Research Topics

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"Sound & Science: Digital Histories": A Database of Materials in the History of Acoustics

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"Sound & Science: Digital Histories": A Database of Materials in the History of Acoustics

By Joeri Bruyninckx, Fanny Gribenski, Xiaochang Li, and Viktoria Tkaczyk

The Max Planck Institute for the History of Science (MPIWG) has launched its database "Sound & Science: Digital Histories," an initiative of the Research Group "Epistemes of Modern Acoustics." The resource provides unprecedented access to sources in the history of acoustics, including a multimedia archive of primary source material, documentation of surviving technology, and historical reenactments of experiments in acoustics.

Berlin saw the establishment, between 1900 and 1930, of several institutions that interacted with each other through a novel interest in acoustics. The electrical engineering company Siemens & Halske flourished, building the "Siemensstadt" settlement in Berlin's northern district of Charlottenburg, and Carl Lindström AG, headquartered in the Kreuzberg district, developed a global market for gramophone technology. At the same time, Carl Stumpf's Institute for Psychology, with its focus on tone psychology, expanded from its tiny university venue in Dorotheenstrasse to a large-scale research center in the Berlin City Palace. During World War I, Stumpf and the phonetician Wilhelm Doegen also founded the Royal Prussian Phonographic Commission to record the languages and music of "colonial" prisoners of war interned near Berlin. This opportunistic research initiative during the Weimar Republic eventually led to the formation of two sound archives: the Berlin Phonogram Archive and the Lautabteilung ("sound department") of the Prussian State Library. Later, during the 1920s, Berlin also witnessed the creation of an experimental radio laboratory-the Rundfunkversuchsstelleat the Academy of Music, supervised by an advisory board with representatives of the Imperial Post Department, the Heinrich Hertz Institute for Research on Oscillation, and the two Berlin radio stations Deutsche Welle and Berliner Funk-Stunde. Bound by politics, industry, science, art, and technology as these endeavors all were, they facilitated the formation of long-lived infrastructures, technological heritage, and entire research fields—including electroacoustics, experimental phonetics, linguistics, phoniatrics, language studies, musicology, radio studies, bioacoustics, and tone psychology.

The Max Planck Institute for the History of Science's new sound database "Sound & Science: Digital Histories"-the fruit of archival research and conceptual work by the Max Planck Research Group "Epistemes of Modern Acoustics" —aims at disentangling these complex institutional networks. Research projects within the group trace the genealogy of acoustic knowledge throughout the modern era, charting the making of the discipline of acoustics and exploring the historical conditions that allowed acoustic knowledge to be turned into scientific knowledge-and back into the practices of musicians, architects, engineers, or everyday listeners. They unpick sonic strategies of knowledge production in various scientific and humanistic disciplines, strategies—sometimes manifest, but often implicit—that have previously been largely overlooked by historians of science.

Connected to these research themes, the "Sound & Science" database, currently in its beta version, provides valuable access to a diverse range of sources in the history of acoustics-many of them previously unavailable in digital format. The resource includes a multimedia archive of primary source material, documentation of surviving technology, and historical reenactments of crucial experiments in acoustics. Visualization tools open up large-scale and longue durée views on the history of sound and science, allowing users to explore and assemble material in unprecedented ways. The database includes sound files, texts, and images, which can be browsed using a full-text search function or via curated collections, or can be viewed on a map. Examples include curated collections "Carl Stumpf's experimental records" or the "Cornell University Laboratory of Ornithology's Recordings of Birdsongs." Go to the map, fo-







Fig. 2: Home page of the newly launched database "Sound & Science: Digital Histories" (URL: acoustics.mpiwg-berlin.mpg.de).

cus on "Berlin," narrow the slider to "1900– 1930," and you will find primary sources on the local network of institutions described above.

Additional analysis tools of the database reflect the variety of people, places, scientific disciplines, practical fields, technologies, building materials, and theoretical topics that have shaped acoustic history. Its tagging system connects all holdings that—for example mention technologies such as "tuning forks" or "sirens," materials such as "metal" or "wood," or topics like "speech/voice" or "noise." These instruments, all equipped with short explanatory textboxes, are anticipated to turn the database into a research tool in its own right, aiding scholars in the identification of new connections and sites of inquiry.



Fig. 3: Map showing a search result.



Scientific Listening in the Field: A History of Animal Recording

BY JOERI BRUYNINCKX (MAX PLANCK INSTITUTE FOR THE HISTORY OF SCIENCE)

Chip-chip-chip-chiwe-chwee-fissi-chooeev/Tises nonsense syllables have traditionally been used to capture the simple Chaffinch song, often to the despair of both novice birdwatchers and expert ornithologists.



The Promise of a Philology of the Ear: Eduard Sievers and Sound Analysis

BY REINHART MEYER-KALKUS (UNIVERSITY OF POTSDAM)

Around 1900, the Leipzig Germanist Eduard Sievers and his students gave new value to the auditory and phonetic aspects of written documents. With considerable methodological effort and public attention, they issued a rousing call for a "philology of the ear" to replace the "philology of the eye."

05 March 2018



A Sound Foundation: The Early Years of the Dutch Society for Acoustics

BY KARIN BIJSTERVELD (MAASTRICHT UNIVERSITY)

The Dutch Society for Acoustics (<u>Nederlands Akoestisch</u> <u>Genootschap</u>)received its current name in 1962, but was established as the Sound Foundation (<u>Geluidstichting</u>) in 1934.

26 February 2018

The Speaking and Singing Arc: The Sound of Electricity at the Fin de Siècle

BY ROLAND WITTJE (INDIAN INSTITUTE OF TECHNOLOGY MADRAS)

The singing and speaking arc emerged as a scientific object with the transformation of acoustics into electroacoustics around the turn of the nineteenth to the twentich century. Boland Wild; discusses the remacment of a series of experiments with the singing and speaking arc, carried out with Paolo Brenni and Anna Giatti at the Fondazione Scienza e Tecnica in Florence

19 February 2018



From Sound to Knowledge

BY VIKTORIA TKACZYK (MAX PLANCK INSTITUTE FOR THE HISTORY OF SCIENCE)

Scientific investions and discoveries are not always make in the discipling that are strictly representiable for them. Scientification is in in englichoring disciplines or domains of everyday Risk, art, or technology that now scientific experiments arise. This is expected by the first half having of acoustics. Burgeted as a audioticipline of physics in the early twentific the field when the Viennee physiological Rigmont Energy presented has "acoustonetter" in 1905.

Fig. 4: Collection of contributor essays (URL: acoustics. mpiwg-berlin.mpg.de/contributor-essays).



Voices of African Birds

AUD10

AUDIO

AUDIO

AUD10

AUDIO

AUD10

TEXT

North, M. (1958). Voices of African Birds. Ithaca, NY : Cornell University Records.



Mexican Bird Songs

Davis, I. (1958). Mexican Bird Songs. Ithaca: Cornell University Records.



Music and Bird Songs

Fassett, J., & Kellogg, P. (1953). Music and Bird Songs. Sounds from Nature with Commentary and Analysis . Ithaca NY: Cornell University Records.



Symphony of the Birds

Frisch, J. Symphony of the Birds. MGM Records.



Songs of Wild Birds

Brand, A. (1934). Songs of Wild Birds. New York: Thomas Nelson and Sons.



An Evening in Sapsucker Woods

Ornithology, C., Kellogg, P., Allen, A., & Allen, A. (1958). The Songs of Birds and other Denizens of a Northeastern Woodland. Ithaca NY: Cornell University Records.



A method for the intensive study of birdsong

Brand, A. (1935). A method for the intensive study of birdsong. The Auk, 52(1), 40-52. http://doi.org/10.2307/4077106

Fig. 5: Collection of material related to the keyword "Bird Song" (URL: acoustics.mpiwg-berlin.mpg.de/ browse-objects?fulltext=Bird+Song).

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