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Schrödinger's Rose: Indeterminacy and Contingent Futures in the Plant Variety Rights System of Aotearoa New Zealand

https://doi.org/10.1515/pol-2023-2024

Abstract: Plant variety rights, a somewhat obscure and technical form of intellectual property, are often assumed to be conceptually uncomplicated. The two essential purposes of plant variety rights laws are typically to incentivise the creation of novel varieties with useful characteristics and to reward breeders for these efforts. These rationales are seldom questioned. However, plant variety rights regimes might be better understood as open-ended, containing multiple potential futures that are innate though they may never be fully realised. This article reviews a series of Parliamentary debates over the three generations of plant variety rights legislation in Aotearoa New Zealand. The article shows that over time, rather than remain static the perceived rationale for recognising intellectual property for plants in New Zealand has shifted and expanded. Justifications have grown from a narrow focus on supporting a nascent, export-oriented horticultural industry to the endorsement of a broad platform that aims both to promote domestic agricultural innovation and to achieve Indigenous sovereignty over culturally significant plants. The prior indeterminacy that characterises plant variety rights legislation in Aotearoa invokes the metaphor of Schrödinger's cat, in that these laws' multiple futures are contingent and may resolve themselves differently depending on whose aspirations are formally recognised and applied in practice. The nature of plant variety rights is therefore spectral, pervaded – both implicitly and sometimes overtly – by the ambitions of different people, as well as by the types of plants and ways of knowing that these laws exclude.

Keywords: plant variety rights; Aotearoa New Zealand; indigenous knowledge; mātauranga Māori; taonga plants; parliamentary history

In 1972, fourth generation rose breeder Sam McGredy uprooted from his native Ireland and settled in another small, green island on the other side of the world. McGredy's move was motivated both by the climate of Aotearoa New Zealand – which is warm enough to cultivate roses without relying on greenhouses – and the political instability

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and violence that were widespread during the Irish Troubles.[1] By the time he was contemplating his emigration, McGredy was already intimately familiar with legal systems that recognise intellectual property for plants, having successfully lobbied the British government to adopt plant variety rights legislation in the 1960s.[2]

Upon landing in Aotearoa, McGredy wasted no time before pressuring the New Zealand government to introduce a similar law. During Parliamentary debates over the Plant Variety Rights Bill in 1973, Ministers of Parliament who endorsed the proposal emphasised that "a world-famous producer of roses is now established in New Zealand and has been awaiting the passage of this legislation to protect his plant varieties."[3] They "g[a]ve thanks to Mr Sam McGredy, who appeared before the committee and gave the benefit of his wide experience on this type of legislation," even noting that the rose breeder was "responsible for some minor modifications."[4] In fact, the common narrative is that McGredy made it known to lawmakers that he would only immigrate to New Zealand if a plant variety rights statute were enacted.[5]

In a remarkable parallel to the situation of the United States some 70 years earlier – when prominent horticultural breeders such as Luther Burbank successfully petitioned the American Congress to establish a plant patent law[6] – it appears that the introduction of a system of intellectual property for plants in New Zealand can be largely attributed to the efforts of one person. However, since that time plant variety rights imaginaries have evolved in Aotearoa, with different parties envisaging the use of this form of intellectual property to achieve distinct aspirations.

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1 "Sam McGredy Obituary: Champion Rose Breeder with an Irreverent Streak." *The Irish Times* (October 19, 2019). <https://www.irishtimes.com/life-and-style/people/sam-mcgredy-obituary-champion-rose-breeder-with-an-irreverent-streak-1.4055298>; "NZ Growers Pay Tribute to World-Renowned Rose Breeder Sam McGredy Who Has Died." *New Zealand Herald* (August 28, 2019). <https://www.nzherald.co.nz/nz/nz-growers-pay-tribute-to-world-renowned-rose-breeder-sam-mcgredy-who-has-died/NMVSVELK22BTNFXJZBMXTBX64E/>

2 Irish Times, "Sam McGredy Obituary."

3 Hon. C. J. Moyle. "Plant Varieties Bill, Second Reading." New Zealand Hansard Debates (October 10, 1973), Vol. 386, p. 4328.

4 Hon. D. J. Carter. "Plant Varieties Bill, Second Reading." New Zealand Hansard Debates (October 10, 1973), Vol. 386, p. 4329.

5 See, e.g., Doug Calhoun, "Wai 262: The Long White Cloud Over New Zealand IP Law," *Intellectual Property Forum: Journal of the Intellectual Property Society of Australia and New Zealand* Vol. 114 (2018): 8–20, 11 (stating that before moving from Ireland to Aotearoa, McGredy "got a promise from the New Zealand Government that they would implement plant breeder's protection legislation"); Karine Peschard, *Searching for Flexibility: Why Parties to the 1978 Act of the UPOV Convention Have Not Acceded to the 1991 Act* (Association for Plant Breeding for the Benefit of Society, 2021): 37, note 170 (stating that McGredy "made moving his business to New Zealand conditional on the introduction of PBRs [plant breeders' rights]").

6 Daniel J. Kevles, "Patents, Protections, and Privileges: The Establishment of Intellectual Property in Animals and Plants," *Isis* Vol. 98(2) (2007): 323–331.

While commercial plant breeding enterprises and scientific organisations continue to endorse plant variety rights due to the law's perceived ability to promote innovation, international trade, and economic growth, the regime is now additionally understood as a means to realise the constitutional guarantees contained in the Treaty of Waitangi | Te Tiriti o Waitangi.[7] Of particular interest is the possibility that the plant variety rights system may give effect to the promise that Māori – the Indigenous people of Aotearoa – can continue to exercise tino rangatiratanga (full chieftainship or sovereignty) over taonga (culturally significant or treasured) plants, in addition to their mātauranga Māori (traditional knowledge).

Plant variety rights are often assumed to be conceptually uncomplicated. These kinds of laws typically state that their essential purposes are to incentivise the creation of novel varieties with useful characteristics and to reward breeders for these efforts,[8] and these rationales are seldom questioned. However, plant variety rights regimes might be better understood as open-ended, with potentialities that remain to be articulated even if they are not necessarily realised. By reviewing a series of Parliamentary debates over the three iterations of plant variety rights laws (enacted in 1973, 1987, and 2022), this article shows that over time, rather than remain static the perceived rationale for recognising intellectual property for plants in New Zealand has shifted and expanded. Justifications have grown from a narrow focus on supporting a nascent, export-oriented horticultural industry to the endorsement of a broad platform that aims both to promote domestic agricultural innovation and to

7 The Treaty of Waitangi | Te Tiriti o Waitangi is considered the founding document that lays the groundwork for the modern nation of Aotearoa New Zealand. Because New Zealand does not have a written constitution, the Treaty is understood as one of the key documents that forms part of the country's constitutional framework. Joseph, P. A. (1993). *Constitutional And Administrative Law in New Zealand*. (Wellington: Thomson Reuters New Zealand). The Treaty was signed between the British Crown and Māori rangatira (chiefs) on 6 February 1840 in Waitangi, Bay of Islands. See Treaty of Waitangi Act 1975. Preamble. The Treaty | Te Tiriti guarantees to Māori the exercise of tino rangatiratanga, generally understood in English as absolute sovereignty or full chieftainship over their taonga (treasures or culturally significant things), including plants. The relevant text in Māori language states, "Ko te Kuini o Ingarani ka wakarite ka wakaae ki nga Rangatira ki nga hapu-ki nga tangata katoa o Nu Tirani te tino rangatiratanga o o rātou wenua o rātou me o rātou taonga katoa" (Ko te Tuarua). Treaty of Waitangi Act 1975, Schedule 1. Notably, the text of Te Tiriti in English contains a weak translation of tino rangatiratanga and employs a very narrow translation of the concept of taonga. The relevant text guarantees to Māori the "exclusive and undisturbed possession of their lands and estates, forests, fisheries and other properties". Treaty of Waitangi 1840, Second Article. The differences between the English and Māori versions of the text have been widely debated, and are beyond the scope of the present article, whose analysis adheres to the language employed in the Māori version.

8 For example, the aim of the International Union for the Protection of New Varieties of Plants (UPOV) is to encourage the development of new varieties of plants, for the benefit of society. UPOV. <https://www.upov.int/portal/index.html.en>.

achieve Indigenous sovereignty over culturally significant plants, as constitutionally guaranteed in the Treaty of Waitangi | Te Tiriti o Waitangi. This latter purpose is one manifestation of a broader legal shift that is currently occurring in Aotearoa, which involves the revitalisation of Te Tiriti and the development of a bijural legal system that draws upon both English common law and tikanga Māori (correct procedures, rules, or customs).[9]

The prior indeterminacy that characterises plant variety rights legislation in Aotearoa invokes the metaphor of Schrödinger's cat,[10] in that the law's multiple futures are contingent and may resolve themselves differently depending on whose aspirations are incorporated into the regime and applied in practice. For instance, the potential reimagination of the New Zealand plant variety rights system as a vehicle for the realisation of the promises of the Treaty of Waitangi depends upon the extent to which the system can depart from or expand upon its European philosophical foundations. The nature of plant variety rights may be understood as spectral because the three manifestations of these laws in Aotearoa have all been pervaded – both implicitly and sometimes overtly – by the ambitions of different people, as well as by the types of plants and ways of knowing that the law excludes. While the spectre of Sam McGredy and the European legal precedents that he endorsed remain visible in the third (2022) iteration of New Zealand plant variety rights legislation, the law is also haunted by traditional Māori ways of knowing and relating to plants that are not easily reconcilable with Western conceptions of

9 As Māori scholars have noted, historically New Zealand laws and policies have been based on Western liberal beliefs and values, while Indigenous beliefs and values have been marginalised. In this way, attempts have been made to ensure that legal constructs such as rights make allowance for Māori concepts, including tikanga, but in doing so Western ideas have been regarded as "norm", while Indigenous systems are treated as "other". Ani Mikaere, "Seeing Human Rights Through Māori Eyes," *Yearbook of New Zealand Jurisprudence* Vol. 10 (2007): 53–58. Against this backdrop, recently there has been a growing recognition that three distinct legal systems have existed in Aotearoa New Zealand, with the first being "Kupe's Law", which was tikanga Māori, followed by "Cook's Law", which was English common law, while a third body of law, "Lex Aotearoa" began to emerge in the 1980s and continues to evolve today. Justice Joe Williams, "Lex Aotearoa: An Heroic Attempt To Map The Māori Dimension In Modern New Zealand Law," *Waikato Law Review* Vol. 21 (2013): 1–34. See also Jacinta Ruru, "First Laws: Tikanga Māori In/And The Law," *Victoria University of Wellington Law Review* Vol. 49: 211–228.

10 In invoking the Schrödinger's cat metaphor, this article expressly draws upon Yngvesson and Coutin's (2008) work on the ethnography of law, which illustrates that the "quantum physics problem of the relationship between a measured outcome and the much more contingent (and multiplicitous) history that resulted in that outcome also characterizes both law and ethnography" (p. 62). Specifically, prior to judicial rulings or the enactment of statutes, different parties' understandings of concepts or facts may be in contention, but once law is made social reality becomes officially constituted. Barbara Yngvesson and Susan Coutin, "Schrödinger's Cat and the Ethnography of Law," *PoLAR: Political and Legal Anthropology Review* Vol. 31(1) (2008): 61–78.

proprietary rights. The following sections trace the ethereal and material expressions of plant variety rights in Aotearoa as the system of intellectual property for plants has evolved over time.

1 Formalisation: 1973

Prior to the early 1970s, it was difficult if not impossible to obtain proprietary rights for new varieties of plants in Aotearoa New Zealand. Under the Patents Act 1953 and cases decided under this law, plants were not precluded from patent protection, because the commercial nature of breeding allowed the resulting "vendible" products to be considered inventions.[11] However, a plant variety could only meet the "manner of new manufacture" test to qualify as an invention if the breeding process was not solely dependent upon the internal process of the plant itself, that is, the variety must have been the result of human intervention.[12] Additionally, to be patentable under the Patents Act 1953, a new plant variety needed to be novel, not obvious, and useful.[13] These criteria for patentability applied awkwardly to plants. The written description required to demonstrate novelty proved inadequate to portray the distinct traits that new varieties embodied, while the non-obviousness criterion made little sense in the context of plant breeding because it is the attractiveness of the new variety itself rather than the inventiveness of the method of production that secures economic reward for the breeder.[14]

Due to the uncomfortable fit between patent law and plant breeding, in practice few plant varieties were protected as intellectual property in Aotearoa for most of the twentieth century. This situation contrasted with places like the United States and Europe, where plant variety rights or analogous laws had been passed decades earlier. In countries with specialised systems of intellectual property for plant varieties, seeds and other breeding material had become increasingly protected with proprietary rights beginning in the mid-twentieth century, leading to the growth and later consolidation of private agricultural enterprises.[15] Meanwhile, in New Zealand, there was scant private sector involvement in plant breeding before the first Plant

11 Catherine Brown, "Protecting Plant Varieties: Developments in New Zealand," *Victoria University of Wellington Law Review* Vol. 18 (1988): 83–94, 87.

12 Brown, "Protecting Plant Varieties: Developments in New Zealand," 85.

13 Brown, "Protecting Plant Varieties: Developments in New Zealand," 88–90.

14 Brown, "Protecting Plant Varieties: Developments in New Zealand," 90.

15 Jack Ralph Kloppenburg Jr., *First the Seed: The Political Economy of Plant Biotechnology* (2nd Edition) (University of Wisconsin Press, 2004).

Varieties Act took effect in 1975.[16] Although discussions about the possible implementation of plant variety rights legislation date to at least 1961 in Aotearoa,[17] a formal bill did not materialise until Sam McGredy arrived in the country. However, once the Irishman began lobbying lawmakers, other parties including the Royal New Zealand Institute of Horticulture and the New Zealand Nurserymen's Association made it known that they were "very strongly in support of the legislation".[18]

At the time when the 1972 Plant Varieties Bill was being evaluated in Parliament, intellectual property for plants was considered an obscure and uncontroversial issue. Although the Bill was "of very considerable significance to a relatively small group of people, namely, those horticulturalists who are interested in developing an industry, and an export industry in particular",[19] it generated scant debate. One Minister of Parliament found the explanation of the Bill during its second reading to be "rather dull to listen to, because its provisions are mostly of a machinery nature."[20]

For the first several years after the New Zealand Plant Varieties Act was passed in 1973, the law only applied to a handful of species, starting exclusively with roses in 1975.[21] Fittingly, McGredy was awarded the first plant variety right in Aotearoa, for a rose variety called Matangi.[22] Between 1975 and 1980, the Act could only be used to protect plants from six species, namely barley, perennial ryegrass, annual ryegrass, potatoes, and lotus, in addition to roses.[23] The narrow initial application of plant variety rights reveals both the influence of McGredy and lawmakers' focus on developing certain industries for exportation. The limited scope of the law was significant for what it excluded. Notably, it was not until 1981 when regulations explicitly expanded the Act to grant rights to all species, a change that was motivated

16 H. J. Bezar, R. B. Wynn-Williams, & A. V. Stewart, "Plant Variety Rights in New Zealand: A Review," *Proceedings of the Agronomy Society of New Zealand* Vol. 20 (1990): 17–23.

17 T. E. Norris, "The Plant Varieties Act 1973," *Annual Journal of the Royal New Zealand Institute of Horticulture* Vol. 5 (1977): 12–14.

18 Hon. D. J. Carter, "Plant Varieties Bill, Introduction." New Zealand Hansard Debates (October 19, 1972): Vol. 381, 3485.

19 Hon. C. J. Moyle, "Plant Varieties Bill, Second Reading." New Zealand Hansard Debates (October 10, 1973): Vol. 386, 4326–27.

20 Hon. C. J. Moyle, "Plant Varieties Bill, Second Reading," 4328.

21 New Zealand Plant Varieties Regulations 1975. Available at <http://www.nzlii.org/nz/legis/num_reg/pvr1975287/>.

22 New Zealand Intellectual Property Office, "History of IP in New Zealand." Available at <https://www.iponz.govt.nz/about-iponz/history-of-ip-in-new-zealand/>.

23 R. B. Wynn-Williams, "Plant Breeders' Rights Legislation with Special Reference to Native Plants," *Tuatara* Vol 29(1–2) (1987): 8–12.

by the obligations that New Zealand undertook when it joined the International Union for the Protection of New Varieties of Plants (UPOV Convention) that same year.

The first iteration of plant variety rights legislation in Aotearoa made no reference to the government's obligations under the Treaty of Waitangi regarding Māori rights to taonga plants, and the law overtly elevated Western scientific plant breeding and the commercial exploitation of new varieties over mātauranga Māori and ancestral human-plant relationships. Although after 1981 the Act could be used to claim rights to new varieties of plants native to New Zealand – including those considered taonga by Māori – in practice this was rarely done. As recently as 2021, only 6 percent of granted plant variety rights pertained to taonga species.[24] Crucially, however, Māori did not appear to own any of the plant variety rights for taonga species in 2021,[25] demonstrating that while the New Zealand intellectual property system did not formally bar native or culturally significant plants from protection, it did effectively undermine the promises made in the Treaty of Waitangi. The structure and use of the plant variety rights system in Aotearoa privileged non-native species, Western science, and European legal philosophy, but the law remained haunted by the people, knowledges, and plants it marginalised.

2 Consolidation: 1987

After New Zealand joined the International Convention for the Protection of New Varieties of Plants in 1981, it became clear that the 1973 Plant Varieties Act would need to be amended to be made consistent with this international treaty. A proposal to reform the Act was introduced into Parliament in 1983, however, it stalled due to a change of government.[26] The revised Plant Variety Rights Act was finally passed in 1987, but not before undergoing significant debate both within Parliament and in the broader public sphere. In the years since a system of intellectual property for plants was first established in Aotearoa, plant variety rights had become controversial.

Support for the 1985 Plant Variety Rights Bill in Parliament continued to invoke commercial imaginaries, but rather than focus narrowly on the aspiration to develop an export industry narrowly focused on horticultural species, rhetoric now emphasised efficiency, innovation, and technological development in plant breeding

24 David J. Jefferson, "Reconciling Guardianship with Ownership: Protecting Taonga Plants, Māori Knowledge, and Plant Variety Rights in Aotearoa New Zealand," *Journal of World Intellectual Property*. https://doi.org/10.1111/jwip.12292.

25 Jefferson, "Reconciling Guardianship with Ownership."

26 Jefferson, "Reconciling Guardianship with Ownership."

for a wide range of agricultural applications. Lawmakers expressed the desire for breeders to have access to high quality germplasm, including seeds owned by overseas companies. "It is very important that the country has a good pool of genetic material, and that it has the best cultivars that are available so that plant breeders … can work in the most efficient way possible."[27] Increasing crop yields was also seen as a crucial factor motivating the reform of the 1973 Act. Comparing New Zealand to "developed" country members of the UPOV Convention, some Members of Parliament believed a regime that offered more extensive intellectual property rights to breeders would provide public and private organisations alike with the necessary incentive to invest in creating higher yielding varieties.[28]

In parallel, a new range of concerns had arisen about the potential negative ramifications that could result from aligning the domestic plant variety rights legislation with the UPOV Convention. Some scientists and scientific organisations in New Zealand opposed the expansion of rights for plant breeders based on the expectation that doing so would consolidate ownership of vegetative material, such that only a small number of multinational companies would exclusively control crucial agricultural inputs.[29] In this context, "if the company that owns them decides not to grow or sell that variety the variety can disappear and be lost to mankind [*sic*] as an important gene that would have been useful for future development."[30] Worries about the potential erosion of agrobiodiversity were framed in distinctly Cold War-era language and foresaw future apprehension about the existential impacts of climate change. "The threat posed to mankind's [*sic*] food base by modern hybrids having a very narrow genetic base is as great as the threat posed by nuclear war. If the genetic base of the modern hybrids is too narrow, and if the environment changes substantially, the international food base could be wiped out within a very short time frame."[31]

For the first time, debates over the 1985 Plant Variety Rights Bill considered arguments that the proposed system of intellectual property for plants might violate the Treaty of Waitangi, particularly due to a perceived lack of Māori control over native plants. These debates occurred in a global context in which new genetic engineering technologies for plant breeding were being popularised, rendering the

27 Denis Marshall, "Plant Variety Rights Bill, Second Reading." New Zealand Hansard Debates (February 5, 1987): Vol. 477, 6860.

28 Marshall, "Plant Variety Rights Bill, Second Reading," 6863.

29 Marshall, "Plant Variety Rights Bill, Second Reading," 6862.

30 Marshall, "Plant Variety Rights Bill, Second Reading," 6862.

31 Dr Lockwood Smith, "Plant Variety Rights Bill, Third Reading." New Zealand Hansard Debates (February 10, 1987): Vol. 477, 6901.

components of biodiversity increasingly valuable as scientific and economic "resources."[32] Throughout the 1980s and early 1990s, social movements led by Indigenous peoples and peasants worldwide took collective action against the misappropriation of their local biodiversity and traditional knowledge, claiming that elite foreign interests were committing "biopiracy."[33] Indigenous activism ultimately led to the formalisation of international legal frameworks including the Convention on Biological Diversity in 1993, and in Aotearoa the development of the "flora and fauna" ("Wai 262") claim that six claimants[34] representing different Māori iwi (tribes) brought before the Waitangi Tribunal[35] in 1991.

However, when the Plant Variety Rights Bill was being debated in 1985, activism in response to lack of Indigenous control over native biodiversity and traditional knowledge was still nascent, in both Aotearoa and overseas. The Parliamentary committee responsible for the Bill ultimately dismissed the idea that the Bill would violate the Treaty of Waitangi, claiming that Māori concerns arose out of a misunderstanding of the scope of the plant variety rights regime. "There appeared to be a lack of appreciation that the present Act and the Bill only apply to cultivated varieties of plants – or cultivars, and not to botanical varieties. The Bill poses no threat to existing varieties, whether native or not."[36] Despite the committee's dismissal, these concerns again highlight how the New Zealand plant variety rights system has been haunted by that which it excluded, particularly concepts drawn from te ao Māori (the Māori worldview) such as taonga and mātauranga. While the social reality of intellectual property for plants appeared to be officially constituted in Aotearoa by the late 1980s, the spectral presence of an alternative way of understanding human-plant relationships persisted.

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32 David J Jefferson, *Towards and Ecological Intellectual Property: Reconfiguring Relationships Between People and Plants in Ecuador* (Routledge, London 2020).

33 E.g., Vandana Shiva, "Bioprospecting as Sophisticated Biopiracy," *Signs: Journal of Women in Culture and Society* Vol. 32(2) (2007): 307–313.

34 The claimants, who lodged the Wai 262 claim on behalf of themselves and their iwi, were Haana Murray (Ngāti Kurī), Hema Nui a Tawhaki Witana (Te Rarawa), Te Witi McMath (Ngāti Wai), Tama Poata (Ngāti Porou), Kataraina Rimene (Ngāti Kahungunu), and John Hippolite (Ngāti Koata), with the assistance of lawyer Moana Jackson (Ngāti Kahungunu). Waitangi Tribunal, *Ko Aotearoa Tēnei* (Wellington, 2011): vi.

35 Under the Treaty of Waitangi Act 1975, the Waitangi Tribunal was created to hear claims alleging breaches of the promises that the Crown made in the Treaty of Waitangi. Initially, the Tribunal could not investigate retrospective claims, however, under the Treaty of Waitangi (Amendment) Act 1985, the Tribunal can now hear claims arising out of Crown breaches occurring on or after 6 February 1840 (Art. 3).

36 Rt. Hon. R. J. Tizard, "Plant Variety Rights Bill, Second Reading." New Zealand Hansard Debates (February 5, 1987): Vol. 477, 6860.

3 Experimentation: 2022

Uncertainty about how to reconcile the tension between intellectual property for plants and Māori rights in relation to taonga and traditional knowledge, as guaranteed by the Treaty of Waitangi, lingered long after the Plant Variety Rights Act was reformed in 1987. For years after the flora and fauna claim was lodged in 1991, questions about how to protect Māori interests in biodiversity remained unresolved – and many have yet to be answered today. The flora and fauna claim alleged that the New Zealand government (the Crown) had breached the promise it made in the Treaty of Waitangi to protect the "highest chieftainship" of Māori "over all their treasured things."[37] The claimants argued that their kaitiaki relationships – entailing guardian responsibilities to nurture and care for taonga[38] – and their associated Indigenous knowledge should be recognised in New Zealand law.[39] Some claimants proposed that kaitiaki should have a veto over scientific and commercial exploitation of taonga species,[40] while others contended that the law should grant ownership rights to kaitiaki for the genetic and biological resources of taonga species and associated mātauranga Māori.[41]

It took twenty years for the Waitangi Tribunal to evaluate the flora and fauna claim. When a report was finally issued in 2011, the Tribunal concluded that kaitiaki do not have an ownership interest in taonga plants, but that they are entitled to reasonable control over native and culturally significant species, in addition to their mātauranga Māori.[42] The Tribunal provided a series of specific recommendations for how the plant variety rights system should be revised, however, it took another decade passed before reform legislation was introduced into Parliament.

While the 2021 proposal to revise the Plant Variety Rights Act 1987 did respond to the Waitangi Tribunal's recommendations, the timing of the introduction of the Bill into Parliament appeared to have been driven primarily by the obligations that New Zealand undertook in signing a multilateral trade deal, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, rather than the need to respond to the flora and fauna claim. Commensurately, many parliamentarians supported the 2021 Plant Variety Rights Bill due to a perceived need to harmonise domestic law with the most recent version of the UPOV Convention, desiring to

37 Waitangi Tribunal, *Ko Aotearoa Tēnei: A Report Into Claims Concerning New Zealand Law and Policy Affecting Māori Culture and Identity*. (Wellington, 2011): 24.
38 Waitangi Tribunal, *Ko Aotearoa Tēnei*, 5.
39 Waitangi Tribunal, *Ko Aotearoa Tēnei*, 63.
40 Waitangi Tribunal, *Ko Aotearoa Tēnei*, 63.
41 Waitangi Tribunal, *Ko Aotearoa Tēnei*, 63.
42 Waitangi Tribunal, *Ko Aotearoa Tēnei*, 63.

"make New Zealand a very attractive destination for foreign breeders that are looking to bring their investment abroad."[43] In a small nation where "[t]rade is the lifeblood of our economy,"[44] Aotearoa needed to remain competitive, and the best way to accomplish this goal would be to produce horticultural products such as apples, kiwifruit, hops, and berries that "compete on innovation and quality" and are attractive to consumers in North American, European, and Asian markets.[45]

While discourses on innovation and commercial competitiveness were hardly surprising in the context of intellectual property for plants, the extent to which lawmakers engaged with te ao Māori concepts during debates over the 2021 Plant Variety Rights Bill was striking. By this time over 20 % of Ministers of Parliament were Māori,[46] and some spoke in support of the Bill. Meka Whaitiri, of Ngāti Kahungunu and Rongowhakaata ancestry, celebrated the proposal as "an acknowledgement of Indigenous knowledge" and a gift for the greater good that "has unified the nation."[47] In her speech, Whaitiri told the story of how her ancestor Hine Hākirirangi brought kūmara (sweet potato) to Aotearoa. She analogised the inclusion of mātauranga Māori in the Bill to the historical gift of kūmara, asserting that "[i]t is not a thing to be afraid of – putting Indigenous Māori people in part of our development as a nation is a good thing for this nation."[48]

Many non-Māori Members of Parliament also supported the Bill, and in doing so they emphasised the need to incorporate material and metaphysical subject matter that had been excluded from the extant system of intellectual property for plants in Aotearoa. Marja Lubeck, a Dutch-born Member of Parliament of Indonesian descent, argued in favour of incorporating protections for mātauranga Māori and customary resource use, noting that "we must … ensure that we do adhere to our obligations under Te Tiriti o Waitangi. So, the changes in this Bill will give Māori a direct say in how kaitiaki relationships with our taonga plants species should be protected within the plant variety rights regime."[49] Naisi Chen, a parliamentarian who immigrated to New Zealand from China, argued that Māori need to have "the authority to make

43 Marja Lubek, "Plant Variety Rights Bill, Second Reading." New Zealand Hansard Debates (May 10, 2022), Vol. 759.

44 Jamie Strange, "Plant Variety Rights Bill, Second Reading." New Zealand Hansard Debates (May 10, 2022), Vol. 759.

45 Hon Dr Nick Smith, "Plant Variety Rights Bill, First Reading." New Zealand Hansard Debates (May 19, 2021), Vol. 752.

46 Electoral Commission | Te Kaitiaki Take Kōwhiri, "A More Diverse Parliament." Available at <https://elections.nz/democracy-in-nz/25-years-of-mmp/a-more-diverse-parliament/>.

47 Hon Meka Whaitiri, "Plant Variety Rights Bill, Third Reading." New Zealand Hansard Debates (November 15, 2022), Vol. 674.

48 Hon Meka Whaitiri, "Plant Variety Rights Bill, Third Reading."

49 Marja Lubek, "Plant Variety Rights Bill, Second Reading." New Zealand Hansard Debates (May 10, 2022), Vol. 759.

rulings on which plants we … need to protect in line with tikanga Māori."[50] Non-Māori lawmaker Angie Warren-Clark expressed a desire for the plant variety rights law to be expanded to prevent the misappropriation of taonga species, such as the kauri tree: "… someone might take some seeds, create a kauri tree and then take that … genetic [material] overseas and claim it as their own. That is something that we in this country do not want to have happen."[51]

While the support for Māori interests by non-Māori Members of Parliament was notable, the extent to which the Plant Variety Rights Act 2022 might prevent misappropriation of taonga species and associated Indigenous knowledge remains untested. The Act established a Māori Plant Varieties Committee, which has binding authority to review plant variety rights applications for varieties that are derived entirely or partially from indigenous plant species and non-indigenous species of significance.[52] If the Committee determines that private ownership rights would have adverse effects on the kaitiaki relationship, it will have full authority to either impose conditions on the grant, or decline the application altogether,[53] and it may also nullify or cancel existing plant variety rights for indigenous species and non-indigenous species of significance upon application.[54] While this new framework could prevent the misappropriation of taonga plants in some instances, the powers of the Committee are limited to evaluating plant variety rights applications where the breeding material was physically obtained from New Zealand,[55] it is unclear how it would prevent misuse of mātauranga Māori, and of course its authority is limited to the domestic sphere, without any recourse to address biopiracy concerns in overseas jurisdictions.

For these reasons, although the 2021 Plant Variety Rights Bill was supported by both major political parties of New Zealand, representatives from some of the minor parties believed that the proposal did not go far enough to protect Māori interests in taonga plants. For instance, Minister of Parliament for the Green Party Ricardo Menéndez voiced concern that the Bill was "not really reflective of an equal partnership arrangement between Treaty partners and … it fails to acknowledge a Māori perspective on the natural world."[56] Rather than confine protections for taonga

50 Naisi Chen, "Plant Variety Rights Bill, First Reading." New Zealand Hansard Debates (May 19, 2021), Vol. 752.

51 Angie Warren-Clark, "Plant Variety Rights Bill, First Reading," New Zealand Hansard Debates (May 19, 2021), Vol. 752.

52 Plant Variety Rights Act 2022, s 55(a).

53 Plant Variety Rights Act 2022, s 67.

54 Plant Variety Rights Act 2022, s 69(1).

55 Plant Variety Rights Act 2022, s 55(b).

56 Ricardo Menéndez, "Plant Variety Rights Bill, Second Reading." New Zealand Hansard Debates (May 10, 2022), Vol. 759.

species and mātauranga Māori to the plant variety rights system, the Green Party argued in favour of adopting broader, standalone legislation that would be based on tikanga Māori (customary law). While clearly supportive of an increased governance role for Māori in relation to native and culturally significant plants, this perspective also assumed that the epistemological underpinnings of plant variety rights laws are fixed and incapable of incorporating alternative systems of knowledge and practice.

Throughout the process of reforming the Plant Variety Rights Act, different Members of Parliament and of the public – including representatives of iwi and other Māori-led organisations – voiced diverging views about the compatibility between intellectual property and te ao Māori. As noted earlier, some of the claimants on the original flora and fauna claim believed that the law should recognise that kaitiaki have proprietary interests in taonga plants and associated Indigenous knowledge. In contrast, Māori-led organisations like the Te Kāhui Rongoā Trust have noted that according to te ao Māori it is not possible to own plants, because "[w]e belong to the world, the world does not belong to us."[57] Similarly, diverging views have been expressed over whether it is appropriate to commercialise genetic or biological resources derived from taonga species, with some supporting such commercial activity so long as it is conducted in accordance with tikanga Māori.[58] The presence of these debates demonstrates that Māori perspectives on the appropriateness of protecting taonga and mātauranga as property are mixed, with different configurations possible to realise the constitutional guarantee of tino rangatiratanga.

4 Conclusions

Parliamentary debates over the three iterations of plant variety rights legislation (1973, 1987, and 2022) in Aotearoa New Zealand demonstrate how understandings of the meaning and purpose of intellectual property have shifted and expanded over time. While the law was initially designed to actualise the commercial aspirations of an "irreverent" rose breeder with a "flair for publicity,"[59] plant variety rights eventually came to represent different desires held by diverse people. In this way, an area of law that is often dismissed as dull and technical nevertheless offers opportunities to achieve new imaginaries, or at least to imagine that distinct ways of protecting human relationships with the vegetal world are possible. As critical historians of intellectual property have noted, the legal recognition of proprietary

57 Te Kāhui Rongoā Trust, "Plant Variety Rights Bill 2021 Submission to Parliament" (1 July 2021).
58 Carwyn Jones, "Ko Aotearoa Tēnei – Genetic and Biological Resources in Taonga Species," *Māori Law Review* (February 2012).
59 Irish Times, "Sam McGredy Obituary."

concepts beckons parties with very different interests to frame their claims in the language of intellectual property.[60] Once the law conceptualises the relationship between people and things – including plants – as one characterised by ownership, it becomes difficult to fully escape the notion of property. Because of this, legal systems that recognise plant variety rights are perpetually haunted by the material and metaphysical objects they exclude. In Aotearoa, spectres of the people, plants, and knowledge systems that have been omitted from the plant variety rights system are becoming increasingly visible, although their presence remain marginal.

Research funding: This work was supported by the University of Canterbury Vision Mātauranga Development Fund.

Bionote

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60 Andrew Ventimiglia, "'A Name Which to Them is Sacred:' Quakers and Religious Trademarks in American Enterprise," this issue.