IF WE COULD TALK TO THE ANIMALS, HOW SHOULD WE DISCUSS THEIR LEGAL RIGHTS?

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*The intricate tapestry of animal communication has long fascinated humanity, with the sophisticated linguistics of cetaceans holding a special place of intrigue due to the cetaceans' significant brain size and apparent intelligence. This Essay explores the legal implications of the recent advancements in artificial intelligence (AI), specifically machine learning and neural networks, that have made significant strides in deciphering sperm whale (*Physeter macrocephalus*) communication. We view the ability of a being to communicate as one—but not the only—potential pathway to qualify*

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We wrote this Essay in collaboration with ChatGPT. CHATGPT, https://chat.openai.com/ (last visited Nov. 6, 2023). We omit it from the author list in keeping with the best practice recommended by Springer Nature, a major scientific publisher. *See Tools Such as ChatGPT Threaten Transparent Science; Here Are Our Ground Rules for Their Use*, 613 NATURE 612, 612 (2023). We adhered to best practices as described in Bill Tomlinson, Andrew W. Torrance & Rebecca W. Black, *ChatGPT and Works Scholarly: Best Practices and Legal Pitfalls in Writing with AI*, 76 SMU L. REV. F. 108, 117–25 (2023). Regarding our process: over several months, we iteratively engaged in writing two main drafts of this Essay. For the first draft, we wrote a detailed outline, and then worked in concert with ChatGPT to write all sections, which we then reviewed and revised. The first author then gave a series of public presentations based on our evolving ideas about this topic. Based on public feedback to these presentations and iterative refinement of the concepts, we produced a detailed outline for the second major draft. From this detailed outline, we worked with ChatGPT again to produce fleshed-out versions of all sections. We then edited all sections intensively, routinely adding words, sentences, and sometimes entire paragraphs, to enhance the style and content of the Essay. This editing process involved three main components: first, the authors revised the content of every section of the text in order to ensure that the concepts were consistent with the authors' desired goals for the Essay. Second, the authors worked with several research assistants to ensure that the body content and footnotes were accurate and comprehensive. Finally, the authors worked with the editors of the *Fordham Law Review* to iron out any remaining issues.

for legal rights. As such, we investigate the possibility that the ability to communicate should trigger legal rights for beings capable of communicating, whether they be cetaceans or other creatures. As the Cetacean Translation Initiative (CETI) project, which is actively working to unlock sperm whale language, moves closer to enabling meaningful human-cetacean dialogue, we stand on the precipice of a transformative understanding that may compel a radical reevaluation of animal legal rights and, perhaps, human legal rights as well. In fact, viewing eligibility for legal rights through a more objective lens, such as a communication criterion, may even improve our understanding of human legal rights, their origins, extent, application, and even entitlement itself.

We begin with an overview of animal communication, emphasizing the complex acoustic patterns of sperm whale songs and clicks, which have been captured and analyzed through the collaborative efforts of marine biologists and computer scientists. This cross-disciplinary effort has yielded what the Dominica Sperm Whale Project has named "Flukebook"—a robust dataset that informs machine-learning models with acoustic signals, contextual behavioral data, genetic data, and geospatial information—that opens the door to the potential of an interspecies large language model (LLM) useful for communication among sperm whales and humans.

Having established that the prospect of communicating with another species is becoming increasingly feasible, we then delve into the philosophical and ethical considerations that accompany such a breakthrough. Drawing upon the perspectives of thinkers such as Jeremy Bentham, Professor Peter Singer, and Professor Martha Nussbaum, we investigate the ethical foundations for considering the legal rights of cetaceans, or other nonhuman animals. This investigation is juxtaposed with historical whaling laws and modern legal frameworks, probing the adequacy of current laws, norms, practices, and attitudes regarding emerging interspecies communication.

Finally, we propose a novel legal paradigm that contends with the implications of cetacean communication capabilities. As we inch toward potentially understanding requests, preferences, or even rules or laws of sperm whales, the ethical imperative to reexamine their legal standing becomes undeniable. This Essay examines practical legal issues such as jurisdiction, standing, representation, autonomy, and the feasibility of animal citizenship. In fact, it envisions innovative legal constructs such as a "Magna Carta Cetacea" and a "United Species" extension of the United Nations. In addition, we endeavor to articulate an objective standard by which any being capable of the requisite communication qualifies for legal rights.

In this potential legal frontier, the communication of preferences by an animal may necessitate that we seriously consider conferring legal rights to those animals. This groundbreaking dialogue could not only elevate the rights of whales, but also provoke a broader discussion about the principles underlying human legal rights themselves, challenging our current anthropocentric legal systems to evolve. As we decode the "codas" of sperm

whales, we are challenged to reenvision the legal and normative matrix of life on Earth and our place within it, guided by potential principles such as mutual respect and legal recognition that transcend species boundaries.

INTRODUCTION

The realm of animal communication has been of interest to humans for millennia, not merely as a scientific curiosity but also as a profound inquiry into the nature of intelligence, social interaction, and the potential for interspecies understanding. The study of animal communication transcends mere observation; it offers a window into the complex social structures, emotional lives, and cognitive capabilities of nonhuman species. This fascination is deeply rooted in both human evolutionary history and the

human quest to understand our place in the natural world. The intricate languages of birds,[1] the alarm calls of primates,[2] and the dance of bees[3] are just a few examples that highlight the rich tapestry of nonhuman communication, each revealing unique aspects of life and survival in the animal kingdom.

The significance of these communication systems extends beyond biological and ecological realms; it poses fundamental questions about consciousness, self-awareness, and the potential for emotional and cognitive experiences in nonhuman life forms. This understanding is crucial, not just for the advancement of scientific knowledge, but also for informing ethical and legal considerations regarding our treatment of other species. As we delve deeper into the complexities of animal communication, we are continually challenged to reassess our assumptions about intelligence, sentience, and the rights that arise from these capacities.

The study of animal communication, therefore, represents a critical intersection of various disciplines—biology, ecology, ethology, psychology, and (increasingly) law and ethics. Understanding how animals communicate is not just an academic endeavor. Rather, it has profound implications for conservation efforts,[4] animal welfare policies, and the broader discourse on animal rights.[5] It forces us to confront the moral and legal status of nonhuman beings and challenges the anthropocentric view that has long dominated human thought and legal systems.

This interdisciplinary approach to animal communication is well-documented in the scientific scholarly literature. Researchers such as Professors Peter Marler and Hans Slabbekoorn in *Nature's Music: The Science of Birdsong*[6] and Professors Dorothy L. Cheney and Robert M. Seyfarth in *Baboon Metaphysics: The Evolution of a Social Mind*[7] have made significant contributions to our understanding of animal

1. Betsy Mason, *Do Birds Have Language?*, SMITHSONIAN MAG. (Feb. 25, 2022), https://www.smithsonianmag.com/science-nature/do-birds-have-language-180979629 [https://perma.cc/WQ3K-5S94].

2. DOROTHY L. CHENEY & ROBERT M. SEYFARTH, BABOON METAPHYSICS: THE EVOLUTION OF A SOCIAL MIND 220–21 (2007).

3. Shihao Dong, Tao Lin, James C. Nieh & Ken Tan, *Social Signal Learning of the Waggle Dance in Honey Bees*, 379 SCI. 1015, 1015 (2023).

4. *See* Madeline Taub, *How to Speak Sperm Whale*, CAL ALUMNI ASS'N: CAL. MAG. (Dec. 1, 2022), https://alumni.berkeley.edu/california-magazine/2022-winter/how-to-speak-sperm-whale [https://perma.cc/LQ65-X3Z3] (quoting the director of the Berkeley Speech and Computation Lab as saying, "If we get to know sperm whales better by learning their communication and the full scope of their cognitive and social life, it's harder for us as a species to treat them like nonsentient beings and destroy them.").

5. *See* Erin Gillam, *An Introduction to Animal Communication*, NATURE EDUC. KNOWLEDGE PROJECT (2011), https://www.nature.com/scitable/knowledge/library/an-introduction-to-animal-communication-23648715 [https://perma.cc/T24S-JT5N] ("Overall, studying communication not only gives us insight into the inner worlds of animals, but also allows us to better answer important evolutionary questions.").

6. *See generally* NATURE'S MUSIC: THE SCIENCE OF BIRDSONG (Peter Marler & Hans Slabbekoorn eds., 2004).

7. *See generally* CHENEY & SEYFARTH, *supra* note 2.

communication systems.[8] Their work, alongside others, underscores the complexity and richness of nonhuman communication and offers insights into the cognitive abilities of animals and the potential for interspecies empathy and understanding.

The implications of animal communication have also been explored in the legal domain, albeit to a lesser extent. Scholars such as Professor Steven M. Wise in *Rattling the Cage: Toward Legal Rights for Animals*[9] and Professors Cass Sunstein and Martha Nussbaum in *Animal Rights: Current Debates and New Directions*[10] have begun to address the legal ramifications of animal sentience and communication. Their work paves the way for a more inclusive legal framework that recognizes the rights of sentient beings beyond the human species.

Cetaceans—a term that encompasses whales, dolphins, and porpoises—occupy a unique position in the study of animal communication. Sperm whales (*Physeter macrocephalus*) are particularly notable due to their sophisticated communication systems and significant brain size, indicators of a high level of cognitive complexity.[11] The acoustic patterns of sperm whale songs and clicks have captivated researchers, pointing to a highly developed, perhaps language-like system of communication.[12] Recently, sperm whales have become a focal point for research due to their distinct vocalizations.

The study of cetacean communication has evolved significantly over the years, moving from initial awe at their vocal capabilities to a more nuanced understanding of their social interactions and communicative complexities. Pioneering research by Dr. Roger S. Payne and Scott McVay on the songs of humpback whales opened the door to this field, revealing the structured and repetitive patterns in their vocalizations.[13] More recent studies have highlighted the diverse range of sounds produced by cetaceans, including

8. *See* Anand Krishnan, *Scientific Curiosity and the Natural World: The Legacy of Peter Marler's Research*, 26 RESONANCE 1613, 1613 (2021); Hans Slabbekoorn, SONGBIRDSOS PRODUCTIONS INC., https://songbirdsos.com/portfolio/dr-hans-slabbekoorn/ [https://perma.cc/7C8U-BX9A] (last visited Mar. 3, 2024); CHENEY & SEYFARTH, *supra* note 2, at 12–13.

9. *See* STEVEN M. WISE, RATTLING THE CAGE: TOWARD LEGAL RIGHTS FOR ANIMALS 4–5 (2000).

10. *See* Cass R. Sunstein, *Introduction: What Are Animal Rights?*, *in* ANIMAL RIGHTS: CURRENT DEBATES AND NEW DIRECTIONS 3, 12–13 (Cass R. Sunstein & Martha C. Nussbaum eds., 2004); Martha C. Nussbaum, *Beyond "Compassion and Humanity": Justice for Nonhuman Animals*, *in* ANIMAL RIGHTS: CURRENT DEBATES AND NEW DIRECTIONS 299, 314–17 (Cass R. Sunstein & Martha C. Nussbaum eds., 2004).

11. *See* Taub, *supra* note 4.

12. *See id.* ("Sperm whales possess the largest brains of any animal on Earth and communicate through a variety of sounds including ultra-loud clicks produced in patterns called codas. Researchers believe these codas are learned, like human language, not innate, and that different social groupings of whales have different dialects.").

13. Roger S. Payne & Scott McVay, *Songs of Humpback Whales*, 173 SCI. 585, 597 (1971).

whistles, clicks, and pulsed calls, and studied the different communicative functions of each within their social groups.[14]

Sperm whale "clicks" are not mere echolocation tools but are believed to serve complex communicative purposes, possibly conveying detailed information within their pods.[15] Since 2008, persuasive evidence that sperm whales carry on "conversations" with each other has emerged.[16] In fact, researchers, such as Professor Hal Whitehead, who have documented the social structures of sperm whales, have suggested that the whales' communication plays a critical role in maintaining these structures.[17] By 2016, researchers recognized that two particular codas, or sequences of clicks, (that is, the "1+1+3" and the "5R") made up about 65 percent of all codas that had been recorded up to that point.[18] Scientists comparing codas from sperm whale populations around the world have noted local "whale cultural groups (called vocal clans)."[19] As Whitehead has pointed out, "[s]perm whale society is structured into clans that are primarily distinguished by vocal dialects, which may be symbolic markers of clan identity."[20] These dialects may even help clan members recognize each other, which may be crucial because "[t]wo or more clans typically use an area, but the whales only socialize with members of their own clan."[21] Using generative AI, members of the CETI project have already deciphered vital, specific meanings in some codas. For example: "A group of sperm whales found off the coast of Dominica self-identifies using the 1+1+3 coda. That's two evenly spaced clicks and then three clicks in quick succession. Another

14. *See, e.g.*, Alvaro Berg Soto, Helene Marsh, Yvette Everingham, Joshua N. Smith, Guido J. Parra & Michael Noad, *Discriminating Between the Vocalizations of Indo-Pacific Humpback and Australian Snubfin Dolphins in Queensland, Australia*, 136 J. ACOUSTICAL SOC'Y AM. 930, 930–31 (2014); Heike Vester, Sarah Hallerberg, Marc Timme & Kurt Hammerschmidt, *Vocal Repertoire of Long-Finned Pilot Whales (*Globicephala melas*) in Northern Norway*, 141 J. ACOUSTICAL SOC'Y AM. 4289, 4296–97 (2017); *Why Do Whales Make Sounds?*, NAT'L OCEANIC & ATMOSPHERIC ADMIN. (Jan. 18, 2024), https://oceanservice.noaa.gov/facts/whalesounds.html [https://perma.cc/DB3N-BS2L].

15. *See* Cláudia Oliveira, Magnus Wahlberg, Mark Johnson, Patrick J.O. Miller & Peter T. Madsen, *The Function of Male Sperm Whale Slow Clicks in a High Latitude Habitat: Communication, Echolocation, or Prey Debilitation?*, 133 J. ACOUSTICAL SOC. AM. 3135, 3135 (2013) ("Sperm whales produce different click types for echolocation and communication.").

16. Tyler M. Schulz, Hal Whitehead, Shane Gero & Luke Rendell, *Overlapping and Matching of Codas in Vocal Interactions Between Sperm Whales: Insights into Communication Function*, 76 ANIMAL BEHAV. 1977, 1983 (2008).

17. HAL WHITEHEAD, SPERM WHALES: SOCIAL EVOLUTION IN THE OCEAN 206–08, 301 (2003).

18. Shane Gero, Hal Whitehead & Luke Rendell, *Individual, Unit and Vocal Clan Level Identity Cues in Sperm Whale Codas*, ROYAL SOC'Y OPEN SCI., Jan. 2016, at 1, 4.

19. Felicia Vachon, Taylor A. Hersh, Luke Rendell, Shane Gero & Hal Whitehead, *Ocean Nomads or Island Specialists?: Culturally Driven Habitat Partitioning Contrasts in Scale Between Geographically Isolated Sperm Whale Populations*, ROYAL SOC'Y OPEN SCI., May 2022, at 1.

20. Hal Whitehead, *Sperm Whale Clans and Human Societies*, ROYAL SOC'Y OPEN SCI., Jan. 2023, at 1.

21. *Id.*

clan, usually found around Martinique and St Lucia, self-labels by emitting five evenly spaced clicks, known as the 5R."[22]

In 2024, a group of scientists, assisted by a deep neural network trained on sperm whale codas, added a possible new dimension to sperm whale communication, suggesting that, beyond "the number of clicks and their timing," the "spectral properties of clicks . . . are potentially meaningful in the communication system of sperm whales. We argue that recurrent spectral patterns can be observed across individual whales. We describe these patterns, suggesting that sperm whales actively control spectral properties which have the potential to carry meaning."[23]

In fact, these authors have suggested that sperm whale communication includes linguistic components analogous to diphthongs and vowels.[24] Their "paper suggests that the sperm whale communication system is not a Morse code-like system, but that spectral properties of codas are acoustically differentiated."[25]

The emerging complexity of sperm whale language might seem to make the task of deciphering its meaning more challenging. However, generative artificial intelligence (AI) models, such as large language models (LLMs) usually learn better with more data.[26] Thus, the proliferation of sperm whale communication data offers substantial advantages in successfully understanding and translating what these cetaceans are saying and moves humans closer to the possibility of human–sperm whale communication.

Another recent development involves a humpback whale named Twain. The Search for Extraterrestrial Intelligence (SETI) Institute released a press release on December 12, 2023 entitled *Whale-SETI: Groundbreaking Encounter with Humpback Whales Reveals Potential for Non-human Intelligence Communication*.[27] A group of researchers affiliated with SETI have been "studying humpback whale communication systems in an effort to develop intelligence filters for the search for extraterrestrial intelligence."[28] During their study, they encountered a humpback whale with whom they carried on what might be described as a lengthy back-and-forth conversation.[29] As described in the journal *PeerJ*:

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22. Persis Love, Irene de la Torre Arenas, Sam Lerner & Sam Joiner, *How AI is Decoding the Animal Kingdom: Scientists Are Eavesdropping on Animal Conversations. Will Generative AI Enable Us to Talk Back?*, FIN. TIMES (Jan. 18, 2024), https://ig.ft.com/ai-animals/ [https://perma.cc/93N5-85RM].

23. Gašper Beguš, Ronald L. Sprouse, Andrej Leban, Miles Silva & Shane Gero, Vowels and Diphthongs in Sperm Whales 2 (Jan. 17, 2024) (unpublished manuscript), https://osf.io/preprints/osf/285cs [https://perma.cc/4RMK-887U].

24. *Id.* at 1.

25. *Id.* at 18.

26. Mike Priest, *Large Language Models Explained*, BOOST.AI (Oct. 26, 2023), https://boost.ai/blog/llms-large-language-models [https://perma.cc/4FRD-EVRT].

27. *Whale-SETI: Groundbreaking Encounter with Humpback Whales Reveals Potential for Non-human Intelligence Communication*, SETI INST. (Dec. 12, 2023), https://www.seti.org/press-release/whale-seti-groundbreaking-encounter-humpback-whales-reveals-potential-non-human-intelligence [https://perma.cc/WU37-BJXJ].

28. *Id.*

29. *Id.*

> Here we report on a rare and opportunistic acoustic turn-taking with an adult female humpback whale, known as Twain, in Southeast Alaska. *Post hoc* acoustic and statistical analyses of a 20-min acoustic exchange between the broadcast of a recorded contact call, known as a "whup/throp", with call responses by Twain revealed an intentional human-whale acoustic (and behavioral) interaction. Our results show that Twain participated both physically and acoustically in three phases of interaction (Phase 1: Engagement, Phase 2: Agitation, Phase 3: Disengagement), independently determined by blind observers reporting on surface behavior and respiratory activity of the interacting whale. A close examination of both changes to the latency between Twain's calls and the temporal matching to the latency of the exemplar across phases indicated that Twain was actively engaged in the exchange during Phase 1 (Engagement), less so during Phase 2 (Agitation), and disengaged during Phase 3 (Disengagement).[30]

Replication of such a putative conversation will be vital to establish that it was, in fact, a conversation, as the scientists perceived. It is also necessary to increase the sample size of such conversations to study their variability across content, time, conditions, and individuals.

The legal implications of these findings are profound. If cetaceans, particularly sperm whales, possess a form of language, this challenges the legal frameworks that currently govern animal rights and welfare. Legal scholars have begun to explore these implications, analyzing whether advanced communication abilities should warrant special legal considerations. This debate directly affects environmental law and conservation efforts, where the communication abilities of cetaceans might justify enhanced protections or even rights per se.

In the realm of legal scholarship, the work of academics such as Professor Joan E. Schaffner in Blackfish *and Public Outcry: A Unique Political and Legal Opportunity for Fundamental Change to the Legal Protection of Marine Mammals in the United States*[31] and Mary Winters in *Cetacean Rights Under Human Laws*[32] has started to address these questions, suggesting that the unique communicative abilities of cetaceans could be a basis for extending legal rights or protections.

30. Brenda McCowan, Josephine Hubbard, Lisa Walker, Fred Sharpe, Jodi Frediani & Laurance Doyle, *Interactive Bioacoustic Playback as a Tool for Detecting and Exploring Nonhuman Intelligence: "Conversing" with an Alaskan Humpback Whale*, PEERJ, Nov. 29, 2023, at 1, https://doi.org/10.7717/peerj.16349 [https://perma.cc/B3AB-FNRU].

31. Joan E. Schaffner, Blackfish *and Public Outcry: A Unique Political and Legal Opportunity for Fundamental Change to the Legal Protection of Marine Mammals in the United States*, *in* ANIMAL LAW AND WELFARE—INTERNATIONAL PERSPECTIVES 237, 237 (Deborah Cao & Steven White eds., 2016).

32. Mary Winters, *Cetacean Rights Under Human Laws*, 21 SAN DIEGO L. REV. 911, 938–40 (1984).

Project CETI[33] represents a groundbreaking effort in the realm of interspecies communication, particularly focusing on sperm whales.[34] This initiative seeks to decode and understand the complex language of these cetaceans, leveraging the latest advancements in AI, machine learning, and neural networks.[35] CETI's approach, which combines cutting-edge technology with deep biological and ecological knowledge,[36] has the potential to transform our understanding of cetacean communication and, by extension, our perspective on animal intelligence and consciousness and implications these may have for legal rights.

The project's ambition goes beyond mere translation of cetacean sounds into human-understandable language; it aims to establish a two-way communication channel and thus facilitate a meaningful dialogue between humans and sperm whales.[37] This endeavor is not only scientifically significant but also has profound philosophical and legal implications. If successful, CETI could provide empirical evidence supporting the notion that sperm whales, and potentially other cetaceans, possess a sophisticated form of language and, consequently, a higher level of cognitive and social complexity than previously acknowledged.

The implications of CETI's work for legal theory and practice are substantial. A successful translation of cetacean communication could challenge existing legal definitions of personhood, rights, and intelligence. It also raises the question of whether possessing a complex form of communication is a sufficient condition for granting certain legal rights or considerations traditionally reserved for humans. Legal scholars, such as Professor Richard A. Epstein in *Animals as Objects, or Subjects, of Rights*[38] and Professor Matthew Calarco in *Thinking Through Animals: Identity, Difference, Indistinction*,[39] have explored these themes and suggested a need for legal systems to adapt to new understandings of animal intelligence and communication.

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33. *See* Elizabeth Kolbert, *Talk to Me*, NEW YORKER, Sept. 11, 2023, at 44. The acronym CETI deliberately echoes SETI, which describes efforts to detect evidence of alien, nonhuman intelligent life. *Id.*; *see also* SETI INST., https://www.seti.org/ [https://perma.cc/9YNH-K6VH] (last visited Mar. 3, 2024). This is discussed in more detail below. *See infra* Part I.B.2.

34. CETI, https://www.projectceti.org/ [https://perma.cc/L3JD-7D5F] (last visited Mar. 3, 2024).

35. Peter C. Bermant, Michael M. Bronstein, Robert J. Wood, Shane Gero & David F. Gruber, *Deep Machine Learning Techniques for the Detection and Classification of Sperm Whale Bioacoustics*, SCI. REPS., Aug. 29, 2019, at 1, 2.

36. *See* Jacob Andreas, Gašper Beguš, Michael M. Bronstein, Roee Diamant, Denley Delaney, Shane Gero, Shafi Goldwasser, David F. Gruber, Sarah de Haas, Peter Malkin, Nikolay Pavlov, Roger Payne, Giovanni Petri, Daniela Rus, Pratyusha Sharma, Dan Tchernov, Pernille Tønnesen, Antonio Torralba, Daniel Vogt & Robert J. Wood, *Toward Understanding the Communication in Sperm Whales*, ISCIENCE, June 17, 2022, at 1, 1–2.

37. *See id.* at 14.

38. Richard A. Epstein, *Animals as Objects, or Subjects, of Rights* 22 (John M. Olin Program in L. & Econ. Working Paper No. 171, 2002).

39. MATTHEW CALARCO, THINKING THROUGH ANIMALS: IDENTITY, DIFFERENCE, INDISTINCTION 5, 51–53 (2015).

CETI's work also aligns with the growing field of animal law and the increasing recognition of animal rights. The potential for cetacean communication to inform legal rights could lead to significant changes in how laws are formulated and applied, particularly in the areas of environmental law, conservation, and animal welfare, but also in oceanic transportation, military operations (e.g., sonar blasts), and other interactions (both direct and indirect) with whales—especially sperm whales.[40]

The legal community must be prepared to respond to these scientific advancements by integrating them into existing legal frameworks in a way that respects both scientific integrity and ethical considerations. The work of CETI, therefore, not only contributes to our scientific understanding but also serves as a catalyst for legal innovation and reform.

The proposition that the ability to communicate might trigger legal rights for beings capable of such communication is grounded in a rich philosophical tradition. This concept challenges traditional legal frameworks, which have historically recognized rights based primarily on human attributes. The philosophical underpinnings of this approach draw from several key thinkers who have argued for a broader, more inclusive understanding of rights and personhood.

Philosopher Jeremy Bentham, a prominent figure in the field of moral philosophy, famously questioned the moral basis for denying rights to animals, arguing that the capacity for suffering, rather than the ability to reason, should be the key criterion for moral consideration.[41] This argument laid the groundwork for later philosophers such as Professor Peter Singer and Nussbaum, who expanded on these ideas to include concepts of sentience and capabilities in the discussion of animal rights.[42]

In the legal arena, the notion that communication might be a criterion for rights has been explored to varying degrees. Sunstein in *The Rights of Animals: A Very Short Primer*[43] and Professor Gary L. Francione in *Animals, Property, and the Law*[44] have argued for the extension of certain legal protections to animals based on their capacities for suffering, self-awareness, and (in some cases) communication. These arguments challenge the anthropocentric bias in legal systems and propose a more inclusive framework for legal rights that considers the abilities and experiences of nonhuman beings.

Using the capacity for communication as a basis for legal rights is not without its complexities. It raises questions about the nature and extent of communicative abilities necessary to warrant legal consideration. It also demands a reevaluation of how we understand and define intelligence, consciousness, and personhood in both legal and moral contexts. This

40. *See infra* Part I.B.3.
41. *See infra* Part V.A.1.
42. *See infra* Parts III.A.2–3.
43. Cass R. Sunstein, *The Rights of Animals: A Very Short Primer* 2 (Univ. of Chi. Pub. L. & Legal Theory, Working Paper No. 30, 2002).
44. GARY L. FRANCIONE, ANIMALS, PROPERTY, AND THE LAW 175–76 (1995).

philosophical inquiry is not merely academic; it has practical implications for how laws are crafted and applied, especially in the context of animal welfare, environmental conservation, and bioethics.

The work of legal theorists, such as Professor Gunther Teubner in *Rights of Non-Humans?: Electronic Agents and Animals as New Actors in Politics and Law*, has already begun to address these questions, exploring the implications of nonhuman entities, including animals and AI, in legal and political spheres.[45] These discussions are crucial for developing a legal framework that can adapt to the evolving understanding of intelligence and communication in both human and nonhuman entities.

The burgeoning field of interspecies communication, exemplified by initiatives such as CETI, presents an urgent imperative to reevaluate both animal and human legal rights. This reevaluation is predicated on the recognition that if other species, such as cetaceans, demonstrate advanced communication abilities, it fundamentally challenges the anthropocentric basis of our current legal systems. The potential of a meaningful human-cetacean dialogue, as pursued by CETI, is not just a scientific milestone but a pivotal moment for legal theory and practice.

The recognition of communication capabilities in nonhuman species necessitates a rethinking of legal rights and protections. This shift would require us to move beyond seeing animals merely as property or resources and to start considering them as entities with their own interests and rights. This paradigm shift has significant implications for laws related to animal welfare, environmental protection, and biodiversity conservation.

The legal community is increasingly acknowledging the need for this reevaluation. Scholars such as Professor Tom Regan in *The Case for Animal Rights*[46] and Professor David DeGrazia in *Taking Animals Seriously: Mental Life and Moral Status*[47] have been instrumental in advocating for a more inclusive understanding of rights that extends beyond human beings. Their work highlights the moral and ethical obligations humans have toward other species, especially those capable of complex communication and social interactions.[48]

Moreover, the potential for interspecies communication challenges the very foundations of legal rights. It raises profound questions about the nature of personhood, the criteria for legal standing, and the responsibilities of human society toward other sentient beings. The work of legal scholars such as Professor Thomas Kelch in *Towards a Non-property Status for Animals*[49] and Sunstein in *The Rights of Animals: A Very Short Primer*[50] is particularly

45. Gunther Teubner, *Rights of Non-humans?: Electronic Agents and Animals as New Actors in Politics and Law*, 33 J.L. & SOC. 497, 499–500 (2006).

46. TOM REGAN, THE CASE FOR ANIMAL RIGHTS xii (1983).

47. DAVID DEGRAZIA, TAKING ANIMALS SERIOUSLY: MENTAL LIFE AND MORAL STATUS 9–10 (1996).

48. *See id.*; REGAN, *supra* note 46, at 14–15.

49. Thomas G. Kelch, *Towards a Non-property Status for Animals*, 6 N.Y.U. ENV'T L.J. 531, 585 (1998).

50. Sunstein, *supra* note 43, at 4.

relevant here, as it explores the legal implications of recognizing nonhuman entities as holders of rights.

This reevaluation is not just a legal issue but a societal one, reflecting broader questions about our relationship with nature and other living beings. As we stand on the precipice of potentially groundbreaking interspecies communication, it is imperative that our legal systems evolve to reflect a more nuanced and ethically informed understanding of rights, one that respects the capabilities and dignity of all communicative beings, human and nonhuman alike.

I. BACKGROUND AND CURRENT STATE OF ANIMAL COMMUNICATION

A. Overview of Animal Communication Systems

1. Examples from Across the Animal Kingdom

The study of animal communication is a fascinating window into the cognitive worlds of various species, each of which employs unique methods to convey information, maintain social bonds, and navigate their environment. In primates, researchers have discovered a complex blend of vocalizations, facial expressions, and gestures that are used for a range of purposes, including warning of predators, social bonding, and establishing hierarchies within groups.[51] The depth of primate communication has been explored in studies such as those by Professors Michael Tomasello and Josep Call in *Primate Cognition*, revealing not only the complexity of these systems but also their evolutionary implications for understanding the origins of human language.[52] This research underscores the cognitive abilities of primates and the sophistication of their social interactions, facilitated by nuanced communication.[53]

Elephants, known for their strong social structures and long-lasting familial bonds, use a combination of vocal and seismic communication. They produce infrasound calls, which travel long distances, facilitating communication across their large habitats.[54] This form of communication is vital for their social cohesion,[55] coordination during migration,[56] and alerting each other to dangers.[57] The pioneering work by Dr. Caitlin

51. *See* MICHAEL TOMASELLO & JOSEP CALL, PRIMATE COGNITION 243–60 (1997).
52. *See id.* at 379, 427.
53. *See id.* at 269–72.
54. *See* Karen McComb, David Reby, Lucy Baker, Cynthia Moss & Soila Sayialel, *Long-Distance Communication of Acoustic Cues to Social Identity in African Elephants*, 65 ANIMAL BEHAV. 317, 317–18 (2003).
55. *See id.* at 318.
56. *See* The Podcast of The American Physiological Society, *Episode 25: EleComm Life Lines*, AM. PHYSIOLOGICAL SOC'Y, at 03:41 (Sept. 8, 2009, 6:49 PM), https://podcasts.apple.com/us/podcast/life-lines-the-podcast-of-the/id266206428?i=1000089024174 [https://perma.cc/8NA2-7AFK].
57. *See* Caitlin E. O'Connell-Rodwell, *Keeping an "Ear" to the Ground: Seismic Communication in Elephants*, 22 PHYSIOLOGY 287, 287 (2007).

O'Connell-Rodwell and colleagues has been instrumental in understanding how these communication methods are integral to elephant society and survival.[58] Elephants' communication demonstrates the importance of acoustic signaling in maintaining complex social structures in wildlife.

The New Caledonian crow represents another remarkable example of animal communication linked to sophisticated cognitive behavior. These crows are known for their remarkable tool-making and tool-using abilities, which require a high level of problem-solving skills.[59] Studies have shown that these crows not only use tools but also transmit knowledge about tool use across generations, indicating a form of communication that is key to learning and cultural transmission within their species.[60] The research by Dr. Alex Weir and colleagues has highlighted this aspect, shedding light on the cognitive basis of tool use and its communication among crows.[61] This evidence points to a complex interaction between cognition and communication in these birds, suggesting a level of intelligence that necessitates a reevaluation of our understanding of animal communication systems.

2. The Special Case of Cetaceans

Cetaceans present one of the most intriguing case studies in animal communication research due to their large brain size and evident intelligence.[62] The acoustic communication of cetaceans is diverse, including a range of sounds from complex songs to echolocation clicks.[63] These sounds serve various functions, such as navigation, foraging, mating, and maintaining social order within their groups.[64] The study of cetacean acoustics, as explored by Professors Peter L. Tyack and Christopher Clark, has been key in understanding the intricacies of these communication systems and their implications for cetacean cognitive abilities.[65] Cetacean communication exhibits a level of complexity that suggests a sophisticated understanding of their surroundings and intricate social structures, challenging our perceptions of animal intelligence.

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58. *See id.*; C. E. O'Connell-Rodwell, B. T. Arnason & L. A. Hart, *Seismic Properties of Asian Elephant (*Elephas maximus*) Vocalizations and Locomotion*, 108 J. ACOUSTICAL SOC'Y AM. 3066, 3066, 3071 (2000).

59. *See* Ben Kenward, Christian Rutz, Alex A.S. Weir & Alex Kacelink, *Development of Tool Use in New Caledonian Crows: Inherited Action Patterns and Social Influences*, 72 ANIMAL BEHAV. 1329, 1329 (2006).

60. *See id.*

61. *See id.*

62. *See* Lori Marino, Richard C. Connor, R. Ewan Fordyce, Louis M. Herman, Patrick R. Hof, Louis Lefebvre, David Lusseau, Brenda McCowan, Esther A. Nimchinsky, Adam A. Pack, Luke Rendell, Joy S. Reidenberg, Diana Reiss, Mark D. Uhen, Estel Van der Gucht & Hal Whitehead, *Cetaceans Have Complex Brains for Complex Cognition*, PLOS BIOLOGY, May 2007, at 966, 966.

63. *See* Peter L. Tyack & Christopher W. Clark, *Communication and Acoustic Behavior of Dolphins and Whales*, *in* HEARING BY WHALES AND DOLPHINS 156, 162, 193 (Whitlow W.L. Au, Arthur N. Popper & Richard R. Fay eds., 2000).

64. *See id.* at 160, 162, 171, 196.

65. *See id.* at 212–13.

The legal implications of these findings in cetacean communication are gradually gaining recognition in the field of animal law. A major argument for extending legal rights or protections to cetaceans is based on their communicative abilities and apparent intelligence. Legal scholars such as Schaffner and Winters have begun to explore the potential legal ramifications of these advanced communication systems, proposing that the unique abilities of cetaceans could justify extending legal rights or protections to them.[66] This perspective is reshaping the legal discourse around animal rights, suggesting a move toward a more inclusive legal framework that recognizes the rights of sentient nonhuman beings.

B. Historical and Contemporary Efforts to Decode Cetacean Communication

1. Roger Payne's Studies and Conservation Efforts

The seminal work of Payne on the songs of humpback whales has played a pivotal role in cetacean communication research. Payne's discovery of the structured and repetitive patterns in these whale songs in the early 1970s[67] not only brought a scientific breakthrough in understanding cetacean acoustic communication, but also ignited a global interest in whale conservation. His recordings, widely disseminated, surfaced the welfare of whales in the public consciousness, significantly influencing conservation policies worldwide.[68] Payne's research demonstrated the complex nature of whale songs, suggesting a level of intelligence and social organization that was previously unacknowledged in marine mammals.[69] This work, therefore, had far-reaching implications, leading to a surge in marine conservation efforts and a reevaluation of commercial whaling practices, marking a significant shift in how humans perceive and interact with these majestic creatures.[70]

2. The Inspiration from SETI for CETI

CETI is a pioneering effort, drawing inspiration from the methodologies employed by SETI.[71] CETI's goal is to apply advanced technologies and interdisciplinary approaches to decode and understand the language of sperm whales, a novel endeavor in the field of interspecies communication.[72] This project underscores the potential of collaborative efforts that combine expertise from diverse fields such as marine biology, linguistics, AI, and

66. *See* Schaffner, *supra* note 31, at 237; Winters, *supra* note 32, at 938–40.
67. Payne & McVay, *supra* note 13, at 597.
68. *See Our Story*, CETI, https://www.projectceti.org/about [https://perma.cc/62X4-JH4X] (last visited Mar. 3, 2024).
69. *See* Michael May, *Recordings that Made Waves: The Songs that Saved the Whales*, NPR (Dec. 26, 2014, 4:46 PM), https://www.npr.org/2014/12/26/373303726/recordings-that-made-waves-the-songs-that-saved-the-whales [https://perma.cc/G9MH-DXW5].
70. *Our Story*, *supra* note 68.
71. Kolbert, *supra* note 33, at 44.
72. *Our Story*, *supra* note 34.

machine learning. CETI aims not just to translate the complex vocalizations of sperm whales, but also to establish a two-way communication channel that enables a dialogue between humans and sperm whales.[73] This initiative represents a significant step toward understanding the cognitive world of cetaceans, with the potential to transform our understanding of animal intelligence and consciousness. The work of CETI is not only a scientific endeavor, but also raises important philosophical and ethical questions about our relationship with other intelligent species on our planet. The initiative serves as a testament to the power of interdisciplinary collaboration in unlocking the mysteries of animal communication.

3. Importance of Whale Songs in the Marine Ecosystem and for Human Understanding

The study of whale songs extends beyond the realm of biological curiosity, providing crucial insights into the marine ecosystem and the social lives of cetaceans. Whale songs may serve various functions, such as mating calls, territory marking, and maintaining social bonds.[74] These vocalizations, often complex and melodious, are a key aspect of cetacean culture, with different populations exhibiting unique song patterns.[75] The significance of these songs in the marine environment cannot be overstated, as they facilitate communication over vast oceanic distances and thus play a critical role in the survival and reproduction of these species.[76]

From a human perspective, understanding whale songs has profound implications for marine conservation and environmental law. The impact of human activities on cetacean communication has become a pressing concern, with issues such as noise pollution from shipping and naval exercises disrupting these animals' acoustic environment.[77] Research in this area has highlighted the need for legal and policy interventions to prevent undue

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73. Kolbert, *supra* note 33, at 44.

74. *See, e.g.*, Edda E. Magnusdottir & Rangyn Lim, *Subarctic Singers: Humpback Whale (*Megaptera novaeangliae*) Song Structure and Progression from an Icelandic Feeding Ground During Winter*, PLOS ONE, Jan. 2019, at 2 (linking whale song with mating and social organization); Scott Pelley, *The Secrets Behind the Songs of Humpback Whales*, CBS NEWS (Oct. 17, 2013, 8:07 PM), https://www.cbsnews.com/news/the-secrets-behind-the-songs-of-humpback-whales/ [https://perma.cc/E6L3-BDYA] (hypothesizing a marking territory function).

75. *See* David Rothenberg & Michael Deal, *Whale Song Explained*, MEDIUM (Oct. 10, 2014), https://medium.com/@dealville/whales-synchronize-their-songs-across-oceans-and-theres-sheet-music-to-prove-it-b1667f603844 [https://perma.cc/MQ3P-R8ZU].

76. *See* David Brand, *Secrets of Whales' Long-Distance Songs Are Being Unveiled by U.S. Navy's Undersea Microphones—but Sound Pollution Threatens*, CORNELL CHRON. (Feb. 19, 2005), https://news.cornell.edu/stories/2005/02/secrets-whales-long-distance-songs-are-unveiled [https://perma.cc/G6RY-M5AH] (reporting that whales communicate "seemingly over thousands of miles of ocean" and that an inability to hear the song negatively impacts breeding).

77. *See* Rosalind M. Rolland, Susan E. Parks, Kathleen E. Hunt, Manuel Castellote, Peter J. Corkeron, Douglas P. Nowacek, Samuel K. Wasser & Scott D. Kraus, *Evidence that Ship Noise Increases Stress in Right Whales*, 279 PROC. ROYAL SOC'Y B 2363, 2363 (2012).

interference with cetacean communication by human-induced noise.[78] Studies have shown that disruptions in whale songs can have significant consequences on mating behaviors, migration patterns, and overall well-being, underscoring the need for a legal framework that protects these vital communication channels.[79] The work of Clark and colleagues has been instrumental in bringing attention to these issues, demonstrating the need for an environmentally sound approach to ocean management that respects and preserves the acoustic habitat of cetaceans.[80] This research not only contributes to our understanding of cetacean behavior, but also informs legal and ethical debates about our responsibility toward these intelligent and communicative marine species.

II. SPERM WHALES: A CASE STUDY IN CETACEAN COMMUNICATION

A. The Cognitive and Physiological Distinctiveness of Sperm Whales

1. The Largest Brains in the Animal Kingdom

Sperm whales (*Physeter macrocephalus*) are notable for possessing the largest brain of any creature known, living or extinct.[81] This extraordinary brain size has long intrigued scientists because it suggests a high level of cognitive capability. Research has shown that brain size in mammals, particularly in cetaceans, is linked to complex social structures and advanced cognitive functions.[82] Dr. Lori Marino and her colleagues have provided an in-depth analysis of cetacean brains that discusses the implications of their size and complexity for understanding cetacean intelligence and behavior.[83] The legal implications of these findings are significant, as they challenge traditional views on animal intelligence and could impact the legal status of these animals in terms of rights and protections.

2. Distinctive Communication Through Clicks and Codas

The communication of sperm whales is characterized by a series of clicks and codas, distinct from the melodic songs of other whale species.[84] These vocalizations are believed to play a crucial role in their social interactions

78. *See id.*

79. *See, e.g.*, L.S. Weilgart, *The Impacts of Anthropogenic Ocean Noise on Cetaceans and Implications for Management*, 85 CANADIAN J. ZOOLOGY 1091, 1091 (2007).

80. *See* Christopher W. Clark, William T. Ellison, Brandon L. Southall, Leila Hatch, Sofie M. Van Parijs, Adam Frankel & Dimitri Ponirakis, *Acoustic Masking in Marine Ecosystems: Intuitions, Analysis, and Implication*, 395 MARINE ECOLOGY PROGRESS SERIES 201, 216–220 (2009).

81. *Sperm Whale*, NAT'L GEOGRAPHIC, https://www.nationalgeographic.com/animals/mammals/facts/sperm-whale [https://perma.cc/92C8-ZGDL] (last visited Mar. 3, 2024).

82. Marino et al., *supra* note 62, at 966.

83. *See id.* at 967–71.

84. Kolbert, *supra* note 33, at 46.

and navigation.[85] The study of these sounds has offered insights into the complexity of sperm whale communication systems. Whitehead's research, in particular, highlights the diversity and potential meaning of these sounds within sperm whale pods.[86] The legal recognition of such complex communication and advanced cognitive abilities could lead to enhanced protections under international and environmental law.

B. The Structure and Interpretation of Sperm Whale Communication

1. Echolocation Clicks and Their Significance

Echolocation is a primary function of the clicks produced by sperm whales, used for navigation and identifying prey in the deep ocean.[87] The intensity and frequency of these clicks provide insights into the acoustic capabilities of these animals.[88] Exploring the nature of these echolocation clicks has revealed their ecological significance and the role they play in the whales' daily activities.[89] Understanding echolocation is vital for legal considerations in marine conservation, as it underscores the need for protecting the acoustic environment of these animals.

2. Social Clicks, Codas, and Slow-Clicks as Forms of Complex Communication

Beyond echolocation, sperm whales use a variety of vocalizations for social communication. These include codas, a series of patterned clicks used in social contexts, and slow-clicks, typically associated with mating behavior.[90] Studies by Dr. Luke Rendell and Professor Hal Whitehead have documented these vocalizations, providing evidence of their use in social structures and cultural transmission within sperm whale communities.[91] This research has significant legal implications, particularly in the realm of animal rights law, suggesting that the complexity of animal communication may warrant legal recognition and protection.

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85. Andreas et al., *supra* note 36, at 5.

86. *See* WHITEHEAD, *supra* note 17, at 134, 137–46.

87. Patrick J.O. Miller, Mark P. Johnson & Peter L. Tyack, *Sperm Whale Behavior Indicates the Use of Echolocation Click Buzzes 'Creaks' in Prey Capture*, 271 PROC. ROYAL SOC'Y LONDON B 2239, 2239 (2004).

88. *See id.*

89. P.T. Madsen, M. Wahlberg & B. Møhl, *Male Sperm Whale (*Physeter macrocephalus*) Acoustics in a High-Latitude Habitat: Implications for Echolocation and Communication*, 53 BEHAV. ECOLOGY SOCIOBIOLOGY 31, 31–32 (2002).

90. WHITEHEAD, *supra* note 17, at 140, 144.

91. *See* L.E. Rendell & H. Whitehead, *Vocal Clans in Sperm Whales (*Physeter macrocephalus*)*, 270 PROC. ROYAL SOC'Y LONDON B 225, 229 (2003).

3. Regional Dialects and the Implication of Cultural Transmission

Research has indicated that different groups of sperm whales exhibit unique patterns in their vocalizations, akin to regional dialects.[92] This phenomenon suggests a level of cultural transmission and social learning within these whale populations. Rendell and Whitehead's work in this area sheds light on the cultural aspects of sperm whale communication, indicating a sophisticated level of social organization.[93] The acknowledgment of such cultural transmission in legal contexts could have profound implications for the way laws are framed to protect these animals, potentially recognizing them as sentient beings with their own cultures and social structures.

C. Research Methodologies in Capturing Whale Communication

1. Acoustic and Behavioral Data Collection Techniques

The study of sperm whale communication requires sophisticated data collection techniques. Researchers utilize underwater microphones (hydrophones) and visual observation tools to capture the acoustic signals and behaviors of these whales.[94] Dr. Mark P. Johnson and colleagues discuss the methods and technologies used in this field, emphasizing the importance of these techniques in understanding the complex communication systems of marine mammals.[95] The data gathered from these methods are crucial for informing legal and conservation strategies aimed at protecting these animals and their habitats.

2. Integration of Genetic Data and Geospatial Information into Research

Combining acoustic data with genetic and geospatial information has become increasingly important in cetacean research. This multidisciplinary approach allows scientists to link vocalizations to specific individuals and understand their movement patterns and social structures.[96] Whitehead and Rendell's book discusses the integration of these data types, highlighting their significance in studying the social lives of whales.[97] This

92. *Id.*

93. *See* HAL WHITEHEAD & LUKE RENDELL, THE CULTURAL LIVES OF WHALES AND DOLPHINS 209 (2015).

94. Mark Johnson, Natacha Aguilar de Soto & Peter T. Madsen, *Studying the Behaviour and Sensory Ecology of Marine Mammals Using Acoustic Recording Tags: A Review*, 395 MARINE ECOLOGY PROGRESS SERIES 55, 60 (2009).

95. *See id.*

96. *See* WHITEHEAD, *supra* note 17, at 111–13, 115; *Project CETI: Decoding the Communication of Whales with Advanced Machine Learning and State-of-the-Art Robotics*, AUDACIOUS PROJECT, https://www.audaciousproject.org/grantees/project-ceti [https://perma.cc/XG3A-Z94X] (last visited Mar. 3, 2024).

97. WHITEHEAD & RENDELL, *supra* note 93, at 272 (describing the combined analysis of sound and movement).

comprehensive approach is essential for formulating effective legal measures for cetacean conservation, as it provides a more complete picture of their behavior and communication.

3. The "Flukebook" Initiative and Its Role in Data Analysis and Machine Learning

Just as Facebook summarizes characteristics of humans,[98] "Flukebook," an initiative of the Dominica Sperm Whale Project (DSWP), gathers together detailed personal information about sperm whales and represents a significant advancement in cetacean research.[99] It is a collaborative project that compiles acoustic, behavioral, genetic, and geospatial data on individual whales.[100] This initiative aims to create a comprehensive dataset that can be analyzed using machine-learning algorithms to uncover patterns and insights into sperm whale communication.[101] The project may offer the potential of combining traditional research methods with modern data analysis techniques, paving the way for new discoveries in the field of cetacean social analysis and communication.[102] The legal implications of such research are significant, as it could lead to more informed and effective laws and policies for the protection of these marine mammals.

III. THE INTERSECTION OF AI AND CETACEAN LINGUISTICS

A. AI's Role in Translating Cetacean Communication

1. Machine Learning and Neural Networks as Tools for Deciphering Complex Patterns

The integration of machine learning and neural networks in cetacean linguistics represents a groundbreaking shift in our ability to analyze and

98. FACEBOOK, https://www.facebook.com [https://perma.cc/3LWU-EGMT] (last visited Mar. 3, 2024). In addition to profiles of humans, Facebook contains myriad profiles of corporations, governments, and other suprahuman institutions, not to mention individual pets, livestock, and even inanimate objects and concepts. *See Differences Between Profiles, Pages and Groups on Facebook*, FACEBOOK, https://www.facebook.com/help/337881706729661 [https://perma.cc/9S6Z-6692] (last visited Mar. 3, 2024) (including "businesses, brands, organizations and nonprofits"); *The Official Grumpy Cat*, FACEBOOK, https://www.facebook.com/TheOfficialGrumpyCat [https://perma.cc/TMM5-FYFH] (last visited Mar. 3, 2024) (pet); *Jersey*, FACEBOOK, https://www.facebook.com/profile.php?id=100086539730363 [https://perma.cc/TGM9-8W58] (last visited Mar. 3, 2024) (livestock); *Make Way for Ducklings Statue*, FACEBOOK, https://www.facebook.com/pages/Make-Way-for-Ducklings-Statue/130782396967178 [https://perma.cc/LL2U-3AW5] (last visited Mar. 3, 2024) (inanimate object).

99. *Flukebook*, DOMINICA SPERM WHALE PROJECT, https://www.thespermwhaleproject.org/flukebook [https://perma.cc/2Q2A-D5KB] (last visited Mar. 3, 2024).

100. *Research Overview*, DOMINICA SPERM WHALE PROJECT, https://www.thespermwhaleproject.org/research [https://perma.cc/3R8Z-UBE7] (last visited Mar. 3, 2024).

101. Andreas et al., *supra* note 36, at 1.

102. *See* HAL WHITEHEAD, ANALYZING ANIMAL SOCIETIES: QUANTITATIVE METHODS FOR VERTEBRATE SOCIAL ANALYSIS 2–3 (2008) (outlining the potential of using statistical analysis in vertebrate social analysis).

interpret the complex communication patterns of species such as the sperm whale. These AI technologies, through sophisticated data processing and pattern recognition capabilities, have enabled researchers to make significant strides in decoding the intricate language of these marine mammals.[103] The work in this domain, as exemplified by studies such as those of Peter Bermant and colleagues, has opened new avenues for understanding cetacean communication, revealing a high level of complexity and sophistication.[104] The legal implications of these advancements are vast, potentially redefining the scope of animal rights and welfare laws, as these technologies offer a deeper insight into the cognitive world of cetaceans.

2. The Challenges of Ensuring Accurate Translation by AI

Despite the potential of AI in cetacean linguistics, there are significant challenges in ensuring the accuracy and reliability of these translations. AI systems, although powerful, are not infallible and can produce errors or even "hallucinate" data,[105] leading to incorrect interpretations of cetacean communication. The risk of AI misinterpretation in this context is not merely a technical concern, but also carries substantial legal consequences. Professor Ian Kerr and Jessica Earle's examination of the impact of AI in legal contexts underscores the importance of approaching AI translations with caution, particularly when these translations could influence legal decisions and policies affecting cetacean welfare and conservation.[106]

3. Risks of AI Misinterpretation and the Concept of "Hallucinogenic Rights"

The notion of "hallucinogenic rights" emerges from the risk of AI systems generating erroneous or fabricated information, which, if used uncritically, could lead to absurd legal outcomes, such as attributing rights or responsibilities based on AI-generated misinterpretations. This concept, although seemingly whimsical, highlights a serious concern in the intersection of AI and law, particularly in the context of animal rights. The potential for AI to "misread" cetacean communication underscores the need for rigorous verification processes and the establishment of legal standards for the use of AI in environmental and animal law. This concern is echoed in legal scholarship that critiques the reliance on AI for legal interpretations, emphasizing the need for a balanced approach that recognizes the limitations of AI technologies.[107]

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103. Andreas et al., *supra* note 36, at 1–2.

104. *See, e.g.*, Bermant et al., *supra* note 35, at 1.

105. *What Are AI Hallucinations?*, IBM, https://www.ibm.com/topics/ai-hallucinations [https://perma.cc/BM4T-3NLZ] (last visited Mar. 3, 2024).

106. *See* Ian Kerr & Jessica Earle, *Prediction, Preemption, Presumption: How Big Data Threatens Big Picture Privacy*, 66 STAN. L. REV. ONLINE 65, 66–68 (2013).

107. *See* JESSICA FJELD, NELE ACHTEN, HANNAH HILLIGOS, ADAM CHRISTOPHER NAGY & MADHULIKA SRIKUMAR, PRINCIPLED ARTIFICIAL INTELLIGENCE: MAPPING CONSENSUS IN ETHICAL AND RIGHTS-BASED APPROACHES TO PRINCIPLES FOR AI 34 (2020), https://da

B. Data Integrity and Translation Reliability in Legal Contexts

1. The Importance of Context in Sound Interpretation

In the realm of cetacean linguistics, the context in which sounds are produced and interpreted is crucial for accurate translation. This includes understanding the behavioral, environmental, and social circumstances surrounding these vocalizations.[108] Misinterpretation or decontextualization of cetacean sounds in AI translations can lead to flawed conclusions with significant legal ramifications. The importance of context in legal interpretations is well-recognized, as discussed by Professor Henry E. Smith in the property law domain, emphasizing that context is key to understanding the nature of rights and obligations.[109]

2. Ensuring the Fidelity of Data to Avoid Legal Missteps

Ensuring the fidelity of data in the translation of cetacean communication is paramount, particularly considering the potential legal implications. Inaccurate or misleading AI interpretations could lead to inappropriate legal and policy decisions, affecting the conservation and welfare of cetaceans. The legal community must critically assess the reliability of AI-generated data, ensuring that legal decisions are grounded in accurate and verifiable scientific information.

IV. WHALES AND THE LAW: HISTORICAL AND CONTEMPORARY PERSPECTIVES

A. The Evolution of Whale Law from Hunting Regulations to Conservation

1. Traditional Whaling Laws and Their Economic and Social Impacts

Historically, whaling laws emerged primarily as a means to regulate and facilitate the hunting of whales, which was a significant economic activity for many maritime nations.[110] Early legal frameworks, such as those in Basque, British, and Dutch traditions, differentiated between "loose-fish" and "fast-fish," establishing rules about the claims to whales based on their capture or killing.[111] These regulations were instrumental in managing the whaling industry and reflect the anthropocentric view of whales as resources.

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sh.harvard.edu/bitstream/handle/1/42160420/HLS%20White%20Paper%20Final_v3.pdf?sequence=1&isAllowed=y [https://perma.cc/BBY8-PWJN].

108. Andreas et al., *supra* note 36, at 9.

109. *See* Henry E. Smith, *Property and Property Rules*, 79 N.Y.U. L. REV. 1719, 1731 (2004).

110. *See* Anthony D'Amato & Sudhir K. Chopra, *Whales: Their Emerging Right to Life*, 85 AM. J. INT'L L. 21, 30–31 (1991).

111. *Id.* at 28–29 (noting the involvement of the Basque, British, and Dutch in early industrial whaling); Robert C. Deal, *Fast-Fish, Loose-Fish: How Whalemen, Lawyers, and Judges Created the British Property Law of Whaling*, 37 ECOLOGY L.Q. 199, 200 (2010) (describing the rules for fast-fish and loose-fish).

American whaling law, in particular, followed the principle of "iron holds the whale," whereby ownership was determined by the whaler's harpoon being the first to strike the whale.[112] The economic implications of these traditional rules have been explored through experimental economics to analyze their efficiency and fairness.[113]

2. International Conventions and Their Role in Whaling Cessation

The twentieth century saw a paradigm shift from whaling as an economic activity to a focus on conservation and protection, driven by growing awareness of the declining whale populations and the ethical considerations surrounding whaling. Key international agreements, such as the International Convention for the Regulation of Whaling in 1946, played a crucial role in this shift.[114] The convention established the International Whaling Commission, which called a moratorium in 1982 to commercial whaling, despite protests from several member nations.[115] These international efforts reflect a significant evolution in the legal treatment of whales, transitioning from exploitation to preservation.[116]

B. The Inadequacy of Current Laws in the Face of Emerging Communication Abilities

1. Critique of the Anthropocentric Bias in Existing Legal Frameworks

Contemporary legal frameworks often reflect an anthropocentric bias, in which nonhuman entities, such as whales, are afforded limited consideration. This bias is increasingly challenged by emerging research in cetacean communication, which suggests a level of intelligence and social complexity in whales that demands a reevaluation of their legal status.[117] Legal scholars advocating for animal rights have criticized current legal systems for failing to recognize the intrinsic value and rights of sentient beings like whales.[118] The work of Sunstein, for instance, highlights the need for expanding legal

112. ROBERT DEAL, THE LAW OF THE WHALE HUNT: DISPUTE RESOLUTION, PROPERTY LAW, AND AMERICAN WHALERS, 1780-1880, at 3–4, 58 (2016).

113. Bart J. Wilson, Taylor Jaworski, Karl E. Schurter & Andrew Smyth, *The Ecological and Civil Mainsprings of Property: An Experimental Economic History of Whalers' Rules of Capture*, 28 J.L. ECON. & ORG. 617, 618–20 (2012).

114. International Convention for the Regulation of Whaling, Dec. 2, 1946, 62 Stat. 1716, T.I.A.S. No. 1849, 161 U.N.T.S. 74; *see also* D'Amato & Chopra, *supra* note 110, at 33–34.

115. D'Amato & Chopra, *supra* note 110, at 34, 45–46.

116. *See generally, e.g.*, Patricia Birnie, *The International Organization of Whales*, 13 DENV. J. INT'L L. & POL'Y 309 (1984).

117. *See* David Mence, *The Cetacean Right to Life Revisited*, 11 INT'L J.L. CONTEXT 17, 18 (2015).

118. *Id.*

protections beyond humans to prevent harmful acts that threaten animal wellbeing and survival.[119]

2. The Need for Legal Innovation to Address the New Ethical Landscape

The advancements in understanding cetacean communication and intelligence call for legal innovation to address the ethical implications of these discoveries. The traditional view that whales are mere resources or subjects of human utility is becoming increasingly untenable. Legal frameworks need to adapt to incorporate the ethical considerations of cetacean sentience and communication capabilities. This shift may entail the development of new legal constructs, such as recognizing certain rights for whales or establishing legal personhood for cetaceans, as explored by Wise in his examination of animal rights jurisprudence.[120] The emergence of such legal paradigms would mark a significant transition in the way that the law perceives and interacts with nonhuman life forms, aligning legal practices with contemporary ethical and scientific understandings.

V. PHILOSOPHICAL AND ETHICAL FOUNDATIONS FOR CETACEAN RIGHTS

A. Historical and Modern Perspectives on Animal Rights

1. Jeremy Bentham's Consideration of Animals and Opposition to Cruelty

The philosophical foundations for considering the legal rights of cetaceans can be traced back to the work of philosopher Jeremy Bentham, who famously posited that, as the proper basis for moral consideration, "the question is not, Can they *reason*? nor, Can they *talk*? but, Can they *suffer*?"[121] That suffering is a more important basis for moral consideration than reasoning. Bentham's argument laid the groundwork for the modern animal rights movement, challenging the prevailing notion of human superiority and advocating for the ethical treatment of animals. His ideas have influenced contemporary legal thought by prompting a reevaluation of the moral and legal status of nonhuman animals.[122]

2. Peter Singer's Arguments Against Speciesism and for Moral Inclusion

Building on Bentham's philosophy, Singer further advanced the cause of animal rights through his critique of speciesism—the discrimination against beings based on their species. Singer argues that sentient beings deserve

119. *See* Sunstein, *supra* note 10, at 12–13; *see also* Cass R. Sunstein, *Can Animals Sue?*, *in* ANIMAL RIGHTS: CURRENT DEBATES AND NEW DIRECTIONS 251, 260–61 (Cass R. Sunstein & Martha C. Nussbaum eds., 2004).

120. *See* WISE, *supra* note 9, at 267, 269.

121. JEREMY BENTHAM, AN INTRODUCTION TO THE PRINCIPLES OF MORALS AND LEGISLATION 311 n.1 (Clarendon Press 1907) (1823).

122. *See* Mence, *supra* note 117, at 19.

moral consideration, asserting that the interests of animals should be given equal weight to those of humans.[123] His utilitarian approach to ethics has been influential in shaping legal debates around animal rights, challenging the categorical separation of nonhuman animals from the human moral community.[124]

3. Thomas Nagle's Conscious Experience Criterion

Professor Thomas Nagle posited widespread consciousness among animals. As he put it: "[C]onscious experience is a widespread phenomenon. It occurs at many levels of animal life, though we cannot be sure of its presence in the simpler organisms, and it is very difficult to say in general what provides evidence of it."[125] However, Nagle was strongly skeptical that the conscious experience of a member of one species could be imagined or experienced by a member of a different species. To illustrate this gulf between consciousnesses, he discussed the conscious experience of bats:

> I assume we all believe that bats have experience. After all, they are mammals, and there is no more doubt that they have experience than that mice or pigeons or whales have experience. I have chosen bats instead of wasps or flounders because if one travels too far down the phylogenetic tree, people gradually shed their faith that there is experience there at all. Bats, although more closely related to us than those other species, nevertheless present a range of activity and a sensory apparatus so different from ours that the problem I want to pose is exceptionally vivid (though it certainly could be raised with other species). Even without the benefit of philosophical reflection, anyone who has spent some time in an enclosed space with an excited bat knows what it is to encounter a fundamentally *alien* form of life.
>
> I have said that the essence of the belief that bats have experience is that there is something that it is like to be a bat. Now we know that most bats (the microchiroptera, to be precise) perceive the external world primarily by sonar, or echolocation, detecting the reflections, from objects within range, of their own rapid, subtly modulated, high-frequency shrieks. Their brains are designed to correlate the outgoing impulses with the subsequent echoes, and the information thus acquired enables bats to make precise discriminations of distance, size, shape, motion, and texture comparable to those we make by vision. But bat sonar, though clearly a form of perception, is not similar in its operation to any sense that we possess, and there is no reason to suppose that it is subjectively like anything we can experience or imagine. This appears to create difficulties for the notion of what it is like to be a bat. We must consider whether any method will permit us to extrapolate to the inner life of the bat from our

123. *See* PETER SINGER, ANIMAL LIBERATION 7–9 (1975).

124. *See* Mence, *supra* note 117, at 19–20.

125. Thomas Nagle, *What Is It Like to Be a Bat?*, 83 PHIL. REV. 435, 436 (1974). It should be pointed out that Nagle's article is not primarily a philosophical comparison of bats and humans. Rather, its main subject is the "mind-body problem." *Id.* at 435.

> own case, and if not, what alternative methods there may be for understanding the notion.
>
> Our own experience provides the basic material for our imagination, whose range is therefore limited. It will not help to try to imagine that one has webbing on one's arms, which enables one to fly around at dusk and dawn catching insects in one's mouth; that one has very poor vision, and perceives the surrounding world by a system of reflected high-frequency sound signals; and that one spends the day hanging upside down by one's feet in an attic. In so far as I can imagine this (which is not very far), it tells me only what it would be like for *me* to behave as a bat behaves. But that is not the question. I want to know what it is like for a *bat* to be a bat. Yet if I try to imagine this, I am restricted to the resources of my own mind, and those resources are inadequate to the task. I cannot perform it either by imagining additions to my present experience, or by imagining segments gradually subtracted from it, or by imagining some combination of additions, subtractions, and modifications.
>
> To the extent that I could look and behave like a wasp or a bat without changing my fundamental structure, my experiences would not be anything like the experiences of those animals. On the other hand, it is doubtful that any meaning can be attached to the supposition that I should possess the internal neurophysiological constitution of a bat. Even if I could by gradual degrees be transformed into a bat, nothing in my present constitution enables me to imagine what the experiences of such a future stage of myself thus metamorphosed would be like. The best evidence would come from the experiences of bats, if we only knew what they were like.[126]

That Nagle used bats as his example is fortuitous. Cetaceans have several rare features in common with chiropterans, including bats. Two of the most significant commonalities are the ability to "fly" through a medium—air for bats, and water for whales—and navigation via echolocation. This makes it easier to draw a solid analogy in Nagle's reasoning to include whales. Bats and whales differ in important ways too, including that bats are relatively diminutive, whereas whales are often gigantic. In contrast to bats and whales, humans must generally plod along the ground. They can, of course, swim, though they do so relatively poorly, and they must return to the surface very frequently for fresh oxygen; they cannot fly in any sense comparable to bats. A notable difference is that humans appear to lack echolocation.

Overall, it is a safe bet that Nagle would agree that humans and whales also differ from one another in their conscious experience. Whales inhabit an entirely foreign environment from humans. Just as bats consciously experience a world quite different from that experienced by humans, whales must surely consciously experience a world tremendously different from that experienced by humans. This introduces a notable complication into the possibility of communicating cogently with whales. What if there are simply no words (or equivalent holders of meaning) for whales and humans to compare and contrast their experiences? Even if they were able mutually to

126. *Id.* at 438–39 (footnote omitted).

understand "words," might whales and humans talk past one another because their experiences fail to overlap? It is important to bear in mind Nagle's insight as we consider the possibility of meaningful communications among humans and whales.

Computers and AI may offer some hope. Although human beings might not be capable of understanding the conscious experience of a whale, this does not mean that AI is incapable of deciphering whale language. In fact, AI may possess advantages over humans in understanding whale language precisely because computers and their algorithms cannot experience the world as living organisms can. Lack of conscious experience may facilitate communication whereas differing conscious experiences may make mutual understanding more difficult. AI may be able to act as a translator between species by virtue of its experiential neutrality.

4. Martha Nussbaum's Capabilities Approach to Animal Ethics

Nussbaum's capabilities approach represents another significant philosophical contribution to animal rights. Nussbaum argues that justice demands not just the absence of cruelty, but the positive duty to enable animals to lead a flourishing life according to their species-specific capabilities.[127] Her work has emphasized the importance of considering the intrinsic value and well-being of animals in legal frameworks.[128]

B. The Moral and Ethical Implications of Cetacean Communication

1. The Potential for Recognizing Cetacean Autonomy and Agency

The sophisticated communication abilities of cetaceans, particularly as revealed through recent scientific advancements, raise critical ethical questions regarding their autonomy and agency. The recognition of complex communication in cetaceans suggests a level of intelligence and social complexity that warrants moral and potentially legal consideration. This recognition aligns with the views of ethicists such as Sue Donaldson and Professor Will Kymlicka, who advocate for the consideration of animal agency in moral and legal contexts.[129]

Recognizing a right of autonomy in sperm whales may carry with it an unpleasant implication. Perhaps, after our initial conversations with them, these cetaceans may decide that the preferable amount of contact with humans is no contact at all. Although humanity would certainly find this outcome disappointing, and perhaps even hurtful, a fulsome recognition that

127. Nussbaum, *supra* note 10, at 314–17.
128. *See id.* at 317.
129. SUE DONALDSON & WILL KYMLICKA, ZOOPOLIS: A POLITICAL THEORY OF ANIMAL RIGHTS 122, 135, 148 (2011).

sperm whales have the right to make their own decisions would likely demand that humans respect their wishes by leaving them alone.[130]

2. The Concept of Interspecies Social Contracts Based on Communication

The emerging understanding of cetacean communication invites the possibility of establishing interspecies social contracts. This concept, rooted in the philosophy of Jean Jacques Rousseau and Professor John Rawls,[131] suggests that mutually beneficial agreements could be extended to include intelligent nonhuman species capable of communication. Such a framework could lead to novel legal constructs that recognize the rights and interests of cetaceans, fundamentally altering the traditional human-animal legal dynamic.

3. The Principle of Reciprocal Ethics and the Challenge to "Might Equals Right"

The principle of reciprocity ethics is based on the idea that, if person A were to behave benevolently toward person B, then person B ought to reciprocate by behaving benevolently back toward person A. Two famous formulations of this moral principle are the Golden Rule—"And as ye would that men should do to you, do ye also to them likewise"[132]—and philosopher Immanuel Kant's Categorical Imperative—"*so act as if the maxim of your action were to become by your will a universal law of nature*."[133] One might extend this to animals. If so, one might advocate for treatment of animals that demonstrates ethical behavior, which would challenge the traditional human treatment of animals as property or entities coerced by physical force (or the threat thereof) to perform services for humanity. This principle of reciprocity ethics may be extended to suggest a moral duty to respond ethically to animals that exhibit complex communication and social behaviors (that is, evidence of the capacity to engage in reciprocity ethics) and may even potentially counsel extending legal rights to such animals. Such a shift would represent a significant departure from anthropocentric legal systems, advocating for a more inclusive approach that recognizes the moral worth of nonhuman life forms. The work of Regan on animal rights emphasizes the need for consistent ethical standards that do not discriminate based on species.[134]

130. The idea that sperm whales may prefer to separate themselves from humanity, including communication with humanity, was first suggested to the authors by Professor Mark Lemley. In honor of his valuable insight, the authors refer to this disappointing possibility as the "Lemley Criterion."

131. *See, e.g.*, JEAN JACQUES ROUSSEAU, THE SOCIAL CONTRACT 14–15 (Charles Frankel trans., Hafner Publishing Co. rev. ed., 10th reprt. 1962) (1762); JOHN RAWLS, A THEORY OF JUSTICE viii (1st ed., reprt. 2005) (1971).

132. *Luke* 6:31 (King James).

133. IMMANUEL KANT, THE GROUNDWORK OF THE METAPHYSICS OF MORALS 34 (Mary Gregor & Jens Timmermann eds. & trans., Cambridge Univ. Press rev. ed. 2012) (1785).

134. *See* REGAN, *supra* note 46, at 395.

VI. ETHICAL IMPERATIVES AND LEGAL RECOGNITION OF CETACEAN COMMUNICATION

A. Understanding and Interpreting Cetacean Communication as an Ethical Imperative

1. The Impact of Recognizing Cetacean Preferences and Rules

The emerging ability to comprehend cetacean communication, particularly of sperm whales, presents an ethical imperative to acknowledge their expressed preferences and social rules. This recognition challenges the traditional legal perspective that animals are not subjects deserving of rights, but objects to be protected, suggesting that cetaceans, as sentient beings capable of complex communication, may possess a degree of autonomy that warrants ethical and legal consideration. The work of scholars such as Francione highlights the ethical responsibility to reevaluate our legal approach toward animals in light of such cognitive and communicative capabilities.[135]

2. The Ethical Consequences of Cetacean Requests on Human Activities

If cetaceans can articulate preferences or express specific requests, particularly those that pertain to human activities impacting their well-being, it necessitates an ethical response that may extend to legal ramifications. Such a scenario invites a rethinking of human obligations toward cetaceans, acknowledging their potential agency and considering their communicated needs in legal frameworks. This viewpoint aligns with the ethical theories proposed by Regan, who argues that animals should be recognized as having inherent value and, consequently, should be treated with commensurate respect.[136]

B. The Potential for Cetacean Communication to Inform Legal Rights

1. Translating Cetacean Preferences into Legal Considerations

The potential translation of cetacean communication into a form comprehensible to humans opens the possibility of incorporating their preferences into human legal decisions. This development poses the unique opportunity to consider granting legal rights or protections to cetaceans based on their ability to communicate complex ideas and desires. Such an evolution in legal thought resonates with Sunstein's exploration of animal rights and the possibility of legal personhood for nonhuman animals.[137]

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135. *See* GARY L. FRANCIONE, ANIMALS AS PERSONS: ESSAYS ON THE ABOLITION OF ANIMAL EXPLOITATION 129–30 (2008).

136. *See* REGAN, *supra* note 46, at 329.

137. *See* Sunstein, *supra* note 10, at 12–13.

2. The Role of AI in Facilitating Legally Recognized Interspecies Dialogue

Advances in AI, particularly in machine learning and neural networks, play a crucial role in bridging the communication gap between humans and cetaceans. However, the use of AI in this context raises critical questions about the accuracy and reliability of such translations and their legal admissibility. The potential of AI to misinterpret cetacean communication, leading to the concept of "hallucinogenic rights," necessitates a cautious and critical approach in incorporating AI translations into legal contexts.[138] The legal community must establish robust standards and verification processes to ensure that AI-assisted cetacean communication is accurately represented in legal discourse, as AI bias, stemming from assumptions implicit in biased training data, is a known flaw.[139]

VII. JURISDICTIONAL CHALLENGES AND LEGAL REPRESENTATION OF CETACEANS

A. The Complexities of Legal Jurisdiction over Cetaceans

1. International Waters and the Question of Sovereignty

The legal jurisdiction over cetaceans, particularly in international waters, also presents complex challenges due to the transboundary nature of their habitats. Cetaceans often traverse multiple national jurisdictions and international waters, raising questions about sovereignty and the applicable legal regime. The United Nations Convention on the Law of the Sea[140] (UNCLOS) provides a framework for marine resources but does not specifically address the rights of cetaceans.[141] The issue of jurisdiction becomes even more complex when considering the legal implications of cetacean communication and intelligence. Scholars, such as Professor David Peña-Guzmán, have discussed the need for a more comprehensive international legal framework that can address these jurisdictional complexities and protect cetaceans effectively.[142]

2. The Challenge of Assigning Jurisdiction for Legal Rights

Assigning legal jurisdiction for the rights of cetaceans is a daunting task, especially given their migratory patterns and inconsistencies in the legal protection that different jurisdictions currently afford them. This challenge is further compounded by the emerging recognition of their communication abilities, which suggests the need for a more nuanced legal approach that

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138. *See supra* Part III.A.3.

139. *See* Ryan Calo, *Artificial Intelligence Policy: A Primer and Roadmap*, 51 U.C. DAVIS L. REV. 399, 411–14 (2017).

140. United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397.

141. *See id.* arts. 61–62, 64–65.

142. *See* David Peña-Guzmán, *Cetacean Cultural Rights: A Third Generation of Rights at Sea*, 27 ANIMAL L. REV. 83, 111–14 (2021).

transcends traditional jurisdictional boundaries. The work of scholars such as Professor Patricia Birnie have highlighted the importance of developing a unified international approach to cetacean conservation and rights, one that harmonizes the differing legal standards across national boundaries.[143]

B. Representation Within Human Legal Systems

1. Legal Standing for Cetaceans and the Question of Advocacy

Granting legal standing to cetaceans is a revolutionary concept in legal theory. It involves recognizing cetaceans as legal persons who can have rights and interests represented in court. This notion challenges the traditional human-centered legal system and raises the question of who would advocate on behalf of cetaceans. Legal scholars such as Wise have argued for the extension of legal personhood to animals, suggesting that they can be represented through guardians or advocates who act in their best interests.[144] This approach would require a significant rethinking of legal representation and advocacy, as it involves representing nonverbal, nonhuman interests within a human legal framework.

2. The Feasibility and Methodology of Representing Nonhuman Entities in Court

Representing nonhuman entities such as cetaceans in court raises practical and methodological questions. It entails not only recognizing their legal standing but also developing appropriate methodologies for interpreting and advocating for their interests. The legal system would need to establish criteria and mechanisms through which cetacean communication and behavior can be presented and interpreted in legal proceedings. The work of legal theorists such as Sunstein provides insights into the possibilities and challenges of extending legal representation to animals and emphasizes the need for innovative approaches to ensure that their interests are adequately and accurately represented in legal disputes.[145]

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143. *See* 1 PATRICIA BIRNIE, INTERNATIONAL REGULATION OF WHALING: FROM CONSERVATION OF WHALING TO CONSERVATION OF WHALES AND REGULATION OF WHALE-WATCHING 110, 509–10 (1985).

144. *See generally* Steven M. Wise, *Animal Thing to Animal Person—Thoughts on Time, Place, and Theories*, 5 ANIMAL L. REV. 61 (1999).

145. *See* Cass R. Sunstein, *Standing for Animals (with Notes on Animal Rights)*, 47 UCLA L. REV. 1333, 1366–67 (2000).

VIII. TOWARD AN OBJECTIVE STANDARD FOR LEGAL RIGHTS BASED ON COMMUNICATION

A. Establishing Communication as a Criterion for Legal Rights

1. The Philosophical Rationale for Communication-Based Rights

The proposition of using communication as a criterion for legal rights finds its foundation in the philosophical argument that the ability to communicate, particularly in a complex and meaningful way, indicates a level of consciousness and social interconnectedness warranting moral and legal consideration. The works of philosophers such as Professor Jürgen Habermas, who emphasized the role of communication in constituting a moral community, have influenced this perspective.[146] The rationale posits that if a being can articulate its needs, preferences, or suffering, it deserves to have those communications recognized and considered within the legal system.[147]

2. Criteria for Determining the Threshold of Communication Necessary for Rights

Establishing a threshold for communication necessary to qualify for legal rights inherently involves defining what constitutes meaningful communication. This could include the expression of preferences, demonstration of self-awareness, or participation in social interactions. The challenge lies in creating objective criteria that can be universally applied and take into account the diverse forms of communication exhibited by different species. The legal scholarship of Sunstein and Nussbaum provides insights into potential criteria by emphasizing the importance of considering a range of communicative abilities, from basic expressions of pain to more complex interactions.[148]

B. The Implications of an Objective Communication Standard for Humans and Nonhumans

1. Revisiting the Origins and Extent of Human Legal Rights

Adopting an objective communication standard for legal rights would necessitate a reevaluation of the foundations and extent of human legal rights. It challenges the anthropocentric basis of current legal systems by acknowledging that certain nonhuman entities possess communicative abilities warranting legal recognition. This shift could lead to a more inclusive legal framework that recognizes the rights of beings based on their

146. *See generally* Yogi Hale Hendlin & Konrad Ott, *Habermas on Nature: A Postnormal Reading Between Moral Intuitions and Theoretical Restrictiveness*, 38 ENV'T ETHICS 183 (2016).

147. *See id.* at 196–98.

148. *See* Sunstein, *supra* note 10, at 12–13; Nussbaum, *supra* note 10, at 313–17.

communicative capacities rather than solely on human characteristics. The works of legal theorists such as Professor Christopher Stone have been pivotal in expanding the legal framework to include environmental concerns, which could be extended to encompass nonhuman entities capable of communication.[149]

2. The Potential for Reshaping Entitlement and Application of Rights

The introduction of a communication-based standard for legal rights holds the potential to fundamentally reshape the concept of entitlement and the application of rights. It suggests a move away from human-exclusive legal rights towards a more inclusive system that recognizes and protects the communicative expressions of nonhuman entities. This approach would have profound implications for legal practices, potentially expanding the scope of rights and protections to include species such as cetaceans, whose sophisticated communication demonstrates a level of cognitive complexity and social interaction previously unrecognized in legal contexts. The implications of such a shift have been discussed by legal scholars, such as Epstein, who explore the challenges of integrating nonhuman interests into existing legal frameworks.[150]

IX. ENVISIONING NEW LEGAL CONSTRUCTS AND INSTITUTIONS

A. Proposing Innovative Legal Frameworks

1. The Magna Carta

The Magna Carta (the "Great Charter"), a significant document in English history, was issued in 1215.[151] Its creation was precipitated by a confluence of social, political, legal, and economic factors. The reign of King John (1199–1216 A.D.)[152] is central to the story of the Magna Carta. King John inherited a vast empire but was less capable than his predecessors in managing it.[153] His military failures, particularly in France, and his confrontational style of governance created widespread dissatisfaction among the nobles.[154] Further, the cost of King John's military adventures in France led to heavy taxation in England.[155] Additionally, King John's

149. *See* Christopher D. Stone, *Should Trees Have Standing?—Toward Legal Rights for Natural Objects*, 45 S. CAL. L. REV. 450, 456–457 (1972).

150. *See* Epstein, *supra* note 38, at 24.

151. *Magna Carta Key Facts*, BRITANNICA, https://www.britannica.com/summary/Magna-Carta-Key-Facts [https://perma.cc/TE54-M4MK] (last visited Mar. 3, 2024); *Magna Carta*, UK PARLIAMENT, https://www.parliament.uk/magnacarta/ [https://perma.cc/CCJ4-CB2B] (last visited Mar. 3, 2024).

152. *See* Dan Jones, *The Mad King and Magna Carta*, SMITHSONIAN (July 2015), https://www.smithsonianmag.com/history/mad-king-magna-carta-180955745/ [https://perma.cc/VP6H-9CZT].

153. *See id.*

154. *See id.*

155. *See id.*

arbitrary use of power, including manipulation of the legal system and abuse of feudal rights, further alienated the barons.[156] It is no coincidence that the legend of Robin Hood is set amid the corrupt rule of King John.[157]

Discontent among the barons reached a boiling point in 1215 when they rebelled against the King, captured London, and forced him into negotiations.[158] The barons demanded a charter of liberties as a way to limit royal power and strengthen the legal rights of citizens.[159] The negotiations between the King and the barons resulted in the drafting of the Magna Carta.[160] It was a revolutionary document for its time that placed clear limits on royal authority and established certain legal protections for the barons and, by extension, all free men in the kingdom.[161] The Magna Carta contained clauses that made the King subject to the law, safeguarded baronial rights against unjust seizure, ensured fair and swift justice, and protected the Church's rights.[162] Although King John signed the Magna Carta, he did so under duress and quickly sought to annul it, leading to the First Barons' War.[163] The original charter was reissued several times after King John's death, each time with various alterations and omissions.[164]

Over time, the Magna Carta became symbolic of the principle that everyone, including the monarch, is not just subject to the law, but possesses legal rights.[165] It influenced the development of common law and constitutional principles, not just in England, but around the world.[166] Its legacy continues to be celebrated as a cornerstone in the evolution of democratic governance and legal rights. Moreover, it may provide inspiration for a further extension of legal rights: to sperm whales.

2. The Notion of a Magna Carta Cetacea

The idea of a Magna Carta Cetacea could act as a model for envisioning a charter of rights specifically tailored for cetaceans. Drawing inspiration from historical documents such as the Magna Carta, which laid the foundation for modern human rights, this proposed charter could recognize and codify the intrinsic rights of cetaceans. Such a legal instrument could acknowledge their advanced communicative abilities, social structures, and cognitive capacities. The development of this charter would require interdisciplinary collaboration, incorporating insights from marine biology, machine learning,

156. *See id.*
157. *See Robin Hood and the Magna Carta*, GEO. WASH. L. SCH.: BURNS BRIEF LIBR. BLOG (June 15, 2012), https://blogs.law.gwu.edu/gwlawlibrary/2012/06/15/robin-hood-and-the-magna-carta/ [https://perma.cc/TDY2-5PBZ].
158. *See* Jones, *supra* note 152.
159. *See id.*
160. *See id.*
161. *See id.*
162. *See id.*
163. *See id.*
164. *See id.*
165. *See id.*
166. *See id.*

communications science, ethics, and law. Legal scholars such as Wise have argued for similar legal innovations, emphasizing the need for a legal framework that acknowledges the rights of sentient nonhuman entities.[167]

3. The Conceptualization of a "United Species" Extension of the United Nations

The idea of a "United Species" body as an extension of the United Nations represents an ambitious vision for the future of interspecies relations. This concept proposes an international institution dedicated to the representation and protection of various species, particularly those demonstrating complex communication and social structures. This body would work alongside existing U.N. frameworks, ensuring that the interests and rights of nonhuman entities are considered in international policymaking. The establishment of such an institution would be a significant step toward a more inclusive and ecologically integrated approach to global governance, resonating with the ideas presented by scholars such as Teubner, who advocate for the legal recognition of nonhuman agents in the global legal system.[168]

B. Practical Aspects of Innovative Legal Constructs

1. The Feasibility of Animal Citizenship and Sovereignty

The concept of animal citizenship and sovereignty, particularly for species like cetaceans, challenges conventional notions of political and legal membership. It raises the question of how nonhuman entities can be integrated into human-centric legal systems. The feasibility of such integration would require not only a redefinition of legal personhood, but also practical mechanisms for representation and enforcement. Discussions around animal citizenship have been gaining traction, with legal theorists such as Donaldson and Kymlicka exploring the potential for animals to be considered members of the political community.[169]

2. The Design of Treaties and Legal Instruments for Interspecies Rights

Developing treaties and legal instruments to formalize interspecies rights would be an integral part of establishing a legal framework that recognizes the rights of cetaceans and other communicative species. This would involve creating international agreements that bind signatory nations to uphold and protect the rights of these species. Such treaties would need to be comprehensive, addressing issues such as habitat protection, anti-poaching measures, and the impact of human activities on these species. The legal scholarship of Professors Patricia Birnie, Alan Boyle, and Catherine Redgwell provides a foundation for understanding the complexities of

167. *See* Steven M. Wise, *Legal Rights for Nonhuman Animals: The Case for Chimpanzees and Bonobos*, 2 ANIMAL L. REV. 179, 183–86 (1996).

168. *See generally* Teubner, *supra* note 45.

169. *See* DONALDSON & KYMLICKA, *supra* note 129, at 60–61.

international environmental treaties and their application to the protection of nonhuman species.[170]

X. THE FUTURE OF INTERSPECIES LEGAL RIGHTS AND HUMAN LEGAL SYSTEMS

A. Addressing the Challenges and Opportunities of Interspecies Communication

1. The Necessity for Legal Systems to Evolve with Scientific Advancements

The rapid progress in understanding interspecies communication, especially within cetacean species, necessitates an evolution in legal systems to accommodate these new insights. The integration of AI in deciphering cetacean communication adds a layer of complexity and potential to this evolution. This process involves not only recognizing the communication abilities of nonhuman entities, but also translating this recognition into meaningful legal rights and protections. The interplay between AI advancements and legal developments calls for a dynamic and responsive legal framework that can adapt to ongoing scientific discoveries and ethical considerations, as discussed in the works of scholars such as Professor Lawrence B. Solum.[171]

2. Strategies for Integrating Nonhuman Rights into Existing Legal Frameworks

The integration of nonhuman rights, particularly those of cetaceans, into existing legal frameworks presents both challenges and opportunities. It involves reimagining legal definitions and categories to include nonhuman entities with advanced communicative abilities. This process could involve creating new statutes, amending existing laws, and judicial interpretations that expand the scope of legal rights and protections to include cetaceans. The strategies for integration must be multifaceted, including legislative, judicial, and policy-based approaches, as explored in the legal writings of Sunstein.[172]

170. *See* PATRICIA W. BIRNIE, ALAN E. BOYLE & CATHERINE REDGWELL, INTERNATIONAL LAW AND THE ENVIRONMENT 744–52 (3d ed. 2009).

171. *See* Lawrence B. Solum, *Legal Personhood for Artificial Intelligences*, 70 N.C. L. REV. 1231, 1233–34 (1992).

172. *See* Sunstein, *supra* note 119, at 261.

B. The Broader Implications for Human Legal Principles and Norms

1. Challenging Anthropocentric Legal Systems to Accommodate Nonhuman Entities

The advancement of legal rights for cetaceans and other nonhuman entities represents a fundamental challenge to anthropocentric legal systems. It calls for a reassessment of legal principles and norms that have traditionally centered around human interests and perspectives. Embracing a more inclusive legal system that recognizes the rights of sentient nonhuman entities necessitates a shift in legal thought, moving toward a more ecocentric approach. This transition would reflect a growing recognition of the interconnectedness and interdependence of all life forms on Earth, echoing the environmental legal scholarship of scholars such as Stone.[173]

2. Reenvisioning Human Responsibilities and Ethical Standards in Light of Cetacean Rights

The recognition of cetacean rights brings into focus the need to reenvision human responsibilities and ethical standards toward the natural world. This shift would entail not just legal changes but also a broader cultural and ethical reawakening to the responsibilities that humans hold toward other life forms with whom they share the planet. The potential legal recognition of cetacean rights could serve as a catalyst for a deeper societal reflection on the human relationship with nature, promoting a more sustainable and respectful coexistence with the natural world. This transformative vision resonates with the ethical and legal arguments presented by scholars such as Nussbaum and Singer, who advocate for a more inclusive and compassionate approach toward all sentient beings.[174]

CONCLUSION

The exploration of cetacean communication, especially that of sperm whales, has revealed a complex and sophisticated linguistic ability and thus challenges our current understanding of nonhuman intelligence. This research, bolstered by advancements in AI, has profound implications for legal theory and practice. It opens up the possibility of redefining legal rights in a way that acknowledges and accommodates the communicative abilities of nonhuman entities. The potential legal recognition of cetaceans based on their ability to communicate complex ideas and emotions signifies a groundbreaking shift in the legal realm, moving from an anthropocentric to a more inclusive, ecocentric approach.

As scientific insights into cetacean communication deepen, they bring an urgency to address the corresponding legal and ethical considerations. The

173. *See* Stone, *supra* note 149, at 457–58, 500.
174. *See* Nussbaum, *supra* note 10, at 319; Singer, *supra* note 123, at xi.

recognition of cetaceans' sophisticated communication capabilities demands an immediate and thoughtful response from the legal community. This response entails considering cetaceans as potential holders of rights within the legal system, a notion that challenges traditional legal frameworks and necessitates innovative thinking and policy-making. The urgency is not only legal but also ethical, calling for a reassessment of our moral obligations toward nonhuman life forms.

The discoveries in cetacean communication and intelligence call for legal systems worldwide to adapt and evolve. This adaptation involves expanding the scope of legal recognition to include nonhuman entities that demonstrate complex communication abilities. It requires a paradigm shift in legal thought and practice, embracing a broader, more inclusive definition of legal personhood and rights. Such a shift would not only transform how the law interacts with nonhuman entities, but also redefine humanity's relationship with the natural world, fostering a legal and ethical framework that is more reflective of the diverse forms of intelligent life on our planet.

The journey toward recognizing cetacean rights represents a pivotal moment in humanity's evolving relationship with the natural world. It challenges us to reconsider the role of humanity in the broader ecological context and to redefine our legal and ethical frameworks in a way that respects and protects the intrinsic value of all forms of life. As we stand at this crossroads, the choices we make in responding to these new scientific revelations will significantly shape the legal and normative matrix for all beings on Earth, paving the way for a more harmonious and sustainable coexistence.