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Listening to the Gordon Natural Area: Field Recording as Means of Connecting with the More Than Human World

Devin Arne
West Chester University of Pennsylvania, darne@wcupa.edu

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Listening to the Gordon Natural Area
Field recording as a means of connecting with the more than human world

Devin Arne, DMA
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Music Composer, Producer & Educator

Devin Arne, DMA, is a composer, producer, educator, and multi-instrumentalist. He has established a reputation as a versatile musician and producer with a portfolio that spans multiple genres, including rock, electronic, jazz, and film scores.

Working with top Music Houses in New York and Los Angeles, Devin has composed music for national ad campaigns. His compositions have been featured on some of the top TV shows of the decade. Devin composed the music for Mo Faramawy’s comedic short film Ordinary World, which premiered in Cairo, Egypt, and was featured at the 2015 Chicago Comedy Film Festival.

Devin is a seasoned guitarist and has performed throughout the United States, Canada, and Europe. He is the Assistant Professor of Studio Composition at West Chester University, teaching courses in Digital Music Production, Film and Media Scoring, and Musical Entrepreneurship.
Work at WCUPA

Assistant Professor of Studio Composition, Department of Music Theory and Composition

- **Teaching:** Studio Production I & II, Scoring For Film and Media, Scoring For Videogames, Computer Music, Musical Entrepreneurship,
- **Faculty Director:** Center for Music Technology (CMT)
- **Faculty Advisor:** NOW Music Society
- **Member:** Council for Undergraduate Research (CUR)
Overview

01/ Past Work & Artistic Context

02/ What Sound Can Tell Us

03/ GNA: 360 Audio & Video

04/ Interfacing with the More that Human

05/ Current & Future Work
01/
Past Work & Artistic Context
Inhabited: Sounds of the Sonoran Desert (2019)
Diagram of Installation Setup

Inhabited (cont.)

Screenshot of PD Code
Cape Cod, November (2020)

*Cape Cod, November* is a sound installation that explores the textures and voices of plants through granular synthesis and sound spatialization.

The sound recordings that form the basis of the project come from twigs, pinecones, sage, and lichens I found on a walk in Harwich Port, Massachusetts and used as instruments.

My intention in ‘performing’ and recording the plants was to uncover the unique sounds that their physical structure enables them to produce.
Cape Cod, November: Recording

1. Twigs: Pine and Oak
2. Tree Lichen
3. Pine Cones
4. Sage
5. Kalimba
6. Violin Bow
Unheard Voices

The Embodied & Networked Intelligence of Plants
Music, Biomimicry & The Internet of Things (IoT)

- Speaker-Equipped Raspberry Pi Zero
- Data Translator and Distribution Raspberry Pi 3B+
- Grove Pi/Sensor Equipped Raspberry Pi 3B+
Collaboration as a driving force of plant ecosystems (Simard)

Complex Adaptive Systems

Non-linear, scale-free networks, self-organization, emergent behavior

Connection with media multiplicity (Bown and Ferguson)

Installation Design
Sound Design & Composition
Presentation Documentation
02/
What Sound Can Tell Us
Every day we listen to sounds in the world to identify their source. The bird or coyote calls (biophony), the car, motorbike, plane or your sister’s voice (anthrophony), or the wind in the foliage, the water in the river (geophony) ... But we do not often listen to these sounds as a network, a mesh of relationships that forms an ecology.

-Garth Paine, Acoustic Ecology 2.0 (2017)
Biophony as a marker of ecosystemic health

Bernie Krause, an American soundscape ecologist has conducted extensive field recordings in Sugarloaf State Park, in Sonoma, California.

The following video show the effect of long term drought on the reduction of biophany, or the sum of the sounds made by the living organisms in the park from 2004-2015.
• Defined by Garth Paine, Professor at Arizona State University and head of the ASU Acoustic Ecology Lab.

• Builds off the foundational work of Luc Ferrari, Murray Schaeffer, and Barry Truax.

• Acoustic ecology is a powerful tool in reimaging the role of sound awareness in society.

• Acoustic Ecology 2.0 prioritizes community engagement, exploration, and experience of the sounding world.
Key Ideas & Insights

- Sound is a uniquely temporal medium. It illuminates transformations and relationships.
- The term *soundscape* flattens the natural world, meshing complexity into a single perceivable gestalt.
- *Ecology* highlights interaction, co-dependence, and interdependence.
- The patterns of daily change display external macro-similarities while constantly producing microscale, relational variations.
- Long-term, acoustic ecology analysis of both conserved nature and urban environments can provide insight into vectors of environmental change.
Recording Example 2

March 2024
04/ Interfacing The More-Than-Human
In *Ways of Being* (2022), writer and artist James Bridle considers the fascinating, uncanny and multiple ways of existing on earth. From Greek oracles to octopuses, forests to satellites, Bridle tells a radical new story about ecology, technology and intelligence. We must, they argue, expand our definition of these terms to build a meaningful and free relationship with the non-human, one based on solidarity and cognitive diversity.
The natural world teems with remarkable conversations, many beyond human hearing range. Scientists are using groundbreaking digital technologies to uncover these astonishing sounds, revealing vibrant communication among our fellow creatures.

*The Sounds of Life* shares fascinating and surprising stories of nonhuman sound, interweaving insights from technological innovation and traditional knowledge. We learn how artificial intelligence can decode nonhuman sounds. At the frontiers of innovation, we explore digitally mediated dialogues with bats and honeybees.
Through this year's Sustainability Research and Practice Grant, I have been able to expand the Center For Music Technology's field recording capacities through the purchase of 4 Zoom H3-VR recorders along with windscreens, tripods, and accessories.

The driving idea behind this acquisition is to get students from the School of Music, as well as the University at large, out in the GNA and other natural spaces, recording and engaging with the sounds of the more-than-human world.

The recorders can be loaned out to all students for creative and research purposes.
Student Collaborations:

Curriculum Integration

- One of the first cohorts of students to use the recorders are the students enrolled in MTC 274, Computer Music

- For their Midterm Project, Students will create an original Acousmatic composition using “sound as material”

- Their compositions will feature sounds not typically considered musical, such as field recordings, or sounds of objects from everyday life.

- Additionally, I have built in the topic of acoustic ecology into course lectures, and we have listened to and discussed field recordings from the GNA in class.
Student Collaborations:

Research

- I am currently working with a senior computer science student and music production minor to explore the analysis of recordings from the GNA through CityNet. This deep learning neural network-based system evaluates the amount of Biotic vs. Anthropogenic in field recordings.

[Image source londonsounds.org]

**CityNet - Deep Learning Tools for Urban Ecoacoustic Assessment**
Alison J Fairbrass, Michael Firman, Carol Williams, Gabriel J Brostow, Helena Titheridge and Kate E Jones
Future Work & Goals

- Regular Sound-Walks & Field Recording Tutorials in the GNA
- Development of a GNA Field Recording Library, for research and creative work
- Concerts, Dance Performances and Other Creative Activities inspired by works created from the sounds recorded in the Gordon Natural Area
Questions?
Thank You!

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