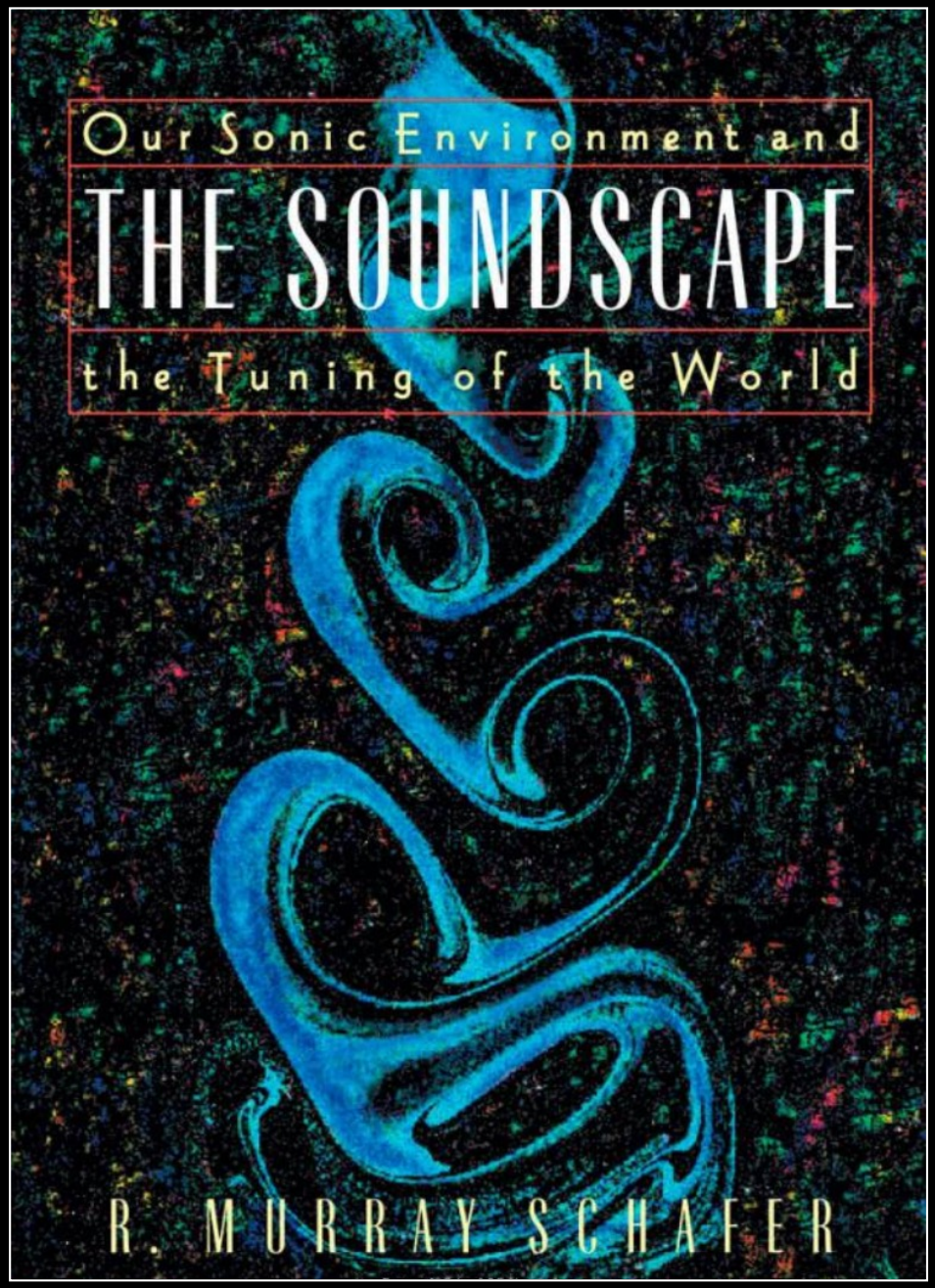
21A.505 / STS.065 Anthropology of Sound Spring 2022 MIT

2. Feb 10 HELMREICH
Soundscapes, Acoustemologies, Space, Culture



Destiny Books, 1994; first edition Knopf, 1977

SOUNDSCAPES made of

keynote sounds

signals

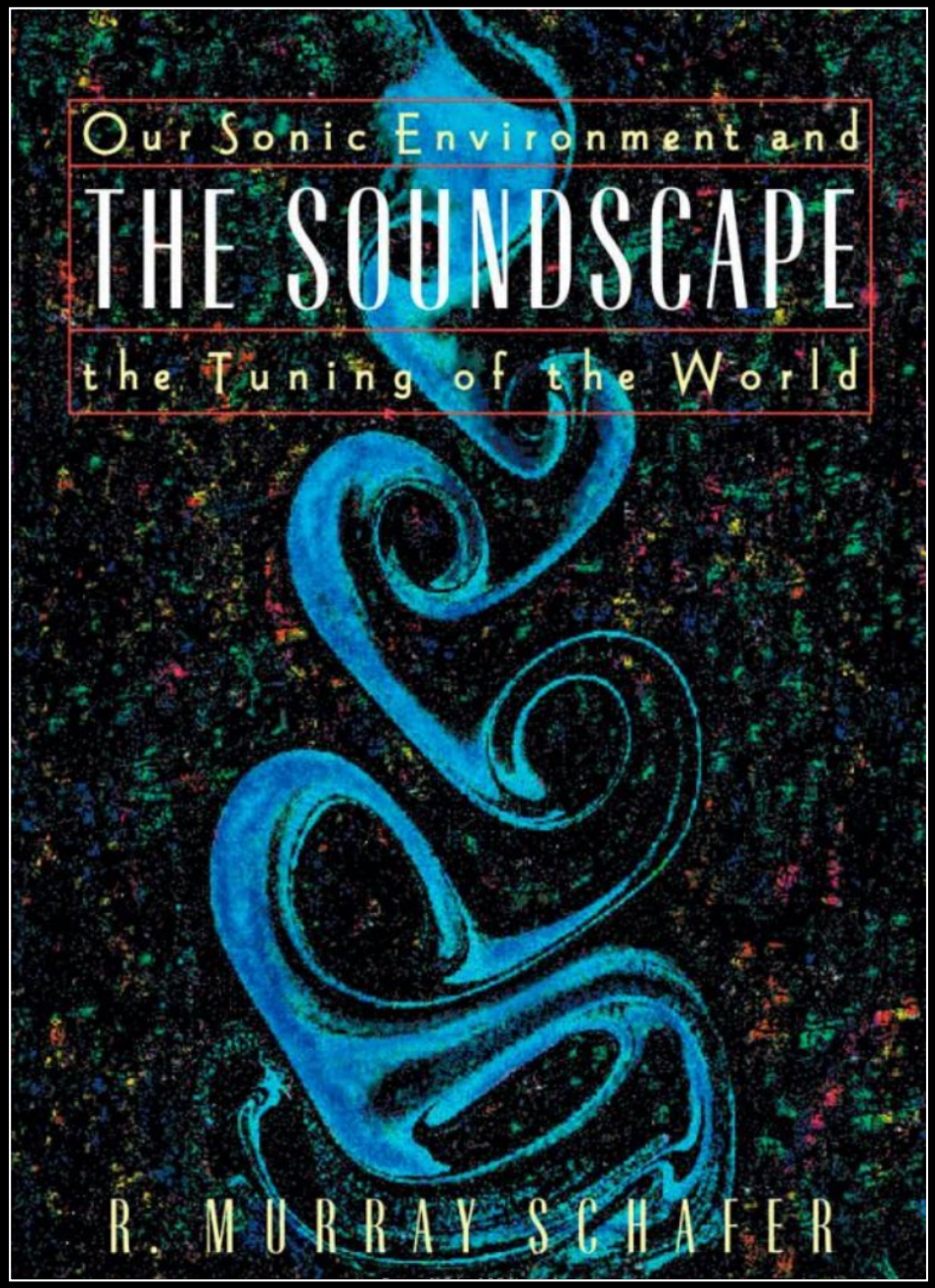
soundmarks

TUNING OF THE WORLD through

clairaudience

refusing *noise*, reanimating *Appolonian* (v Dionysian) notions of music

repairing *schizophonia*



Destiny Books, 1994; first edition Knopf, 1977

Sound Imperialism

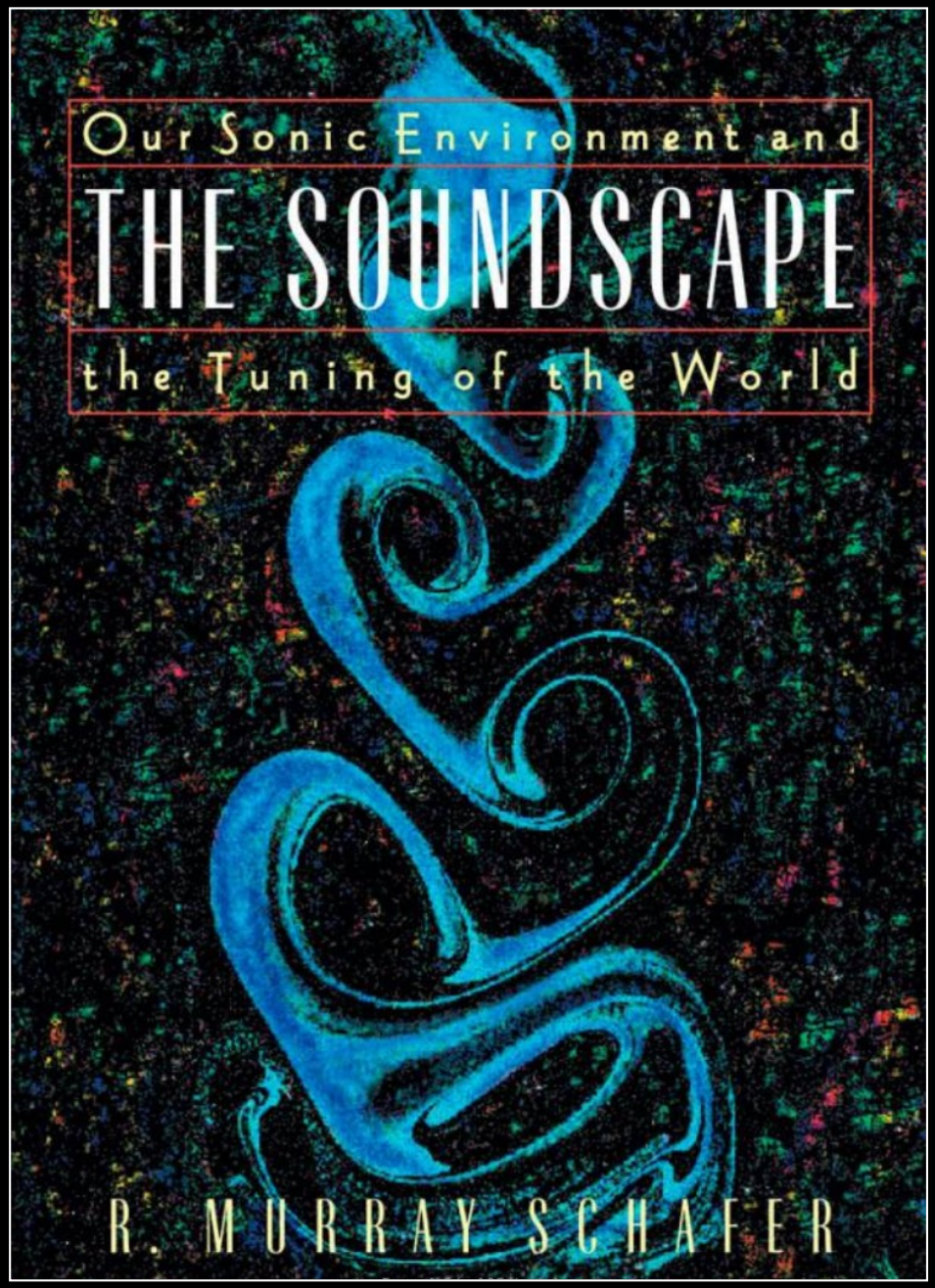
Wherever Noise is granted immunity from human intervention, there will be found a seat of power. The noisy clank of Watt's original engine was maintained as a sign of power and efficiency, against his own desire to eliminate it, thus enabling the railroads to establish themselves more emphatically as the "conquerers" that I will, in a moment, let Charles Dickens describe. A glance at the sound output of any representative selection of modern machines is enough to indicate where the centers of power lie in the modern world.

Steam engine	85 dBA
Printing works	87 dBA
Diesel-electric generator house	96 dBA
Screw-heading machine	101 dBA
Weaving shed	104 dBA
Sawmill chipper	105 dBA
Metalwork grinder	106 dBA
Wood-planing machine	108 dBA
Metal saw	110 dBA
Rock band	115 dBA
Boiler works, hammering	118 dBA
Jet taking off	120 dBA
Rocket launching	160 dBA

76-77

Just as there is no perspective in the lo-fi soundscape (everything is present at once), similarly there is no sense of duration with the flat line in sound. It is suprabiological. We may speak of natural sounds as having biological existences. They are born, they flourish and they die. But the generator or the air-conditioner do not die; they receive transplants and live forever.

78



Schafer, R. Murray. *The Soundscape: Our Sonic Environment and the Tuning of the World*. Destiny Books, 1993. © Destiny Books. All rights reserved. This content is excluded from our Creative Commons license. For more information, see https://ocw.mit.edu/help/faq-fair-use/.

Destiny Books, 1994; first edition Knopf, 1977

Schizophonia The Greek prefix *schizo* means split, separated; and *phone* is Greek for voice. *Schizophonia* refers to the split between an original sound and its electroacoustical transmission or reproduction. It is another twentieth-century development.

Originally all sounds were originals. They occurred at one time in one place only. Sounds were then indissolubly tied to the mechanisms that produced them. The human voice traveled only as far as one could shout. Every sound was uncounterfeitable, unique. Sounds bore resemblances to one another, such as the phonemes which go to make up the repetition of a word, but they were not identical. Tests have shown that it is physically impossible for nature's most rational and calculating being to reproduce a single phoneme in his own name twice in exactly the same manner.

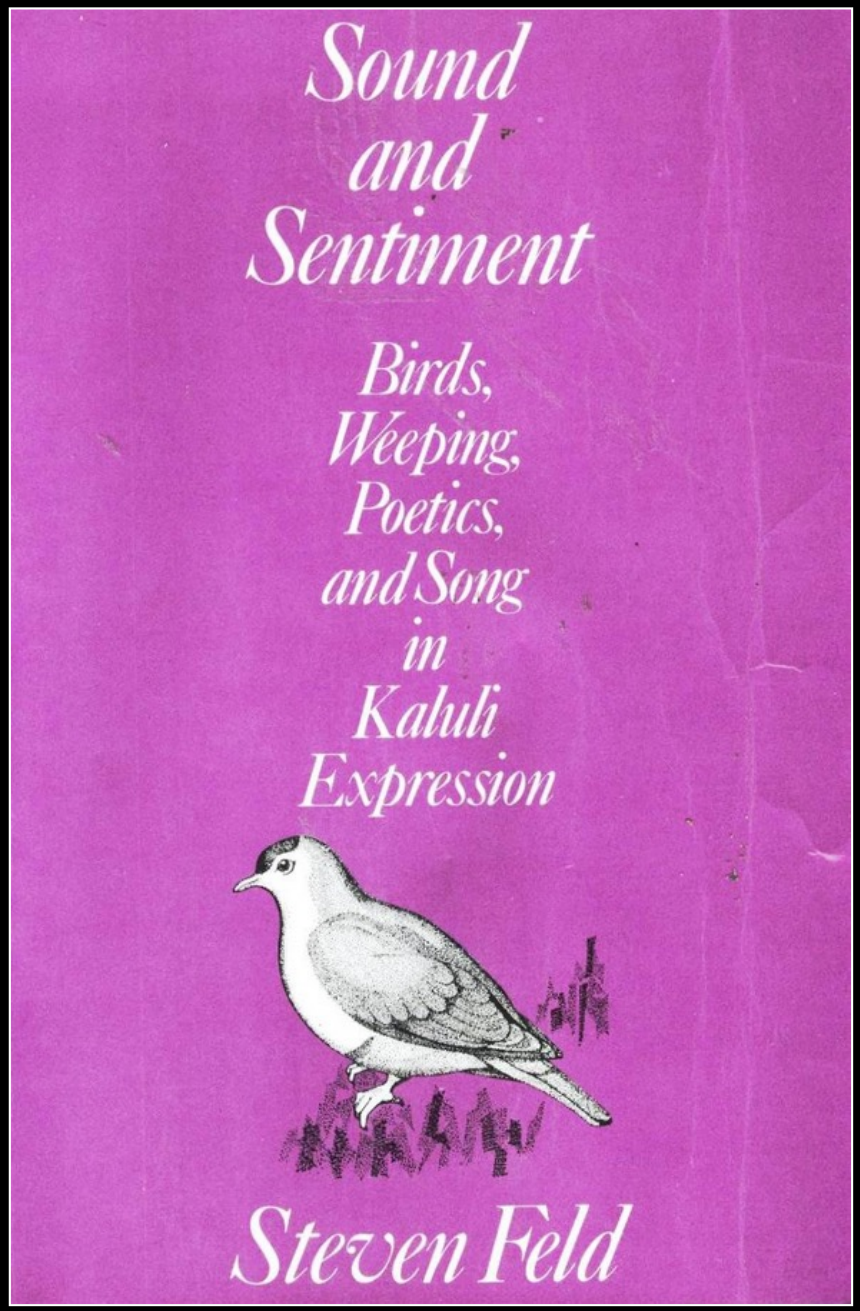
90

The Electric Revolution extended many of the themes of the Industrial Revolution and added some new effects of its own. Owing to the increased transmission speed of electricity, the flat-line effect was extended to give the pitched tone, thus harmonizing the world on center frequencies of 25 and 40, then 50 and 60 cycles per second. Other extensions of trends already noted were the multiplication of sound producers and their imperialistic outsweep by means of amplification.

Two new techniques were introduced: the discovery of packaging and storing techniques for sound and the splitting of sounds from their original contexts—which I call schizophonia. The benefits of the electroacoustic transmission and reproduction of sound are well enough celebrated, but they should not obscure the fact that precisely at the time hi-fi was being engineered, the world soundscape was slipping into an all-time lo-fi condition.

88

Schafer, R. Murray. *The Soundscape: Our Sonic Environment and the Tuning of the World*. Destiny Books, 1993. © Destiny Books. All rights reserved. This content is excluded from our Creative Commons license. For more information, see https://ocw.mit.edu/help/faq-fair-use/.



University of Pennsylvania Press, 1982

Ulahi Gonogo and Steven Feld review song translations, Bona village, Bosavi, 2018

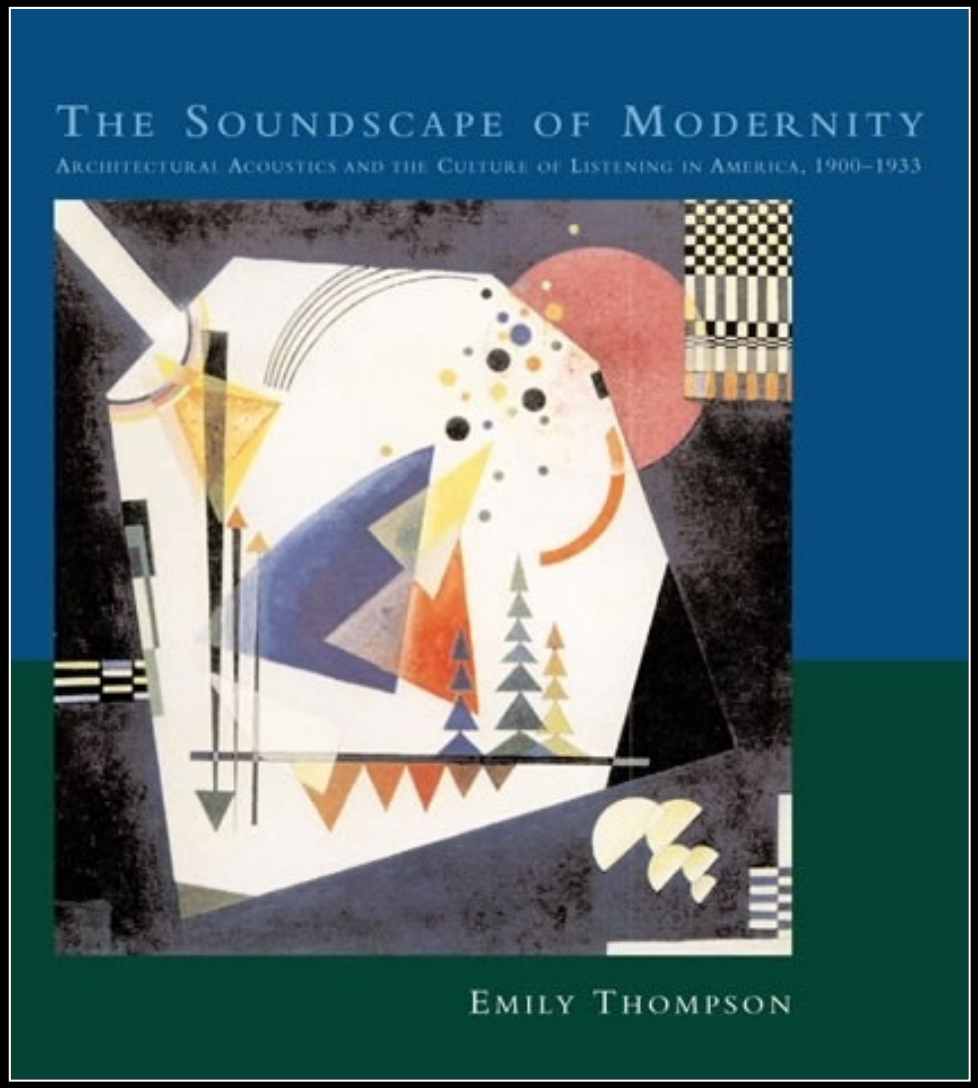
ACOUSTEMOLOGIES
patterns of cultural apprehensions and understandings of sound

POETIC CARTOGRAPHY

In Kaluli musicking and sound

lift-up-over sounding

flow



Thompson, Emily. *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900–1933*. MIT Press, 2004.

MIT Press, 2002

THE SOUNDSCAPE OF MODERNITY works with

scientifically described signal-like sound, with aim of rational control over reverberation and resonance

rect for the variations that he could not eliminate or control.[93] He ultimately determined that the hyperbolic parameter k was proportional to the volume of a room according to the equation:

$$k = .164\ V.$$

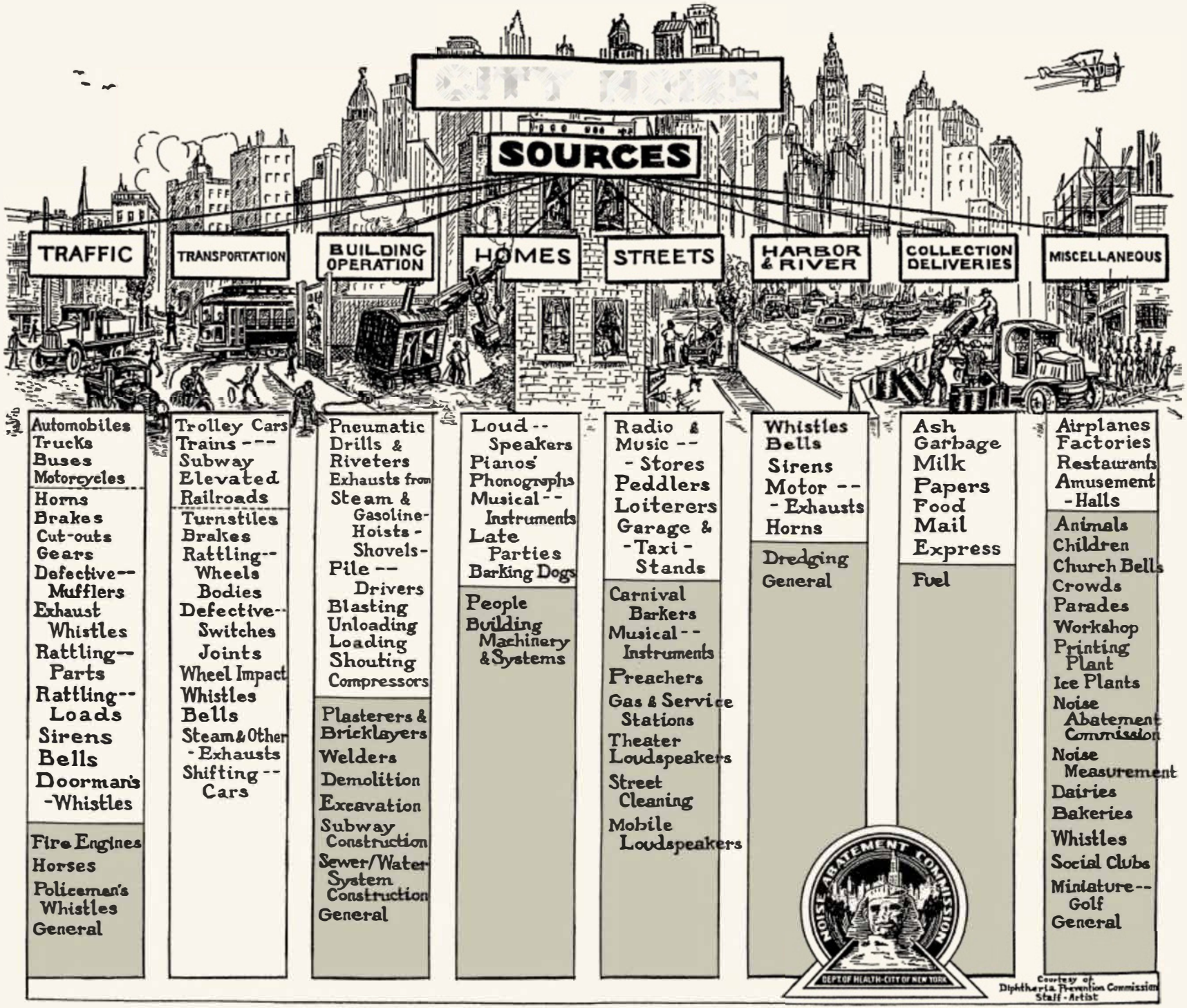
Sabine's equation could now be written in the form:

$$t = \frac{.164\ V}{\sum (a_n\ s_n)},$$

where:

t = reverberation time (in seconds),
V = volume of room (in cubic meters),
a_n = absorption coefficient of material n, and
s_n = surface area of material n (in square meters).

Thompson, Emily. *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900–1933*. MIT Press, 2004.



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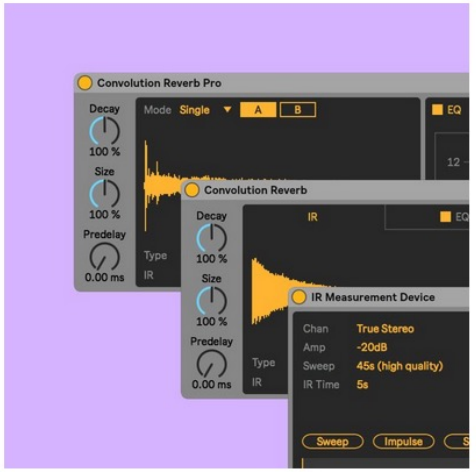
by Ableton

Convolution Reverb is a creative device for bringing new space to your sounds – a sample-based reverb suite with hundreds of impulse responses from real-world spaces and world-class hardware.



Included in Live 11 Suite.

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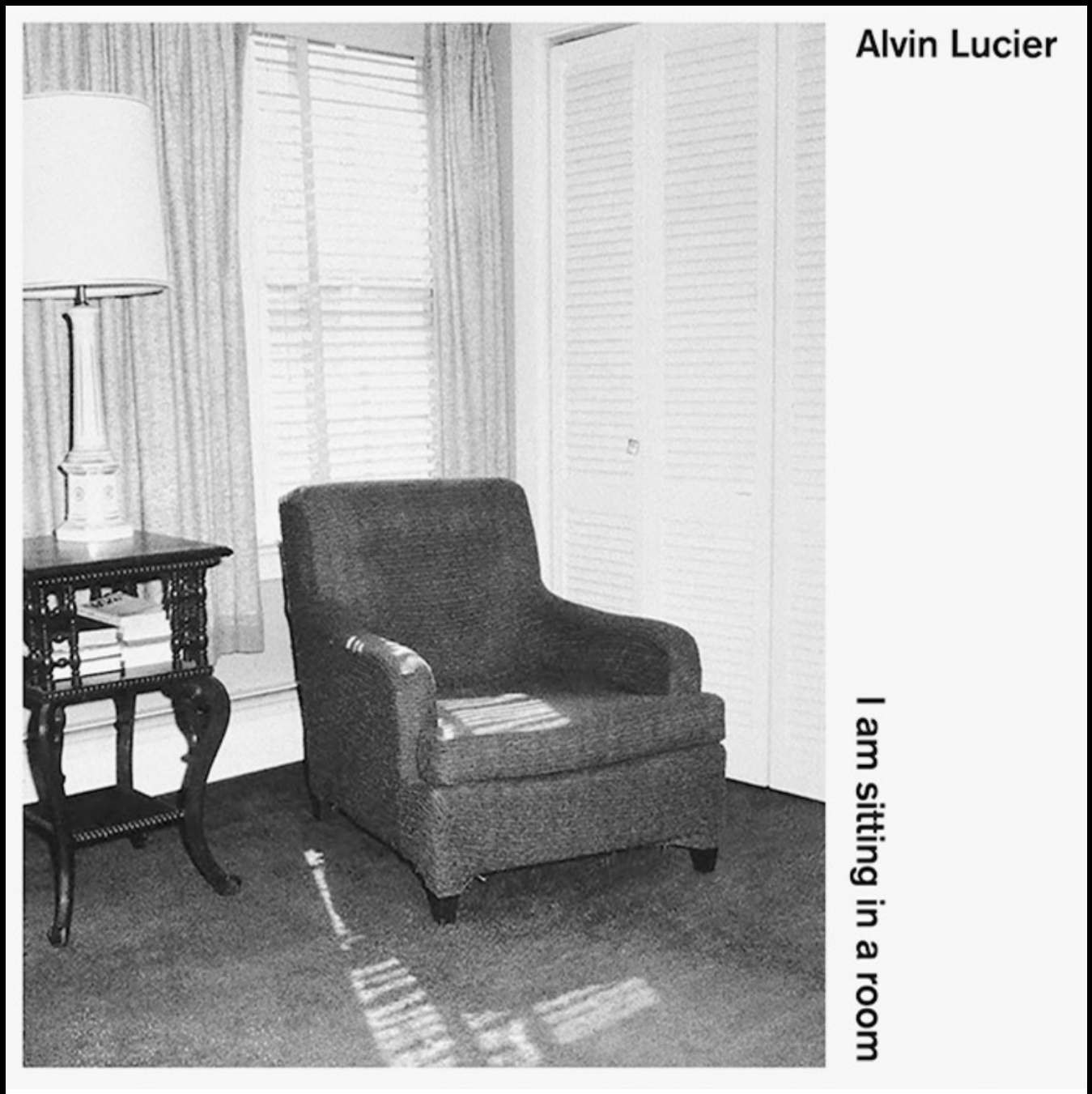
Contents
436 Presets, 1 Live Sets, 3 Max Devices

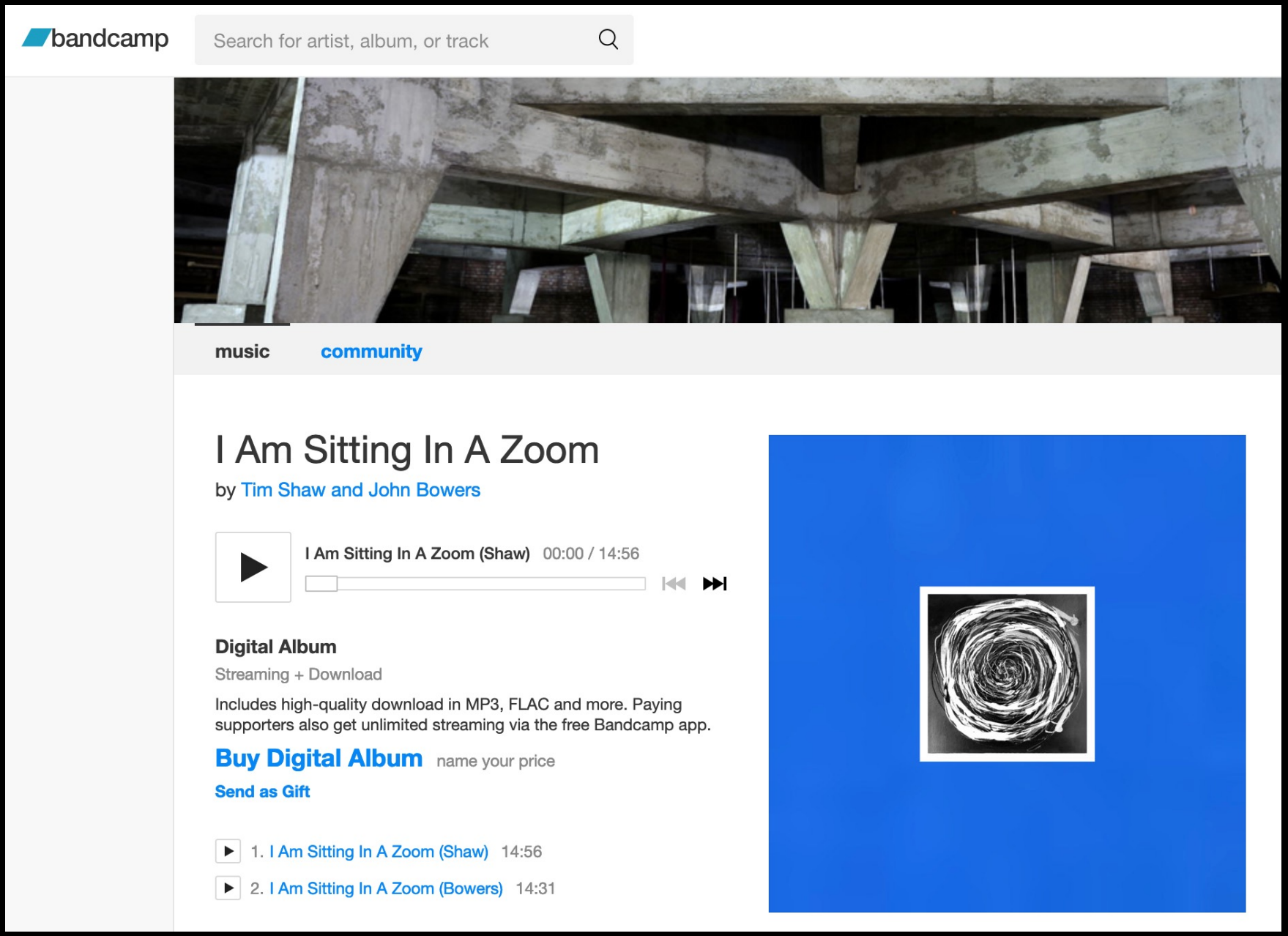
Size
Installation size: 573.91 MB
Download size: 298.9 MB

Requirements
Live 11 Standard (version 11.0 or higher)
Max for Live

Tags
Experimental, Sound Effects, Device Presets



originally recorded, 1969



originally recorded, 2020

Cathy Lane

sound artist and composer

← Science Fiction

Here We all Are (Lucier Mix)

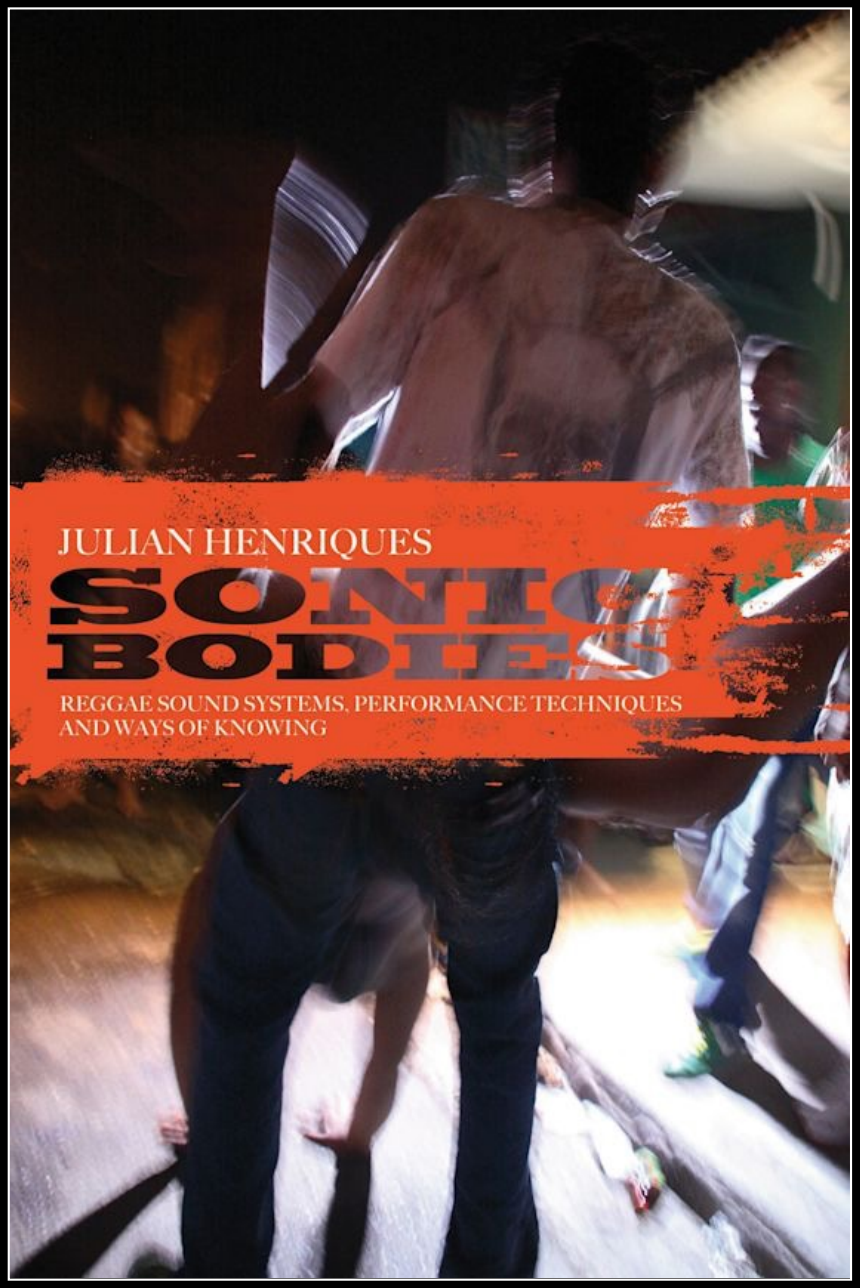
Posted on May 18, 2020 by cathylane

For a long time I've been thinking of what a feminist re-working of Lucier's "I Am Sitting In A Room" might sound like. It's a great work but I couldn't help but wonder about Lucier's position as the only sound in the room, the male artist apparently voluntarily isolated and cut off from the rest of society with his voice becoming more and more re-enforced and literally bouncing back at him from his environment reflecting only him. I wanted to see what happened when my voice was looped over and over again into the outside world so that it combined with the sounds of the other people and the other species that I share space with.

In March and April 2020 the UK went into lockdown to try and slow the spread of the virus C19. The inner cities everywhere became quieter as traffic and planes decreased. The weather was unusually warm and sunny. Birds sang and insects buzzed. In my part of East London where the small gardens of terraced houses are divided from the neighbours gardens on three sides by fences, you could hear but not see the various activities of your often unknown neighbours at various points of the day and night. Many people no longer were allowed to go to work but worked in the garden, played with their children and enjoyed being outside.

All recordings Here We all Are (Lucier Mix) were made during the start of this time while sitting in the same position in my garden in Hackney, London in late March and April, 2020.

originally recorded, 2020



Henriques, Julian. *Sonic Bodies: Reggae Sound Systems, Performance Techniques, and Ways of Knowing*. Continuum, 2011. © Continuum. All rights reserved. This content is excluded from our Creative Commons license. For more information, see https://ocw.mit.edu/help/faq-fair-use/.

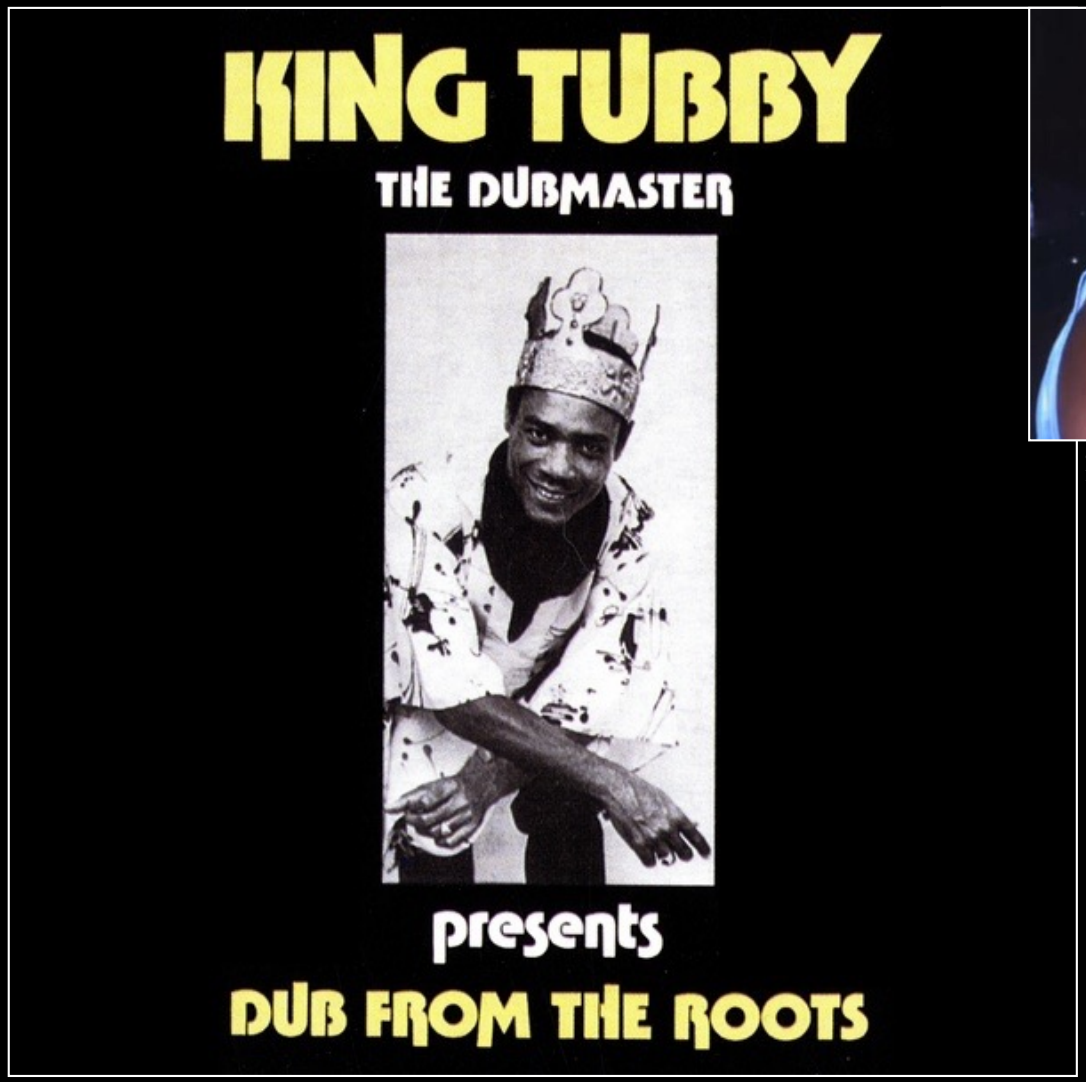
Bloomsbury, 2011

SONIC DOMINANCE

VIBRATIONS

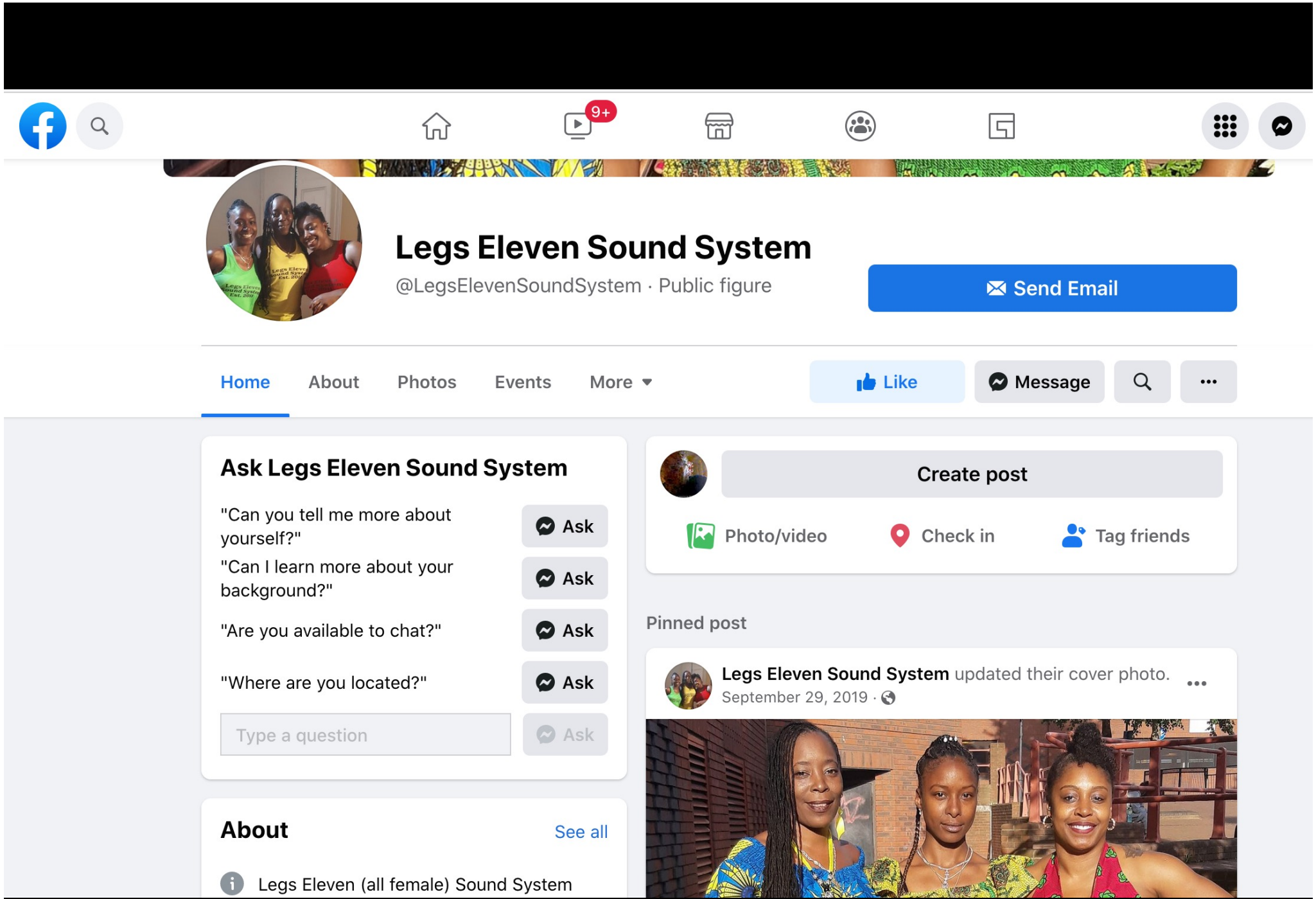
SOUNDING AS VERB
DUB AS RE-VERB

BASS CULTURE



"King Tubby: The Dubmaster presents Dub from the Roots." Total Sounds, 1975. © Total Sounds. All rights reserved. This content is excluded from our Creative Commons license. For more information, see https://ocw.mit.edu/help/faq-fair-use/.

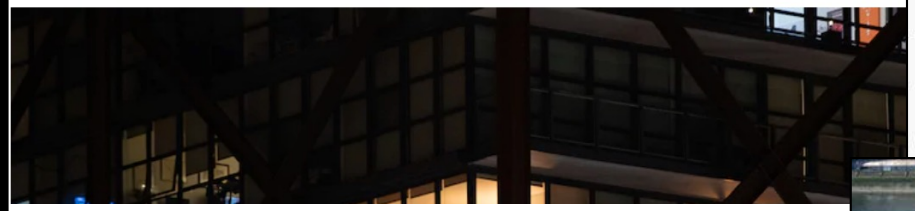
Culture Press, 1974



Some Sounds of the Covid-19 Pandemic

The Washington Post
Democracy Dies in Darkness

What does a pandemic sound like? For many of us at home, it's a heartbreaking silence.



By **Robin Givhan**

April 28, 2020 at 5:00 a.m. EDT

Edition: United States | Donate | Get newsletter | Become an author

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Academic rigor, journalistic flair

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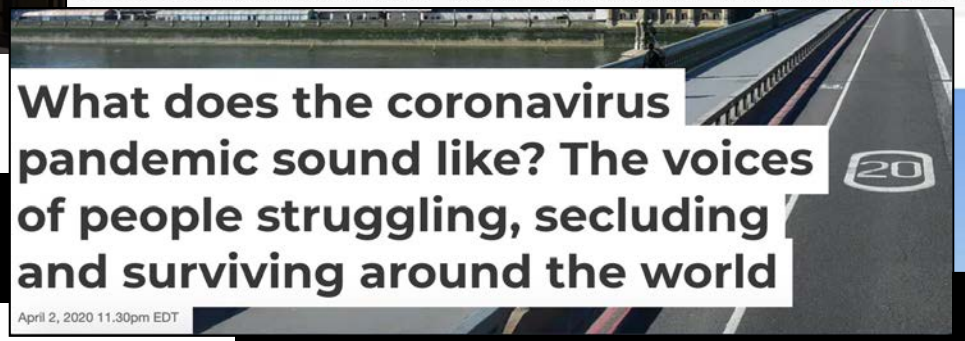


What does the coronavirus pandemic sound like? The voices of people struggling, secluding and surviving around the world

April 2, 2020 11.30pm EDT

CBC | MENU

COVID-19 | Local updates | Live video | COVID-19 tracker | Subscribe

As It Happens

What does a pandemic sound like? Artist maps audio from people's daily lives

Birds chirping, balcony music and applause for health-care workers among the sounds captured during COVID-19

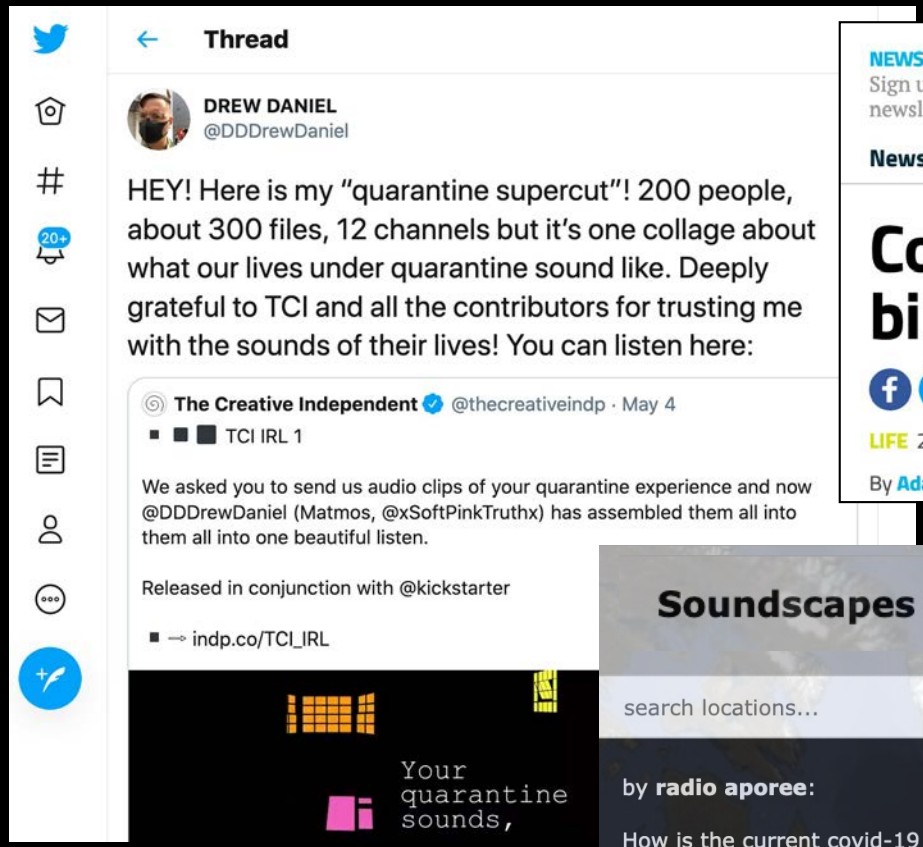
CBC Radio · Posted: Apr 09, 2020 5:33 PM ET | Last Updated: April 9

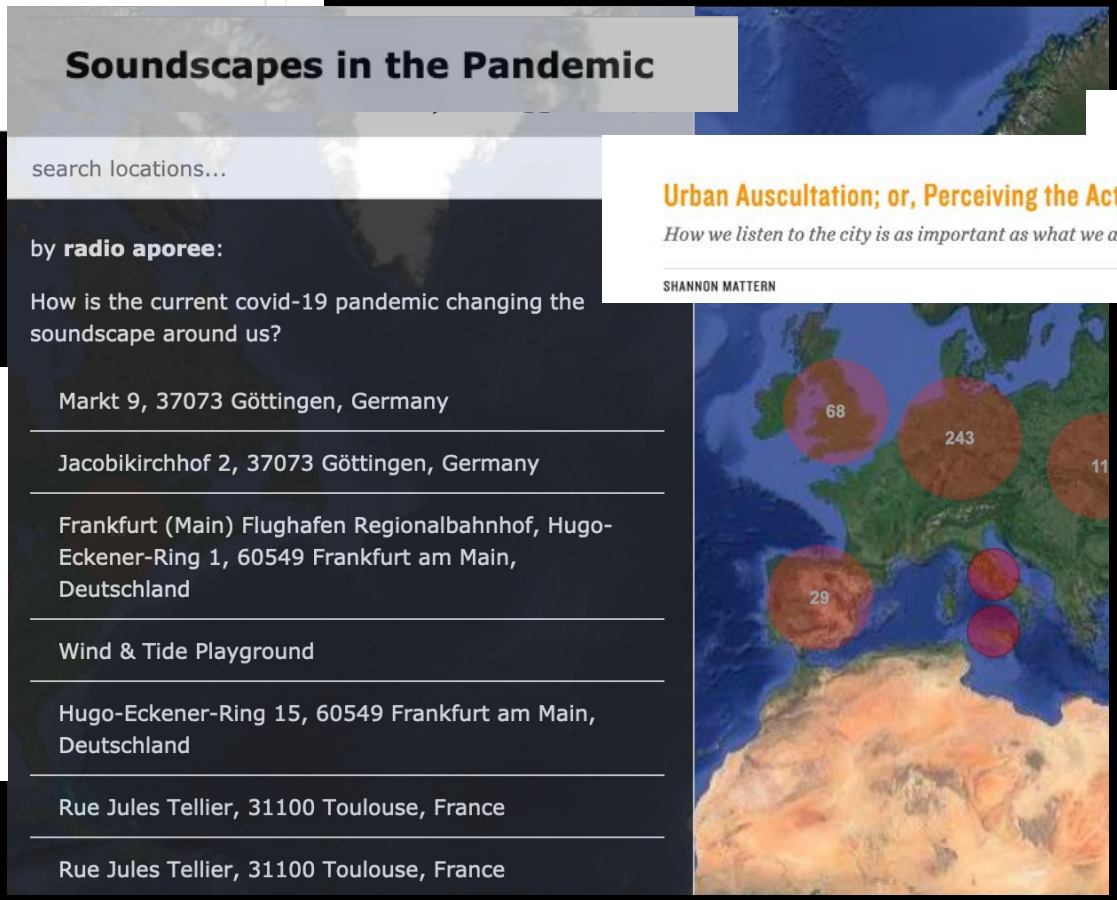
'Sound of the Earth: The Pandemic Chapter'

An online art installation which records the sounds of the COVID-19 Pandemic.

"Over 500 people from around the world have submitted the sounds that they recorded—these include everything from ambulance sirens to waterfalls, as well as events specific to the Pandemic, such as the weekly 'Clap for Carers'."

Credits for these images can be found on page 25.





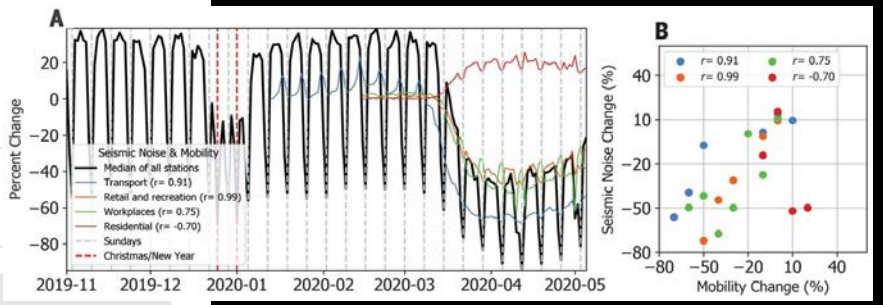
Credits for these images can be found on page 26.

Science Contents News Careers Journals

Global quieting of high-frequency seismic noise due to COVID-19 pandemic lockdown measures

Thomas Lecocq[1,*], Stephen P. Hicks[2], Koen Van Noten[1], Kasper van Wijk[3], Paula Koelemeijer[4], Ra...
+ See all authors and affiliations

Science 11 Sep 2020:
Vol. 369, Issue 6509, pp. 1338-1343
DOI: 10.1126/science.abd2438



The great seismic quiet period

Noise from trains, airplanes, industrial processes, and other sources is recorded on seismometers worldwide. Disentangling this noise is important for extracting out natural signals, but the noise can also roughly track population movements. Lecocq *et al.* compiled seismic observations around the world and found a substantial decrease in noise resulting from lockdown measures imposed in response to the coronavirus disease 2019 pandemic (see the Perspective by Denolle and Nissen-Meyer). These observations tightly correspond to when the measures went into effect and offer a way to track aggregate behavior. This quiet period also offers the chance to extract anthropogenic sources of noise from those of natural processes.

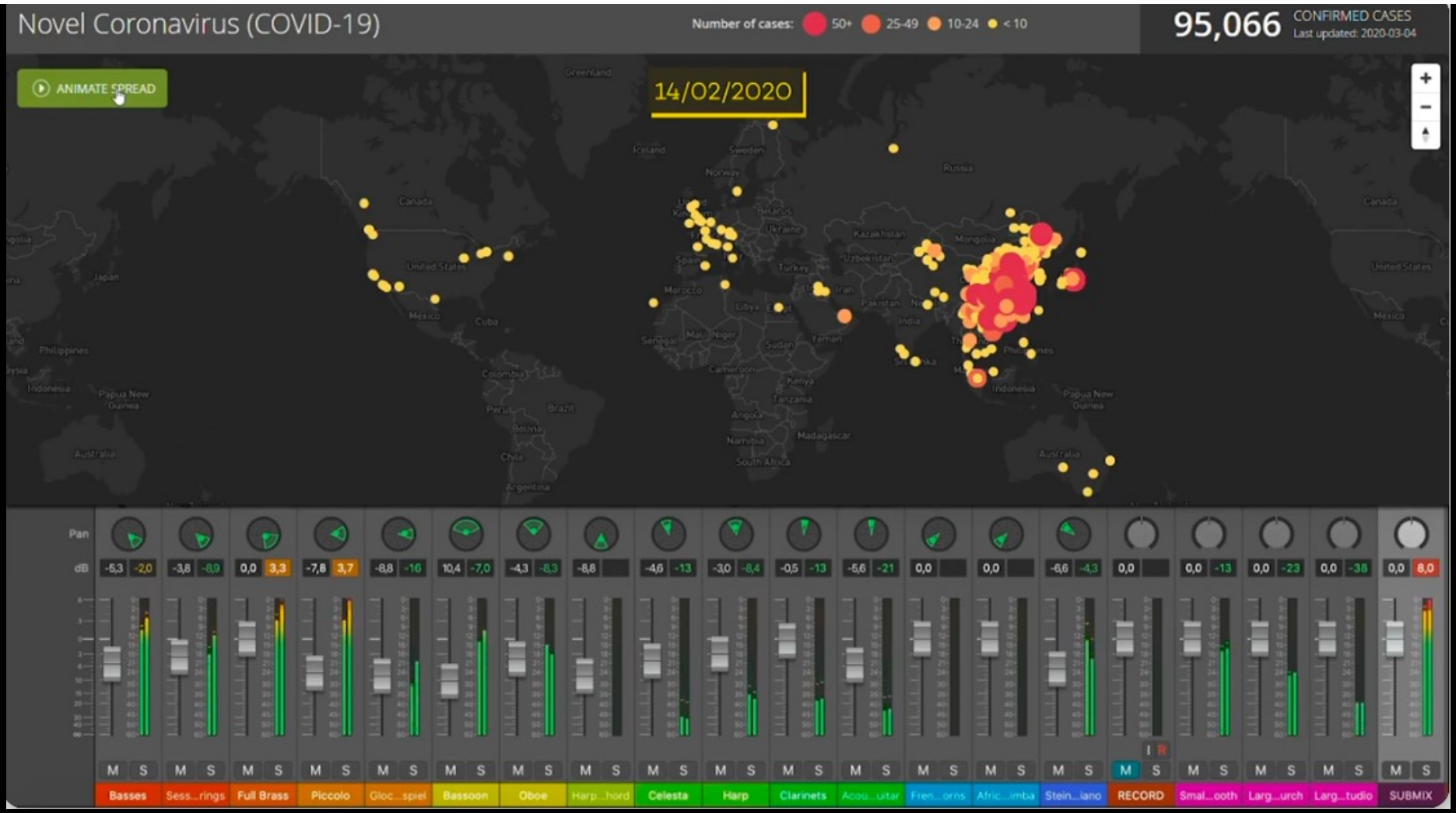
Science, this issue p. **1338**; see also p. **1299**

Sonifying The Coronavirus Pandemic

Mar 9, 2020 • Rayam Soeiro, Paul Koenig, Simon Sandvik, Donho Kwak

Introduction

For this sonification project, our team chose to map the contemporaneous spread of the Coronavirus from China to the rest of the world. This is obviously a phenomenon that is ongoing, so being able to update the sonification as new data came in was an important consideration.



Visually impaired Scots get sonic help with Covid graphs

New website uses musical notes to create an audio map of infection rates or fatalities

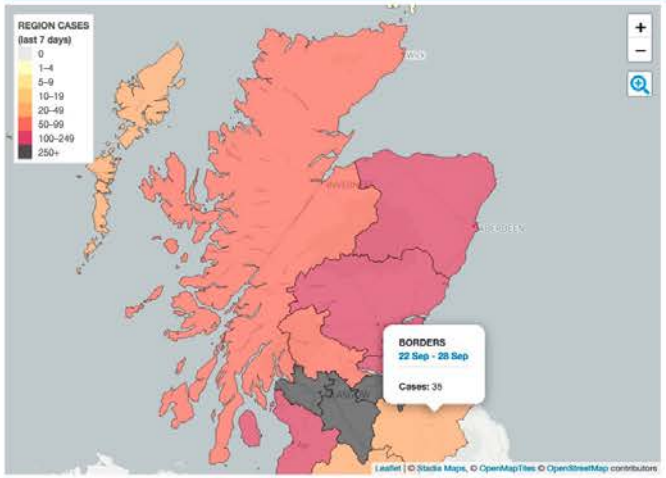
- Coronavirus - latest updates
- See all our coronavirus coverage

Scottish COVID-19 Statistics

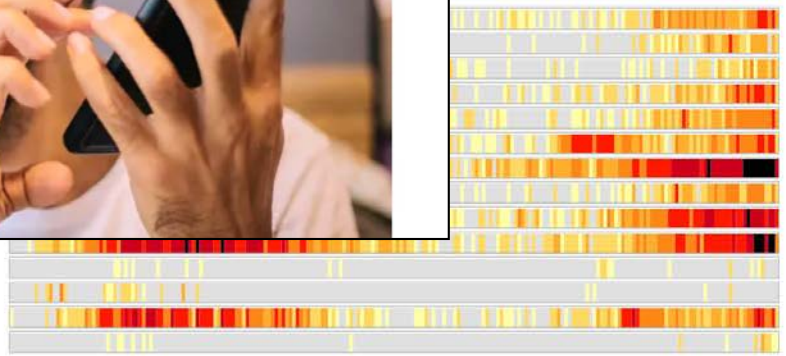
Summary Dashboard | Regional Insights

Select boundaries:

Health Boards

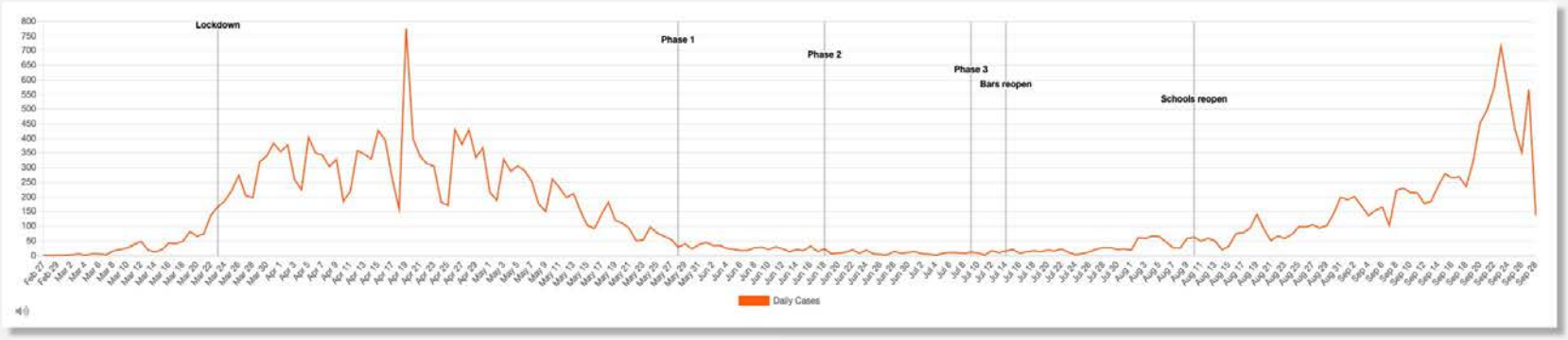


HEALTH BOARDS	14 Boards
Ayrshire & Arran	
Borders	
Dumfries & Galloway	
Fife	
Forth Valley	
Grampian	
Greater Glasgow & Cly	
Highland	
Lanarkshire	
Lothian	4791
Orkney	23
Shetland	60
Tayside	2515
Western Isles	30



Select Chart:

- Daily Cases
- Total Cases
- Daily Deaths
- Total Deaths
- % Tests Positive



PLAYLIST

Pandemic Songs

A playlist of songs related to the coronavirus pandemic created by Associated Press Music Editor Mesfin Fekadu.

Mesfin • 248 likes • 34 songs, 1 hr 55 min

ingenium channel

Français

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Remembering the sounds of COVID-19

Changing soundscapes

"Listen up: In these disquieting COVID-19 times, hushed cities are making a loud impression on our ears": Reflections on the changing soundscapes of Canada, as impacted by the pandemic.

"The Coronavirus Quieted City Noise. Listen to What's Left": Reflections on the changing soundscape of New York City, as impacted by the pandemic.

"Quiet Oceans: Has the COVID-19 Crisis Reduced Noise in Whale Habitats?": A discussion of how COVID-related quiet is affecting underwater sea sound levels.

Personal reflections

"The Sounds of Covid": Coronavirus lockdown poem written by a nine-year-old child in Cork, Ireland.

"There Is No Noise in a Covid-19 Emergency Room": First-hand account by a front-line doctor in New York City.

"How COVID-19 is unmasking my hearing loss": Personal reflection by an Ottawa resident on the impact of face masks for people with hearing loss.

Recordings and sound maps

"#StayHomeSounds": Collection of audio recordings uploaded by people around the world during coronavirus lockdown.

"Soundscapes in the Pandemic": Another collection of crowdsourced recordings, this one focused on documenting changing local and global soundscapes.

"COVID-19 Pandemic Soundscape": Recordings of residents sounding appreciation for healthcare workers from their condo balconies in Vancouver.

Medical sounds

"Sounds of Coronavirus (COVID-19) - Lung Sounds": Examples of different lung sounds produced by COVID-19.

"COVID-19 Sounds App": An app developed by University of Cambridge researchers to crowdsource sounds of people's voices, breathing, and coughing in order to inform the diagnosis of COVID-19.

"Coughvid": Another initiative to collect the sounds of coughs for research purposes, this one run by the Embedded Systems Laboratory at the Swiss Federal Institute of Technology Lausanne.

Data sonifications

"Viral Counterpoint of the Coronavirus Spike Protein (2019-nCov)": Musical sonification of the amino acid sequence and protein structure of the COVID-19 pathogen.

"The sounds of Covid-19": Another musical sonification of the DNA sequence of COVID-19.

Musical soundtracks and resources

"Golden Sounds of Covid-19": Compilation album of COVID-19-inspired songs, with proceeds donated to charity that provides relief for musicians affected by the virus.

"A Quarantine Playlist For Every Mood": Collection of playlists and live streaming resources for people to access under coronavirus lockdown.

Critical Commentaries

The Future is Unwritten: Listening to the Rhythms of COVID-19

Brian E. Kumm, Joseph A. Pate & Callie S. Schultz

Received 22 Apr 2020, Accepted 13 May 2020, Published online: 26 Jun 2020

ETHNOMUSICOLOGY

Faculty of Music, University of Toronto

Home People Programs **News & Events** Contact

Listening to COVID 19

Masks curb COVID, but add barrier for deaf community

Mask-wearing makes communication near impossible for those who rely on lipreading to communicate.

Hilary Edwards • June 30, 2020

Informatics in Medicine Unlocked 20 (2020) 100378

Contents lists available at ScienceDirect

Informatics in Medicine Unlocked

journal homepage: http://www.elsevier.com/locate/imu

AI4COVID-19: AI enabled preliminary diagnosis for COVID-19 from cough samples via an app

Ali Imran [a,b], Iryna Posokhova [b,c], Haneya N. Qureshi [a], Usama Masood [a], Muhammad Sajid Riaz [a], Kamran Ali [d], Charles N. John [a], MD Iftikhar Hussain [b,e], Muhammad Nabeel [a,*]

[a] *AI4Networks Research Center, Dept. of Electrical & Computer Engineering, University of Oklahoma, USA*
[b] *AI4Lyf LLC, USA*
[c] *Kharkiv National Medical University, Ukraine*
[d] *Dept. of Computer Science & Engineering, Michigan State University, USA*
[e] *Allergy, Asthma & Immunology Center PC, USA*

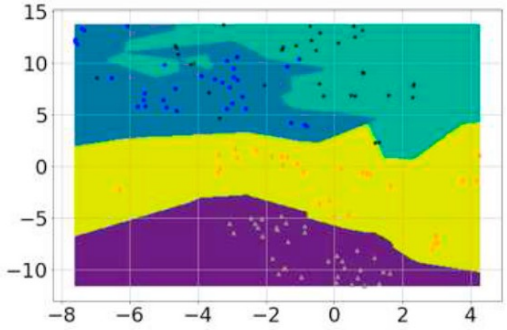

Fig. 1. Visualization of features for the four classes via t-SNE (gray triangles correspond to normal, blue circles correspond to bronchitis, black stars correspond to pneumonia and orange diamonds represent COVID-19 cough. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

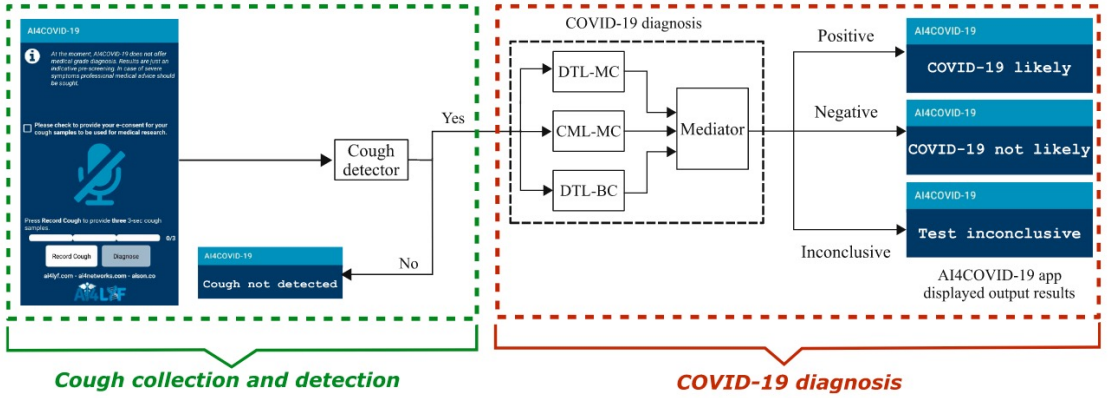

Fig. 2. Proposed system architecture and flow diagram of AI4COVID-19, showing snapshot of Smartphone App at user front-end and back-end cloud AI-engine blocks consisting of Cough Detector block (further elaborated in Fig. 4 and Section 2.3) and COVID-19 diagnosis block containing Deep Transfer Learning-based Multi-Class classifier (DTL-MC), Classical Machine Learning-based Multi-Class classifier (CML-MC) and Deep Transfer Learning-based Binary-Class classifier (DTL-BC) (further elaborated in Fig. 5 and Section 2.3).

Deep learning-based cough recognition model helps detect the location of coughing sounds in real time.

21.08.2020 · #CORONAVIRUS #DEEP LEARNING #INFECTIONS

COVID-19: Deep learning-based cough recognition

The Center for Noise and Vibration Control at KAIST announced that their coughing detection camera recognizes where coughing happens, visualizing the locations. The resulting cough recognition camera can track and record information about the person who coughed, their location, and the number of coughs on a real-time basis.

Credits for the images on page 15

Givhan, Robin. "What Does a Pandemic Sound Like?," *Washington Post*, April 28, 2020.

"What Does a Pandemic Sound Like? Artist Maps Audio from People's Daily Lives." April 9, 2020. CBC.

"Sound of the Earth: The Pandemic Chapter."

"What Does the Coronavirus Pandemic Sound Like? The Voices of People Struggling, Secluding and Surviving Around the World." April 2, 2020. The Conversation.

Credits for the images on page 16

Vaughan, Adam. "Coronavirus Lockdown Changed How Birds Sing in San Francisco." *New Scientist*, September 24, 2020.

"Soundscapes in the Pandemic." Radio Aporee.

Mattern, Shannon. "Urban Auscultation; or, Perceiving the Action of the Heart." *Places Journal,* April 2020.

21A.505J / STS.065J The Anthropology of Sound
Spring 2022