

SONIC ECOLOGY

SPRING 2011

WEDNESDAYS 1:30 - 4:30

FERGUSON HALL 205

MATT RAHAIM (mrahaim@umn.edu)

A nagaswaram player in a Shiva temple projects the sonic range of ritual space far beyond the temple walls. Bells mark out community boundaries in the French countryside. The sound of chainsaws drives songbirds from their nests. A neighborhood association in Cairo puts a loud nightclub out of business with noise complaints. African elephants align their journeys with each other by singing at very low frequencies.

This seminar is about sonic relationships. In particular, we are interested in complex webs of these relationships that form sonic environments: sonic contexts for sounding. There will be weekly readings and frequent recording and analysis assignments, but the heart of this seminar will be our own ongoing ethnographic investigations into sound environments. We will present these to each other regularly.

Graduate students from any department are welcome. Undergraduates may also join with the permission of the instructor.

Required books

Course Reader (Available at Bookstore)

The Soundscape: Our Sonic Environment and the Tuning of the World by R. Murray Schaefer

Listening and Voice: Phenomenologies of Sound by Don Ihde

The Singing Life of Birds: The Art and Science of Listening to Birdsong by Donald E. Kroodsma

Fundamentals of Musical Acoustics by Arthur Benade

Suggested Books (on reserve at the library)

The Auditory Culture Reader (Bull and Back, eds.)

Acoustic Territories: Sound Culture and Everyday Life (by Brandon LaBelle)

Suggested Software

Sound recording and editing (*Audacity, Peak, etc.*)

Sound analysis software (*Praat, Raven, etc.*)

Cornell Ornithology website (www.birds.cornell.edu)

Suggested Hardware

Zoom H2 audio recorders - available on loan through Mike Duffy (duffy110@umn.edu)

Auxiliary Readings

If there are readings that you are particularly interested in, please write to me about substituting them for the canonical readings I assign.

ASSIGNMENTS

Readings

All readings not in the required books are in the course reader or online. You should complete the readings by Monday at noon so that you can contribute to the weekly email conversation.

Weekly Writings

Part of the discussion in this class will proceed over email. Everybody will write at least one long and one short email to the whole-class email list every week.

The long one (~750 words) should comment on the readings. It is due on Monday at noon. The short one should comment either on observations you've made about sounds in the world or the writings of other students. It is due on Wednesday before class.

As we get into the flow of these discussions, you will likely find yourself writing much more than this; more is always welcome. As with any email correspondence, there is a danger of flippantly sending off virtriotic comments late at night—be mindful of your tone.

Recording Presentations

Over the course of the semester, you will make, analyze, and present five recordings:

- A Room With Many People*
- A Space in The Mall of America*
- An Outdoor Public Space*
- A Single Non-Human Animal Sounding*
- Several Non-Human Animals Interacting Sonically*

Final Project

Your major work in this class will be a final project, worked out in consultation with the rest of the seminar. This project may take any form (sound map, notation, essay, video or audio documentary, experiment, composition, etc.) but it must fulfill these requirements:

- 1) you should put in 20-25 hours of work.
- 2) you should be able to present it to class (e.g., sitting and listening to birds for 24 straight hours is impressive, but you must also produce something to benefit the rest of us)
- 3) you should be able to make a case that it bears on our collective interests in this seminar (i.e., it addresses issues that came up in readings, conversations, etc.)

January 24

Overview of the course. Modes of listening, ecology as the study of relations, the difference between phenomenology and subjectivity, the difference between acoustics and objectivity.



January 31

Soundscapes. Fundamentals of acoustics and sound phenomenology. Sound, silence, and power. Sonic figure and ground.

READ:

"To Give up on Words: Silence in Western Apache Culture" by Keith Basso

Fundamentals of Musical Acoustics by Arthur Benade

pp. 10-18 (impulse, frequency), pp. 25-34 (oscilloscopy, clang, reverb, decay)

R. Murray Schaefer, *The Soundscape: Our Sonic Environment and the Tuning of the World*

"Perception" and "Listening"

Listening and Voice: Phenomenologies of Sound by Don Ihde, pp. 37-55

(from "I sit at my desk" on p. 37 to the end of "The Auditory Dimension.")

"The Thesis of the Natural Standpoint and its Suspension"

From *Ideas: General Introduction to Pure Phenomenology* by Edmund Husserl



February 7

Hearing space, timbre, phenomenology and acoustics of interior sounding spaces.

READ:

"Dhim, Kam, Cappu, Pottu: Timbral Discourses and Performances Among Temple Drummers in Kerala, India" by Rolf Groesbeck

"Interior Spaces" in *Acoustic Territories* by Brandon LaBelle (on reserve)

"Room Acoustics" in *Fundamentals of Musical Acoustics*

Listening and Voice pp. 57-87

"The Industrial Revolution" and "The Electric Revolution" in *The Soundscape*

PRESENT:

A Room With Many People recordings. Record about 20 minutes of sound, and edit it down to about 3 minutes. Be prepared to lead 10 minutes of discussion about the recording, focusing on interactions between people and the conditions of social possibility offered by the room. Feel free to include spectrographs, maps, or any other diagrams.

February 14

Sonic boundaries.

READ:

"Technology and the Production of Islamic Space: The Islamic Call to Prayer in Singapore" by Tong Soon Lee

Excerpts from *Resonances of Chindon-Ya: Sound, Space, and Social Difference in Japan* by Marië Abé

Village Bells: Sound and Meaning in the 19th Century French Countryside
by Alain Corbin, pp. xiii-44 (on Moodle)

"The Rural Soundscape" and "The Acoustic Community" in *The Soundscape*

Listening and Voice, Chapter 19: Listening (compare with Schafer Ch. 14)



February 21

Sound in public spaces: malls, stadia, parks (with Matt Mihalka, Music, UMN.)

READ:

"From the Hammond Organ to Sweet Caroline " by Matt Mihalka

"Sounds in the crowd" by Les Back

"Sounds like the Mall of America" by Jonathan Sterne

"Now I Will Do Nothing But Listen: Forming A New Urban Ear"
from *Listening and Longing* by Daniel Cavicci

PRESENT:

A Space in the Mall of America recording—again, focus on conditions of social possibility, but with a special focus on how the sonic environment at hand encourages (or discourages) commerce.



February 28

Urban Soundscapes, noise control, romantic naturalism.

READ:

"Sounds" from *Walden* by Henry David Thoreau

Excerpt from *Markets of Dispossession: NGOs, Economic Development, and the State in Cairo*
by Julia Elyachar.

"From Town to City" and "Noise" in *The Soundscape*

"Ecology of Sound: The Sonic Order of Urban Space" by Rowland Atkinson

PRESENT:

An Outdoor Public Space recording. What counts as noise here? (Wind? Traffic? Bird songs? Speech?)
How does this sense of noise differ from noise in a concert hall, a national park, a library?

March 7

Human/Non-Human soundscapes I: Rainforests.

READ:

Healing Sounds from the Malaysian Rainforest: Teminar Music and Medicine by Marina Roseman, ch. 1 and 2

"A Rainforest Acoustemology" by Steven Feld in *The Auditory Culture Reader*

"The Boy Who Became a Muni Bird" and "To You They are Birds, to Me They are Voices in the Forest" from *Sound and Sentiment: Birds, Weeping, Poetics, and Sound in Kaluli Expression* by Steven Feld

"From Ethnomusicology to Echo-Muse-Ecology: Reading R. Murray Schaefer in the Papua New Guinea Rainforest" by Steven Feld

Liner notes for "BaBanzélé Women Gathering Mushrooms" and "Voices of the Forest"

LISTEN:

"Voices of the Forest: A [Kaluli] Village Soundscape"

"BaBanzélé Women Gathering Mushrooms"



March 21

Human/ Non-Human soundscapes II: Mountains, Plains, and Rivers.

READ:

"The World is Alive With the Sound of Music" and "Music, Sound, and Animals" in *Where Rivers and Mountains Sing: Sound, Music, and Nomadism in Tuva and Beyond* by Ted Levin

"The Music of the Earth" in *Zhuanzi Speaks: The Music of Nature* by Tsai Chih Chung

"The Ecology of Magic," "Philosophy on the Way to Ecology," and "The Speech of Things" by David Abrams.

Liner notes for "Borbangnadyr," and "The Butterflies of Jumla"

LISTEN:

"Borbangnadyr: Overtone Song and Rushing Stream" by Anatoli Kuular

"The Butterflies of Jumla" by Ram Saran Nepali

PRESENT:

Final Project Proposal

March 28

Visit to frogsong lab (with Alejandro Velez, Ecology, Evolution and Behavior, UMN)

READ:

"The Natural Soundscape" and "The Sounds of Life" in *The Soundscape*

"Vocal communication in frogs" by Darcy B Kelley

"Vocal Communication in a Neotropical Treefrog, *Hyla Ebraccata*: Advertisement Calls" by Kentwood D. Wells and Joshua J. Schwartz

"The Cocktail Party Problem: What is it? How Can It Be Solved? And Why Should Animal Behavioralists Study it?" by Mark Bee



April 4

Birdsong.

READ:

"Beginnings," "How Songs Develop," and "Dialects" in *The Singing Life of Birds* by Donald Kroodsma

TO LISTEN:

Birdsong recordings at the Cornell Lab of Ornithology (www.birds.cornell.edu): Yellow Warbler, Northern Cardinal, American Robin, House Finch, Mourning Dove, Black-Capped Chickadee. Be ready to identify these songs.

PRESENT:

A Single Animal recording



April 11

Analyzing complex non-human song structures. Robin Songs. Why do birds sing? Do non-animals musick? The human and the non-human; soul and behavior; the humanities and the animanities.

READ:

"Animal Song in General" in *Born to Sing* by Charles Hartshorne

"The Progressively Changing Songs of Humpback Whales: A Window on the Creative Process in a Wild Animal" by Katherine Payne

"Birdsong and the Image of Evolution" by Rachel Mundy

"The Discourse of the Birds" by David Abrams

LISTEN:

Songs of Five American Robins, Humpback Whale Songs

PRESENT:

Analyses of robin songs

April 18

Sonic Interaction. Acoustic Webs. Co-evolution.

READ:

"Communication" in *Principles of Animal Behavior* by Peter McGregor

"Floral Acoustics: Conspicuous Echoes of a Dish-Shaped Leaf Attract Bat Pollinators" by Ralph Simon, et al

"Hearing Emergence: Towards Sound-Based Self-Organization." by Tom Davis and Pedro Rebelo

"Music, Language, and Environment" by David Dunn

LISTEN:

Cardinal and Robin interaction recording

PRESENT:

Several Animals Interacting Sonically recording



April 25

The Sonic Niche Hypothesis, Soundscape Conservation, Nostalgia.

READ:

"The Niche Hypothesis" from *Into a Wild Sanctuary* by Bernie Krause

"Separating the Noise from the Noise: A Finding in Support of the Niche Hypothesis, that Birds are Influenced by Human-Induced Noise in Natural Habitats" by Eric Stone

"Using Underwater Sound to Measure Biodiversity and Productivity in the Line Islands"
by John Stoecker

Introduction to *The Soundscape*

Excerpt from *The Country and the City* by Raymond Williams



May 2

Special extended session: 1:30 - 8:30

Listening trip at Roberts Bird Sanctuary

(with Alexis Powell, Ecology, Evolution and Behavior, UMN)

Followed by dinner and final presentations at my house.

Projection screen and sound system will be available.