

Humanity's First Recordings of its Own Voice

The Phonautograms of Édouard-Léon Scott de Martinville (c.1853-1860)

2014-52

1 Summary

The world's audio memory begins here. 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 “phonograph” inscribed airborne sounds onto paper, over time, to be studied visually. He called his recordings “phonautograms.” Collections of his work lay silent in venerable French institutions for 150 years—their provenance indisputable and their chain of custody uninterrupted. Historians have recently located six collections containing 50 sound recordings made between c.1853 and 1860. Neither Scott de Martinville nor his contemporaries conceived of playing back his recordings; however, modern scholars and technologies have coaxed nearly 20 to speak and sing to date.

These are humanity's first recordings of its own voice. In recognition of their technological and cultural significance, the United States' Library of Congress inducted these recordings into its National Recording Registry in 2011. In 2017 institutions in France and the United States will further raise awareness as they commemorate the bicentennial of Scott de Martinville's birth. **Induction onto the International Memory of the World Register will transcend national boundaries and celebrate humanity's first voice recordings as the patrimony of all mankind.**

2 Nominator; Relationship; Contact

Association for Recorded Sound Collections (ARSC) & First Sounds Initiative

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In 2008, Mr. Giovannoni and other members of the First Sounds Initiative established the existence, primacy, and efficacy of Scott de Martinville's phonautograms, and announced their initial playback at ARSC's Conference at Stanford University in California. In close cooperation with the four custodial institutions, the Initiative has since created digital images of the phonautograms and related manuscripts for preservation and access; developed playback technologies; published extensively; and provided free and universal access to its research and primary sources, including images of and sounds from the recordings, at www.firstsounds.org.

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3 Identity and description of the documentary heritage

The fonds comprises 50 sound recordings and associated manuscripts held in six catalogued collections across four custodial institutions. The title, custodian, and catalogue data for each collection is listed below. Facsimiles prepared by the First Sounds Initiative thoroughly detail each collection.

Title: **Principes de Phonautographie (1857)**
Custodian: Académie des sciences—Institut de France
Catalogue: No. 1639 (1857)
Facsimile: http://firstsounds.org/publications/facsimiles/FirstSounds_Facsimile_01.pdf

Title: **Brevet d'Invention (1857); Certificat d'Addition (1859)**
Custodian: Institut national de la propriété industrielle
Catalogue: No. 17,897 (1857); No. 31,470 (1859)
Facsimile: http://firstsounds.org/publications/facsimiles/FirstSounds_Facsimile_02.pdf

Title: **Graphie du Son (1857)**
Custodian: Académie des sciences—Institut de France
Catalogue: No. 1688 (1857)
Facsimile: http://firstsounds.org/publications/facsimiles/FirstSounds_Facsimile_03.pdf

Title: **Dossier: M. Scott's procedures for the graphic fixation of the voice (1857)**
Custodian: Société d'Encouragement pour l'Industrie Nationale
Catalogue: S.E.I.N. Archives 8/54
Facsimile: http://firstsounds.org/publications/facsimiles/FirstSounds_Facsimile_04.pdf

Title: **Fixation et Transcription du Chant (1860)**
Custodian: Bibliothèque de l'Institut de France
Catalogue: MS. 2935, No. 89095, Registres de M. [Henri Victor] Regnault
Facsimile: http://firstsounds.org/publications/facsimiles/FirstSounds_Facsimile_05.pdf

Title: **Inscription Automatique des Sons de l'Air au Moyen d'une Oreille Artificielle (1861)**
Custodian: Académie des sciences—Institut de France
Catalogue: No. 324 (1861)
Facsimile: http://firstsounds.org/publications/facsimiles/FirstSounds_Facsimile_06.pdf

The sound recordings are chemically-fixed tracings on lampblack-coated paper. Dr. Patrick Feaster's catalogues of the documentary heritage, plus his transcriptions and English translations of accompanying manuscripts, definitively define both the carriers and content of the fonds:

Patrick Feaster, "Édouard-Léon Scott de Martinville: An Annotated Discography," *ARSC Journal* 41:1 (Spring 2010), 43-82.
<http://firstsounds.org/publications/articles/scott-discography.pdf>

Patrick Feaster, ed. and transl., *The Phonautographic Manuscripts of Édouard-Léon Scott de Martinville* (Bloomington, Indiana: FirstSounds.org, Dec. 2009).
<http://firstsounds.org/publications/articles/Phonautographic-Manuscripts.pdf>

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4 Legal information; Accessibility

Legal ownership and administrative responsibility for the preservation of the documentary heritage lie unambiguously with each of the custodial institutions. The custodians and their designated contacts are listed below. Official attestations in support of this nomination have been prepared at the highest levels of each institution and are presented in Appendix 2.

Custodian: Académie des sciences—Institut de France

Contact: **Mme Florence Greffe**

Directeur du service des Archives et du Patrimoine de l'Académie des sciences
florence.greffe@academie-sciences.fr
+ 33 (1) 44 41 43 86, or + 33 (1) 44 41 45 05

Custodian: Institut de France

Contact: **Mme Mireille Pastoreau**

Directeur de la bibliothèque de l'Institut de France
mireille.pastoreau@institut-de-france.fr
+ 33 (1) 44 41 44 13, secretary: + 33 (1) 44 41 44 10

Note: **Mme Françoise Bérard** will succeed Mme Pastoreau as of April 26, 2014.

Custodian: Institut national de la propriété industrielle

Contact: **Mme Valérie Marchal**

Responsable du pôle archives
vmarchal@inpi.fr
+ 33 (1) 56 65 83 57

Custodian: Société d'encouragement pour l'industrie nationale

Contact: **Pr Gérard Emptoz**

Member, S.E.I.N. Commission d'histoire
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emptoz.g@free.fr

Qualified individuals may request physical access to the documentary heritage via custodians' established procedures. In partnership with each custodian, the First Sounds Initiative facilitates remote access to the documentary heritage in three ways:

1. The Initiative has presented high resolution digital images to custodians for ingestion into their electronic access services, making the documentary heritage readily available through existing institutional systems.
2. The Initiative maintains universal and free Internet access to facsimiles of the documentary heritage (see Section 3). In each case the custodian has granted permission to distribute the facsimile(s) via Internet, and appropriate reproduction fees have been paid where required.
3. The Initiative encourages, facilitates, and enables the education (playback) and publication of these sound recordings. Examples can be heard at <http://firstsounds.org/sounds/scott.php>.

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5 Assessment against the selection criteria

All items in this fonds have unimpeachable provenance, their chains of custody unbroken. Scott de Martinville deposited all but one collection with venerable French institutions to document his experiments, approaches, and accomplishments pertaining to the recording of airborne sounds. These were logged upon receipt and reported in contemporaneous publications. The other collection, an album of phonautograms presented to Henri-Victor Regnault, has been in the possession of the Institute of France since its accession of Regnault's papers upon his death in 1878. Experts agree that all items in this fonds are authentic.

In this fonds lie humanity's first recordings of its own voice—each seminal, unique, and irreplaceable—the first human vocalizations captured from the air by machine, inscribed onto a permanent medium, and sent into the future to be heard after the death of the speaker. They precede every other recorded and retrievable airborne sound. The audio memory of the world begins here.

Scott de Martinville first imagined an apparatus to gather and fix airborne sounds, patterned after the human ear, while editing Professor Longet's *Traité de Physiologie*. In 1853 or 1854 (he cites both years) he began work on "le problème de la parole s'écrivant elle-même" ["the problem of speech writing itself"]. By the end of 1857, with support from the Société d'encouragement pour l'industrie nationale, his phonautograph was recording sounds with sufficient precision to be adopted by the scientific community. As a laboratory instrument it contributed for decades to the nascent science of acoustics.

However, Scott de Martinville's vision was as much aesthetic as scientific. He was captivated by the phonautograph's power to register the ephemeral onto paper—both for current study and future generations: "Pourra-t-on conserver à la génération future quelques traits de la diction d'un de ces acteurs éminents, de ces grands artistes qui meurent sans laisser après eux la plus faible trace de leur génie?" ["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?"]

In his writings Scott de Martinville imagined many uses for sound recordings. But what he didn't imagine was a day when the recorded voices would be heard again. Nor did anyone until, with notable synchronicity in mid-1877, Charles Cros sketched the idea of his paléophone in France and Thomas Edison began work on the phonograph in the United States.

In 2008 the First Sounds Initiative located and played back one of Scott de Martinville's recordings made 17 years before Edison invented the phonograph. The editors of *The New York Times* considered this development (and sound) so significant that they broke the story ahead of its embargo on the paper's front page. Within hours it was international headline news: Scott de Martinville had sent a human voice into the future and researchers had just recovered it. Granted, inscribed in a haze of smoke it had not pierced the veil of time unscathed. Like all recordings in this fonds it is crude by today's standards of fidelity. Nonetheless it is aurally interpretable, and retains the indisputable distinction of being among the earliest reproducible recordings of the human voice.

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5 Assessment against the selection criteria (continued)

In the same way that his invention opens a window in time, Scott de Martinville's recitations and songs reveal the mind of a man of letters living in mid-19th century Paris. During experimentation he recited from *Othello* (Jean-François Ducis, 1792); *Phèdre* (Jean Racine, 1677); and *Aminta* (Torquato Tasso, 1573, which he recited in its original Italian). He sang melodies from Luigi Cherubini's "Et Incarnatus Est" (*Missa Solemnis* in D minor, 1811); Victor Massé's "La Chanson de l'Abeille" (*La reine Topaze*, 1856); and perhaps most endearingly, "Au Clair de la Lune"—a song known by every French child. (Thomas Edison would later use an American children's verse—"Mary Had a Little Lamb"—for his phonograph experiments in 1877.)

Paris during the Second French Empire was an international center for the arts and sciences. The recordings in this fonds are clearly products of this time and place—both technically and aesthetically. Chosen for his contemporaries while addressed to future generations, Scott de Martinville's selections are worthy ambassadors of humanity's first recordings of its voice.

6 Contextual information—rarity and integrity

Scott de Martinville wrote that he conducted thousands of experiments between c.1853 and 1860. However, methodical searches of archives around the world have yielded only the items contained in this fonds. All items were identified in 2007 and 2008; no additional phonautograms have been found since. With minor exceptions the recordings have survived in remarkably good condition.