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THE ETHICS OF TRANSLATING NON-HUMAN SIGNALS INTO LITERARY FORM: A REVIEW OF INTERSPECIES COMMUNICATION AND BIOACOUSTIC AESTHETICS

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Abstract

The rapid acceleration of machine learning and bioacoustic analysis has created a novel interface between non-human communicative signals and human literary expression. As researchers and artists alike begin to treat non-human vocalizations as translatable 'languages,' profound ethical questions emerge regarding the nature of representation, anthropomorphism, and the political implications of 'translation' across biological barriers. This review article provides an exhaustive analysis of the burgeoning field of interspecies translation. We synthesize current debates in cognitive ethology, biosemiotics, and literary theory to propose a robust framework for 'post-anthropocentric' translation. By investigating the tension between technological decoding and literary interpretation, we argue that the future of this field depends on our ability to preserve the alterity—the irreducible difference—of non-human signals rather than reducing them to human-centric narratives.

Keywords: Bioacoustics, Interspecies Communication, Eco-Translation, Post-Anthropocentrism, Artificial Intelligence, Biosemiotics, Literary Ethics, Non-Human Agency.

1. Introduction: The Bioacoustic Turn

The 'bioacoustic turn' in humanities and sciences marks a radical shift in how we conceive of communicative agency in the more-than-human world. Historically, non-human sound has been categorized through an anthropocentric lens, often relegated to the status of instinctual signal or noise. However, the application of sophisticated artificial intelligence to bioacoustic data has enabled the detection of complex syntax in whales, primates, and even insect colonies. This technological breakthrough has ignited an interdisciplinary frenzy, wherein data points are being converted into poetry, novels, and multimedia art. This article maps the ethical terrain of this transformation, questioning whether these translations function as acts of colonization or as bridges toward genuine interspecies empathy.

Further investigation into this area reveals that the ethical landscape is shifting rapidly as technologies evolve. As noted in recent reports on nonhuman animal communication technologies (MOTH, 2025), the stakes for 'translation rights' are high, particularly when such translations are used to justify wildlife management policies. The role of the translator—whether human or algorithmic—is one of power, and that power requires a radical re-evaluation of what it means to 'speak for' the voiceless.

2. Cognitive Ethology and the Problem of Anthropomorphism

At the heart of the translation debate lies the perennial conflict between anthropomorphism and anthropodenial. Scholars such as de Waal (1999) and Shettleworth (2010) have cautioned against the projection of human emotional states onto animal behavior. Yet, in literary practice, anthropomorphism is frequently employed as a necessary heuristic for reader engagement. The ethical problem arises when the aesthetic desire for narrative coherence overrides the evolutionary distinctiveness of the non-human signal. We analyze how contemporary literature navigates this trap, suggesting that successful translation requires a 'negative capability' that accepts the limitations of human interpretation.

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3. Eco-Translation: Beyond Human Semiotics

Eco-translation, as formulated by Marais (2019), provides a critical lens for understanding the power dynamics inherent in cross-species communication. Unlike conventional human-to-human translation, eco-translation must account for the vastly different sensory worlds (Umwelt) of non-human agents. This section explores the linguistic challenges of mapping signal systems—which may rely on frequency modulation, chemical signals, or electromagnetic fields—onto the linear, text-based medium of human literature. The ethical imperative here is to acknowledge the 'untranslatable' elements of non-human communication, resisting the urge to force-fit these signals into human linguistic categories.

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4. The Role of Technology: AI as an Intermediary

Artificial Intelligence, particularly large-scale neural networks, now acts as the primary intermediary in translating non-human signals. These algorithms, trained on vast datasets of audio recordings, are capable of pattern recognition that exceeds human auditory capacity. However, these tools are not neutral. The 'algorithmic biases' embedded in the code may fundamentally misrepresent the intent of the non-human sender. We discuss the necessity of 'algorithmic transparency' and the need for collaborations between data scientists and environmental humanists to ensure that AI-driven translations do not become digital tools for misinterpretation.

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5. Literary Form as Ethical Boundary

How can literature honor the alterity of the non-human? This section reviews case studies of contemporary 'interspecies' literature that eschews traditional narrative structures. By employing fragmentation, asemic writing, and sonic-visual hybrids, some authors attempt to mimic the sensory experience of non-human communication. These formal choices are not merely aesthetic; they are ethical stances that prioritize the integrity of the non-human source over the demands of the human reader.

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6. Towards a Post-Anthropocentric Framework

We conclude by proposing a set of ethical guidelines for the field. These include: (1) The acknowledgement of non-human communicative agency; (2) The refusal to treat non-human signals as raw material for human 'meaning-making' without regard for the signal’s function in the original context; (3) The necessity of multidisciplinary review boards; and (4) The active promotion of 'silence' as an analytical tool, where the inability to translate is accepted as a respectful boundary of the human/non-human relationship.

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