts.

Anticipating by 20 years the recording function of Edison’s phonograph, his phonautograph channeled airborne sounds via a barrel onto a membrane that vibrated in sympathy with the sounds, its movements recorded via a feather-tipped stylus onto a lampblack sheet of paper rotating on a cylinder below.

The phonautograph made the invisible visible and fixed what had theretofore been fleeting. Scott de Martinville imagined one could interpret its tracings in the same way one read the notes of a stenographer; or perhaps divine aspects of a speaker’s elocution, a singer’s technique, or even a person’s character. He wrote, “Will one be able to preserve for the future generation some features of the diction of one of those eminent actors, those grand artists who die without leaving behind them the faintest trace of their genius?”

To our knowledge Scott de Martinville never did record an eminent actor or actress—and he certainly did not record Abraham Lincoln in the White House as asserted by modern myth! During a period of development and experimentation (1857-1860), he recorded himself and perhaps others singing, reciting prose in various languages, and playing musical instruments. These are the sounds he left for posterity.

By 1859, the phonautograph was recording sounds with sufficient precision to be adopted by the scientific community as a laboratory instrument, where it contributed for decades to the study of acoustics. But limitations in acoustical theory and technology kept Scott de Martinville from demonstrating to the scientific establishment that his phonautograph captured more than met the eye.

Today we have that technology, and in 2008 colleagues and I used it to play back his April 9, 1860 recording of “Au Clair de la Lune.” Like all of his surviving phonautograms, it is crude by today’s standards of fidelity. Nonetheless it is aurally interpretable, and it retains the indisputable distinction of being one of the earliest recoverable sound recordings.

Scott de Martinville’s phonautograms are humanity’s first recordings of its own voice—the first sounds captured from the air by machine, inscribed onto a permanent medium, disembodied from their speaker, and sent into the future to be revived more than a century after their speaker’s death.

*Learn more about Scott de Martinville’s phonautograms at <http://www.firstsounds.org>.*

*David Giovannoni specializes in the history, preservation, and dissemination of pioneer audio recordings. He consults with the Library of Congress’ National Audio-Preservation Center in Culpeper, Virginia, and a range of other public and private audio repositories. Transfers from his collection of early recordings are available on the Library of Congress’ National Jukebox and a number of commercial labels. His reissue work with Archeophone Records has earned him five Grammy nominations and one Grammy.*

\*The views expressed in this essay are those of the author and do not necessarily represent the views of the Library of Congress.