Legitimising Biopiracy? Fairness and Efficacy of the Nagoya Protocol

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Abstract

When utilised in new and innovative ways, traditional knowledge associated with vascular plants and other organisms is rendered patentable, which allows for its corporate exploitation in pharmaceutical and agricultural applications. This article explores the Nagoya Protocol, a voluntary, international agreement that purportedly promotes benefit-sharing arising from the commercialisation of traditional knowledge. First, this paper establishes the role of stakeholders in the bioprospecting field, analysing how the Nagoya Protocol unfairly and inequitably promotes corporate interests to the detriment of state and indigenous interests in the global south. Second, it addresses how the Nagoya Protocol perpetuates unfairness between regions, largely due to varying state practices arising from differing interpretations of the Nagoya Protocol's benefit-sharing doctrine. Third, it contends that such unfairness is a remnant of colonial attitudes and relies on reticence to promote global inequality, under the guise of global benefit, to the considerable harm of lesser-developed countries. Consequently, it is argued that lesser-developed countries should exploit the flexibility embedded within the regime to tighten domestic law, allowing for a fairer distribution of benefits to indigenous stakeholders. Ultimately, this paper advances the debate on bioprospecting to consider whether the line drawn between corporate innovation and indigenous interests in the Nagoya Protocol is fair and equitable or whether it instead operates to advance western corporate interests.

1 Bioprospecting and Benefit-Sharing: the Nagoya Protocol

The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity 2010 ('Nagoya Protocol') supplements the earlier Convention on Biological Diversity 1992 ('CBD').[1] The CBD built momentum in promoting the conservation of biological diversity and reflected a 'turning point' in the sustainable use of biological components. However, many believe that it inadequately addressed benefit-sharing to indigenous ethnic and national groups, whose traditional knowledge associated with vascular plants is actively patented by global corporations through bioprospecting activity, often without tangible benefit to these aforementioned ethnic and national groups. [2] The Nagoya Protocol was developed to remedy such unfairness arising from bioprospecting (the search for plant and animal species from which medicinal drugs, biochemicals and other commercially valuable material can be obtained) by promoting the principle of benefit-sharing.[3]

This article evaluates the extent to which the Nagoya Protocol has operated to remedy the issues arising from the exploitation and commercialisation of traditional knowledge and analyses its role in promoting principles of fairness and equity. By scrutinising the interests

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[1] The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity 2010; Convention on Biological Diversity 1992.

[2] Kanchana Kariyawasam, 'Access to Biological Resources and Benefit-Sharing: Exploring a Regional Mechanism to Implement the Convention on Biological Diversity in SAARC Countries' (2007) 29(8) EIPR 235, 235; Richard Tarasofsky, 'Publication Review: International Law and the Conservation of Biological Diversity attrib. Bowman' (1997) 46(2) ICLQ 486, 486; Krishna Dronamraju, *Biological and Social Issues in Biotechnology Sharing* (1st edn, Ashgate 1998) 12.

[3] Athanassios Yiannopoulos, 'Publication Review: *Droit Réel, Propriété et Créance: Élaboration d'un Système Rationnel des Droits Patrimoniaux* attrib Ginossar' (1963) 12(1) Am J Comp L 116.

and roles of stakeholders, it establishes that the regime promotes unfairness at a constitutional level; unfairly favours corporate interests by promoting corporate innovation over priority rights; and inequitably degrades the cultural interests of indigenous groups — effectively legitimising biopiracy through weak corporate social responsibility ('CSR') -style provisions.[4] Subsequently, the article contends that variation between common and civil law regimes nourishes global inequality, and thus promotes unfairness due to discrepancies between 'monist' and 'dualist' interpretations of benefit-sharing and state practice.[5] Finally, the article argues that remedying unfairness in the Nagoya Protocol relies on the strengthening of domestic provisions in the global south to circumvent interpretative issues that currently promulgate unfairness through reticence and the favouring of 'capital accumulation' over indigenous custom.[6]

2 Vitalism

Salami conveys the 'vitalist' view that plants and their employ reflect humanity's 'collective and global heritage'. He contends that this heritage 'ought not to be appropriated by a few under any guise', and that the role of intellectual property regimes ('IPRs') in allowing for the patenting of traditional knowledge and thereby restricting the use of biological material to corporate bodies, contravenes the innate human

[4] Tom Bingham, *The Rule of Law* (1st edn, Penguin 2010); Andrew Crane and Dirk Matten, *Business Ethics* (3rd edn, OUP 2010) 51.

[5] Johnathan Schaffer, 'Monism', *The Stanford Encyclopaedia of Philosophy* (2018) <https://plato.stanford.edu/entries/monism/> accessed 5 May 2020; Jean-Francois Bretonniere and Thomas Defaux, 'French Copyright Law: a Complex Coexistence of Moral and Patrimonial Prerogatives' in Baker & McKenzie France, *Building and Enforcing Intellectual Property Value* (Baker & McKenzie 2012) 83; Nagoya Protocol (n 1) art 1; Genevieve Bourdy, 'Quassia Biopiracy Case and the Nagoya Protocol: A Researcher's Perspective' (2017) 206(1) J Ethnopharmacology 290.

[6] Londa Schiebinger, *Plants and the Empire: Colonial Bioprospecting in the Atlantic World* (Harvard UP 2004) 226; Molly Scott Cato, *The Bioregional Economy* (Routledge 2013) 61; Carol Chi Ngang and Patrick Agejo Ageh, 'Intellectual Property Protection of African Traditional Medicine within the Legal Framework of the Right to Development' (2019) 27(3) Afr J Comp L 426.

nature of benefit-sharing.[7] Salami's view is grounded in the principle of the sanctity of life, which holds that all life forms have intrinsic value regardless of consciousness or perceived life quality.[8] The vitalist view informs intellectual property ('IP') restrictions by establishing that natural vascular plants themselves are ordinarily unpatentable, by virtue of a universal appreciation of nature. Contrastingly, plant knowledge and traditional uses are patentable, as the specific employ of the living material reflects scientific or human progress — ie occurring by means of human intervention.[9]

This article advances the ongoing dialogue surrounding the 'product of nature' doctrine by contending that benefit-sharing provisions per se should not legitimise biopiracy, which is viewed as inherently unfair and inequitable under normative principles established in international law. Biopiracy is understood here to be the 'unauthorised and uncompensated' taking of biological resources by parties who 'patent them for their own benefit', and is widely agreed to be an illegal form of bioprospecting.[10] Biopiracy is of specific relevance to traditional knowledge relating to vascular plants that possess pharmaceutical and agricultural potential. Morgera contends that a regime *consensually* enforced by signatory states may not be truly consensual, and thus fair, for indigenous groups.[11] This article expands this view and contends that the Nagoya Protocol legitimises biopiracy by virtue of its dependence on lesser-developed signatory states, illustrating unfairness both within domestic law (between state and indigenous peoples in the global south) and at the international level (between countries in the global north and global south). The Nagoya Protocol promotes a

[7] Emmanuel Salami, 'Patent Protection and Plant Variety Rights for Plant Related Inventions in the EU and Selected Jurisdictions' (2018) 40(10) EIPR 630.
[8] Elizabeth Martin, *Concise Medical Dictionary* (9th edn, OUP 2015) 234.
[9] Tim Roberts, 'Patenting Plants around the World' (1996) 18(10) EIPR 531.
[10] Chris Park and Michael Allaby, *A Dictionary of Environment and Conservation* (3rd edn, OUP 2017) 234.
[11] Elisa Morgera, 'The Need for an International Legal Concept of Fair and Equitable Benefit Sharing' (2016) 27(2) EJIL 354.

globalised and arguably unsustainable provisioning of resources, dependent on a form of 'colonial pillaging' of traditional knowledge.[12]

3 Ownership and Innovation

Varied perspectives on 'ownership' kindle the biopiracy conflict.[13] Whilst Rosenberg, a western philosopher, argues that IP ownership is a right, effectively promoting restrictions and licensing in respect of traditional knowledge associated to vascular plants, others believe that this fosters an environment in which the 'tragedy of the commons' principle becomes enshrined, as individualistic, profit-driven ideals accelerate the 'exploitation of Earth's resources'.[14] Conversely, other theorists suggest that, if left unregulated without an effective property system, the destruction of natural resources becomes inevitable through 'resource degradation and depletion'.[15]

In the bioprospecting field, IP ownership is deemed necessary to promote innovation and allow for economic growth and prosperity.[16] The establishment of property and monopoly rights conferred by IPRs allows for state regulation and the promulgation of benefit arising from commercialisation. Without property rights, little incentive would exist for innovation, resulting in stagnation — moreover, biopiracy would be legitimised as no tangible claim could be asserted over property

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[12] Antony Barnett, 'The New Piracy: How the West "Steals" Africa's Plants' *The Guardian* (London, 27 August 2006) <https://www.theguardian.com/science/2006/aug/27/plants.theobserversuknewspages > accessed 14 March 2020.

[13] Clark Wolf, 'Patent Fairness and International Justice' (2015) (7)1 WIPOJ 67.

[14] Alex Rosenberg, 'Designing a Successor to the Patent as Second Best Solution to the Problem of Optimal Provision of Good Ideas' in Annabelle Lever (ed), *New Frontiers in the Philosophy of Intellectual Property* (CUP 2014) 77; Garrett Hardin, 'The Tragedy of the Commons' (1968) 162(3859) Science 1243; Paul J Crutzen and Eugene F Stoermer, 'The Anthropocene' (2000) 41 Global IGBP Change Newsletter 17.

[15] Daniel Cole, *Pollution and Property: Comparing Ownership Institutions for Environmental Protection* (CUP 2002) 20.

[16] Roberts (n 9) 531.

whatsoever.[17] Consequently, it is first necessary to analyse whether the Nagoya Protocol affords adequate and fair protection to stakeholders and, second, whether the Nagoya Protocol distributes IP rights to legitimate stakeholders.

3.1 Novelty

Innovation is a key concept in IPRs globally.[18] In applying tangible property rights to intangible or abstract concepts, corporate and individual interests are maintained by virtue of supressing market 'free-riders' whilst providing an 'incentive to innovate' to creators.[19] This doctrine holds that, without restrictions on the use of IP, any innovator would be placed at a competitive disadvantage to use their developments, disincentivising breakthroughs and stagnating collective human progress.[20] Such a view supports corporate interests, necessitating ownership as a means of promoting development.

Whilst Salami contends that IPR restrictions on plant use, whether by means of patenting knowledge or scientific processes, contravene principles of vitalism, others contend that humankind's endeavours in patenting plants are morally fair and justifiable by virtue of development pursuits.[21] This view adopts a perspective that the patenting of life forms 'is justifiable in science', as reflected in the US ruling of *Diamond v Chakrabarty*, which established the doctrine that the novel creation of life, or employment of it, maintains innovation, and thus ought to be patentable to maintain ordinary pursuits in IP law.[22]

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[17] Robert Benko, *Protecting Intellectual Property Rights: Issues and Controversies* (American Enterprise Institute 1987) 17.
[18] Paul Torremans, *Holyoak and Torremans Intellectual Property Law* (9th edn, OUP 2019) 15.
[19] ibid.
[20] ibid.
[21] Salami (n 7); *Diamond v Chakrabarty* 447 US 303 (1980).
[22] ibid.

Whilst some argue that the very commercialisation of vascular plants represents innovation in the bioprospecting field, others contend that the 'discovery' of traditional knowledge associated with vascular plant properties does not satisfy the product of nature doctrine, delegitimising any claim over the corporate discovery of traditional knowledge in this respect.[23] Arguably, the pre-existence of traditional knowledge in bioprospecting fulfils the doctrine of innovation, as the traditional knowledge itself is tangibly different to the vascular plant to which the traditional knowledge applies.

3.2 Priority

The right of priority dictates that the first to file an application for a patent or right over property establishes a right in title.[24] Formally, the Nagoya Protocol allows for corporations to fulfil the right of priority, despite the pre-existence of traditional knowledge, provided that the patent conveying appropriate knowledge is innovative by virtue of being newly registered within a domestic regime.[25] This position promotes innovation by allowing for commercialisation, whilst effectively relegating original indigenous users to stakeholders — ie failing to recognise the historical role of indigenous people in innovating traditional knowledge.[26]

The doctrine of innovation promotes the concept of materialism in the bioprospecting field, by establishing that IPRs are necessary to safeguard and promote innovations in the use of genetic material.[27] Theoretically, such a view conforms to the Aquinian perspective that innovators naturally deserve recognition for their output, while at the

[23] Benko (n 17) 17.
[24] Joseph Straus, 'The Right to Priority in Article 4A (1) of the Paris Convention and Article 87(1) of the European Patent Convention' (2019) 14(9) JIPLP 687, 687.
[25] Nagoya Protocol (n 1) arts 15–18.
[26] Crane and Matten (n 4) 51. To clarify, Crane and Matten observe that those who 'are affected by' an organisation's objectives are stakeholders.
[27] Benko (n 17) 17.

same time Bentham's 'greatest happiness' principle is satisfied — as IPRs promote innovation that benefits mankind, satisfying both consumer and producer interests.[28] Currently the Nagoya Protocol presents a purportedly satisfactory playing field for bioprospecting corporations, which prosper from innovations arising from genetic material. However, the Protocol fails to account for unfairness in respect of other stakeholders or pre-existing users who fall outside the corporate–consumer nexus — arguably breaching normative interpretations of the doctrine of innovation.

The Nagoya Protocol arguably contravenes the doctrine of innovation by failing to necessarily account for the innovation of indigenous groups, whilst allowing for the corporate patenting of traditional knowledge by a party that has not necessarily partaken in innovation, per se. In other terms, whilst innovation in respect of genetic material is beneficial from a corporate interest perspective, benefit-sharing provisions in the Nagoya Protocol fail to adequately reflect the contribution of traditional knowledge, which arguably constitutes the major innovation. The Lockean view, expressed by authors such as Morris, holds that 'every man has a property right in his own person' — ergo, intellectual creativity leads to the property right over that intellectual creativity.[29] As such, the existence of traditional knowledge within indigenous communities arguably establishes a property right, supporting the view that indigenous people inform the innovation undertaken in a bioprospecting regime, thereby arguably securing their right to the patent under the doctrine of innovation. The employment of the right of priority principle within current interpretation of the Nagoya Protocol defeats the purpose of the doctrine of innovation by circumventing a requirement for innovation, allowing for corporate profiteering to the detriment of indigenous communities.

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[28] Thomas Aquinas in Raymond Wacks, *Understanding Jurisprudence: An Introduction to Legal Theory* (5th edn, OUP 2017) 18; Lucia Zedner, *Criminal Justice* (Clarendon Law Series, OUP 2004) 91.

[29] Sean Morris, 'The Contemporary Ideological Legitimacy of Global Intellectual Property Rights' [2020] IPQ 44, 45; Walton H Hamilton, 'Property — According to Locke' (1932) 41 Yale LJ 864, 867.

4 Indigenous Interests

In the bioprospecting field, indigenous interests are difficult to quantify. Whilst the Nagoya Protocol promotes objective ideals of benefit-sharing, in accordance with western ideals that monetary and non-monetary benefits reflect adequate compensation for loss, Macfarlane and others present the notion that indigenous interests may vary from western cultural norms.[30] Consequently, benefit-sharing provisions may reflect an unsatisfactory outcome for certain indigenous groups.

Whilst Article 6(2) of the Nagoya Protocol reflects the necessity of signatory states consulting indigenous groups, the role of the state in safeguarding these stakeholders is relatively limited.[31] Similarly, placed on 'sustainable development' in Article 1 of the Nagoya Protocol, such a principle arguably remains unsubstantiated in later provisions, and amounts to little more than a high-level aspiration.[32] Consequently, a lack of protection arises regarding indigenous stakeholder interests as adherence and enforcement remain in the hands of the state, which, as established later, may be under coercive financial pressure stemming from a desire for economic development. This stance is echoed by Morgera, who argues that the Nagoya IPR manifests as a positive legal development, whilst stripping the dignity away from indigenous populations without adequately establishing a mutual promissory agreement comprising what they may desire.[33] Instead, the onus rests on the state — whose economic interests may conflict with

[30] Ben McFarlane, Nicholas Hopkins, and Sarah Neild, *Land Law: Text, Cases and Materials* (4th edn, OUP 2018) 359; Ngang and Ageh (n 6) 426.
[31] Nagoya Protocol (n 1) art 6. Article 6(2) states that signatories shall 'take measures, as appropriate, with the aim of ensuring that the prior informed consent or approval and involvement of indigenous and local communities is obtained for access to genetic resources where they have the established right to grant access to such resources.'
[32] Nagoya Protocol (n 1) art 1.
[33] Morgera (n 11) 354.

those of indigenous groups — to determine outcomes, usually reflecting an unfair and overly formalist interpretation of the right of priority.[34]

Cadavid contends that a lack of consultation with indigenous communities renders IPRs invalid.[35] Without adequate consultation, he argues that signatories impose legislative provisions on groups whose stakeholder interests remain unidentified, whose lobbying power and resources are generally limited, and whose interests are most likely to be overlooked on a diplomatic level.[36] Cadavid's analysis focusses on the use of power by public authorities, which, by virtue of international agreements, allows the state to establish unjust and disproportionate expectations on indigenous people, resulting in provisions that, though seemingly legitimate (supporting the *pacta sunt servanda* principle), fail to respect ordinary public law duties in jurisdictions across the global south.[37] This perspective reflects earlier criticisms of the International Union for the Protection of New Varieties of Plants 1961 ('UPOV') and the Agreement on Trade-Related Aspects of Intellectual Property Rights 1995 (TRIPS), both IPRs that sought to address bioprospecting issues on an international scale, whilst arguably failing to promote proportionality on a domestic basis.[38]

Whilst such criticisms are valid, difficulty arises in addressing varied interests among ethnic groups globally to consolidate in an international agreement. Should a new IPR be too comprehensive, it risks dissuading signatories as a result of potential transposition issues into domestic law. As such it is necessary for consultation clauses to reflect the

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[34] Straus (n 24) 687.
[35] Jhonny Anonio Pabon Cadavid, 'Indigenous and Traditional Communities Must Be Consulted before Approval of Intellectual Property Treaties' (2015) 10(1) JIPL 11.
[36] International Convention for the Protection of New Varieties of Plants 1991.
[37] Cadavid (n 35); Hans Wehberg, 'Pacta Sunt Servanda' (1959) 53(4) AJIL 775.
[38] International Union for the Protection of New Varieties of Plants 1961; Agreement on Trade-Related Aspects of Intellectual Property Rights 1995; Piers Bierne and Nigel South, *Issues in Green Criminology* (1st edn, Willan 2007) 57; Kunal Mahumuni, 'TRIPS and Developing Countries: The Impact on Plant Varieties and Traditional Knowledge' (2006) 12(6) TLR 134.

doctrine of proportionality; any developments in an IPR must promote consultation on basis of domestic interpretation — allowing for proportionate domestic responses to varied interests among indigenous groups.[39]

The conflict between corporate interests, state interests, and indigenous interests reflects a global IP environment wherein inequality is propagated by virtue of the discrepancy between northern capitalism and southern cultural identity.[40] States, in promoting economic development, arguably veer in support of corporate interests as a result of the perceived economic advantage this provides to the 'greater good' of its people.[41] Arguably, temporal innovation undertaken by indigenous people is ignored, resulting in unfair and inequitable benefit-sharing provisions that undermine the legitimacy of the IPRs themselves — whether by failing to satisfy the right of priority in IP law or by failing to earnestly recognise the role of indigenous communities as stakeholders in bioprospecting activity.[42]

5 Corporate Social Responsibility

CSR is now a widely accepted part of corporate governance and encourages the involvement of business in promoting contribution to 'social, economic and environmental development'.[43] Essentially, CSR promotes sustainable business practices, based on an understanding that stakeholders in corporate activity lie beyond those with financial

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[39] Lisa Webley and Harriet Samuels, *Complete Public Law: Text, Cases and Materials* (4th edn, OUP 2018) 538.

[40] Nigel South, 'The "Corporate Colonisation of Nature": Bio-Prospecting, Bio-Piracy and the Development of Green Criminology' in Piers Beirne and Nigel South (eds), *Issues in Green Criminology* (1st edn, Willan 2007).

[41] Nick Marshall, 'Whither Intellectual Property Law in Jersey' (2018) JGLR 4, 4.

[42] Straus (n 24) 687.

[43] Crane and Matten (n 4) 51; Department of Trade and Industry, 'Press Release: Corporate Social Responsibility — A Draft International Strategic Framework' (DfT, 22 March 2004) <https://webarchive.nationalarchives.gov.uk/20060216070732/http://www.dti.gov.uk/sustainability/weee/corp_soc_resp.pdf> accessed 10 March 2020.

interests, and are also within the communities where corporate activity occurs. Although not a legal principle, the concept of CSR informs corporate ethics and company law and is therefore of interest to organisations involved in bioprospecting.

The Nagoya Protocol encapsulates notions of CSR by allowing for the imposition of community-focussed obligations on corporate stakeholders within domestic regimes. Provisions include requiring states to provide a 'help desk' for indigenous and local communities; promoting educational collaboration and training; and encouraging corporations to recognise indigenous and local communities as stakeholders in their activity through 'social recognition'.[44] Although these benefit-sharing provisions provide positive recognition in respect of indigenous groups, these measures do little to enforce a fair and equitable delineation of ownership between corporate and indigenous entities. Arguably, this reflects the notion that the Nagoya Protocol equates to little more than corporate CSR measures, with the sole difference being that compliance is regulated by the respective signatory state, as opposed to being a voluntary corporate operation.[45] Moreover, such action diminishes the cultural innovation of indigenous and ethnic communities — framing them as stakeholders rather than creators.

The Nagoya Protocol thereby reflects a westernised perspective on IPRs in the bioprospecting field, which arguably prioritises the 'exchange, profit and capital accumulation' endemic within capitalism over the interests of stakeholders without substantial financial interest.[46] Such central concerns have diminished the role of innovation by virtue of the overtly formalist interpretation this establishes on the right of priority, which, although intending to promote fairness in IPRs, has been circumvented to prioritise corporate innovation.[47]

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[44] Nagoya Protocol (n 1) art 21(c), annexes 2(d), (p).
[45] Nagoya Protocol (n 1) art 16.
[46] Cato (n 6) 61.
[47] Straus (n 24) 687.

In essence, the Nagoya Protocol reflects an IPR wherein corporate interests, owing to their seemingly beneficial output, have been promoted without adequate consideration for the role of innovation under the right of priority, and by replacing equitable benefit with watered-down CSR provisions. Ultimately, this reflects a lack of adherence to the core principles of the doctrine of innovation, arguably compromising the Nagoya Protocol's legitimacy as a fair and equitable IPR.

6 Rule of Law Considerations

In accordance with the rule of law, states have a duty to respect obligations in international law, as conceptualised by Bingham and the Venice Commission.[48] Such alignment is propagated by the *pacta sunt servanda* ('agreements must be kept') principle.[49] Whilst compliance with the Nagoya Protocol is addressed by Article 18, which ensures that signatories comply and cooperate in their adoption of provisions into domestic law, the Nagoya Protocol itself is inherently flawed in contending with differing legal regimes internationally, owing to the onus of interpretation this places on states with varying normative values.[50]

The rule of law is a universal concept — extending beyond the parameters of western or eastern jurisprudence.[51] States must comply with it to prevent tyranny and anarchy resulting from the arbitrary exercise of public power.[52] The concept that a world deprived of the rule of law, where law becomes licence, is mimetic of the tragedy of the

[48] Bingham (n 4); Preamble, 'European Commission for Democracy through Law (Venice Commission), Rule of Law Checklist' (European Commission for Democracy through Law 2016).
[49] Wehberg (n 37).
[50] Nagoya Protocol (n 1) art 18.
[51] Soli Sorabjee, 'The Rule of Law: A Moral Imperative for South Asia and the World' (Soli Sorabjee Lecture, Brandeis University, 2010) 2.
[52] Anne Dennett, *Public Law Directions* (OUP 2019) 147.

commons theory.[53] Compliance relies on the moral integrity of the state itself, further emphasising the importance of the *pacta sunt servanda* principle.[54]

Bingham lists eight key ingredients in the rule of law, observing that a failure to comply with any results in a breach.[55] Ingredients of importance to state interests in the Nagoya Protocol include 1) equality, 2) certainty and 'substantive fairness', and 3) legality.[56] The Nagoya Protocol arguably contravenes these ingredients and, in doing so, undermines its legitimacy as a source of international law in signatory jurisdictions.[57]

6.1 Equality

Equality is a key component of the rule of law. Bingham contended that 'laws of the land should apply equally to all, save to the extent that objective differences justify differentiation'.[58] Likewise, the Venice Commission made clear the necessity of 'equality before the law and non-discrimination'.[59] The Nagoya Protocol contravenes the principle of equality by promoting supposedly equitable benefit-sharing over true equitable interests — as reflected in Article 1 of the Nagoya Protocol, which centres the objective of the Nagoya Protocol on benefit-sharing.[60] This is intrinsically inequitable owing to the lack of involvement and consultation it affords to indigenous people, whilst their innovation is utilised commercially regardless of any extra-patrimonial right

[53] Hardin (n 14).
[54] Wehberg (n 37).
[55] Bingham (n 4).
[56] Jeffrey Jowell, Dawn Oliver, and Colm O'Cinneide, *The Changing Constitution* (8th edn, OUP 2015) 3; Neil Parpworth, *Constitutional and Administrative Law* (10th edn, OUP 2018) 38.
[57] Bingham (n 4).
[58] Scott Slorach and others, *Legal Systems & Skills* (3rd edn, OUP 2017) 25.
[59] European Commission (n 48).
[60] Nagoya Protocol (n 1) art 1.

assertion of a doctrine of innovation claim.[61] Conversely, it may be argued that 'objective differences' (as defined by Bingham) should allow for a form of 'ancestral patenting' whereby the requirement for innovation is set aside in favour of recognising the extra-patrimonial rights of indigenous communities.[62] Such a view reflects the perilous discrepancy emerging in state interpretation and practice — whilst formalism and monism promote an unadulterated title, with ancillary benefit-sharing provisions, whilst natural law and dualism arguably extend the concept of extra-patrimonial rights. Overall, this reflects an IPR that fails to satisfy the rule of law by virtue of the inequality it creates in respect of the right of priority. This is due to the preference that the IPR currently shows towards corporate interests and the divergent interpretations by states, as outlined later on.[63]

6.2 Certainty

Certainty is another ingredient of the rule of law.[64] From a positivist perspective, legal certainty propagates the idea that any regime is fair, provided that the system conforms 'to its own clear rules'.[65] This is embodied in the Nagoya Protocol regime, which, by promoting benefit-sharing, establishes a rule that enables parties to 'foresee with fair

[61] Extra-patrimonial rights extend beyond patrimony (i.e. the property that makes up one's estate). In certain jurisdictions, extra-patrimonial rights essentially enable a party to be granted a right in another's property that is then binding upon subsequent transfer of that property. Extra-patrimonial rights do not alter the ownership of the property, but simply afford rights to others without patrimony.

[62] Bingham (n 4); Elizabeth Pain, 'French Institute Agrees to Share Patent Benefits after Biopiracy Accusations' (*Science*, 2016) <https://www.sciencemag.org/news/2016/02/french-institute-agrees-share-patent-benefits-after-biopiracy-accusations#> accessed 10 March 2020.

[63] Straus (n 24) 687.

[64] Parpworth (n 56) 38.

[65] Leslie Green and Thomas Adams, 'Legal Positivism' *The Stanford Encyclopaedia of Philosophy* (Winter edn, 2019) <https://plato.stanford.edu/entries/legal-positivism/> accessed 1 May 2020; Scott Slorach and others (n 58) 25.

certainty how the authorities will use its coercive powers'.[66] However, legal certainty is not provided in the Nagoya Protocol for indigenous groups, where rules surrounding the patenting of traditional knowledge undermine ideas of natural justice, and thus certainty. This broader understanding of the rule of law is side-lined within the Nagoya Protocol's, as its current positivist approach does not ensure that legal progress moves in tandem with societal development. This arguably results in the arbitrary exercise of public power as there is a discrepancy between the legitimate expectations of justice, owed to indigenous communities, and the *de facto* implementation of the Protocol. As such, a positivist interpretation results in 'window dressing' — a means by which authorities *seem* virtuous without *being* virtuous — replacing 'legitimacy' with 'coercion'.[67]

The Nagoya Protocol creates a situation where economic incentives ride roughshod over the natural perspectives of justice.[68] IPRs provide great economic stimulus within a state, which arguably manifests as a coercive reason for a state to become signatory.[69] Despite the 'greater good' that economic growth encourages, the influence that financial accumulation exerts over expectations of justice results in greater cultural and social loss, as multinational corporations direct financial proceeds elsewhere.[70] Such practice within the IP forum is exhibited in the Intellectual Property (Plant Varieties) (Jersey) Law 2016,[71] which seeks to 'encourage business … to locate and invest', grounded on the basis that business arising from 'adherence to international treaties' is of greater advantage to jurisdictions over potential economic and cultural losses elsewhere.[72]

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[66] Scott Slorach and others (n 58) 25.
[67] Scott Slorach and others (n 58) 25–26.
[68] Scott Slorach and others (n 58) 26.
[69] Marshall (n 41) 10.
[70] Jeremy Bentham in Zedner (n 28); Marshall (n 41) 10.
[71] Intellectual Property (Plant Varieties) (Jersey) Law 2016.
[72] Marshall (n 41) 10.

As such, the Nagoya Protocol reflects capitalist doctrine, superseding legitimate expectations of law and natural justice. Whilst state interests are conflicted depending on normative outlooks (ie priorities of justice or business) under legal positivism, the very purpose of law is to conform to social expectations and norms, in order to remain legitimate.[73] If not, rogue and 'brutish' justice will override 'civilised' jurisdictions — uprooting overarching concepts of fairness, justice, and equity.[74] Arguably, the discrepancy between legitimate expectations of benefit-sharing within the Nagoya Protocol and state practice arising from interpretation reflects a lack of substantive fairness, impacting the legal certainty it provides to indigenous traditional knowledge users.

6.3 Legality

Likewise, legality is an integral ingredient in the rule of law.[75] This ingredient extends beyond adherence to international law, another necessity for the rule of law, and reflects the need for law to respect constitutional values of a jurisdiction. Articles 15 to 18 of the Nagoya Protocol promote transposition into domestic law regimes, thus galvanising compliance on a domestic basis.[76] The Venice Commission emphasises the importance of compliance in respect of legislative regimes, observing that public authorities must 'act within the limits of the powers that have been conferred on them' and that 'public authorities must actively safeguard the fundamental rights of individuals *vis-à-vis* other private actors'. As such, acting within the powers conferred on a state by the Nagoya Protocol still arguably relies on the safeguarding the fundamental rights of indigenous groups. Depending on perception, the Nagoya Protocol breaches the spirit of the doctrine of innovation, instead promoting corporate interests. This arguably compromises its legality owing to the misapprehension of ownership rights by corporate bodies and the misguided conferring of

[73] Patrick Selim Attiyah, *Law and Modern Society* (2nd edn, OUP 1995).
[74] Thomas Hobbes in Wacks (n 28) 25.
[75] Bingham (n 4).
[76] Nagoya Protocol (n 1) arts 15, 16, 17, 18.

such rights by signatory states, undermining legitimacy.

Therefore, the Nagoya Protocol arguably does not conform to these particular rule of law concepts. The power it confers on states to distribute ownership rights and the scope for a lack of consultation with stakeholders therefore compromises: normative ideals of equality; any certainty it affords to indigenous groups; and the legality of its terms. This is, of course, dependent on transposition into domestic law failing to remedy such shortcomings. It is necessary to consider whether it is in a state's interest to remedy such substantive issues.

7 Colonial Legacy

Linarelli observes that international law originated out of the 'use of force in support of European commercial interests to compel non-European peoples to trade … in the conquests of the land, and resources of non-European peoples'.[77] Such sentiment is echoed by Fassbender and Peters, who contend that international law reflects 'Eurocentric values' of 'colonial origins' imposed on other regions and countries, despite reassurances that this imposition is a consensual interaction.[78] Conversely, Beinart and Middleton contend that transfers relating to plants and traditional knowledge under imperial and post-imperial regimes were not wholly consensual but instead depended on 'asymmetrical patterns' of trade and exchange, reflecting the domination of western powers over indigenous communities.[79] These theories illustrate that international law is grounded in ideas of colonialism, the annexing of resources prevalent in lesser-developed

[77] John Linarelli, Margot Salomon, and Muthucumaraswarmy Sornarajah, *The Misery of International Law: Confrontations with Injustice in the Global Economy* (OUP 2018) 25.
[78] Bardo Fassbender and Anne Peters, *The Oxford Handbook of the History of International Law* (OUP 2012) 82.
[79] William Beinart and Karen Middleton, 'Plant Transfers in Historical Perspective: A Review Article' (2004) 10(1) Env & History 3.

countries, and a western capitalisation of resources endemic to these regions.

This theory extends to the field of bioprospecting. Former regimes, such as the UPOV and TRIPS agreements, received heightened criticism surrounding their provisions, which commentators respectively argued failed to account for indigenous stakeholder interests, and enabled the colonial exploitation of traditional knowledge. [80] Ultimately, the Nagoya Protocol similarly establishes a domination of the 'global north' over regions of the 'global south' in a corporate–colonial conquest.[81]

In her seminal work *Plants and Empire*, Schieberger draws parallels between modern bioprospecting and historical colonial pursuits. Portraying western 'ignorance' as a 'choice' rather than an incidental development of cultural internationalism, she conceives of the 'many forms of ignorance' as something ignorantly promoted by western powers and individuals — later codified by virtue of 'funding priorities, global strategies, national policies, the structures of scientific institutions, trade patterns, and gender politics'. Further, she observes how scientific advancement historically led to the 'vilification' of indigenous peoples, whose remedies, including plant knowledge associated with 'abortifacients', promoted the institutionalised view that non-European ethnic groups were immoral, belittling their customs whilst allowing for the hypocritical commercialisation of them.[82] These undertones, it is argued, continue to influence the Nagoya Protocol, where ethnobotany has been subsumed by corporate interests as a result of institutionalised bias.

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[80] International Union for the Protection of New Varieties of Plants 1961 (n 38); Agreement on Trade-Related Aspects of Intellectual Property Rights 1995 (n 38); Charles Kamau Maina, 'Power Relations in the Traditional Knowledge Debate: A Critical Analysis of Forums' (2011) 18(2) Int J Cult Prop 144.

[81] South (n 40) 239.

[82] Abortifacients are substances capable, or believed to be capable, of inducing an abortion. Londa Schiebinger, 'The Art of Medicine: Exotic Abortifacients and Lost Knowledge' (2008) 371 Lancet 318, 318.

8 Legal Doctrine and State Practice

A key issue in international law surrounds the conflict between legal doctrine and state practice.[83] Whilst a legal doctrine established in an international agreement may be unanimously supported by signatories, Fassbender contends that '[i]nternational law is what a state says it is', reflecting that the resulting outcome and interpretation of a doctrine is as important as the doctrine itself.[84] This divergence between doctrine and state interpretation is relevant to the Nagoya Protocol. Firstly, evaluating how state practice allows for varied interpretation of provisions permits a broader consideration of whether the agreement strikes a just and fair balance between interests. Secondly, by analysing the outcome versus the intention of the agreement, it is possible to consider its legitimacy and effectiveness as a source of international law seeking to promote 'equitable' and 'fair' benefit-sharing provisions.[85]

A doctrine established in the Nagoya Protocol is that of 'fair and equitable' benefit-sharing arising from the use of genetic resources.[86] From a positivist perspective, rulings arising from disputes between parties with reference to the Nagoya Protocol ought to stick to this key objective owing to the existence of such a provision, regardless of merit or detriment.[87] 'Fair' and 'equitable' benefit-sharing is similarly paradigmatic of natural law and corresponds to the Aquinian view that sharing per se reflects a natural inclination of wider love and grace that 'elevates the natural abilities of humans'.[88] By contrast, it would be remiss not to address the fact that corporations themselves lack human personality, despite being legal persons, and that states themselves reflect 'inaccessible character' due to the breadth of their representation

[83] Fassbender and Peters (n 78) 82.
[84] ibid.
[85] Nagoya Protocol (n 1) art 1.
[86] Nagoya Protocol (n 1) art 1.
[87] *Stanford Encyclopedia of Philosophy* (n 55)
[88] Nagoya Protocol (n 1) art 1; Wacks (n 28) 18.

and division of powers.[89] It is therefore necessary to explore the role of adjudication in civil and common law regimes to appreciate whether the doctrine of benefit-sharing transcends into domestic regimes in a fair and equitable way, as per an Aquinian interpretation, or whether interpretation gives rise to an unfair discrepancy and sustains the 'misery of international law'.[90]

8.1 Quassia amara

The Nagoya Protocol thus establishes an IPR regime that is stacked in favour of corporate interests, despite compelling CSR activity.[91] This is reflected in the Quassia incident ('Le cas de biopiraterie du Couachi') arising in French Guiana.[92] Here, the French Institute for Development Research (IRD) consulted the Kali'na, Palikur and Creole indigenous groups, inter alia, on traditional remedies for treating malaria.[93] The IRD subsequently patented compounds extracted from the *Quassia amara* plant, endemic to South America, which expressed beneficial properties for malaria treatment.[94] The Fondation Danielle Mitterrand (FDM) contested the patent's legitimacy, which failed to acknowledge the Guianese communities who contributed traditional knowledge to the IRD.[95] The FDM argued that the traditional knowledge was 'crucial

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[89] David Sugarman, 'Reconceptualising Company Law: Reflections on the Law Commission's Consultation Paper on Shareholder Remedies: Part 1' (1997) 18(8) Company Lawyer 227.
[90] Wacks (n 28) 18; Linarelli, Salomon, and Sornarajah (n 77) 25.
[91] Straus (n 24) 687.
[92] Fondation Danielle Miterrand France Libertes, 'The Couch Plant – A case history of biopiracy' (Fondation Danielle Miterand 2021) < https://www.france-libertes.org/en/publication/the-couachi-plant-a-case-history-of-biopiracy/> accessed 10 May 2021.
[93] Bourdy (n 5) 290.
[94] World Weekly, 'Biopiracy: When Corporations Steal Indigenous Practices and Patent Them for Profit' (The World, 2016) <https://www.theworldweekly.com/reader/view/2464/biopiracy-when-corporations-steal-indigenous-practices-and-patent-them-for-profit> accessed 15 May 2020.
[95] Bourdy (n 5) 290.

for the developmental innovation', calling for the 'just and equitable sharing of the patent's benefits resulting from exploitation' between the IRD and indigenous groups.[96] A hearing held at the European Patent Office in Munich acknowledged that benefit-sharing was necessary in accordance with the Nagoya Protocol; although the IRD was under no obligation to share equity with indigenous groups, it ought to establish a unilateral benefit-sharing agreement.[97] Subsequently the parties reached a multilateral agreement wherein monetary benefit-sharing provisions were established to cover income arising from any commercialisation of the traditional knowledge.[98]

The Quassia case is informative, as it first confirms that the Nagoya Protocol has statutory bearing on entities wishing to exploit traditional knowledge, second as it reflects corporate reticence to establish benefit-sharing provisions, and third as it reflects an unfair power imbalance between corporate entities and indigenous groups. Such power asymmetries are reflected in the intervention of the FDM, which both raised awareness of the case in support of indigenous groups and contested the legitimacy of the patent. Without charitable support, it is apparent that corporate interests would have overruled the interests of indigenous people. This arguably reflects inadequacies in the Nagoya Protocol in ensuring that indigenous groups receive adequate consultation on corporate activity based of their own input — illustrating (1) a stark and unresolved conflict between western corporate interests and indigenous interests in the bioprospecting field and (2) inadequate consultation naturally prevalent in state interpretation of the Nagoya Protocol.

8.2 Civil Law Perspective

As a French case, the Quassia incident illustrates a civil law interpretation of Nagoya Protocol provisions, and arguably hints at the

[96] The World (n 93).
[97] ibid.
[98] ibid.

contemplation of 'moral rights', which introduce greater consideration for the right of priority in civil law jurisdictions.[99] Described as 'directly opposed to the Anglo-Saxon copyright system', the influence of moral rights transcends a limited copyright scope and influences practice in French IP law, reflecting greater emphasis on moral and extra-patrimonial stakeholder considerations.[100]

The outcome of the Quassia hearing reflects the influence of both civil law and moral rights in a bioprospecting case. Whilst the hearing established that benefit-sharing provisions were integral provisions within the Nagoya Protocol, the ruling seems to point to an acknowledgement that the use of traditional knowledge by indigenous people reflects their individualism. This recognition arguably illustrates the weighing of 'proprietary' ownership against the 'extra-proprietary rights' granted to indigenous groups as stakeholders.[101] The differentiation between the use of traditional knowledge and the legality of patenting traditional knowledge illustrates a philosophy whereby ownership, and restrictions placed thereupon, can be freely influenced by stakeholders' interests.[102] Whilst under civil law it is entirely possible for corporations to patent traditional knowledge, the inalienable, extra-patrimonial rights of indigenous people cannot be discredited, and as such requires consideration within the fair and equitable 'use' of biological resources.[103] This philosophy reflects Morillot's theory on French civil practice, and Klostermann's theory on patrimonial rights, wherein it is contended that ownership is valid only in the recognition of the innovator.[104] Such a theory is supported by Ngang and Ageh, who contend that traditional knowledge can be viewed as a form of cultural expression, and as such should be

[99] Bretonniere and Defaux (n 5) 83; Straus (n 24) 687.
[100] Bretonniere and Defaux (n 5) 83.
[101] Nagoya Protocol (n 1) art 1; Bretonniere and Defaux (n 5) 83.
[102] Thomas F Cotter, 'Pragmatism, Economics and the Droit Moral' (1997) 76(1) NCL Rev 1, 1.
[103] Nagoya Protocol (n 1) art 1.
[104] Andre Morillot in Bretonniere and Defaux (n 5) 83; Mira T Sundara Rajan (ed), *Moral Rights: Principles, Practice and New Technology* (OUP 2011) 75–76.

accounted for on a human rights basis, as opposed to under IPRs.[105] Given the value of traditional knowledge in expressing cultural identity, Ngang and Ageh contend that western concepts surrounding intangible property are inadequate in scope, arguably reflecting the potential for extra-patrimonial rights as a means of promoting concepts of equality and fairness.[106]

Moreover, the backlash against corporate domination in the Quassia case is mimetic of attitudes to ownership in both French and other European IPRs. French IP regimes offer explicit protection of moral rights. This is best reflected in the sanctity of 'droit de suite' principle, which is an extra-patrimonial right afforded to creators or their heirs to receive a fee for the resale of their creation, regardless of its ownership. It is evident that such intervention is grounded in the 'originality' of the traditional knowledge, and the 'special relationship' forged between indigenous people and vascular plants. This means that as stakeholders, 'any harm done' in the commercialisation of a plant will 'effectively be inflicted on the author' — that being the indigenous group.[107] This view mirrors artistic views on ritual and performance and plays into romantic concepts of 'identity' as not solely scientific, or genetic but a reflection of the customs and experiences that inform individual and group congruence.[108] Ultimately, the Quassia affair illustrates the way in which the Nagoya Protocol can be interpreted dualistically as a cultural and social phenomenon under civil law, promoting stakeholder interests as an extra-patrimonial right to property interests, despite inadequacies in the regime as a whole.

Arguably, the role of the FDM in contesting the patent similarly illustrates a more socialist approach to challenging power asymmetries,

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[105] Ngang and Ageh (n 6) 426.
[106] Ngang and Ageh (n 6) 426.
[107] Cotter (n 102) 1; Nobuko Kwashima, 'The Droite de Suite Controversy Revisited: Context, Effects and the Price of Art' (2006) 3 IPQ 223; Bretonniere and Defaux (n 5) 83.
[108] Ngang and Ageh (n 6) 426.

by raising of awareness and condemning the 'exchange, profit and capital accumulation' of corporate bodies when such 'central concerns' harm others.[109] Balick and Cox, proponents of dualism as state practice, similarly convey that 'the very roots of human culture are deeply entwined with plants'.[110] They posit that both international agreements and human attachment should be considered in bioprospecting arbitration, establishing that monist interpretations sever human attachment in place of corporate interests.[111] Such a belief establishes that monist state practice surrounding IPRs including the Nagoya Protocol are outdated, reiterating the requirement for reform or greater emphasis on non-economic considerations in its interpretation.

8.3 Common Law Perspective

Whilst the Quassia case arguably reflects the scope for extra-patrimonial rights to be encompassed within benefit-sharing provisions, such a view is contrasted in the monist view adopted in common law jurisdictions. Monism dominates IP philosophy in common law jurisdictions, as the concept of ownership overrules other stakeholder interests, under the belief that extra-patrimonial rights compromise legal title.[112] Essentially, this reflects the fact that corporatism and individualism are dominant forces in common law states, resulting in two key phenomena — common law jurisdictions generally rule more favourably in the interest of corporations, and, consequently, bioprospecting corporations register businesses and patents in favourable common law jurisdictions to protect IP, essentially to avoid paying benefit-sharing contributions to indigenous communities around the world.[113]

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[109] Cato (n 6) 61.
[110] Michael Balick and Paul Alan Cox, *Plants, People, and Culture: The Science of Ethnobotany* (Scientific American Library 1997) 100.
[111] ibid.
[112] Cotter (n 102) 1.
[113] Maina (n 80) 144; Marshall (n 41) 4.

The monist approach endemic to common law jurisdictions reflects the sanctity of property within the majority of Anglo-US, and Commonwealth, jurisdictions.[114] Described as a 'fundamental right', intellectual property is treated as an asset that like material property can be divided equitably or wholly — restrictions may exist in ownership, but the implications of inalienable moral rights exert too substantial a risk in stifling 'innovation and experimentation'.[115] Put simply, benefit-sharing attempts to satisfy both civil and common law regimes by attempting to provide greater stakeholder protection, which is ultimately at odds with such ownership principles. The Nagoya Protocol arguably contrasts with other IPRs, such as the Paris Convention, which purportedly established 'harmonisation' measures in respect of variation between dualist and monist regimes.[116] Despite the Nagoya Protocol obliging states to cooperate in the resolution of disputes, the regime respects the autonomy of distinctive legal systems, thereby allowing for a divergence in outcome. Such softness reflects unfairness in 'equality before the law' internationally.

Under common law regimes, several remedies may be available to indigenous stakeholders under the Nagoya Protocol. IP is a form of intangible property.[117] The doctrine of proprietary estoppel establishes that, in property law, a claim by party B can give rise to personal or property rights over the property of party A, provided that a number of grounds are met.[118] Such a principle can arguably be considered a

[114] Bretonniere and Defaux (n 5) 83.
[115] Tom Allen, 'Property as a Fundamental Right in India, Europe and South Africa' (2007) 15(2) APLR 193.
[116] Paris Convention for the Protection of Industrial Property 1883; Poku Adusei, 'Regulatory Diversity as Key to the Myth of Drug Patenting in Sub-Saharan Africa' (2010) 54(1) J Afr Law 26.
[117] M Clarke and others, *Commercial Law: Text, Cases and Materials* (5th edn, OUP 2017) 54–55.
[118] David Neuberger, 'The Stuffing of Minerva's Owl? Taxonomy and Taxidermy in Equity' (2009) CLJ 538.

common law remedy to contending with biopiracy claims, dependent on these points being satisfied.[119]

Although the doctrine of proprietary estoppel typically deals in land, Attenborough contends that the principle could be refigured to deal with environmental interests — arguably, it could similarly be applied to claims surround the biopiracy of traditional knowledge. [120] Under this arrangement, an indigenous group could operate as the claimant. By establishing that they would have a realised or promised interest in the corporate activity, the indigenous party should be able to rely on a corporation's assurances and establish detriment. Proprietary estoppel results in reliance damages — that being the 'minimum to do justice' to the afflicted claimant.[121]

Whilst the application of proprietary estoppel may remedy a breach of agreement under the Nagoya Protocol, such a resolution does not remedy broader shortcomings in respect of the fairness and equity embedded within the regime as a whole. Estoppel primarily focusses on the pecuniary award of damages, which may not be of interest to indigenous groups, and requires resources not ordinarily available to indigenous peoples, such as legal knowledge and travel flexibility. The resolution ordinarily requires the input of NGOs to remedy wrongs of tort on behalf of indigenous groups, mirroring the role of FDM in the Quassia case, owing to the onus it places on the claimant. Moreover, indigenous groups must be able to establish numerous elements of the proprietary estoppel test. Such a monist regime reflects less flexibility in the extra-patrimonialism exhibited under French and civil law IP regimes, despite similar issues surrounding access to justice.

As such, proprietary estoppel appeals only in its breadth of application within the existing IPR, and similarly only reflects a doctrine that may be applied in common law jurisdictions; in doing so, it fails to account

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[119] Daniel Attenborough, 'An Estoppel-Based Approach to Enforcing Environmental Responsibilities' (2016) 28 J Env Law 275.
[120] ibid.
[121] *Crabb v Arun District Council* [1976] Ch 179 (CA) 198 (Lord Denning MR).

for jurisdictional variation globally. Moreover, proprietary estoppel is monist in its scope, as the establishment of personal or property rights per se does not deal with the collective interests of indigenous populations, save for the award of equity in a patent in a class action. This remedy is variable depending on state practice, and wholly unsatisfactory in redressing a lack of recognition for innovation among indigenous people, should a tangible relationship not exist between corporations and indigenous people. If knowledge is transposed to a western source, and then on to a corporate entity, this remedy affords limited, if any, protection to indigenous groups.[122]

9 Reform

The foregoing discussion has established that the Nagoya Protocol is unfair and inequitable as a result of: (1) the benefit-sharing arrangements it establishes; (2) the favour it extends to corporate stakeholders; and (3) interpretation issues in international law. Its benefit-sharing provisions fail to adequately and collectively reimburse indigenous people as innovators, whilst the regime results in states incidentally breaching the core rule of law doctrines of equality, certainty, and legality. Variation in state practice waters down the benefit-sharing provision that the Nagoya Protocol seeks to advance, which in itself allows for a derogation of equitable involvement in exchange for weak CSR-like provisions.

Benefit-sharing is arguably the central objective of the Nagoya Protocol, allowing for the revenue generated by multinational corporations to 'trickle down' into the local cultures where bioprospecting operations take place.[123] Having scrutinised the role of corporations in the Nagoya Protocol regime, it is apparent that the balancing line between corporate and indigenous interests is poorly

[122] Cato (n 6) 61.

[123] Nagoya Protocol (n 1) art 1; Verdiana Giannetti and Gaia Rubera, 'Innovation for and from Emerging Countries: a Closer Look at the Antecedents of Trickle-Down and Reverse Innovation' (2019) 1(1) J Acad Marketing Science 1.

drawn. In promoting benefit-sharing, the Nagoya Protocol has prioritised the involvement of corporations over that of indigenous groups, by failing to acknowledge indigenous peoples' original ownership of traditional knowledge.[124] This contravenes a naturalist interpretation of the doctrine of innovation as corporations have complete control over the equitable title, and thus commercial output, associated with traditional knowledge, to the detriment of original users, whose communities have arguably undertaken the innovation — whether historically or otherwise. In essence, this illustrates corporations benefiting from title without having made a novel contribution by virtue of the Nagoya Protocol. This undermines the doctrine of innovation and diminishes the integrity of the IPR.

The benefit-sharing provisions of the Nagoya Protocol thus reflect a codified extension of CSR regimes, without providing adequate stakeholder involvement to indigenous peoples through an equitable share of corporate interest. Remedy for this arguably rests in the strengthening of domestic interpretation in the global south. Annex 1(j) of the Nagoya Protocol provides a means for indigenous peoples to receive equity in corporate bioprospecting ventures, which appears an overlooked solution.[125] Incorporating and enforcing statutory rights for indigenous stakeholders to share in the commercial outputs of bioprospecting, more specifically those embodying traditional knowledge, will consolidate a corporation's ability to legitimately benefit from traditional knowledge. It will do so by firstly satisfying the right of priority, secondly by providing fair and equitable benefits to indigenous people, and thirdly by providing indigenous people with a say in the corporate activity arising from the use of traditional knowledge.[126] Such changes would bolster the legitimacy of the Nagoya Protocol by placing heightened emphasis on benefit-sharing, as addressed in Article 1.

[124] Nagoya Protocol (n 1) art 1.
[125] Nagoya Protocol (n 1) Annex 1(J).
[126] Straus (n 24) 687.

Such domestic reform is unlikely to occur owing to the prevalence of corporate lobbying and protectionism in many nations, but may arguably encourage greater economic development by providing legal certainty to all stakeholders and promoting a dynamic and more fair and equitable distribution of benefit.

However, the inadequacies identified here within the Nagoya Protocol reflect the need for greater adherence to key rule of law doctrines and the need for greater consideration of indigenous stakeholders beyond moderate benefit-sharing. State practice waters down the benefit-sharing provisions of the Protocol when transposed into domestic law, by virtue of discrepancies in legislative regimes. In order to recognise the cultural innovation of indigenous people and fulfil promises of true fairness and equity, it is submitted that a flexible international regime should remain, allowing for greater domestic flexibility among signatories. This aligns with Cato's contention that economies need localising in order to accommodate sustainable development and to promote non-corporate interests in economies.[127] With regard to the global bioprospecting field, this necessitates domestic legal reform to regionalise corporate activity, allowing for greater state regulation and greater stakeholder involvement. Such a view is reflected by Morris, who contends that 'the concept of international property rights is, in itself, problematic', owing to the very suggestion that 'certain property rights are transferable beyond the sovereign state'.[128] Similarly, he argues that the view that IP constitutes property per se only muddies interpretation, resulting in a 'system of rights' that 'privatise[s] public international law'.[129] An appropriate remedy for this is a radical domestic reinterpretation of the Nagoya Protocol in the global south. Whereas the existing regime legitimises biopiracy by stripping the property rights of indigenous groups and replacing their involvement with weak benefit-sharing provisions, measures must be taken to promote equity in patents among indigenous groups, or an ability to assert extra-patrimonial rights universally.

[127] Cato (n 6) 61.
[128] Morris (n 29) 45.
[129] ibid.

Views on what constitutes property vary within the international community, as does the legitimacy of extra-patrimonial rights. Whilst some states convey that traditional remedies reflect artistry,[130] and as such ought to be protected under safeguards for artistic expression, others contend that traditional knowledge merely conforms to ordinary property ownership.[131] The only way in which these discrepancies can feasibly be addressed is for a signatory to define what it considers traditional knowledge to be, and to ensure that this ownership or artistry is protected in accordance with stricter domestic legislation. Such a domestic overhaul will not only afford greater fairness and equity in the bioprospecting regime but will also localise global corporate operations. The need for more localised and specialised regulatory knowledge could help force corporations into considering and involving indigenous interests. Ultimately, the breaking of the present 'colonialist' attitude to the patenting of traditional knowledge rests on the exercise of autonomy by countries in the global south. The global north is unlikely to commit to reform that may hinder its prosperity.[132]

As the field of ethnobotany develops and indigenous rights become increasingly recognised, it is essential that signatories address a lack of equity and fairness in the Nagoya Protocol by adopting more stringent domestic regimes.[133] Such regimes will encourage a divergence from western reticence to distributing profit, historically arising from colonial practice and business interests.[134] Fair and due consideration of rights will satisfy the spirit of the Nagoya Protocol by allowing for both dualist and monist regimes, and thus both common law and civil law jurisdictions, to properly engage with indigenous interests on a

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[130] Adusei (n 116) 26.
[131] Adusei (n 116) 26.
[132] Fassbender and Peters (n 78) 82.
[133] J Valles and T Garnatje, 'A Vindication of Ethnobotany' (Metode Universitat de Valencia, 2015) <https://metode.org/issues/document-revistes/a-vindication-of-ethnobotany.html> accessed 10 November 2019; Cathal Doyle, 'Indigenous Peoples and the Millennium Development Goals — Sacrificial Lambs or Equal Beneficiaries' (2009) 13(1) IJHR 44, 44.
[134] Fassbender and Peters (n 78) 82; Cato (n 6) 61.

proportionate basis. The provision of equity to indigenous originators of traditional knowledge will similarly reduce discrepancies in philosophy surrounding traditional knowledge — whether considered strict IP, as per the Lockean view, or 'cultural property' depending on the normative values of the jurisdiction. Such a recognition of rights in respect of traditional knowledge serves as an acknowledgment of indigenous communities' innovation, legitimises the Nagoya Protocol by promoting equity and fairness, and ensures that the Protocol aligns with key tenets of the rule of law.