If language is not an exclusively human faculty, to what extent can rhythm and sonic structures be understood as constitutive elements of non-human grammar? Furthermore, is it feasible to develop an audio-visual syntax that effectively articulates and communicates the unique Acoustic personality of space?

1. Abstract

This research explores whether sound and rhythm can form a non-human grammar that expands the boundaries of communication beyond human language. In Projection 1, I attempted to "interview" animals by focusing on their vocalizations and transforming these sounds into visuals.

This process revealed the limitations of human auditory perception: I instinctively interpreted animal sounds through my language and experience, reducing them to mere "noise" or "signals," thereby ignoring the unique qualities of non-human vocalizations. Remarkably, this non-verbal dialogue encompasses a richer and more intriguing sonic experience than traditional verbal communication.

Building on this insight, I shifted my focus to the acoustic properties of space itself, questioning the anthropocentric, one-way listening model where sound is the "speaker" and humans are passive "listeners." Inspired by Pierre Schaeffer's concept of "reduced listening," I propose "subtractive listening" as a creative reinterpretation. While reduced listening emphasizes the form and essence of sound detached from meaning, subtractive listening advocates a detached, witnessing stance that avoids imposing human narratives onto sound.

In my practice, I use the metronome as a neutral sound probe, placing it in various environments, including churches, corridors, closed rooms, and open spaces, to record the interplay between the metronome's rhythms and the acoustic resonance of each space. Using techniques such as slow motion and stereo-phase mixing, I highlight the spatial properties of sound and present these findings through audiovisual forms that emphasize creative and critical listening.

The field recording experiment prompted reflection on the role of the creator: should I appear within the sound or image, or should I remain an invisible director capturing the sound itself?

This research is significant for graphic communication designers and sound theorists, architects, ecologists, and scholars interested in posthuman and multispecies communication. The project connects sound studies, spataudio-visual, and design practice, proposing design as a tool to listen to and translate non-human expressions, thereby challenging human language-centered paradigms.

2. Context

In Projection 1, my research centered on "interviewing" animals by recording and analyzing their sounds and converting sounds into visuals. This revealed a challenge: humans interpret animal voices through familiar linguistic or emotional frameworks, often obscuring sound's heterogeneity and uniqueness. This realization prompted me to rethink listening beyond anthropocentrism, aiming to respect the autonomy of non-human voices.

In Projection 2, I shifted my focus from animal sounds to the "sounds" of space itself, treating space as an active entity with its acoustic grammar. I used a metronome as a neutral mechanical sound source to explore the relationship between space and sound, placing it in different environments such as churches, corridors, sealed rooms, and open fields. The recordings demonstrated how each space uniquely responded to the metronome's rhythm, revealing the acoustic agency of the environment. Space emerged as a "co-performer" in the sonic event rather than a passive backdrop.

During the field recordings, I began reflecting on my positionality relative to the image, sound, and audience. I often chose to exclude myself from the sound and visuals, adopting a director's role behind the scenes. However, I came to realize that this aesthetic choice also represents a form of anthropocentrism because it imposes human subjective standards on how sound is presented. Consequently, field recording will not be the final output of this project, which led me to experiment with interactive installations.

Pierre Schaeffer's theory of "reduced listening" profoundly influenced me. His approach encourages focusing on the intrinsic qualities of sound while discarding its source and meaning. Yet, even reduced listening struggles to escape the human-centered perspective fully. To address this, I propose "subtractive listening" as a creative extension that embraces a more detached and witnessing attitude, resisting the imposition of human narratives or codes and honoring the autonomy of non-human sounds and spaces.

Donna Haraway's concept of "intra-action" supports this relational thinking by framing communication as a nonlinear process of co-creation rather than simple sender-receiver transmission. Together, space and the metronome generate an acoustic experience. Roland Barthes' notion of the "grain of the voice" highlights the materiality of sound beyond language, underpinning my effort to treat sound as graphic material expressing spatial identity.

I employed field recordings, slow playback, and stereo-phase mixing to emphasize the sound's spatial and temporal qualities. As the project progressed, I realized that merely recording sound could not entirely avoid human interpretive frameworks. My solution was to present the concept through installations that offer a stronger sense of reduction— placing physical metronomes within spaces invites the audience to become active participants in experiencing the acoustic qualities of the environment rather than passive listeners. The interaction between space and metronome transcends traditional visual and linguistic constraints, highlighting sound texture and the "Acoustic personality " of space.

Ultimately, the project results in a multi-layered audiovisual system of experimental films and sound installations that explore sound perception and expression in different human languages. By systematically documenting and visualizing the interaction between metronome sounds and spatial acoustics, I propose a new design paradigm: design not only as a medium of information transmission but also as a translator and witness of non-human sounds and spatial grammar.

My work simultaneously critiques anthropocentric listening, the chat audio-visual traditional paradigm of exclusive human subjectivity in communication, and promotes a more open, pluralistic, and symbiotic perspective on listening.
This background illustrates how my work evolved from interviewing animal sounds toward interdisciplinary investigations of spatial sound, culminating in subtractive listening and multimedia installation practice methodology.

3. Projected contribution
This project introduces a novel paradigm for graphic communication design—practicing listening beyond anthropocentrism. By adopting the method of subtractive listening, designers are encouraged to respect non-human sonic grammars and refrain from imposing human meanings, thereby opening new pathways for the visual dissemination of sound experiences.

Theoretically, the project expands discourses on posthumanism and post-semiotics by integrating design with ecological ethics and multispecies communication, challenging entrenched human-centered auditory frameworks, and fostering empathy and ethical responsibility toward non-human entities.

Professionally, the research broadens the application of design in sound studies and spatial experimentation, fostering interdisciplinary dialogues with architecture, acoustics, and environmental humanities and positioning design as a critical ethical practice in response to ecological crises.

In the future, I plan to develop sonic archives, spatial graphic notation systems, and cross-species communication experiments further, exploring alternative publication formats suited for ephemeral spatial knowledge. The ultimate aim is to establish a design philosophy and aesthetics centered on listening that attentively engages with worlds beyond the human.

References

Blesser, B. and Salter, L. (2007) *Spaces Speak, Are You Listening? Experiencing Aural Architecture*. Cambridge, MA: MIT Press.

Chion, M. (1994) *Audio-Vision: Sound on Screen*. Translated by C. Gorbman. New York: Columbia University Press.

Derrida, J. (1978) *Writing and Difference*. Translated by A. Bass. Chicago: University of Chicago Press.

Derrida, J. (2008) *The Animal That Therefore I Am*. Translated by D. Wills. New York: Fordham University Press.

Haraway, D. (2008) *When Species Meet*. Minneapolis: University of Minnesota Press.

Haraway, D.J. (2016) *Staying with the Trouble: Making Kin in the Chthulucene*. Durham: Duke University Press.

Lane, C. (2017) *In the Field: The Art of Field Recording*. London: Faber & Faber.

Magyar, A. (2011) *Stainless – Gare du Nord, Paris* (excerpt) [video]. Available at: https://www.youtube.com/watch?v=qGYveUO7P3M&t=22s (Accessed: 2025-05-23).

McCartney, P. (2010) 'Field Recording and the Practice of Listening', *Journal of Sonic Studies*, 1(1), pp. 1–15.

Schaeffer, P. (1966) *Traité des objets musicaux*. Paris: Éditions du Seuil.

Schafer, R. M. (1994) *The Soundscape: Our Sonic Environment and the Tuning of the World*. Rochester, VT: Destiny Books.

Truax, B. (1999) *Handbook for Acoustic Ecology*. Cambridge Street Publishing.