

# Biologists singing: Collective vocalization, posthuman listening, and interspecies audibility

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**Disciplinary background A.** This research draws on the tightly woven intersection of science and technology studies, posthumanism, and animal studies by investigating modes of listening and observation between species and the interfacing technologies which mediate these relationships. A field work component undertaken in collaboration with a bioacoustic amphibian laboratory interrogates the roles of ecological sciences in the formation of cross-species listening modalities.

**Disciplinary background B.** This research critically considers notions of vocal emergence within a sound and soundscape studies context by zoning in on nonhuman acoustic communication. By considering how the embodied and participatory musical logic of choral singing might offer an experimental imagination for more-than-human choruses, I try to think alongside critically endangered chorus frogs in a speculative and arts-based form of 'choral' ethnomusicology.

## Abstract

The aim of this research is to develop an expansive notion of chorusing which might challenge humanist notions of vocal participation. By looking to bioacoustics as a site of sonic acoustic knowledge and interspecies relation, this inquiry considers the disciplinary production of listening modalities and the musical aesthetics of ecological inquiry.

The construction of the humanist liberal subject voice is bound up in a history which relies on a systematic separation of listening and sounding subjects and objects. But what about when voices join? From Greek theatre to Western musical traditions, the notion of a chorus has muddied the individuation of voice by assembling an observing or narrating mass rather than invoking a self-realizing human subject. By performing a kind of 'audienceship,' choral voice beckons listeners into its fold with aggregational sonic momentum. While interpreting such a phenomenon as musical may be circumscribed to the human, vocal and indeed chorusing behaviours are prevalent across species. My research focuses on locating multispecies voices as features of sympoetic (collectively making) systems as a way to interrogate the primacy of the human within interspecies sonic relationships. This inquiry into voice binds sonic materiality with auditory perception— the two caught in a perceptual loop, one hailing the other in an ever-emerging system.

If choruses are cast as porous operations whereby both listener and listened are included in multiscalar acts of boundary creation, how might a nonhuman chorus relate to a listening human? The field recorder? A biologist? As a part of this research I have partnered with the Amphibian Natural History Lab (University of Campinas, Brazil) during their field season to immerse myself within modes of listening to chorusing frog species via the biologists who listen to them. Through shared experiences of listening in the field, formal and informal interview, and lab and field 'shadowing,' I have used a phenomenological and ethnographic approach to look to perceptual experiences of bioacoustic biologists. Results—expressed through an arts-based approach that blends text with sound design—interrogate the representational limits of field recording, consider the convergence of habitat loss with sung vocal communication, and ponder aesthetic and musical experiences within the practices of behavioural biology.

**Interdisciplinary implications.** This work addresses critical issues in sound and soundscape studies around nonhuman sonic agency by using a posthumanist paradigm to consider the interfacing role of biological sciences and recording technologies in relation to listening practices and informational exchange. With choir as a model for participatory emergence for the subsumption of the individual voice into a changing whole, I extend a kind of musical thinking into the domain of science, place-making, and environmental ethics in an age of anthropocene and climate emergency. I hope that this work might also highlight human exceptionalism in musicology and extend our ears to imagine futures of companionship rather than dominion with our nonhuman neighbours.

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