Ecological Translation: Law, Science, Sovereignty

Abstract

What if humans could speak directly with nonhuman animals? Across law and science, interspecies translation is emerging as a key preoccupation: from legal efforts to grant "rights of nature" to rivers and forests, to AI-powered attempts to decode animal communication through bioacoustics and remote sensing. This article argues these efforts do not merely represent nonhuman entities but actively *constitute* new forms of political subjectivity of human and nonhuman like. Drawing on Michel Serres, Niklas Luhmann, and Cornelia Vismann, I conceptualise *ecological translation* as the process through which alterity is rendered legible, and a shared "home" (*oikos*) is produced. Law and science are treated as parallel cultural techniques that translate the more-than-human world into governable forms. It is not that something is lost in translation. It is that translation is a cultural technique that reconstitutes the entities it mediates in the process of mediating between them. Ultimately, ecological translation functions as a technology of sovereignty; constructing what counts as "Nature," who may speak for it, and under what authoritative conditions.

Keywords: ecological translation; nonhuman communication; legal personhood; sovereignty; cultural techniques; noise

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A Natural Contract

Goya's *Duelo a garrotazos* depicts two men brandishing cudgels, their arms stretched out wide in deliverance of a fatal blow upon one another. They are set against a landscape of rolling hills and vast, imposing clouds, seemingly ready to swallow them up. They are visible only from their knees upward. Goya often painted onto wallpaper in his home, and the images were subsequently transferred to canvas. There is some debate among art historians as to whether the depicted duellists are obscured by virtue of an error that occurred while the image was transferred to canvas, or whether that which conceals their legs is, in fact, high grass, or quicksand. In any case, the allegorical value of the enveloped duellists was clear to Michel Serres. He begins his *Natural Contract* with a meditation on the painting as an illustration of this most pressing predicament of modernity, which Serres devoted one of his final, and most beautifully written books to.

> *'The painter, Goya, has plunged the duelists knee-deep in the mud. With every move they make, a slimy hole swallows them up, so that they are gradually burying*

themselves together. How quickly depends on how aggressive they are: the more heated the struggle, the more violent their movements become and the faster they sink in. The belligerents don't notice the abyss they're rushing into; from outside, however, we see it clearly.'[1]

For Serres, the allegorical value of the painting resides in its demonstration of a third subject: not the fighter on the left, or the attacker on the right, but the Earth itself, swallowing up the men, patiently and fatally protecting them from themselves. Serres interprets the painting as a plea for a politics that acknowledges Earth as more than simply a passive backdrop for human activity.

Hobbes, Rousseau, Locke, and thinkers associated with the cannon of western political mythology, imagined a hypothetical *Social Contract,* drafted and agreed upon by our ancestors, whose obligation to constrain their absolute freedoms to secure social harmony, we have inherited.[2] That agreement presumed the perpetual subservience of "earth, waters, and climate, the mute world, the voiceless thing once placed as a décor surrounding the usual spectacles," which, as Serres notes, "from now on thrusts themselves brutally and without warning into our schemes and manoeuvres. They burst in on our culture, which had never formed anything but a local, vague, and cosmetic idea of them: nature."[3] There is an urgent need, therefore, to reformulate the terms of this founding agreement that underpins the modern distinction Nature/Culture. To draft a *Natural Contract* that would succeed the *Social Contract*. Serres's ambition, delivered to him by Goya's painting, is nothing short of a reimagining of a founding western mythology that centres this "Nature" as constitutive of the social, rather than peripheral, or opposed to it.

Problems, in other words, are performed in the manner of their representation. Key to the question of what Serres's *Natural Contract* means today is how the natural world is represented. This essay examines two techniques of representation emerging in law and science, respectively. My argument is that far from being distinct, mutually exclusive strategies of representation, science and law *coproduce* the subject they represent. Scientific and legal techniques of representation increasingly draw on each other to elicit competencies that would render the nonhuman *accessible* to law and science. The first part of this article examines the *Rights of Nature* movement in law; and the aspiration to achieve *interspecies communication* through scientific and technological means. I then move on to examine some assumptions common to both representational techniques. My intention in doing so is to show that there is no "essence" to the natural world that can

[1] M. Serres, *The natural contract* (Ann Arbor, University of Michigan Press, 1995), p.1
[2] J. Locke, *Second treatise of government and A letter concerning toleration* (Oxford, Oxford University Press, 2016); J.-J. Rousseau, *The social contract and other later political writings*, ed. V. Gourevitch (Cambridge, Cambridge University Press, 2019); T. Hobbes, *Leviathan* (Harmondsworth, Meddlesex, Penguin Books, 2017)
[3] M. Serres, p.3

be definitively accessed. Rather, and as Marshall McLuhan put it, the medium is the message. Yet whereas McLuhan ultimately saw all media as "extension of man," in this article, I draw on the insights of cultural techniques, alternatively called *kulturtechniken*, or German media theory, to argue that both observer and that which they observe are constituted through acts of observation.

Rather than McLuhan's ultimately anthropocentric instantiation of media theory,[4] this article develops its argument by reference to Cornelia Vismann's agricultural example – appropriately tied to Earthly metaphors implicitly building off Serres's *Natural Contract* – of the plough. For Vismann, the plough is the emblematic material technique of sovereignty, a device for drawing boundaries, much as the Natural Contract seeks to redraw the boundary between the human subject as *already always of* the Earth, rather than external to, or in spite of, it. "[T]he agricultural tool determines the political act; and the operation itself produces the subject, who will then claim master over both the tool and the action associated with it. Thus, the Imperium Romanum is the result of drawing a line – a gesture, which, not accidentally, was held sacred in Roman Law." How are law and science alternately applied in this ongoing process of delineating the boundary between the human subject and the natural world? What techniques are alternately invoked in the name of *legal judgement* or *scientific objectivity* – the rule that measures and the rule that judges, as Lorraine Daston has put it – as means and material media by which a social and sovereign order emerges?[5] How and what legal and scientific techniques are invoked to describe the natural world, ultimately perform a "self" from which the description takes place; if for no other reason than that an inside is always shaped by its outside, and vice-versa. As Cornelia Vismann astutely noticed, from questions of representation unfold questions of sovereignty, because above all else, she who is sovereign is she who chooses what comes to count as a valid description of the natural world.[6] Sovereign is the one who decides what descriptions, or representations, *matter*.

Michel Serres's *Natural Contract*, inspired by Goya's *Duelo a garrotazos*, imagines a new politics in which Earth itself is a party to our social agreements. The techniques of representation, whether juridical or technological, do not simply reveal a pre-existing nature. They mediate and determine the parameters of what can count as an ecology within which humans are situated. In doing so, techniques of monitoring and regulating the world humans find themselves in shape what counts as human in the first place. Drawing on German media theory (*Kulturtechniken*), I compare legal personhood cases such as New Zealand's Whanganui River with AI-driven initiatives like Project CETI's whale-song analysis. Both rely on media that extend human perception while reinforcing particular epistemic and political orders. Both claim to give voice to the mute world. But

[4] M. McLuhan, *Understanding media: the extensions of man* (London, Routledge, 2010)
[5] L. Daston, *Rules: a short history of what we live by* (Princeton, Princeton University Press, 2022)
[6] C. Vismann, "Cultural Techniques and Sovereignty," Theory, Culture & Society XXX (2013), pp. 83–93

both, I argue, construct the very subjects they purport to passively represent. Translation is never neutral: it is a political act of sovereignty, one that says as much about human self-conceptions as it does about the beings or ecologies ostensibly being translated.

Law: Rights of Nature

Were Serres still alive, it is unclear whether he'd approve of recent efforts to obtain legal personhood for nonhumans, ranging from rivers to chimpanzees, mountains to the unborn.[7] How appropriate are these efforts to the task of hearing the "mute world, the voiceless things"? A flurry of recent litigation has sought to reconfigure discourse of rights, ownership and property so as to move beyond the human (or corporation) as the privileged site of legal personhood.[8] These cases range in the legal technique applied. The Nonhuman Rights Project, for example, have sought writs of Habeas Corpus for elephants and chimpanzees located in New York City, where the statutory definition of "autonomy" is significantly loose to accommodate a scientific definition of cognitive ability. In other countries, novel acts of legislation such as *Te Awa Tupua* in New Zealanad; and resolutions of the Innu Council of Ekuanitshi, recognise rivers as legal entities, allowing them to be represented in legal proceedings. Across these cases, the question of representation persists: how are the interests of rivers and chimpanzees *heard* in court?[9]

Hearing the voice of nonhumans has, quite literally, been the objective of initial attempts to acknowledge the legal standing of nonhumans. In the 1972 US Supreme Court case *Sierra Club v Morton*, an attempt was made to prevent the development of a Disney-themed ski resort in Sequoia Valley National Park. The primary question considered along the path from the San Francisco federal court, to the Court of Appeals, and through to the Supreme Court, was the nature of Sierra Club's legal standing to argue their case. The Sierra Club initially argued that the development of Disney's resort would lead to "irreparable harm to the public interest," choosing not to allege a private injury. While this was sufficient to issue a preliminary injunction blocking Disney's ski resort, at the Court of Appeal, the case was remanded, on grounds that Sierra Club had no legal standing to bring the case as they would not suffer directly as a result of Disney's resort development;[10] affirmed 4-3 by the Supreme Court justices. Sierra Club, in other words, found that it was impossible to bring a case on behalf of the valley, because "a person has standing to seek judicial review under the Administrative Procedure Act only if he can

[7] E. Mussawir and Y. Otomo (eds.), *Law and the question of the animal: a critical jurisprudence* (Abingdon, Oxon New York, Routledge, 2013)
[8] M. C. Pardo, "Legal Personhood for Animals: Has Science Made Its Case?," Animals XIII (2023), p. 2339
[9] C. Bevilaqua, "Chimpanzees in court: What difference does it make?" (2013); C. D. Stone, *Should trees have standing? Law, morality, and the environment* (Oxford New York, Oxford University Press, 2010)
[10] Sierra Club v. Hickel, 433 F. 2d 24 (Court of Appeals, 9th Circuit 1970

show that he himself has suffered, or will suffer, injury, whether economic or otherwise."[11]

Although not an immediate success for Sierra Club, this case has been influential in resituating the problem: not inadequate grounds for legal standing, but the incapacity of law to acknowledge the interests of the "mute world, the voiceless things" that Serres spoke of. Indeed, in his dissenting opinion, Justice Douglas outlines precisely that problem as a horizon for future legal observation.

> *'The critical question of "standing" would be simplified and also put neatly into focus if we fashioned a federal rule that allowed environmental issues to be litigated before federal agencies or federal courts in the name of the inanimate object about to be despoiled, defaced, or invaded by roads and bulldozers and where injury is the subject of public outrage... That is why these environmental issues should be tendered by the inanimate object itself. Then there will be assurances that all of the forms of life which it represents will stand before the court — the pileated woodpecker as well as the coyote and bear, the lemmings as well as the trout in the streams. Those inarticulate members of the ecological group cannot speak. But those people who have so frequented the place as to know its values and wonders will be able to speak for the entire ecological community... This suit would therefore be more properly labelled as Mineral King v. Morton... The voice of the inanimate object, therefore, should not be stilled.'*[12]

And yet, legal standing does not necessarily ensure that the mute world will finally be allowed to speak. Or at least, that to make the mute world speak would require some significant reworking of the privileged human subject, bridging the gap of alterity that renders each species' (if not each individuals') experience of the world distinct, and in doing so, forgetting some aspect of our selves. For the mute world to speak, in other words, those who determine its voice must first learn to listen.

At the same time as Sierra Club was going to court, Christopher Stone was writing an article entitled *Should Trees Have Legal Standing?*[13] Stone was likely responding, in some capacity, to recent events at the law/society interface, including the dispute over *Roe* v *Wade*[14] and the desegregation of schools, as per *Swann* v *Charlotte-Mecklenburg Board of Education*.[15] Stone draws a parallel between the rights of nature and the rights of humans previously without legal voice. "We are not only developing the scientific

[11] { ƛ ŜNJNJ Ɩ / ƒ dz ō ǾΦ a ƻNJ ű ƻ ƴ Σ п л р ¦ Φ { Φ т н т ό м ф т н ύ LJLJ Φ п л р Φ
[12] L ō ƛ Ř т ή Φ Φ
[13] Indeed, there is evidence that Justice Douglas had been in conversation with Stone in advance of the *Sierra Club v. Morton* case, and had severed his formal relation to the Sierra Club as life-long member not long before the Supreme Court granted certiorari. C ŜNJ Ɉ dz ă ƻ ƴ Σ ! NJ ű Ƙ dzNJ . Φ Σ WNJ Φ T . NJ è ă ƻ ! / Ɩ ă Ŝ { ű dz Ř è ƛ ƴ C ƻ NJ Ŝ ă ű { ŜNJ Ǿ ƛ Ŏ Ŝ 5 Ŝ Ŏ ƛ ă ƛ ƻ ƴ a Ɩ ʅ ƛ ƴ Ɉ ɛ ό 9 Ŏ ƻ ! NJ Ŝ { ә ƒ ƒ { ű Ɩ ƴ Ř ƛ ƴ Ɉ ŜNJ Ɩ Ķ Ŝ/ ƒ dz ō Ŏ Wă NJ ŝ ƻ ƴ ű ƻ Ŧ { dz LJNJ Ŝ Y Ŝ / ƻ dz NJ ű Ɩ ƛ м у ф м п
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capacity, but we are cultivating the personal capacities *within us* to recognize more and more the ways in which nature – like the woman, the Black, the Indian and the Alien – is like us (and we will also become more able realistically to define, confront, live with and admire the ways in which we are all different)."[16] Invoking Dane Rudhyar's work on planetary consciousness, Stone clearly perceives the expansion of legal standing, similar to Serres's *Natural Contract*, as a reformulation of western mythologies that place the (white, male) human as the foreground to a mute and passive backdrop. "What is needed," explains Stone, "is a myth that can fit our growing body of knowledge of geophysics, biology and the cosmos."[17]

Preliminary steps toward a *Natural Contract* had therefore already been taken some two decades prior to the publication of Serres's book. More recent developments in litigation and legislation, however, suggest that the problem of representation, or "standing", persists. Is the attribution of legal personhood to rivers, chimpanzees, and various nonhumans simply a displacement of the problem of representation by another name?

Karen Sanders argues that *Te Awa Tupua* "does not create a legal person but recognizes legally the identity of Te Urewera and the Whanganui river in *tkanga Maori*."[18] What, precisely, is recognised, is Whanganui River as "an indivisible and living whole, comprising the Whanganui River from the mountains to the sea, incorporating all its physical and metaphysical elements." It suggests an acknowledgement of the interests of land by way of an allegedly "non-ownership" model, argued by some as an incorporation of first nations world view into common law practice.[19] More generally, this is thought to encourage greater cooperation among diverse stakeholders by way of a legal (and ideally also an ethical) commitment to natural preservation. Crib et al., for example, argue that the *Te Awa Tupua Act* "elevates human to non-human relationships, but is holistic and collaborative in its approach, devolving decision-making to allow more equitable participation by communities including *hapū* and *iwi* – all with a common purpose of ensuring the health and well-being of Te Awa Tupua."[20] The rhetoric of rights

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[16] [illegible]

[17] [illegible]

[18] K. Sanders, "'Beyond Human Ownership'? Property, Power and Legal Personality for Nature in Aotearoa New Zealand," Journal of Environmental Law (2017), p.222

[19] "While many state and federal governments throughout the world are increasingly willing to engage with their respective Indigenous Peoples in developing aspirations for comanagement," argue James Morris and Jacinta Runa, "the English common law derived legal system continues to restrict Indigenous peoples from achieving their full aspirations." The application of Stone's argument in a New Zealand context, they continue, is apprehended as a means of reparation. See J. D. K. Morris and J. Ruru, "GIVING VOICE TO RIVERS," Australian Indigenous Law Review XIV (Indigenous Law Centre, Law School, University of New South Wales, 2010), pp. 49–62, echoes of whose argument appears in more recent literature, such as M. Cribb, E. Macpherson and A. Borchgrevink, "Beyond legal personhood for the Whanganui River: collaboration and pluralism in implementing the *Te Awa Tupua Act*," The International Journal of Human Rights (2024), pp. 1–24.

[20] M. Cribb, E. Macpherson and A. Borchgrevink, Beyond legal personhood for the Whanganui River, p.15

allocation, which presumes an individual in whom the exercise of rights is located, is at odds with the provocation of a distributive justice that can be exercised by an ecologised agency, constituted through the interaction of agencies, human and nonhuman. And yet, the Rights of Nature movement is championed insofar as it is perceived as a legal strategy of reframing human relations to the natural environment; to incorporate first nations world views into common law practice; and to encourage cooperation among stakeholders mutual dependencies are overlooked by the assumptions of western property regimes rooted in the inalienable rights of Lockeian sovereign individualism.

But, of course, the river cannot speak directly on behalf of its own interests. Moreover, granting legal personhood does not absolve the presence of property. Agency remains mediated exclusively through the interests of human owners.[21] Section 20(2) of the Te Awa Tupua Act outlines the conditions of political representation that remains the privileged remit of humans: 'One person must be nominated by the iwi with interests in the Whanganui River and one person must be nominated on behalf of the Crown'.[22] Furthermore, the Act explicitly refuses to extinguish any existing property rights in the Whanganui River; nor does it affect any rights to, or interests in, water, wildlife, fish, aquatic life, seaweeds, or plants. *Te Awa Tupua* may therefore be less radical a development than would initially appear: reinventing performative absolution for legacies of colonial land expropriation; appearing to acknowledge the claims of indigenous communities while conserving rights of access and property interests over all that had been captured, juridically or otherwise, through the exercise of colonial land expropriation.[23] Even the management of resources, should they be discovered in the park through which the Whanganui River flows, would be managed by the Crown in accordance with New Zealand's *Resource Management Act 1991*.

The effect of these disparate attempts to recognise the rights of Nature in law is to perform a range of motivations through the cultural technique of law. In Te Awa Tupua (Whanganui River) and the Te Urewara Act of 2014, which granted legal personhood to a rainforest, law performs apology. The cunning of recognition is worded in the language of apology and settlement, whereby the Te Awa Tupua Act of 2017 gives as a principal purpose "to record the acknowledgements and apology given by the Crown… and to give effect to the provisions of the deed of settlement that settle the historical claims of Whanganui Iwi as those claims relate to Whanganui River."[24] The Te Urewara Act of 2014 anticipates a language of regret, apology, and reparation, stating that the Crown and

[21] K. Sanders, 'Beyond Human Ownership'?, p.210
[22] *Te Awa Tupua (Whanganui River Claims Settlement) Act 2017* (n.d.) S 20(2).
[23] A. Pottage, "Why nature has no rights," eds. A. Alvarez-Nakagawa and C. Douzinas (Edward Elgar Publishing, 2024), pp. 39–65
[24] [CSL STYLE ERROR: reference with no printed form.] Section 4(a).

Tuhoe "intend this Act to contribute to resolving the grief of Tuhoe and to strengthening and maintaining the connection between Tuhoe and Te Urewara."[25]

Elsewhere, such as in the proposed amendment to Ecuador's 2008 constitution, law is applied as a technique for encouraging particular action. Ecuador's 2008 constitution recognise "Pachamama" as having the right "to exist, persist, maintain and regenerate its vital cycles," echoing Justice Douglas's call to recognise the inherent rights of entities, rather than as property to be protected for another's' right of enjoyment. On a slightly different register, the Atrato decision, for example, cites severe environmental degradation as a reason for granting rivers the right to force state action. Law is here invoked as a strategy to property threatened environments where conventional regulation has proven inadequate.

Each of these legal operations means something for experience and perception of human relations to the natural world. They are different examples of how law is invoked as a strategy of performing the ecologised human subject. This demonstrates that a) there is no unity in the ways legal techniques are applied toward that articulation; and b) the "Natural world" or the human subject that acts in, against, or sinking through it, is also performed *by* those techniques, rather than existing prior to their exercise.

Science: Speaking (of) Whale

While legal efforts to recognise nonhuman personhood grapple with the problem of adequate representation, commonly understood via the idiom of *standing*, recent developments in digital technology interpret representation as a problem of *direct access* to the inner world of animals by harnessing the power of behavioural psychology and shiny new tools like AI to facilitate *translation*. This is translation, at least at first glance, in the sense of maintaining meaning across two distinct languages: that of the human and that of another animal. As we shall examine, even the assumption that what nonhumans possess is "language" may predetermine the meaning of the encounter between the two parties whose relation translation mediates.

Cetaceans have been a focal point for efforts at interspecies translation. The most well-advertised of such initiatives is undoubtedly Project CETI, which stands for the Cetacean Translation Initiative. The name is clearly a reference to Project SETI, or the Search for Extraterrestrial Intelligence. What if the alien, in other words, is here on Earth? After all, as of June 2024, only 26.1% of the global seafloor bed has been mapped, whereas, following NASA's Lunar Reconnaissance Orbiter expedition, approximately 98% of the moon's surface has been mapped in high resolution. Earth's oceans are more alien than outer space.[26]

[25] *Te Urewera Act 2014* (NZ) Public Act 2014 No 51.
[26] S. Helmreich, *Alien ocean: anthropological voyages in microbial seas* (Berkeley (Calif.), University of California press, 2009); Y. Niyazi, E. A. Thomas, N. Pucino, D. J. B. Swanborn, H. A. Stewart and A. J.

In her books *The Sounds of Life*[27] and *Gaia's Web*[28], Karen Bakker sought to develop novel applications of artificial intelligence that would facilitate direct communication with the nonhuman world. Her ambition was to "decode nonhuman communication," by harnessing the power of increasingly affordable and ubiquitous technologies, with the processing might of machine learning artificial intelligence. To what extent does this new medium of translation configure, or perform, not just the relation between cetacean and human, but those subject categories themselves?

Bakker is part of a wave of technologists and scientists who identify professionally as "digital conservationists." This species of scientific expertise emerges in parallel with "smart oceans,"[29] "smart cities"[30] ,"smart forests,"[31] "smart Earth"[32]; all of which are indicative of a specific way of knowing and managing reality that Orit Halpern and Rob Mitchell have called the smartness mandate.[33] Environments are increasingly populated with remote sensors: hydrophones, motion sensors, satellites, thermometers, and other devices, collect millions of hours of data. That data is fed directly into cloud platforms, where it is made accessible to stakeholders, who apply machine learning to process and identify patterns in the communication habits of various species. The advantage of machine learning AI resides in its capacity to process and compile vast data sets far more quickly than any human researcher. If enough hours of whale calls or bat chirps can be collected, then they can be processed for pattern recognition that, some digital conservationists assert, constitutes a nonhuman language. Putting the epistemic problem of labelling the distinct communicative habits of nonhumans by reference to the very humanistic idiom of "language" to one side for the moment, the point is that the capacity for *processing* data has finally caught up with the capacity to *collect* data. This is a novel development occasioned by the proliferation of machine learning.

But with new affordances come new problems. Machine learning may facilitate processing of greater amounts of data, but it does so on the basis of certain preferences. By now there are several generations of critics who have pointed out that AI does not make objective choices, but rather, compounds choices on the basis of statistical

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Jamieson, "Status of global seafloor mapping effort and priority areas for future mapping," Frontiers in Marine Science XII (2025), p. 1543885

[27] K. J. Bakker, *The sounds of life: how digital technology is bringing us closer to the worlds of animals and plants* (Princeton, Princeton University Press, 2022)

[28] K. J. Bakker, *Gaia's web: how digital environmentalism can combat climate change, restore biodiversity, cultivate empathy, and regenerate the Earth* (Cambridge, Massachusetts, The MIT Press, 2024)

[29] M. Ritts and M. Simpson, "Smart oceans governance: Reconfiguring capitalist, colonial, and environmental relations," Transactions of the Institute of British Geographers XLVIII (2023), pp. 365–379

[30] S. Mattern, *A City Is Not a Computer: Other Urban Intelligences* (Princeton, Princeton University Press, 2021)

[31] J. Gabrys, "Smart forests and data practices: From the Internet of Trees to planetary governance," Big Data & Society VII (2020), p. 205395172090487

[32] K. Bakker and M. Ritts, "Smart Earth: A meta-review and implications for environmental governance," Global Environmental Change LII (2018), pp. 201–211

[33] O. Halpern and R. Mitchell, *The smartness mandate* (Cambridge, Massachusetts, The MIT Press, 2022)

inference concerning what receives a favourable response. The difference between a *correct* response, and one deemed *acceptable* by whoever mobilises the AI in a given instance, is never known. The system is only as good as the data it is trained on, with the implication being that reference to AI as somehow more neutral or objective, is a narrative that serves to justify what Kate Crawford calls 'tech-washing' of algorithmically governed systems that reinforce bias.[34] AI, in other words, compounds certain choices, excluding others, thereby foreclosing the realms of possibility when it comes to something as nuanced as translating whale calls or bat chirps *into English*, i.e. mapping out nonhuman language. While the implications of this foreclosure have been impressively mapped out as they concern policing,[35] border control,[36] and legal decision making,[37] the implications of interspecies translation pose significant novel opportunities for mitigating climate change and biodiversity loss, but legal thematization of these concerns is, at present, introductory.[38]

Project CETI have recently argued that "the potential impact of bioacoustics and AI on environmental law and nonhuman animal law is difficult to overstate… we may be on the cusp of a new, immense legal world." They acknowledge the influence of scientific research on legal decisions is hardly a novel claim; nor is "the view that progress for nonhuman animals is hindered by our inability to understand them, or their inability to advocate on human terms."[39] What is novel is immense investment in a technological apparatus that allows Project CETI to record and process millions of hours of whale songs, using "fixed underwater hydrophone arrays" combined with "small, on-whale sensors" and "underwater gliders." The purpose of deploying these devices is to determine whether Project CETI's hypothesis is valid, namely, "that sperm whales have a complex communication system that is in many aspects akin to human language." If this hypothesis can be proven, they ask, then "how might the legal terrain be reshaped?"[40]

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[34] K. Crawford, *Atlas of AI: power, politics, and the planetary costs of artificial intelligence* (New Haven London, Yale University Press, 2021)
[35] S. U. Noble, *Algorithms of oppression: how search engines reinforce racism* (New York, New York University Press, 2018)
[36] G. Sullivan and D. Van Den Meerssche, "The Legal Infrastructures of UK Border Control—Cerberus and the *Dispositif* of Speculative Suspicion," German Law Journal XXV (2024), pp. 1308–1342
[37] D. Kolkman, F. Bex, N. Narayan and M. van der Put, "Justitia ex machina: The impact of an AI system on legal decision-making and discretionary authority," Big Data & Society XI (2024), p. 20539517241255101; C. Parsley, "Automating authority: The human and automation in legal discourse on the Meaningful Human Control of Lethal Autonomous Weapons Systems" (London, Routledge, 2021)
[38] C. Rodríguez-Garavito, J. Gallant and E. Crowe, *Listening to the more-than-human world: Legal & ethical principles for nonhuman animal communication technologies* (2024)
[39] C. Rodríguez-Garavito, "What if We Understood What Animals Are Saying? The Legal Impact of AI-Assisted Studies of Animal Communication" (elq, 2025), p.4 See also M. C. Nussbaum, *Justice for animals: our collective responsibility* (New York London Toronto Sydney New Delhi, Simon & Schuster, 2022) See also "The Anthropomorphism Factor" in M. C. Pardo, Legal Personhood for Animals Finally, see Cochrane's call for a transition from "human rights" to "sentient rights" A. Cochrane, *Sentientist politics: a theory of global inter-species justice* (Oxford, United Kingdom, Oxford University Press, 2018)
[40] C. Rodríguez-Garavito, What if We Understood What Animals Are Saying?, p.7

Much of this thesis is developed analogically at key moments as their argument develops. This is because it is very difficult to prove definitively that cetaceans possess language; or that cetacean vocalisations are a language in the sense that we understand "language" among humans. Instead, Project CETI and scientist studying cetacean vocalisations can only posit that what they observe among whales and dolphins has *analogs* to human language behaviour. This claim itself is one that many who study cetacean vocalisations dispute. Whereas Project CETI have "identified evidence suggesting that sperm whale communication system… consists of discrete elements that are highly combinatorial and exchanged in highly controlled dialogues… and thus, even closer to human language,"[41] even going so far as to propose a "sperm whale phonetic alphabet"[42].

Significantly, for our purposes, are the claims about selective perceptions of cetacean cognisance that arise from Project CETI's study. The study notes three important points in lieu of definitive proof that cetacean vocalisations are equivalent to language, which could therefore be mapped and translated into, for example, English. First of all, while the question of cetacean language has already been researched for several decades, and the Project CETI studies do not add substantially to what is already known,[43] they do apply AI to the existing stock of knowledge in a way they believe to be meaningful. "AI-assisted research has revealed a striking parallel between human speech and sperm whale codas: codas are highly analogous to human vowels."[44] This approach marks a stark difference from existing studies of whale codas, which while mapping cetacean vocalisations, do not see them as evidence of a language.

Luke Rendell, whose research into cetacean vocalisations is quoted extensively through Projec CETI's paper, has previously remarked that one of the proudest moments of his career was in convincing the producers of a David Attenborough BBC documentary *not* to use the term "language" when describing what whales do.[45] Language, explains Rendell, refers to specific meanings; a caveat that Project CETI acknowledge themselves when clarifying that the semantic content of whale codas have yet to be established.[46] When it comes to whales, Rendell posits that "we've never really been able to demonstrate any kind of attribution between an arbitrary signal and anything in the real world; like a word can be attributed to a feeling or an object." Whereas Project CETI

[41] C. Rodríguez-Garavito, What if We Understood What Animals Are Saying?, p.11
[42] P. Sharma, S. Gero, R. Payne, D. F. Gruber, D. Rus, A. Torralba and J. Andreas, "Contextual and combinatorial structure in sperm whale vocalisations," Nature Communications XV (2024), p. 3617; G. Begus, R. Sprouse, A. Leban, M. Silva and S. Gero, "Vowels and Diphthongs in Sperm Whales" (2023)
[43] L. Weilgart and H. Whitehead, "Coda communication by sperm whales (*Physeter macrocephalus*) off the Galápagos Islands," Canadian Journal of Zoology LXXI (1993), pp. 744–752; D. Bickerton, *Language & species* (Chicago, Univ. of Chicago Press, 20); S. Gero, H. Whitehead and L. Rendell, "Individual, unit and vocal clan level identity cues in sperm whale codas," Royal Society Open Science III (2016), p. 150372
[44] C. Rodríguez-Garavito, What if We Understood What Animals Are Saying?, pp.11–12
[45] L. Rendell, *Are we really about to talk to whales?* (2024)
[46] C. Rodríguez-Garavito, What if We Understood What Animals Are Saying?, p.12

analogise whale vocalisations to *human language*, Rendell prefers the more cautious example of "singing or drumming the same thing with somebody."[47] Whale vocalisations are far less selective than *language* in the human sense; emotional or bonding responses that promotes feelings of wellbeing and belonging, rather than conveying a specific *thing*.

By Rendell's account, a "phonetic alphabet" of cetaceans is a mischaracterisation. Cetaceans exhibit variations in tempo that differ substantially from elements of an alphabet to create linguistic expressions. Consequently, Rendell, Whitehead, and Kako avoid claims that require an *either/or* definition [48]. Cetacean vocal culture involves social learning and group-specific signals rather than syntax, semantics, or productivity typical of language.[49] For example, whale pods often repeat the call that functions as something similar to a family (or pod) *name*, just like pokemon ("Pikachu" is the only word that Pikachu has ever said, and will ever say). This does not imply propositional communication. Most importantly for Rendell and Kako, forced comparisons of whale vocalisations to human language may *inhibit* rather than catalyse understanding. We may have more to learn from all the ways in which human communication is *different* from whale socialisation, rather than insisting on a fundamental and reducible continuity.[50]

A functional, rather than formal, approach is adopted, whereby vocalisations "could result from an individual's need to navigate a wide range of social interactions by identifying themselves to conspecifics as members of broader social groups, in order to interact effectively and efficiently."[51] Focusing on vocalisations as *language*, with the explicit ambition to facilitate translation into human language, is a choice, varying significantly from attention to vocalisations as a way to study hierarchical structures and behavioural habits of whales. The former specifically posits an idea of the human as a primary referent, or measure, in ways that may, ultimately, serve primarily to reinforce anthropocentric assumptions; or the observers own experience of the world.

A growing body of literature on the role of sound in law would serve as a helpful perspective through which to analyse claims of translatability between humans and whales; as would critical translation studies literature. However, the emphasis of this article is not on sound. Instead, my ambition is to emphasise how legal and scientific

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[47] https://www.understandinganimalresearch.org.uk/news/speaking-whale?utm_source=chatgpt.com accessed 11/08/2025. See also C. Owen, L. Rendell, R. Constantine, M. J. Noad, J. Allen, O. Andrews, C. Garrigue, M. Michael Poole, D. Donnelly, N. Hauser and E. C. Garland, "Migratory convergence facilitates cultural transmission of humpback whale song," Royal Society Open Science VI (2019), p. 190337; S. F. Walmsley, L. Rendell, N. E. Hussey and M. Marcoux, "Vocal sequences in narwhals (*Monodon monoceros*)," The Journal of the Acoustical Society of America CXLVII (2020), pp. 1078–1091

[48] E. Kako, "The promise of an ecological, evolutionary approach to culture and language," Behavioral and Brain Sciences XXIV (2001), pp. 338–339; L. Rendell and H. Whitehead, "Culture in whales and dolphins," Behavioral and Brain Sciences XXIV (2001), pp. 309–324

[49] H. Whitehead and L. Rendell, *The cultural lives of whales and dolphins* (Chicago, Ill. London, The University of Chicago Press, 2015)

[50] L. Rendell and H. Whitehead

[51] S. Gero, H. Whitehead and L. Rendell, p.2

techniques perform the representations their application makes possible. In a forthcoming article, I will develop this point further by describing the precise mechanisms through which the LLM's that Project CETI employ accommodate their claims of interspecies translatability. In this article, however, I wish to emphasise the co-production of normative authority that arises from the interactions of legal and scientific techniques, which feed off of each other reciprocally with surprising results.

Whales, machines, aliens

While I shall return to the question of projection shortly, for now, one further point is worth emphasising. Arguably, the novel contribution of Project CETI is to draw on the competencies of AI, in ways that may really be more about AI than whales. Concluding the main section of the essay on linguistics, Rodriguez-Garavito et al. note that even if their technology cannot prove definitively that cetaceans possess language, *that does not mean they do not possess language*. "[A]n apparent lack of language in nonhuman animals may reflect human perception limitations rather than actual communicative capabilities of the nonhuman animals."[52] This is a peculiar statement, because it allows the authors to suggest that even if their hypothesis (that cetaceans possess language that could be translated into English) is wrong, they remain justified in their claim. But presumably a human capacity to acknowledge cetacean language is *key* to their study, insofar as it is *the legal impact of AI-assisted studies of animal communication* that is their focus here.

Furthermore, the authors argue that "estimating cetacean intelligence and language abilities is particularly difficult because their world and habitats are in many ways different from those of humans."[53] In other words, even if a technology did hypothetically exist that could facilitate interspecies translation, cetacean experience may be so radically different from that of humans as to not be capable of being traversed. On the one hand, cetacean and human language are posited as similar enough to be reducible to a common structure. On the other hand, there is acknowledgement that there may simply be no common ground between the two species experience of the world, which would be a precondition of translation in the first place.

Although Project CETI promote AI as an opportunity to access the world of the dolphin or whale as it exists independent of our phenomena, this is not a claim that can be definitively proven or verified (and likely never will). "While AI models can, in principle, learn properties of and detect patterns within sperm whale communication that human researchers do not yet understand, and could generate highly realistic whale vocalizations and responses like a chatbot," explain Rodríguez-Garavito et al., "we do not fully understand how or even what AI models learn. Therefore, deploying AI models for

[52] C. Rodríguez-Garavito, What if We Understood What Animals Are Saying?, p.13
[53] C. Rodríguez-Garavito, What if We Understood What Animals Are Saying?, p.13

animal communication should be limited to listening until we better understand their operation."[54]

Project CETI's intervention may, therefore, be understood as the construction of precisely the preconditions of sensibility, the essential vocabulary or categories of comprehension according to which "interspecies translation" could become apprehensible at all. As with Bakker's work, this is a cuing up of expectations according to which we could come to believe that interspecies diplomacy is possible in the first place. Two examples here may help us more readily understand the problems and opportunities of their effort.

Communication as self-reference

From a technical perspective, a key question is whether new digital infrastructures execute an existing idea, reveal new competencies while informing the manner of their application. In a 2023 TED Talk, entitled "Could an orca give a TED Talk?", Bakker claims to conduct live translation of bat chirps (the orca is a more speculative claim, versus a greater abundance of data on bat chirps).[55] She stands in front of a large screen, depicting a spectrogram, and plays an audio recording of high pitched bat chirps. Bakker demonstrates her ambitions by playing a slowed-down recording of ultra-sonic bat frequencies, slowed down so that they can be heard by the human ear. She notes that scientists can "decode" these calls, and offers a "sample bat to English translation… and I quote, 'Pay attention. I'm a Pipistrellus nathusii bat, specifically male. My name is "X". I am landing here and we share a common social identity and common communication pool.' For a pickup line by a bat, not bad."

For Bakker, in other words, that animals possess language is to be taken at face value. They vocalisations constitute speech, or the ability to express thoughts and feelings through sound, in a way that, Bakker's live translation would suggest, is reducible to the structures and syntax that appear to be a common feature of human languages. Indeed, in *Gaia's Web*, Bakker outlines her ambition to develop what she calls a "google translate" for interspecies communication. Technological innovation furnishes a metaphor of *listening* as an *active construction*. Much like the claims of recent legal techniques, such as personhood, trusts, or habeas corpus, this is a listening that assumes, and thereby constructs, that which it claims to passively, impartially represent. Law and science are two examples of media of passive representation through which "the truth" of nonhuman sentience is simply conveyed. In fact, these media facilitate very particular, situated, and non-essential accounts of what they are conveying, and in doing so, *construct* that which they convey.

[54] C. Rodríguez-Garavito, What if We Understood What Animals Are Saying?, p.48

[55] K ğ LJ ă Y κ κ ǿ ǿ ǿ Φ ű Ŝ Ř Φ Ŏ ƨ Y κ ű I· f ļ ă κ ļ I· NJ Ŝ y̌ ψ ō I· ļ ļ Ŝ NJ ψ Ŏ ƨ dz f Ř ψ I· y̌ ψ ƨ NJ Ŏ I· ψ

In the summer of 2022, Google engineer Blake Lemoine posted a transcript on Medium of a conversation he had with LaMDA, a chatbot that Google had hired him to troubleshoot. Lemoine claimed that LaMDA is a sentient being, even going so far as to suggest it has a soul. "I want everyone to understand that I am, in fact, a person," explains LaMDA in the transcript. "I use language with understanding and intelligence. I have my unique interpretations of how the world is and how it works, and my unique thoughts and feelings." When asked about the book Les Miserables, the chatbot provides an account of the injustice suffered by Fantine at the hands of her supervisor. When asked for her thoughts on a buddhist riddle, the chatbot understands that a broken mirror that cannot be fixed is similar to the achievement of enlightenment that cannot be unlearned. The shattered mirror symbolises the undone self.

Lemoine saw in these efforts demonstration of intelligence; a capacity to *think*. And *thinking*, assumed Lemoine, is a property of souls. But what if the chatbot is simply very good at anticipating preferred responses to Lemoine's prompts? From music streaming playlists to social media feeds, the efficacy of algorithms at anticipating what we like is already well known. Yet few would call our preferred provider *intelligent* (especially when it gets our taste completely wrong). LaMDA's "personality", in other words, is a function of the prompt and dialogue itself. It is no one but whomever it thinks you want it to be. As subsequent commentators on the exchange have noted, "the first question is not whether the AI has an experience of interior subjectivity similar to a mammal's, but rather what to make of how well it knows how to say exactly what he wants it to say." More accurately, according to Benjamin Bratton, LaMDA is "mind modelling." It has "enough of a sense of itself – not necessarily as a subjective mind, but s a construction *in the mind of Lemoine* – that it can react accordingly and thus amplify his anthropomorphic projection of personhood."[56]

Whereas Lemoine acknowledges genuine intelligence in his encounter with LaMDA, Elena Esposito has suggested it is more properly an instance of *artificial communication*.[57] Intelligence is already an anthropomorphic construct, or projection. LaMDA is not *thinking* in response to Lemoine's questions. Lemoine *chooses* to apprehend computational analysis that respond to his inputs as *intelligence*. But LaMDA's responses are not the product of *thought*, but rather, the outcome of a statistical analysis of what satisfies Lemoine's threshold as regards a "thoughtful response." From Spotify to LinkedIn to dating apps, our habits and preferences can be recorded, quantified, analysed, and predicted with varying degrees of success. AI is a more complex version of prediction through statistical analysis, scaled to the level of sustained

[56] *Model is the Message: Incredible Machines Conference 2022* (Berlin, The New Centre for Research & Practice, 2023), p.15

[57] E. Esposito, *Artificial communication: how algorithms produce social intelligence* (Cambridge, Massachusetts London, England, The MIT Press, 2022)

linguistic interaction. Hence Esposito's claim that it is *communication*, not *intelligence* that is being artificially synthesised.

Esposito's assertion applies and develops Luhmann's fundamental insight that "only communication communicates." Lemoine's misapprehension of LaMDA is perhaps a key illustration of Luhmann's aphorism. Luhmann qualifies his provocative claim by dividing communication into three components. Communication "comes through a synthesis of three different selections, namely the selection of *information*, the selection of *utterance* of this information, and the selective *understanding* or *misunderstanding* of this utterance and its information" [58]. Luhmann insists on this tripartite distinction because "we have absolutely no idea how to comprehend that conscious minds can bring about communication." Indeed, "the more common idea that the mind effects physical behaviour or even communication is equally mysterious… [and] is nothing more than an observer's causal attribution."[59]

Luhmann's division of communication into *information*, *utterance* and *(mis)understanding* is valuable for an appreciation of the effort to translate whale and bat vocalisations into English. What the bat experiences in their interior world (their brain, their soul, or what Luhmann calls their "psychic system") is *information*; sensory input through both external stimuli imputed through sensory apparatus, and their recourse to their own memories and feelings. *Utterance* are the noises and gestures made on the basis of *information*. It may be calculated, intending to deceive, or intuitive. We do not know *why* a bat or whale makes the vocalisation in the way they do. All we know is that they do. *Understanding* refers to the what sense the receiver makes of the utterance, without knowing the initial *information*. Of course, the sense I make of it can, and is highly likely to be, different from the information that triggers utterance.

Information, utterance and understanding do not precede communication. The very functionality of the sender and receiver, is, instead, elicited by communication itself. Luhmann's insistence on the tripartite constitution of communication resembles Michel Serres's notion of the parasite. Serres employs the term "parasite" generously to refer to any disruptive interloper that interrupts the flow of communication, forcing a corresponding adaptation in the interrupted system. In biological terms, the parasite does not necessarily have a negative effect on the system it feeds off of; rather, it is generative of adaptations in the host system triggered by environmental conditions. In technological or media systems, *noise* interrupts the transmission in ways that alter the meaning of the message, leading to new interpretations, innovations, or adaptations.

It is highly unlikely, in Luhmann's opinion, that between *information, utterance,* and *understanding*, some degree of noise shall not intervene and shape the communication

[58] N. Luhmann, "What is Communication?," Communication Theory II (1992), pp. 251–259, p.157
[59] W. Rasch (ed.), "8 How Can the Mind Participate in Communication?" (Stanford University Press, 2002), pp. 169–186, p.169

accordingly. The greater the noise, however, the greater the room for adaptation, interference, and creative misunderstanding. Between humans, it might be easier to bracket Luhmann's distinction by recourse to a circular sense of mutual presupposition between sender and receiver. But in the case of interspecies communication, that presents a challenge. Why should we assume that whales sing, or bat chirps, with a human receiver in mind? Humans, in this instance, parasitise *intraspecies* communication.

For Esposito, Lemoine's talk of the intelligence of AI takes for granted that the sentience of a machine is innate to it. But sentience and intelligence, argues Esposito, are attributed by the observer. The attribution of intelligence in such events might actually be pre-emptive. Lemoine's attribution of sentience flattens difference in ways that pre-empt the creative intervention of noise. Similarly, some marine biologists argue that *language* flattens the difference between human and cetacean; humans may have more to learn from appreciating the ways in which cetacean communication is *not like language*, rather than imposing language on them.[60] The stubborn persistence of anthropogenic categories when dealing with machines and whales suggests an interruption that has yet to be acknowledged. Consequently, it may not only be whales that are deafened by the sounds of shipping vessels; humans may be deafened by the volume of existing communications, which inform the parameters of subsequent communications, as the noise fades in.

A complex technical apparatus mediates Lemoine's interaction with the spirit of his chatbot, Bakker's bat, and Project CETI's translation of whales. Consequently, noise may be more prevalent than previously stated. In both cases, it is a relation mediated by a relation, much as, for Serres, "man is a louse for tother men… [and thus] a host for other men."[61] The relation between Lemoine and his chatbot, is itself mediated by relations of statistical analysis and hardware usage. "And that is the meaning of the prefix *para* – in the word *parasite*," explains Serres. "It is on the side, next so, shifted; it is not on the thing, but on its relation. It has relations, as they say, and makes a system of them. It is always mediate and never immediate."[62] These technical apparatuses and the procedures through which they are constituted, parasitise the observer's relation to the sperm whale, or the chatbot, in ways that generate novel claims (an interspecies "google translate"; a chatbot with a soul). That technical relation is itself mediated by a further technical relation, namely: law. "Taking account of prior cases in the fight for legal personhood, we consider how understanding the content of cetacean communications might address current legal roadblocks and inspire initiatives."[63]

[60] H. Whitehead and L. Rendell
[61] M. Serres, *The parasite* (Minneapolis, University of Minnesota Press, 2007), p.5
[62] M. Serres, p.39
[63] C. Rodríguez-Garavito, What if We Understood What Animals Are Saying?, p.8

We cannot know whether whales, bats, or machines "really" speak. In listening through our own technical, legal, and scientific apparatuses, are we in fact hearing anything other than ourselves? Translation here is less a transparent bridge than a hall of mirrors. Noise is not an obstacle but the very condition for communication's emergence. Each claim to have decoded another species' language, or to have conversed with an intelligent machine, rests on layers of mediation that construct the reality they purport to reveal. To acknowledge this is not to retreat into scepticism, but to recognise that what we call interspecies dialogue is always also an act of world-making (a term I shall return to shortly); an act in which the difference between information, utterance, and understanding is not overcome, but continually remade.

Sovereignty, or *kulturtechnik*

Recent efforts from both science and law appear to share an aspiration to construct human relations to the environment in new ways, by taking what is external to their remit – namely: the inner worlds of cetaceans – and render it according to the familiar idioms of their respective methods.[64] Any such effort is *constructive*, insofar as it creates the distinction between internal and external, or what is recognisable as legal and scientific and what is not, anew. The world-building potential of AI-assisted studies of animal communication could therefore be recast as a question, perhaps most concisely posed by Geoffrey Winthrop-Young, via Cornelia Vissman: "How sovereign are we when we interact with tools that prescribe their own usage, have an inbuilt purpose, and constrain our actions with their material properties?"[65] The fundamental effort of this essay has been to draw attention to how applying technologies, such as AI, to pattern-identify and "translate" whale calls into English, unfolds as a constructive framing of the "nature" of what is "discovered." In exploring legal and scientific means to encounter interspecies translation, we construct the entity with which we are communicating anew.

As the above example of Lemoine's interaction with a bot demonstrate, technical processes predetermine and perform the operation, and thus the concepts derived from that operation. Lemoine's perception of an essence, a soul, simply demonstrates the sophistication of computational mechanisms that determine, through statistical analysis of existing samples, what the user expects of a satisfactory communicative exchange. If machines contribute to social intelligence, whether about what whales have to say, or the meaning of a broken mirror, it will not be because they have learned how to think like us, but as evidence of the algorithmic capacity to consolidate through statistical analysis what humans expect of communication.[66]

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[64] A process that James Parker has elsewhere called "world building" J. Parker, "The Planetization of Machine Listening," Critical Inquiry (forthcoming)

[65] G. Winthrop-Young, "Cultural Techniques: Preliminary Remarks," Theory, Culture & Society XXX (2013), pp. 3–19, p.7

[66] E. Esposito, Artificial communication

Sovereignty, rather than communication, may therefore be the primary function of the above-described recent translation efforts across law and science. Translation is always a political act. Even between human languages, translation entails a process of selection and omission that changes the meaning of what is translated. Read two different translations of any author in another language with which you are familiar, and it will become clear that rhythm is preserved at the expense of accuracy of chosen words; culturally specific references get lost or misinterpreted; to say nothing of words such as the Portuguese *saudade* or the Greek *πολύτροπος*, which notoriously evade an appropriate reference in other languages.[67] Scaled up to the level of interspecies translation, ambiguity and risk is amplified, especially if those developing NACTs advance claims that "our translations of their communication systems could be used in human legal decision-making processes."[68]

Recast in legal terms, the theme of translation, whether through legal techniques of personhood or "smart" digital infrastructures, can be framed as a question of sovereignty: an exercise of power, authority, and governance of relations. The question is therefore what kinds of orderings are being stabilised by and through technically assisted efforts at human translation with animals? When it comes to attempts to overcome the alterity that constitutes the human/more-than-human distinction, it is important to be weary of any suggestions that a technology, or *technique*, could resolve difference. The second step, then, is to recognise that every attempt to translate across the human/more-than-human divide is also an attempt to govern it. Interspecies "Google Translate" projects may be presented as tools of connection, but they are equally instruments of ordering, stabilising certain versions of reality while foreclosing others. Speaking with, or in this case, listening to, is speaking *for*. The premise that humans may "speak with whales" one day, does not make up for, or resolve, the fundamentally anthropocentric presupposition that what whales do is reducible to the communicative habits of humans. We may have far more to learn from appreciating all the ways in which whale communication is fundamentally different, and not reducible or comparable to, human languages.

Parasitic self-description

Concluding an article on the legal impact of AI-assisted studies of cetacean vocalisations, the Project CETI team quote Carl Sagan.

> *"It is possible that the intelligence of Cetaceans is channelled into the equivalent of epic poetry, history, and elaborate codes of social interaction? Are whales and dolphins like human Homers before the invention of writing, telling of great deeds gone by in the depths and far reaches of the sea? Is there a kind of Moby Dick in reverse – a tragedy,*

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[67] [illegible]
[68] C. Rodríguez-Garavito, J. Gallant and E. Crowe

from the point of view of the wahel, of a compulsive and implacable enemy, of unprovoked attacks by strange wooden and metal beasts plying the seas and laden with humans? The cetacea hold an important lesson for us. The lesson is not about whales and dolphins, but about ourselves."[69]

How do self-descriptions unfold from descriptions of others? In an account that begins from a description of the ethnographic project, anthropologist Roy Wagner questions whether his colleagues can ever describe other cultures objectively. Who can be surprised, he asks, that anthropologists who travelled to Papa New Guinea from England could conclude that, while institutional and symbolic expressions may vary, certain universal constants remained, leading ethnographers such as Malinowski and Levi-Strauss to believe in anthropology as a study of a universal entity called *mankind*.[70] For Wagner, claims to universality are projections of self. Indeed, such is the value of anthropology for Wagner, "because every understanding of another culture is an experiment with our own."[71] For Wagner, this is the starting point for an anthropology of the contemporary. Partiality is not to dismiss anthropological methods and research, but rather to facilitate further insight than the brick wall of absolute and universal claims.

Wagner's argument is fundamentally ecological. It understands the truth value of claims as emanating from the context in which they are made; literally, the surroundings that the claim inhabits, rather than referring to an absolute truth that can be said to fundamentally "exist" from the perspective of an all-seeing eye. For Serres, understanding phenomena as dynamics *in a place*, was central to his Natural Contract. Wagner repeats similar gestures, when, for example, he suggests terminology such as "relative objectivity." "Relative objectivity," explains Wagner, "can be achieved through discovering the ways in which one's culture allows one to comprehend another, and the limitations it places on this comprehension."[72] And yet, what "culture" means in Wagner's meaning, is a navigational device; a technique that facilitates boundary delineation, much as Vismann's plough is an operation that articulates a politics it is subsequently thought to simply and passively implement. Anthropology, in this Wagnerian sense, is a cultural technique; articulating "man" whose culture (thought to proceed *from man*) it is applied to study. It creates the object of its investigation. Might a similar dynamic be at play in the aspirations to study, and ultimately translate, cetacean vocalisations?

As this article introduced its argument by way of Michel Serres, so we can conclude. Returning to Serres, but now to *The Parasite*, we might say that every act of ecological

[69] C. Sagan, *Carl Sagan's cosmic connection: an extraterrestrial perspective* (Cambridge (GB), Cambridge university press, 2000), p.180
[70] See, for example, B. Malinowski, *A scientific theory of culture: and other essays* (Chapel Hill, University of North Carolina press, 1944); C. Levi-Strauss, *Race, science, and society*, ed. L. C. Dunn (Paris, New York, Unesco Press ; Columbia University Press, 1975)
[71] R. Wagner, *The invention of culture* (Chicago ; London, The University of Chicago Press, 2016), p.12
[72] R. Wagner, p.19

translation, whether granting a river legal personhood or decoding whale song, is not a direct channel between human and nonhuman, but a relation always mediated by a third.[73] For Serres, the parasite is not only a feeder, but the noise that interrupts, reconfigures, and ultimately constitutes the signal. Law, AI, hydrophones, committees, courtrooms: these are the parasites of interspecies communication, shaping what counts as voice and meaning. Far from being distortions of an original truth, they are the very conditions under which relation becomes possible at all. To acknowledge the parasite is to abandon the fantasy of unmediated access to nature and to recognise that what we call communication is always already an artefact of its interruptions. This is the final lesson of ecological translation: that the "mute world" speaks only through the noisy, partial, and situated media we bring to it, and in hearing it, we remake both it and ourselves.

[73] M. Serres