WONDERS AND EXQUISITENESS OF NATURE IN THE INTELLECTUAL PROPERTY RIGHTS EMPIRE

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ABSTRACT

Humans have incorporated nature's ingeniousness into their own intellectual creations. Intellectual property rights are granted for many of these human creations inspired by nature. It is curious that these intellectual property rights are granted to humans or entities. Nature that produces ingenious creations does not receive intellectual property rights. What are the legal impediments and concerns against the conferral of intellectual property rights to nature?

First, the conferral appears inconsistent with legal precedent that requires authors and inventors to be humans. Many court decisions and administrative rulings involving nature and artificial intelligence have required authors and inventors to be human beings. Second, intellectual property rights are constructed pursuant to what humans are generally presumed to be incentivized by.

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However, nature seems to operate on different criteria and dimensions. The rationales for granting intellectual property rights often do not affect nature's proclivity to create inventions and artistic expressions. Moreover, conferring intellectual property rights to nature may signify imposing on nature the culture, values, and premises that dictate human society.

Yet, nature is full of mysteries. It may be hasty to presume that humans are entirely different from nature. Both humans and nature can be regarded as global beings. The concept of global beings could enable the construction of an inclusive intellectual property regime that does not rely on any taxonomy of humans versus non-humans. What would it mean to grant intellectual property rights to a global being? It would symbolize respect for the wonders and exquisiteness of global beings that contribute to ingenious creations.

INTRODUCTION

"Go out to the roses and the bees and the flocks of doves! But especially to the songbirds, that you may learn from them how to sing!" Friedrich Nietzsche wrote in *Thus Spoke Zarathustra*.[1] Wonders and exquisiteness abound in nature. The *Smithsonian Magazine* states that "nature is an endless source of inspiration."[2]

[1] FRIEDRICH NIETZSCHE, THUS SPOKE ZARATHUSTRA 192 (Graham Parkes trans., Oxford World's Classics, 2005).

[2] Rachael Lallensack, *Ten Scientific Discoveries From 2020 That May Lead to New Inventions*, SMITHSONIAN MAG. (Dec. 28, 2020), https://www.smithsonianmag.com/innovation/ten-scientific-

Humans have incorporated nature's ingeniousness into their own intellectual creations. Biomimicry resolves humans' problems by emulating the mechanism of nature that has already solved those problems.[3] For instance, the physiological characteristics of giraffes have provided insights into treating systemic hypertension associated with cardiovascular disease in humans.[4] As another example, the wing structure of owls, which enables them to fly quietly without being noticed, has been applied to invent a wind turbine that rotates with little noise.[5] In the realm of art, the Mesoamerican culture creates artwork with bird feathers to convey "aesthetic, religious, and political concepts."[6] In the sphere of logos, the powerful roar of a lion is used by the movie studio MGM.[7]

Intellectual property rights are granted for many of these human creations inspired by nature.[8] An intellectual property right protects intellectual creations by enabling the owner of the right to prevent non-owners from exploiting

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discoveries-2020-may-lead-new-inventions-180976616/ [https://perma.cc/JD3H-3VWU].

[3] *See id.*

[4] Barbara Natterson-Horowitz et al., *Did Giraffe Cardiovascular Evolution Solve the Problem of Heart Failure with Preserved Ejection Fraction?*, 9 EVOL., MED., AND PUB. HEALTH 248, 250 (2021).

[5] Gary Peters, *Silent flight: suppressing noise from wind turbine blades with owl-inspired coating*, POWER TECH. (Jan. 18, 2016), https://www.power-technology.com/features/featuresilent-flight-suppressing-noise-from-wind-turbine-blades-with-owl-inspired-coating-4643523/ [https://perma.cc/4XBZ-EYDT].

[6] Diana Magaloni-Kerpel, *Real and Illusory Feathers: Pigments, Painting Techniques, and the Use of Color in Ancient Mesoamerica*, NUEVO MUNDO MUNDOS NUEVOS (2006), paras. 1–3, https://journals.openedition.org/nuevomundo/1462 [https://perma.cc/2YRY-ZV2U].

[7] Kat Eschner, *The Story of Hollywood's Most Famous Lion*, SMITHSONIAN MAG. (Apr. 17, 2017), https://www.smithsonianmag.com/smart-news/mgms-first-lion-didnt-roar-180962852/ [https://perma.cc/7PFH-SCG6].

[8] *See infra* notes 13–14 and accompanying text.

these creations.[9] A patent right is an intellectual property right that protects novel, non-obvious, and useful inventions.[10] Copyright protects creative expressions.[11] Trademarks protect logos and brands.[12]

It is curious that these intellectual property rights are granted to humans or entities, while nature seldom receives intellectual property rights. On November 23, 2021, a renewable energy company in Denmark obtained a United States Patent for their technology which applies owl wing structures to noise-reducing wind turbines.[13] However, the owls whose wing structures contributed to the invention do not receive any share of the patent right. The birds whose feathers were used in the Mesoamerican artwork do not acquire any portion of the copyright that protects this artwork. On June 3, 1986, a United States Trademark comprising the sound of "a lion roaring," was registered for the movie studio MGM.[14] Yet the lion whose roar inspired MGM's logo does not obtain any ownership in the trademark.

Animals in nature that produce ingenious creations do not receive intellectual property rights either. In Baltimore, Stubby the rhinoceros painted on a canvas.[15] In Miami, a Matschie's tree kangaroo named Patty clutched a brush and attentively created a painting with red and white

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[9] *See* LAURE MARINO, DROIT DE LA PROPRIÉTÉ INTELLECTUELLE [INTELLECTUAL PROPERTY LAW] 1, 51 (2013).
[10] *Id.* at 251.
[11] *Id.* at 171.
[12] *Id.* at 323.
[13] Rotor Blade With Noise Reduction Means, U.S. Patent No. 11,181,093 (issued Nov. 23, 2021).
[14] The mark comprises a lion roaring, Registration No. 1,395,550.
[15] Liz Langley, *Watch Pigcasso, the Famous Painting Pig, at Work*, NAT'L GEO. (Feb. 3, 2018), https://www.nationalgeographic.com/animals/article/animals-culture-pigs-art-painting [https://perma.cc/B3X9-FRXZ].

brush strokes on a blue drawing board.[16] These animals receive names such as Stubby and Patty. Yet they do not receive intellectual property rights over artworks that they created. What is the difference between names and intellectual property rights that yields this result? What are the legal impediments and concerns that accompany the conferral of intellectual property rights to nature?

Part I of this article examines court decisions and administrative rulings which indicate that such conferral may be inconsistent with legal precedent regarding the creatorship of intellectual property. In addition, Part II of this article discusses how protecting the inventions, creations, and marks of nature with intellectual property rights may be considered as futile because the rationales for granting these rights do not appear to apply to nature.

I. POSSIBLE INCONSISTENCY WITH PRECEDENT ON CREATORSHIP OF INTELLECTUAL PROPERTY

Giving intellectual property rights to nature may be inconsistent with legal precedent regarding the qualifications for receiving intellectual property rights. Section I.A. discusses how many court decisions and administrative rulings have required authors and inventors to be human beings in order to qualify for legal protection under intellectual property laws. Meanwhile, Section I.B. describes how value pluralism is observed in a jurisdiction's openness to the idea of non-human creatorship.

[16] *Animals Painting at Zoo Miami for 'Savage' Exhibition Fundraiser (Photos)*, HUFFPOST (May 31, 2013, 1:18 PM), https://www.huffpost.com/entry/animals-painting-at-zoo-miami_n_3367216 [https://perma.cc/TU4R-58XP].

A. Human Centralism in Qualifications for Authorship and Inventorship

Many courts and administrative agencies rejecting the concept of non-human creatorship have adhered to precedent requiring that authors under copyright law and inventors under patent law be humans. Such adjudication reflects a structure of ingredientization in which nature is treated as an ingredient for humans' lucrative activities.

1. Adherence to Requirement of Humans as Authors and Inventors

Many courts and administrative agencies have refused to extend intellectual property rights to non-human subjects. Their primary reason was that intellectual property statutes and judicial precedent require the subjects to be humans.

Generally, adjudication is confined by the legal regime that the adjudicatory body is subject to. In *Ktunaxa v. British Columbia*, for example, whether the Ktunaxa Nation's claims fit within the existing legal framework of the Canadian Charter of Rights and Freedoms determined the fate of the Nation's plea to save the habitat of the Grizzly Bear Spirit.[17] This restriction is also prevalent in the adjudication of non-human subjects in intellectual property law.

For instance, in *Naruto v. Slater*, the United States District Court for the Northern District of California inquired whether a crested macaque that took photographs of himself with a camera had statutory standing under the United States Copyright Act to file a copyright infringement action against a publisher who commercialized the photographs without the monkey's

[17] Ktunaxa Nation v. British Columbia (Forests, Lands and Natural Resources Operations), 2017 SCC 54, [2017] 2 S.C.R. 386, paras. 8, 57, 61 (Can.).

authorization.[18] The Court concluded that the Copyright Act does not provide animals with standing.[19]

As another example, on February 14, 2022, the United States Copyright Office Review Board examined whether a copyright could be registered for artwork created by artificial intelligence.[20] The digital artwork was titled "A Recent Entrance to Paradise."[21] It showed a semi-transparent, rugged tunnel surrounded by vines of green foliage and purple vegetation.[22] The Board observed that artificial intelligence had generated this work autonomously, "without any creative contribution from a human actor."[23] The Board concluded that "human authorship" is required to obtain copyright protection in the United States.[24] The Board cited the Copyright Office's Compendium, which states, "To qualify as a work of 'authorship' a work must be created by a human being."[25] The Board further pointed out that courts have "uniformly limited copyright protection to creations of human authors."[26]

On December 4, 2019, the United Kingdom's Intellectual Property Office made a similar determination when an artificial intelligence named "DABUS"

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[18] Naruto v. Slater, No. 15-CV-04324-WHO, 2016 WL 362231, at *1–2 (N.D. Cal. Jan. 28, 2016), *aff'd*, 888 F.3d 418 (9th Cir. 2018).
[19] *Id.* at *1.
[20] U. S. Copyright Off. Review Board, *Re: Second Request for Reconsideration for Refusal to Register A Recent Entrance to Paradise* (Feb. 14, 2022), https://www.copyright.gov/rulings-filings/review-board/docs/a-recent-entrance-to-paradise.pdf [https://perma.cc/KB96-4D4L].
[21] *Id.* at 1.
[22] *Id.*
[23] *Id.* at 2.
[24] *Id.* at 3.
[25] U.S. COPYRIGHT OFF., COMPENDIUM OF U.S. COPYRIGHT OFFICE PRACTICES § 313.2 (3d ed. 2021).
[26] U.S. Copyright Off. Review Board, *supra* note 20, at 4.

autonomously created an invention.[27] The Office asked whether "a non-human inventor may be regarded as an inventor under the Act" governing patents in the United Kingdom.[28] Section 7(2) of "The Patents Act 1977" provides that "[a] patent for an invention may be granted . . . (b) . . . to any person or persons . . . ."[29] The Office reasoned that the expectation under this statutory provision is that the inventor is a "natural person."[30] The Office explained that, when "The Patents Act 1977" was drafted, it was "never contemplated" that a subject other than a natural person might be an inventor.[31] Hence, the Office concluded that DABUS cannot be considered as an inventor under the Act because it is not a natural person.[32]

These rulings that deny authorship and inventorship of artificial intelligence are applicable to nature as well because nature is also a non-human subject. The reasoning in these adjudications may be challenged in at least two respects.

First, the argument that a legal provision applies only to humans because non-human subjects were never contemplated when the provision was drafted, is questionable. The unexpectedness of non-human subjects at the time of drafting does not seem to be a persuasive reason to deny the statute's applicability to a non-human subject that later emerges. Societies develop. New subjects might appear and create inventions and artwork.

Moreover, after the statute is drafted, society's perceptions about nature might change. They might

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[27] BL O/741/19, Decision, United Kingdom Intellectual Property Office, para. 18 (Dec. 4, 2019), https://www.ipo.gov.uk/p-challenge-decision-results/o74119.pdf [https://perma.cc/2XYC-GA8U].
[28] *Id.* at 2, para. 8.
[29] *Id.* at 2–3, para. 9.
[30] *Id.* at 5, para. 18.
[31] *Id.*
[32] *Id.*

become more appreciative of nature's capacities to invent and create. These changes will be disregarded when adjudication adheres to the mindset of drafters who neither imagined nor anticipated these changes. Such adherence prevents intellectual property law from adapting to developments in society. This lack of adaptation is especially problematic when the legislature is slow to recognize these changes or is reluctant to update intellectual property statutes to reflect these evolutions.

Second, the argument that non-humans cannot have creatorship because past courts have uniformly recognized creatorship only for humans is not persuasive either. Is there a guarantee that the rules that past courts have so uniformly applied are sensible? Courts might have continued to apply unreasonable rules by tradition and habit. Should there be an avenue to halt the application of rules when they cease to become reasonable? The discrepancy that a non-human *created* an invention or artwork but is not recognized as a *creator* under prevailing rules might be a sign that the application of these rules may need to be reconsidered.

2. Ingredientization of Nature in a Human Empire for Lucrativeness

Adjudication concerning material contributions to inventions also reveals an ingredientization of nature. Ingredientization is a structural mechanism in society in which contributions are taken for granted as ingredients for lucrative human activities.

Moore v. Regents of University of California[33] indicates the presence of an empire built through ingredientization. In *Moore*, the Supreme Court of California determined whether a patient stated a cause of action against a physician and researchers who used the patient's cells in "potentially lucrative medical research"

[33] Moore v. Regents of Univ. of Cal., 793 P.2d 479 (Cal. 1990).

without informing the patient nor obtaining his consent.[34] The patient argued that the unauthorized use of his cells constituted the tort of conversion.[35] However, the Supreme Court of California upheld the dismissal of the conversion claim.[36] The Court decided that recognizing the patient's cause of action under conversion risks impeding "medical research of importance to all of society."[37]

The Court's reasoning reveals a bleak reality of ingredientization. Respect for individual patients' physical integrity, dignity, and volition appears to be missing. They seem to be relegated as less important than the prospect of society benefiting from activities that exploit the patients' cells.

Ingredientization also underlies the refusal to recognize nature as authors and inventors under intellectual property laws. Nature is taken for granted as an ingredient humans use in their creative activities.[38] Patent law, for example, enables humans to obtain patent rights over nature if they have processed and transformed it.[39] The transformed nature becomes subject to human control through patent law. Yet in most jurisdictions, patent law does not recognize nature as an inventor.[40] Thus, exploitation of nature by humans is implicitly allowed, encouraged, and facilitated. Respect for nature as the source of ingredients seems to be lacking in this empire.

However, if intellectual property rights were granted to nature, this empire based on ingredientization might collapse because nature would no longer be a mere

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[34] *Id.* at 480.
[35] *Id.* at 487.
[36] *Id.* at 480, 497.
[37] *Id.* at 487, 495.
[38] *See, e.g.*, Ameritox, Ltd. v. Millennium Health, L.L.C., 88 F. Supp. 3d 885, 889 (W.D. Wis. 2015).
[39] Animal Legal Def. Fund v. Quigg, 932 F.2d 920, 923 (Fed. Cir. 1991).
[40] *See*, *e.g.*, *supra* notes 29–31 and accompanying text.

ingredient. Nature would be equipped with the legal means to contest and possibly prohibit activities that exploit nature's ingeniousness. Under the reasoning of *Moore*, this outcome would be "detrimental"[41] to society because it would have a "broad impact"[42] on activities that are "socially important."[43]

John Locke's theory provides a foundation for the ingredientization of nature in intellectual property law. Locke writes, "Though the earth, and all inferior creatures, be common to all men, yet every man has a property in his own person . . . ."[44] This idea treats nature as being inferior to humans. Locke further states,

> The labour of his body, and the work of his hands, we may say, are properly his. Whatsoever then he removes out of the state that nature hath provided, and left it in, he hath mixed his labour with, and joined to it something that is his own, and thereby makes it his property.[45]

This statement expresses how humans conquer nature through the legal concept of property.

Yet Locke's foundational theory can be challenged. For example, Robert Nozick questions why applying human labor to nature transforms the human laborer into the owner of processed nature.[46] Nozick points out that if a human spills a can of tomato juice into the ocean, it would be enigmatic if this human suddenly became the owner of the ocean.[47] Thus, determining which contributor should

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[41] *Moore*, 793 P.2d at 493.
[42] *Id.* at 495.
[43] *Id.* at 488.
[44] JOHN LOCKE, THE SECOND TREATISE OF GOVERNMENT § 27 (2003) (ebook) (1690), https://www.gutenberg.org/files/7370/7370-h/7370-h.htm [https://perma.cc/PNF9-N3UN].
[45] *Id.*
[46] ROBERT NOZICK, ANARCHY, STATE, AND UTOPIA 174–75 (1974).
[47] *Id.*

be entitled to which portion of the resulting product is a "question of social policy."[48] This social policy likely differs depending on the values perceived by each culture and jurisdiction.[49]

B. Value Pluralism on Non-Human Subjects of Intellectual Property Rights

Value pluralism can be observed in a comparative analysis between the decision in *Naruto v. Slater* by the United States District Court for the Northern District of California and the decision in *Thaler v. Commissioner of Patents* by the Federal Court of Australia. These two rulings exhibit differing values with respect to their willingness to align rules on authorship and inventorship with the reality of the identity of authors and inventors. Their values also differ in terms of their openness toward the idea of non-human subjects when these courts interpret the absence of a statutory definition of "author" and "inventor."

1. Willingness for Alignment of Creatorship Law with Realities of Creators

The Californian Court in *Naruto* found that the crested macaque who took his own photograph is not an "author" under the United States Copyright Act.[50] However, this determination seems counterintuitive. The crested macaque is the author of the photograph because the monkey took this photograph. The Court's decision

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[48] Edwin C. Hettinger, *Justifying Intellectual Property*, 18 PHIL. & PUB. AFF. 31, 39 (1989).

[49] *See* DÁRIO MOURA VICENTE, LA PROPRIÉTÉ INTELLECTUELLE EN DROIT INTERNATIONAL PRIVÉ [INTELLECTUAL PROPERTY IN PRIVATE INTERNATIONAL LAW] 30 (2009).

[50] Naruto v. Slater, No. 15-CV-04324-WHO, 2016 WL 362231, at *4 (N.D. Cal. Jan. 28, 2016), *aff'd*, 888 F.3d 418 (9th Cir. 2018).

seems to distort reality concerning the identity of the author. The ruling appears to reflect a judicial culture that values adhering to precedent, even if it results in a discrepancy with reality.

In contrast, the Federal Court of Australia in *Thaler* showed a willingness to depart from precedent in a way that enables the Court to reach a judicial decision that aligns with reality. In this case, the Australian Court determined whether an artificial intelligence named "DABUS," which autonomously created an invention, could be regarded as an "inventor" under Australia's "Patents Act 1990."[51] The Court explained that an "inventor" is an agent that invents.[52] The Court noted that an agent may be a person or a thing.[53] Since DABUS is an agent that invented a device, the Australian Court concluded that this non-human artificial intelligence may be an "inventor" under the Patents Act.[54]

The Court in *Thaler* emphasized how this conclusion conforms with the reality of the inventor's identity. The Court stated that, "so to hold reflects the *reality* in terms of many otherwise patentable inventions where it cannot sensibly be said that a human is the inventor."[55] Such non-human inventors include nature. The Court also explained that, since "machines have been autonomously or semi-autonomously generating patentable results for some time now," the Court is "simply recognising the *reality* by according artificial intelligence

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[51] *Thaler v Commissioner of Patents* [2021] FCA 879 (30 July 2021) paras. 1–6 (Austl.), https://artificialinventor.com/wp-content/uploads/2021/08/Thaler-v-Commissioner-of-Patents-2021-FCA-879.pdf [https://perma.cc/B3RR-XPMA], *rev'd* [2022] FCAFC 62 (13 April 2022).
[52] *Id.* at para. 10.
[53] *Id.*
[54] *Id.* at paras. 8–11.
[55] *Id.* at para. 10 (emphasis added).

the label of 'inventor.'"[56] The Court continued that this holding is "consistent with the *reality* of the current technology."[57] Thus, the Court's decision in *Thaler* reflects a willingness to depart from "outmoded notions of the agent"[58] when they create discrepancies with reality.

This reasoning can be extended to nature as well. Nature has been generating novel and useful inventions for a long time. Recognizing nature as an "inventor" would arguably conform with this reality.

2. Openness in Interpretation of Non-Definition of Creatorship

The Californian Court in *Naruto* and the Australian Court in *Thaler* also differed in how they interpreted the undefined terms "author" or "inventor."

In *Naruto*, the Californian Court noted that the United States Copyright Act does not define "author."[59] The Court determined that the statutory meaning of "author" does not include non-human animals because there is no explicit indication in the Copyright Act that the legislature intended the concept of authorship to extend to non-human animals.[60]

However, the Australian Court in *Thaler* interpreted the lack of a definition in a drastically different manner. The Court observed that Australia's "Patents Act 1990" does not define "inventor."[61] However, the Australian

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[56] *Id.* at para. 126 (emphasis added).
[57] *Thaler v Commissioner of Patents* [2021] FCA 879 (30 July 2021) para. 226 (Austl.) (emphasis added), https://artificialinventor.com/wp-content/uploads/2021/08/Thaler-v-Commissioner-of-Patents-2021-FCA-879.pdf [https://perma.cc/B3RR-XPMA], *rev'd* [2022] FCAFC 62 (13 April 2022).
[58] *Id.* at para. 16.
[59] Naruto v. Slater, No. 15-CV-04324-WHO, 2016 WL 362231, at *2 (N.D. Cal. Jan. 28, 2016), *aff'd*, 888 F.3d 418 (9th Cir. 2018).
[60] *Id.* at *3.
[61] *Thaler*, [2021] FCA 879, at para. 59.

Court found that, "none of these provisions exclude an inventor from being a non-human artificial intelligence device or system."[62]

Thus, while the Californian Court in *Naruto* interpreted non-definition as a lack of explicit authorization for non-human authorship, the Australian Court in *Thaler* interpreted non-definition as a lack of express prohibition against non-human inventorship. Accordingly, the Courts reached opposite conclusions. The Californian Court denied non-human authorship, while the Australian Court allowed non-human inventorship. These contrasting interpretations of non-definition suggest each jurisdiction's different values on the openness toward the concept of non-human subjects for intellectual property rights.

Incidentally, Australia, the country whose Court issued the revolutionary decision that a non-human artificial intelligence may be an "inventor," enacted the "Great Ocean Road and Environs Protection Act 2020."[63] This statute aims to recognize the Great Ocean Road and its surrounding nature as "one *living* and integrated natural entity."[64] The Australian statute thus confers legal status of living entity to nature that is cherished as "geological gems," carved by hundreds of years of waves and wind from the ocean.[65]

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[62] *Id.* at para. 64.

[63] *Great Ocean Road and Environs Protection Act 2020* (VIC) (Austl.), https://content.legislation.vic.gov.au/sites/default/files/2020-06/20-019aa%20authorised.pdf [https://perma.cc/MW4R-HFE3].

[64] *Id.* at pt. 1 sec. (a) (emphasis added).

[65] *Your Guide to Visiting the Grotto, Great Ocean Road*, THE GREAT OCEAN ROAD COLLECTIVE, https://www.greatoceanroadaustralia.org/the-grotto-great-ocean-road/ [https://perma.cc/UVF2-QARG].

II. POTENTIAL INCONGRUENCE WITH RATIONALES FOR PROTECTION OF INTELLECTUAL PROPERTY

In Canada, along Wickaninnish Beach, wind creates graceful patterns in the sand along the ocean.[66] A wall of beach grass prevents sand from entering the dunes.[67] Instead, sand moves along the beach, drawing elegant patterns.[68] It is art created by nature.[69]

What prompts this nature to draw exquisite patterns? Will its ingenuity be influenced by monetary incentives or by a guarantee that other beaches cannot copy these patterns in their sands?

A second objection for granting intellectual property rights to nature is that rationales for protecting intellectual property are unlikely to apply to nature. Section II.A. discusses how imposing intellectual property rights to nature might even be considered as a form of imperialism against nature. This idea prompts an exploration of concepts that could contribute to the construction of an intellectual property regime that does not rely on taxonomy and is inclusive for all ingenious global beings. Section II.B. conducts this exploration.

A. Imperialism over Nature through Imposition of Intellectual Property Rights

Scientific American suggests that, to appreciate the sensibility of plants, it is imperative to "look at the world . . . from their perspective."[70] What does the conferral of

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[66] Dave Ingram, *Sand Patterns*, ISLAND NATURE (Oct. 29, 2010), https://islandnature.ca/2010/10/sand-patterns/ [https://perma.cc/ST2K-XEED].
[67] *Id.*
[68] *Id.*
[69] *See id.*
[70] *The Plant Kingdom's Most Unusual Talents [Slide Show]*, SCIENTIFIC AMERICAN,

intellectual property rights to nature mean from the viewpoint of nature?

Granting intellectual property rights to nature might be objected to as being an imperialistic imposition of human culture, values, and expectations on nature. While some humans respond to incentives provided by intellectual property law, nature might be indifferent to such incentives. Furthermore, while many humans live in a capitalistic society in which money is frequently associated with power, nature often struggles in a world of severe natural selection, in which money likely has very little value.

1. Human Responses to Incentives versus Nature's Instincts for Survival

Mark Lemley et al. argue that the "principal objective of much of intellectual property law is the promotion of new and improved works—whether technological or expressive."[71] Rationales for granting intellectual property rights to humans often do not affect nature's proclivity to create inventions and artistic expressions. Nature's potential indifference to intellectual property regimes may be surmised in patent law, copyright law, and trademark law.

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https://web.archive.org/web/20230206171941/https:/www.scientificamerican.com/slideshow/what-plants-smell-plant-unusal-talents/; *See also* Alexandra Burnusuz et al., *See the world from a plant's perspective: on creating an interactive multimedia sculpture implying plant optics*, HUMANITIES AND SOCIAL SCIENCES COMMUNICATIONS, NATURE (July 4, 2024), https://www.nature.com/articles/s41599-024-03154-7 [https://perma.cc/FH3Z-K9D4].

[71] MARK A. LEMLEY ET AL., INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGY AGE: 2016, I-I-13 (2016).

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First, patents incentivize[72] innovative endeavors by providing patent owners with a time-limited monopoly over their inventions.[73] In exchange, the patent owners disclose the details of their inventions to the public.[74]

Would the prospect of receiving patent rights[75] motivate nature to generate inventions? The array of feathers in birds' wings is formed through signaling between cells, aggregations of the cells, and a mechanical process yielding periodic patterns.[76] These biological interactions can create, for example, the ingenious structure of wings that allows an owl to fly quietly.[77] A conferral of patent rights to nature would likely not affect such biological mechanisms.

In addition, nature cannot comply with patent law's disclosure requirement and publish its secrets. What is

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[72] *Id.* at I-15.

[73] BL O/741/19, Decision, United Kingdom Intellectual Property Office, para. 28 (Dec. 4, 2019), https://www.ipo.gov.uk/p-challenge-decision-results/o74119.pdf [https://perma.cc/2XYC-GA8U].

[74] *Id.*; LEMLEY ET AL., *supra* note 71, at I-20.

[75] BL O/741/19, Decision, United Kingdom Intellectual Property Office, para. 28 (Dec. 4, 2019), https://www.ipo.gov.uk/p-challenge-decision-results/o74119.pdf [https://perma.cc/2XYC-GA8U].

[76] William K. W. Ho et al., *Feather arrays are patterned by interacting signalling and cell density waves*, PLOS BIOLOGY (Feb. 21, 2019), https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3000132 [https://perma.cc/MH38-FCXX].

[77] *See*, *e.g.*, *supra* notes 5, 13; Pulkit Sagar, *An analysis of silent flight of owl*, 4 SCIENCEDIRECT, no. 8 (2017), https://www.sciencedirect.com/science/article/abs/pii/S2214785317315018 [https://perma.cc/W6LB-L96C]; Lesley Evans Ogden, *The Silent Flight of Owls, Explained*, AUDUBON (July 28, 2017), https://www.audubon.org/news/the-silent-flight-owls-explained [https://perma.cc/W96M-KKTA]; Dana Mackenzie, *The silence of the owls*, KNOWABLE MAGAZINE (Apr. 7, 2020), https://knowablemagazine.org/content/article/technology/2020/how-owls-fly-without-making-a-sound [https://perma.cc/XS6J-KF7B].

unknown in nature often remains unknown, whether or not patent law imposes disclosure requirements on nature.

Furthermore, having legal standing to file patent infringement lawsuits might impede a species' survival in nature. In 1980, a humpback whale near Cape Cod invented a new method to catch fish.[78] The whale swam around to create a cloud of bubbles that alarmed other fish and prompted them to gather together for protection.[79] The whale could then feed itself efficiently because many fish were clustered in one place.[80] Other humpback whales started imitating this method.[81] Nine years later, "almost half the humpbacks in the area" were catching fish using this invention.[82] If the humpback whale who first invented the fishing method were granted a patent, then these other humpback whales would be infringing the patent because they are using the invented method presumably without the patentee's authorization. However, if the inventing whale filed a patent infringement lawsuit against these other whales and a court issued injunctions to prohibit them from using the fishing method, these whales would be deprived of an efficient means to acquire nutrition. This deprival could be detrimental to their survival. Thus, patent protection in nature could pose obstacles to creatures' survival.

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[78] *Animals think, therefore . . .*, THE ECONOMIST, https://www.economist.com/news/essays/21676961-inner-lives-animals-are-hard-study-there-evidence-they-may-be-lot-richer-science-once-thought [https://perma.cc/4LKX-M393].
[79] *Id.*
[80] *Id.*
[81] *Id.*
[82] *Id.*

COPYRIGHT LAW

Second, copyright law also grants a time-limited monopoly to authors over their creative expressions.[83] Copyright may serve as a reward for authors who devoted their "[s]acrificial days" to generating creative works.[84]

However, it is questionable whether nature undergoes sacrifice to produce artistic expressions. It is also questionable whether nature appreciates rewards under copyright law. *Argentina anserina* is a brilliant, yellow flower in the rose family.[85] Chemical components of the pigments in the petals of *Argentina anserina* change as the flower's environment evolves.[86] These biochemical variations are unaffected by the conferral of copyright to the flower. The flower's motivation for artistic expression is to adapt to threatening environmental changes and to survive. The availability of rewards under copyright law does not impact the flower's ingenuity.

In addition, according to the personhood justification of copyright law, authors imbue their personalities into the work that they create.[87] This rationale is based on Hegel's idea that "In [a person's] property the person is brought into union with itself . . . .[88] I place my

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[83] PIERRE-YVES GAUTIER, PROPRIÉTÉ LITTÉRAIRE ET ARTISTIQUE [LITERARY AND ARTISTIC PROPERTY] 11–12 (Presses Universitaires de France, 11th ed. 2019).

[84] LEMLEY ET AL., *supra* note 71, at I-13.

[85] Matthew H. Koski et al., *Elevational Divergence in Pigmentation Plasticity is Associated with Selection and Pigment Biochemistry*, EVOLUTION: INTERNATIONAL JOURNAL OF ORGANIC EVOLUTION (Jan. 17, 2022), at 514–15.

[86] *Id.* at 524.

[87] *See* Margaret Jane Radin, *Property and Personhood*, 34 STAN. L. REV. 957, 960 (1982).

[88] GEORG WILHELM FRIEDRICH HEGEL, HEGEL'S PHILOSOPHY OF MIND 107 (Mar. 5, 2012) (ebook), https://www.gutenberg.org/files/39064/39064-h/39064-h.html [https://perma.cc/86A4-CBQ4].

will in *this* thing."[89] Since injury to an author's creation amounts to injury to the author's personhood, copyright law grants authors the right to control how their creative works may be used.[90]

Does this personhood rationale apply to nature? If a bird sings an intricate song trimmed with vibrant trills, does the bird imbue its birdhood into this musical expression? Will the bird perceive that any unauthorized recording and modification of its song constitute an injury to its birdhood? Research in behavioral ecology indicates that one of the goals of a singing bird is to defend and mark its territory.[91] As long as the bird can signal its territory by singing, it is uncertain whether the bird wishes to have the power to control how its songs are used. A copyright that enables the bird to control its song might be futile from the bird's perspective.

TRADEMARK LAW

Third, trademark law protects the "integrity of the marketplace" by prohibiting the use of marks that confuse consumers.[92] Trademarks communicate the source of goods.[93] By providing trademark owners with a private cause of action against trademark infringement, trademark law incentivizes these owners to protect their brand image by looking out for fraudulent uses of their marks.[94]

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[89] *Id.* at 108 (emphasis in original).
[90] *See* GAUTIER, *supra* note 83, at 209, 216.
[91] Selvino R. de Kort et al., *The Deterrent Effect of Bird Song in Territory Defense*, BEHAV. ECOLOGY (Oct. 23, 2008), at 200, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662740/pdf/arn135.pdf [https://perma.cc/2AV5-AEE4]; *Animals Think, Therefore . . .*, *supra* note 78.
[92] LEMLEY ET AL., *supra* note 71, at I-23.
[93] *Id.* at I-24.
[94] *See id.* at I-24–27.

Just as a trademark conveys a good's source, the vivid stripes of clownfish in tropical reefs play a vital role for communicating the identity of their species.[95] Researchers suggest that these colorful patterns may enable clownfish to visually recognize "individuals belonging to the same species . . . ." [96] Biological research shows that these artistic stripe patterns emerge when the clownfish develops from a larva to a juvenile.[97] Thus, the creation and use of clownfish stripes are not affected by trademark law. Clownfish cannot utilize a private cause of action for trademark infringement when another creature imitates their stripes and pretends to be a clownfish.

In nature, exercising a private cause of action for trademark infringement may even be damaging to a creature's survival. A hornet may be perceived as a terrifying predator that gnaws wood and stings.[98] Hornets' nests have a distinct external look.[99] A bird called vireo[100]

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[95] Pauline Salis et al., *Ontogenetic and Phylogenetic Simplification During White Stripe Evolution in Clownfishes*, BMC BIOLOGY (Sept. 5, 2018), at 1–2, https://bmcbiol.biomedcentral.com/counter/pdf/10.1186/s12915-018-0559-7.pdf [https://perma.cc/3TPT-9CEH].

[96] BioMed Central, *How the clownfish earned its stripes: Color pattern evolution in coral reef fishes*, PHYS.ORG (Sept. 4, 2018), https://phys.org/news/2018-09-clownfish-stripes-pattern-evolution-coral.html [https://perma.cc/76AV-UF28].

[97] Salis et al., *supra* note 95, at 4–5.

[98] *Hornets*, NATIONAL GEOGRAPHIC, https://www.nationalgeographic.com/animals/invertebrates/facts/hornets [https://perma.cc/S48E-ZTBY].

[99] *See* Jacob Ishay, *Hornet nest architecture*, 253 NATURE 41, 41–42 (1975).

[100] *Viréo mélodieux*, EBIRD, https://ebird.org/species/warvir?siteLanguage=fr_CA [https://perma.cc/7W42-7EB3]; Brian Young, *Field Guide for all the Birds of North America*, CLASSIC COLLECTION OF NORTH AMERICAN BIRDS, https://www.birds-of-north-america.net/vireos.html [https://perma.cc/8B8Y-FQ2B]; Sy Montgomery, *vireo*, BRITANNICA,

builds its nest by placing "hornet nest paper decoration" on the surface of its bird nest.[101] This biological behavior suggests that the vireo imitates the characteristic design of the hornet's nest so that the vireo's bird-nest visually invokes the scary, formidable image of hornets. Trademark law polices resemblance so that consumers are not deceived by imitation.[102] However, the vireo's behavior indicates that, for the vireo, it is important that predators be deceived by the vireo's imitation of the hornet's nest design so that they would stay away from the vireo's nest.[103] This practice helps keep the vireo's nest safe. A trademark infringement action by the hornet against the vireo might render the vireo's nest vulnerable to attacks, threatening the vireo's survival. Hence, the negative ramifications of counterfeit in trademark law are drastically different from the positive role of imitation in nature.

2. Humans in Capitalism versus Nature in Natural Selection

While many humans live in a capitalist society, nature struggles and thrives amidst natural selection. When plaintiffs[104] in *Naruto* filed a copyright infringement

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https://www.britannica.com/animal/vireo-bird [https://perma.cc/FKT9-XWYK].

[101] Bernd Heinrich, *The Biological Roots of Aesthetics and Art*, 11 EVOLUTIONARY PSYCHOLOGY 743 (2013), *available at* https://journals.sagepub.com/doi/10.1177/147470491301100316.

[102] *See*, *e.g.*, Lanham Act, 15 U.S.C. §§ 1051–1141n (1946); Lion-Aire Corp. v. Lion Air Installlation [sic], Inc., No. 19-CV-3554 (JS)(ARL), 2024 WL 3950122, at *12 (E.D.N.Y. Aug. 27, 2024); JTH Tax L.L.C. v. AMC Networks Inc., 694 F. Supp. 3d 315, 336–37 (S.D.N.Y. 2023); Lebow Bros. v. Lebole Euroconf S.P.A., 503 F. Supp. 209, 211 (E.D. Pa. 1980); Servo Corp. of Am. v. Servo-Tek Prods. Co., 289 F.2d 955, 957 (C.C.P.A. 1961).

[103] *See supra* notes 100–101 and accompanying text.

[104] Naruto v. Slater, No. 15-CV-04324-WHO, 2016 WL 362231, at *1–2 (N.D. Cal. Jan. 28, 2016), *aff'd*, 888 F.3d 418 (9th Cir. 2018). The

lawsuit on behalf of the crested macaque who took his own photograph, the plaintiffs asserted that "Naruto is entitled to defendants' profits from the infringement . . . ."[105] Would the crested macaque appreciate the meaning of monetary payment as compensatory damages? On September 12, 2017, one of the plaintiffs announced a settlement of the *Naruto* case.[106] According to the settlement agreement, the defendant would donate 25% of future revenue obtained from the photographs at issue to "groups that protect crested macaques and their habitat in Indonesia."[107] Humans, not the monkey, were the direct recipients of the settlement money.[108]

Intellectual property law appears to exist in the context of capitalism.[109] James Madison, one of the Framers of the United States Constitution, sought "to encourage the advancement of useful knowledge and discoveries by premiums and provisions."[110] Such premiums and provisions include monetary rewards for creators.[111] The "conventional rationale" for protecting

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plaintiffs are the People for the Ethical Treatment of Animals and Antje Engelhardt.

[105] *Id.*

[106] Jason Slotkin, *'Monkey Selfie' Lawsuit Ends With Settlement Between PETA, Photographer*, NPR (Sept. 12, 2017, 1:46 PM), https://www.npr.org/sections/thetwo-way/2017/09/12/550417823/-animal-rights-advocates-photographer-compromise-over-ownership-of-monkey-selfie?t=1648834278808 [https://perma.cc/Z9WM-98BA].

[107] *Id.*

[108] *See id.*

[109] *See*, *e.g.*, OVE GRANSTRAND, EVOLVING PROPERTIES OF INTELLECTUAL CAPITALISM (Edward Elgar Publishing ed., 2018).

[110] Edward C. Walterscheid, *Conforming the General Welfare Clause and the Intellectual Property Clause*, 13 HARV. J.L. & TECH. 87, 94 (1999).

[111] *See*, *e.g.*, Cher v. Bono, No. LA CV21-08157 JAK (RAO), 2023 WL 3149286, at *5 (C.D. Cal. Mar. 14, 2023); Classic Media, Inc. v. Mewborn, 532 F.3d 978, 983 (9th Cir. 2008); Broderson v. Marzall, 194 F.2d 138, 143 (D.C. Cir. 1951).

inventions and creative expressions with intellectual property is to help producers recover their monetary costs of research and development.[112] Trademark protection is also provided in a capitalistic setting in which consumers purchase commodities from sellers displaying a brand image through their marks.[113] Capitalism permeates intellectual property law.

The intermingling of capitalism and nature has produced a curious phenomenon that raises questions about the authenticity of artwork created by nature. Pigcasso is a pig described as "the world's first animal to host [its] very own art exhibition."[114] In December 2021, Pigcasso's painting titled "Wild and Free" was sold "for a record breaking £20,000."[115] In March 2022, Pigcasso's artwork depicting war and sadness was sold for "R33,000 within minutes of it going online for sale."[116] An art collector explained that the color selection and brush stroke in

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[112] WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 294 (The Belknap Press of Harvard University Press) (2003).

[113] *See* LEMLEY ET AL., *supra* note 71, at I-23.

[114] Suthentira Govender, *Painting piggy prodigy Pigcasso set to take on the world*, TIMES LIVE (Jan. 22, 2018, 6:10 PM), https://www.timeslive.co.za/news/south-africa/2018-01-22-painting-piggy-prodigy-pigcasso-set-to-take-on-the-world/ [https://perma.cc/6BXS-QAKB].

[115] Jack Newman, *Pigcasso the piggy painter is bringing home the bacon after selling its latest artwork for £20,000 (and no, we're not telling you porkies!)*, DAILYMAIL.COM (Dec. 17, 2021, 4:46 AM), https://www.dailymail.co.uk/news/article-10320437/Pigcasso-piggy-painter-bringing-home-bacon-selling-latest-artwork-20-000.html [https://perma.cc/3Q92-XFSU].

[116] Suthentira Govender, *Profits from SA pig's painting of Ukrainian crisis to be donated to animal sanctuary*, TIMES LIVE (Mar. 7, 2022, 11:12 PM), https://www.timeslive.co.za/news/south-africa/2022-03-07-profits-from-sa-pigs-painting-of-ukrainian-crisis-to-be-donated-to-animal-sanctuary/ [https://perma.cc/H5QK-5H34].

Pigcasso's art were important in his decision to purchase the work.[117]

Nonetheless, are Pigcasso's paintings authentic? Research suggests that pigs cannot see certain colors.[118] Is Pigcasso truly selecting the colors in its abstract paintings? Similar to the painting at issue in *The Lost Leonardo*,[119] the authenticity of Pigcasso's art seems to be taken for granted when purchasers flock to soaring prices. It turns out that Pigcasso is trained and instructed by a human who "selects the colours and carefully directs Pigcasso from a distance."[120] Pigcasso appears to be a phenomenon in a capitalistic society that is awed by the idea of a non-human animal creating art.

Meanwhile, many animals and plants in nature are detached from capitalism. The "engine of most biological exchanges" is "natural selection."[121] The dynamics of natural selection are different from the legal regime of

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[117] *Pigcasso: The pig creating art that sells for thousands*, ITV NEWS (Mar. 29, 2017, 11:55 AM), https://www.itv.com/news/2017-03-29/the-artist-pig-who-creates-art-that-sells-for-thousands.

[118] *The Science Behind LED Dim to Red Swine Lights*, SITLER'S LED SUPPLIES (June 5, 2020, 7:26 PM), https://sitlersledsupplies.com/science-behind-led-dim-red-swine-lights/ [https://perma.cc/Z9L6-NV8K] (explaining that "[h]ogs can detect the color blue but struggle with colors on the green and red spectrum," and that pigs "struggle to see certain color wavelengths.").

[119] *See The Lost Leonardo - Official UK Trailer*, YOUTUBE (Aug. 5, 2021), https://www.youtube.com/watch?v=3ddI3U-8m4A&ab_channel=Dogwoof [https://perma.cc/SU4A-B7MH]; Martin Bailey, *Major museum casts fresh doubt over the authenticity of $450M 'Salvator Mundi,'* CNN (Nov. 16, 2021, 5:51 AM), https://edition.cnn.com/style/article/salvator-mundi-prado-museum/index.html [https://perma.cc/T4WA-A7QX].

[120] Joanne Lefson, *Works of Wonder*, PIGCASSO, https://pigcasso.org/art.html [https://perma.cc/HWH9-C7AL].

[121] Ben Crair, *The Secret Economic Lives of Animals: Wasps do it, baboons do it. Economics isn't just a human activity.*, BLOOMBERG (Aug. 1, 2017), https://www.bloomberg.com/features/2017-biological-markets/ [https://perma.cc/4ZYT-PVA6].

granting intellectual property rights to stimulate inventions and creativity. Nature is unlikely to be incentivized by money. It is often the need for survival that motivates nature's behavior.[122] Therefore, granting intellectual property rights to nature may be an imperialistic imposition of capitalistic values and behavioral premises that infiltrate human society.

B. Non-Taxonomism in Ingenious Subjects of Intellectual Property Rights

It is, however, hasty to conclude that nature never understands capitalism. An experiment in Italy demonstrates that capuchin monkeys can learn the concept of money.[123] They were able to apply this concept to trade tokens with food.[124]

This experiment suggests that the demarcation between humans and nature should be analyzed with caution.[125] It may be misleading to presume that humans are entirely different from nature. Both are global beings.

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[122] *See* Eleanor H. Simpson & Peter D. Balsam, *The Behavioral Neuroscience of Motivation: An Overview of Concepts, Measures, and Translational Applications*, NATIONAL CENTER FOR BIOTECHNOLOGY INFORMATION, NATIONAL LIBRARY OF MEDICINE (Dec. 1, 2016), https://pmc.ncbi.nlm.nih.gov/articles/PMC4864984/ [https://perma.cc/QV9G-8XHM]; SAMANTHA FOWLER, REBECCA ROUSH & JAMES WISE, CONCEPTS OF BIOLOGY 7, 112, 119–120, 154, 253, 326 (Kindle ed., 2017).

[123] Katharine Sanderson, *Monkeys understand money*, NATURE (Jun. 11, 2008), https://www.nature.com/articles/news.2008.882 [https://perma.cc/WZ5W-8TUY].

[124] *Id.*; *see also Evolutionary origins of money categorization and exchange: an experimental investigation in tufted capuchin monkeys*, DÉPARTEMENT D'ÉTUDES COGNITIVES (Sept. 24, 2020), https://cognition.ens.fr/fr/news/evolutionary-origins-money-categorization-and-exchange-experimental-investigation-tufted [https://perma.cc/P5KC-VWYC].

[125] *See*, *e.g.*, *supra* notes 123–124 and accompanying text.

Global beings encompass everything that exist. There may be an overestimation in the divisions among these global beings. One way to eliminate taxonomy that classifies humans and non-humans is to design an inclusive intellectual property regime that regards all global beings as being eligible for intellectual property protection.

1. Overestimation of Distinction among Global Beings

In the analysis of intellectual property rights for nature, there may be a tendency to overestimate the distinction between humans and nature. Hegel, in his writings about property, associated "mind" and "free will" with an individual person.[126] Hegel distinguished this "person" from "an external thing" which is "devoid of will" and "has no rights against the subjectivity of intelligence and volition . . . ."[127]

Scientific findings contest this purported demarcation. Researchers suggest that plants can "see, hear, smell and respond to environmental cues and dangers" through their membrane proteins.[128] Since the roots of plants prevent them from escaping danger by running away, plants developed "incredibly sensitive and complex sensory mechanisms" to aid their survival in a turbulent environment.[129]

Scientists also report that fish, such as cichlids and stingrays, can learn to calculate numbers from one to five

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[126] HEGEL, *supra* note 88.
[127] *Id.*
[128] Jeff Hansen, *Breakthrough study shows how plants sense the world*, SCIENCEDAILY (Jan. 19, 2018), https://www.sciencedaily.com/releases/2018/01/180119190358.htm [https://perma.cc/F4DP-QAXA].
[129] Gareth Cook, *Do Plants Think?*, SCIENTIFIC AMERICAN (June 5, 2012), https://www.scientificamerican.com/article/do-plants-think-daniel-chamovitz/ [https://perma.cc/N5JJ-MR5H] (interviewing Daniel Chamovitz).

through addition and subtraction.[130] This discovery is viewed as "confirmation that humans tend to underestimate other species . . . ."[131]

Language has been believed to be a distinct attribute of humans.[132] However, on April 6, 2022, a scientific study suggested that mushrooms appear to communicate with each other through language.[133] Mushrooms were exchanging electrical impulses.[134] The structure of these signals was strikingly similar to human language.[135]

These findings suggest that it might be useful to remove any preconceived distinctions between humans and nature. They could all be regarded as global beings.

2. Inclusive Regime of Intellectual Property through Need and Appreciation

Applying the idea of global beings, it is possible to construct an inclusive intellectual property regime that does not rely on any taxonomy of human versus non-human nature. In this regime, all global beings are eligible to be inventors owning patents, authors owning copyright, and

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[130] *See* Schluessel et al., *Cichlids and stingrays can add and subtract 'one' in the number space from one to five*, NATURE (Mar. 31, 2022), https://www.nature.com/articles/s41598-022-07552-2 [https://perma.cc/A7C6-SC67].

[131] *Study shows: Fish can calculate*, SCIENCEDAILY (Apr. 1, 2022), https://www.sciencedaily.com/releases/2022/04/220401122240.htm [https://perma.cc/8NFY-SQ4E].

[132] *Animals Think, Therefore . . .*, *supra* note 78.

[133] Andrew Adamatzky, *Language of fungi derived from their electrical spiking activity*, THE ROYAL SOCIETY PUBLISHING (Apr. 6, 2022), https://royalsocietypublishing.org/doi/10.1098/rsos.211926.

[134] Linda Geddes, *Mushrooms communicate with each other using up to 50 'words', scientist claims*, THE GUARDIAN (Apr. 5, 2022, 7:01 PM), https://www.theguardian.com/science/2022/apr/06/fungi-electrical-impulses-human-language-study [https://perma.cc/4HSM-STQE].

[135] *Id.*

trademark owners. Thus, all global beings have the eligibility to be subjects of intellectual property rights.

This inclusive regime of intellectual property should be based on need and appreciation. This is because some global beings might not need intellectual property rights at all. Certain global beings might not appreciate the value of intellectual property. Some global beings might not have the means to utilize intellectual property rights. For some global beings, conferral of intellectual property rights and enforcement of these rights might threaten their survival.

If intellectual property rights are futile or even detrimental to a global being, that global being need not resort to intellectual property rights. Instead, only those global beings that need and appreciate intellectual property rights are invited to have the freedom and opportunity to confirm their intellectual property rights, protect these rights, and enforce them if they wish.

CONCLUSION

On January 27, 2022, the Constitutional Court of Ecuador confirmed that a chorongo monkey named "Estrellita" is a subject of the constitutional rights of nature stipulated in Article 83.6 of the Ecuadorian Constitution.[136] The Court concluded that Estrellita's rights of nature were violated through an administrative, custodial procedure that the monkey underwent.[137] The Court thus upheld the monkey's constitutional rights, even though the monkey was already deceased.[138] The Court stated that this

[136] *See* Rights of Nature and animals as subjects of rights (Constitutional Court of Ecuador), Judgment, No. 253-20-JH/22, ¶¶ 53, 60, 82, 121, 181 (Jan. 27, 2022), https://www.nonhumanrights.org/wp-content/uploads/Final-Judgment-Estrellita-w-Translation-Certification.pdf [https://perma.cc/9GB9-M5FU].
[137] *Id.* at ¶¶ 51, 178, 181.
[138] *Id.* at ¶ 57.

decision itself is a form of reparation.[139] This statement evokes a symbolic meaning of the rights of nature. To the Court, it seemed insignificant that the monkey was no longer alive to enforce its rights.[140] The fact that the Court recognized and upheld the monkey's constitutional rights of nature[141] was meaningful in itself. This determination shows a profound respect for the dignity and integrity of Estrellita.

Meanwhile, according to Ecuador's National Intellectual Rights Service, copyright applications are expected to be filed by a natural person with a citizenship card number or by a registered corporation.[142] Trademarks in Ecuador can be registered by "[a]ny natural or legal person . . . ."[143] An applicant for a patent in Ecuador is expected to be able to file electronically.[144] Although the Ecuadorian Court upheld the Constitutional rights of nature, there does not seem to be any decision confirming that nature may own intellectual property rights in Ecuador.[145]

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[139] *See id.* at ¶ 57, § 2.1.
[140] *See supra* notes 136–139 and accompanying text.
[141] *Id.*
[142] National Intellectual Rights Service, *Frequently Asked Questions - Copyright and Related Rights*, EL NUEVO ECUADOR, https://www.derechosintelectuales.gob.ec/preguntas-frecuentes-derecho-de-autor-y-derechos-conexos/ [https://perma.cc/LT8S-Y6B3] (Ecuador).
[143] National Intellectual Rights Service, *Frequently Asked Questions - Industrial Property, Brands*, EL NUEVO ECUADOR, https://www.derechosintelectuales.gob.ec/preguntas-frecuentes-propiedad-industrial/ [https://perma.cc/7MVU-33VA] (Ecuador).
[144] National Intellectual Rights Service, *Frequently Asked Questions - Industrial Property, Patents*, EL NUEVO ECUADOR, https://www.derechosintelectuales.gob.ec/preguntas-frecuentes-propiedad-industrial/ [https://perma.cc/RC8K-54BL] (Ecuador).
[145] *See supra* notes 136–144 and accompanying text.

This tendency is also observed in multiple jurisdictions.[146] Germany provides strong legal protection for animals.[147] On May 15, 2002, Article 20a[148] of the German Constitution was amended to establish constitutional rights for animals.[149] However, in November 2021, the German Federal Patent Court ruled that a natural person must be listed as an inventor in a patent application.[150] Similarly, the high court of Punjab and Haryana in India declared in March 2020 that the Sukhna Lake is a "'legal person' with rights . . . ."[151] Yet, according to a report from January 2022, "the Indian Patent Office . . . objected to recognizing [artificial intelligence] as an inventor" under "Section 2 and Section 6 of The Indian

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[146] *See infra* notes 147–152 and accompanying text.

[147] *See* Erin Evans, *Constitutional Inclusion of Animal Rights in Germany and Switzerland: How Did Animal Protection Become an Issue of National Importance?*, 18 SOCIETY AND ANIMALS 231, 235–37 (2010), https://www.animalsandsociety.org/wp-content/uploads/2016/04/evans.pdf [https://perma.cc/3N42-SS25].

[148] Strafgesetzbuch [STGB] [Penal Code], Art. 20a, https://www.gesetze-im-internet.de/englisch_gg/englisch_gg.html#p0116 [https://perma.cc/3V3H-A2C8] (Ger.).

[149] Kate M. Nattrass, *". . . Und Die Tiere" Constitutional Protection for Germany's Animals*, 10 ANIMAL L. REV. 283, 302 (2004), https://www.animallaw.info/sites/default/files/vol10_p283.pdf [https://perma.cc/NFP8-8695].

[150] Christina Schulze, *German Federal Patent Court points to solution for Dabus inventions*, JUVE PATENT (Nov. 16, 2021), https://www.juve-patent.com/news-and-stories/cases/german-federal-patent-court-points-to-solution-for-dabus-inventions/ [https://perma.cc/VE28-K4H8].

[151] Chandigarh, *Sukhna Lake is a living entity with rights: HC*, HINDUSTAN TIMES (Mar. 3, 2020), https://www.hindustantimes.com/chandigarh/sukhna-lake-is-a-living-entity-with-rights-hc/story-Jrt8vKUy8kqIUwWaLpcYtM.html [https://perma.cc/26YC-68Q6].

Patents Act, 1970."[152] Even in jurisdictions that exhibit openness to the idea of non-human subjects having rights, there seems to be a persisting reluctance to allow non-human subjects to own intellectual property rights.

What are the legal impediments of conferring intellectual property rights to nature? First, the conferral is inconsistent with legal precedent that requires authors and inventors to be humans. Second, there is an aspect of imperialism. Intellectual property rights are created based on how human society operates. They are constructed pursuant to what humans are generally presumed to be incentivized by. However, nature seems to operate differently, with criteria and dimensions that differ from those of humans in many ways. Conferring intellectual property rights to nature may signify imposing on nature the culture, values, and premises that dictate human society.

However, nature is full of mysteries. It remains uncertain what nature truly perceives and wishes. There might be a being in nature, unknown to humans, which desires to participate in the intellectual property right empire as a subject owning intellectual property rights. Scientific research suggests that some aspects of nature are more similar to humans than what is presumed.[153]

To encompass these possibilities, the demarcation between humans and nature merits reconsideration. In an inclusive intellectual property regime, every global being is welcome to become a subject owning intellectual property rights.

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[152] Archana Raghavendra, *Does AI Qualify As An 'Inventor' Based The* [sic] *Statute In Indian Patents Act, 1970?*, MONDAQ (Jan. 5, 2022), https://www.mondaq.com/india/patent/1147320/does-ai-qualify-as-an-inventor39-based-the-statute-in-indian-patents-act-1970 [https://perma.cc/V9JE-T3DS].

[153] *See supra* notes 123–124, 128–135 and accompanying text.

What would it mean to grant intellectual property rights to a global being? It would symbolize respect for the ingeniousness and talent of the global being contributing to inventions and creative expressions. Meanwhile, for some global beings, intellectual property rights might be meaningless or even harmful to their survival. To guard against these possibilities, this inclusive intellectual property regime should operate pursuant to need and appreciation. Global beings that need intellectual property rights and appreciate them are free to claim and exercise their intellectual property rights.

This system of intellectual property attempts to address the "inadequacy of the law" and the "most difficult ethical dilemmas"[154] that arise when legal precedent compels courts to deny rights to nature, even though such nature may possess "complex cognitive abilities" and deserves to be "treated with respect and dignity . . . ."[155] It is a system that aims to respect the wonders and exquisiteness of global beings which contribute to inventions, creations, and designs.

[154] *In re* the Nonhuman Rts. Project, Inc. *ex rel.* Tommy v. Lavery, 31 N.Y.3d 1054, 1055 (N.Y. 2018) (Fahey, J., concurring).
[155] The NonHuman [sic] Rts. Project *ex rel.* Happy v. Breheny, No. 260441/19, 2020 WL 1670735, at *10 (N.Y. Sup. Ct. Feb. 18, 2020).