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Making Room at the Table: Theoretical Foundations and Practical Implications of the WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge

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"Our work here at the IGC was not ideal, but it is iconic. It was not perfect, but it is pragmatic. It is not all we should have done, but we did all that we could do."
— Ruth L. Okediji, 2024†

This Article examines the World Intellectual Property Organization ("WIPO") Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge ("GRATK treaty" or "treaty"), the first international intellectual property ("IP") instrument that formally acknowledges Indigenous Peoples and Local Communities and the genetic resources ("GRs") and traditional knowledge ("TK") they develop and steward. The treaty requires utility patent applicants to disclose the country of origin or the source of the GRs and associated TK on which the claimed inventions are based. While it stops short of creating substantive rights, the treaty is an important extension of the global IP architecture and a model of how its internal processes can be effectively leveraged by weaker states. The Article highlights several promises of the GRATK treaty: It enshrines the symbolic and moral claims of Indigenous knowledge systems, expands prospects for economic value by facilitating benefit-sharing agreements across international regimes, strengthens the public interest in the patent system, and paves the way for innovation through hybrid knowledge frameworks that draw from diverse epistemological traditions. As the GRATK treaty moves toward ratification and implementation—two milestones that face significant hurdles—realizing its potential will require sustained attention to the design of enforcement mechanisms, a focus on the structural challenges posed by accelerating technological change, and a deeper reckoning with the role of communal knowledge in transnational innovation. Despite the substantial challenges ahead, the GRATK treaty marks a historic evolutionary step in the dynamics that have shaped contemporary global IP lawmaking and begins to address longstanding inequities in how innovation is recognized, rewarded, and regulated across diverse knowledge and cultural contexts.

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Table of Contents

Introduction

In the difficult landscape of contemporary international relations, the conclusion of a multilateral treaty on any topic, much less one that sits at the intricate nexus of human rights, innovation, and trade, is a noteworthy diplomatic achievement. That is exactly what happened on May 24, 2024, with the conclusion of the World Intellectual Property Organization ("WIPO") Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge ("GRATK treaty" or "treaty").

The essential accomplishment of the GRATK treaty is the addition of a mandatory disclosure requirement to the patent system. Utility patent applicants in ratifying WIPO states must identify the country of origin and source of the genetic resources ("GRs") or associated traditional knowledge ("TK") on which the applicants' claimed inventions are based, if any. The mandatory disclosure obligation operates according to two criteria that determine whether

an invention is "based on" GRs and/or associated TK.[1] First, the GRs/TK must constitute an essential element of the claimed invention.[2] Second, the invention must demonstrably rely on the specific properties of the GRs/TK.[3]

Negotiations leading to the GRATK treaty were stewarded by the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore ("IGC"), which was established by the WIPO General Assembly in 2000 under politicized conditions.[4] The crisis that impelled the IGC's creation was a controversial proposal submitted by Colombia during Patent Law Treaty negotiations in 1999 to impose a disclosure-of-origin requirement on patentees.[5] In broader terms, however, the GRATK treaty has its provenance in the grim history of 19th-century European colonial expansion. Colonialism and its related theories of cultural difference produced a variety of legal technologies—including intellectual property ("IP") rights—that excluded non-European peoples and knowledge systems from a burgeoning global governance apparatus directed at securing strategic benefits in cross-border trade.[6] Bitter echoes of this history could be heard throughout

1. *See* WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, May 24, 2024, WIPO GRATK/DC/7 [hereinafter GRATK Treaty], https://www.wipo.int/edocs/mdocs/tk/en/gratk_dc/gratk_dc_7.pdf [https://perma.cc/V2NB-SFLX].

2. *See id.*, art. 2, ¶6 ("'Based on' means that the genetic resources and/or traditional knowledge associated with genetic resources must have been necessary for the claimed invention, and that the claimed invention must depend on the specific properties of the genetic resources and/or on the traditional knowledge associated with genetic resources.").

3. *Id.*

4. *See* WIPO, *Matters Concerning Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore*, WIPO General Assembly, Twenty-Sixth (12th Extraordinary) Session, WIPO Doc. WO/GA/26/6, Aug. 25, 2000; WIPO, *Report Adopted by the Assembly*, WIPO General Assembly, Twenty-Sixth (12th Extraordinary) Session, WIPO Doc. WO/GA/26/10, Oct. 3, 2000. *See* Ruth L. Okediji, *A Tiered Approach to Rights in Traditional Knowledge*, 58 Washburn L.J. 271, 284–86 (2019) (describing the creation of the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore [hereinafter IGC] in the context of WIPO's institutional dynamics). For a fuller treatment of the IGC's origins, see generally Ahmed Abdel-Latif, *Revisiting the Creation of the IGC: The Limits of Constructive Ambiguity?*, *in* Protecting Traditional Knowledge: The WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore 10–27 (Daniel F. Robinson, Ahmed Abdel-Latif & Pedro Roffe eds., 2017).

5. Patent Law Treaty, June 1, 2000, 39 I.L.M. 1047. *See also* Abdel-Latif, *supra* note 4, at 15.

6. Included among these technologies were economic governance through private firms such as the East India Company that had rights to acquire territory on behalf of the British Crown and to conduct commerce for the Crown's benefit; extraterritorial treaties that guaranteed Europeans separate court systems in native territories; and the idea of customary law, such as in Africa, which fundamentally expressed local confrontations with European interests rather than an unambiguous cultural assertion. *See* Antony Anghie, *Civilization and Commerce: The Concept of Governance in Historical Perspective*, 45 Vill. L. Rev. 887, 902–03 (2000); Martin Chanock, Law, Custom, and Social Order: The Colonial Experience in Malawi and Zambia 125–40 (1985) (describing how the interaction of colonial courts and African elites resulted in the making of customary law). Chanock concluded that "in the development of . . . the colonial

the prolonged IGC negotiations, and some elements of the GRATK treaty embody ongoing contestation over the normative claims of Indigenous Peoples and Local Communities ("IPLCs") and the governance of their knowledge goods in relation to the IP ecosystem.[7]

This Article considers certain conceptual and structural aspects of the international IP system as a distinctive feature of the public international legal order. The GRATK treaty is an especially important agreement for this analysis because it represents a convergence of regimes managed across multiple international organizations and involving nontraditional actors. The Article evaluates the treaty's place in the constellation of instruments that inform the global regulation of knowledge goods, enriched by insights from leading scholars who have contributed to this special volume of the Harvard International Law Journal. My goal is to reflect on the international IP system's ability to absorb new claims and new actors that are wholly distinct from its historic methods of norm generation and that challenge its long-standing commitment to safeguarding the interests of conventional users of the patent system. In this light, a few unequivocal assertions are necessary to both delimit the scope of the Article and to clarify some imprecise premises regarding the treaty, already evident in some emerging discourse and literature about the treaty's meaning and importance.[8]

First, the GRATK treaty is a patent treaty; it is not a treaty with GRs, TK, or IPLCs as its subject matter. Second, despite important overlaps and some provisions that facilitate regime coherence in biodiversity governance, the GRATK treaty is not a *sui generis* access and benefit-sharing treaty, nor is it an effort to

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and post-colonial states . . . customary law served most usefully, not as a system of rules, but as a method of legitimation." *Id.* at 238.

7. *See, e.g.*, GRATK treaty, *supra* note 1, art. 10 (establishing an Assembly of Contracting Parties vested with authority to deal with "all matters concerning the maintenance and development of [the] Treaty as well as its application and operation."). However, due to concerns expressed principally by the United States, the Assembly has only limited power to amend the governance structure. *See id.* art. 10.2(f). More controversially, revision of the Treaty could involve non-contracting parties, meaning countries not party to the treaty could participate in a Diplomatic Conference to revise its terms. *See id.* art. 14. *See also* Chidi Oguamanam, *The New WIPO Genetic Resources and Associated Traditional Knowledge Treaty: A Symbolic and Modest Step toward an Inclusive and Just IP System*, Oguamanam.com (May 24, 2024), https://www.oguamanam.com/publications/new-wipo-treaty [https://perma.cc/J5EH-7C57] ("non-demandeur countries . . . were insistent on participating in the treaty-making organs (the Treaty Assembly and Diplomatic Conference) to potentially influence decisions including reviews/revisions of the treaty. These decisions are the exclusive purview of contracting parties to the treaty.").

8. *See, e.g.*, Frédéric Perron-Welch, *Bio-Based Innovation and the Global Patent System: Exploring the WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge*, GRUR Int'l, Oct. 21, 2024; *Nations Agree Landmark Treaty on Traditional Knowledge, Protecting Indigenous Peoples' Rights*, United Nations (May 24, 2024), https://news.un.org/en/story/2024/05/1150231 [https://perma.cc/9MDF-5YJD].

buttress the Convention on Biological Diversity ("CBD")[9] and its Nagoya Protocol ("NP").[10] Third, the GRATK treaty is not a substantive IP treaty; it does not address the patentability of lifeforms or other questions of patentable subject matter, nor standards of patentability. Fourth, the GRATK is a formalities treaty, one that focuses on a procedural dimension of patent law's administrative apparatus. The treaty's stated goals are purely functional: to enhance the transparency of, and strengthen confidence in, the patent system.[11]

To be clear, the GRATK treaty's disclosure requirement could contribute to the overall goals of existing environmental, public health, and human rights treaties, including international instruments regarding the rights of IPLCs. Indeed, article 7 provides that the GRATK treaty "shall be implemented in a mutually supportive manner with other international agreements . . . ." But these important considerations should not be confused or conflated with what the GRATK treaty is and what it does and does not do.

The GRATK treaty consists of 22 articles, of which arguably only two are substantive: article 3, which sets forth the disclosure requirement, and article 5 on sanctions and remedies.[12] The other 20 provisions represent efforts to align the orientation of the GRATK treaty with the classical international IP system. To better understand the treaty and its significance in the global regulation of knowledge goods, a brief recount of the principal themes of the relationship among international law, IP, and IPLCs is helpful. I turn to this task in Part I by reviewing the historical context of international law's engagement with non-European cultures and peoples, and how this was mirrored in IP law, including in the treatment of IPLCs' knowledge. In Part II, I briefly describe the treaty's accomplishments that are not evident by reading its plain text. Finally, in Part III, I outline the treaty's challenges.

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9. Convention on Biological Diversity, *opened for signature* June 5, 1992, 1760 U.N.T.S. 79 [hereinafter CBD].

10. *See* 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, Tenth Meeting of the Parties to the Convention on Biological Diversity, U.N. Doc. UNEP/CBD/COP/DEC/X/1 (Oct. 29, 2010) [hereinafter Nagoya Protocol].

11. *See* GRATK treaty, *supra* note 1, art. 1 ("The objectives of this Treaty are to: (a) enhance the efficacy, transparency and quality of the patent system with regard to genetic resources and traditional knowledge associated with genetic resources, and (b) prevent patents from being granted erroneously for inventions that are not novel or inventive with regard to genetic resources and traditional knowledge associated with genetic resources.").

12. The attention to sanctions in the treaty—notwithstanding its limits—offers an assurance of legality (or law) to the disclosure obligation. *See generally* H. L. A. Hart, The Concept of Law (1961) (law without sanction is feasible, but a legal system requires sanctions); Anthony Townsend Kronman, *Hart, Austin, and the Concept of Legal Sanctions*, 84 Yale L. J. 584 (1975) (concluding that Hart and Austin share similar views on the need for sanctions).

I. Conceptual and Historical Developments in Intellectual Property Frameworks and Traditional Knowledge

A. International Law, Intellectual Property, and Sovereignty Deficits

For centuries, IPLCs have sustained vast reservoirs of biodiversity, transmitted intricate plant, ecological, and medicinal knowledge, and nurtured collective cultural innovations and artistic forms. Public international law, through its foundational doctrines of sovereignty and territory, enabled and rationalized international IP law's disregard of these contributions—first, because colonies had no legal status in the international order, and later, because the customary laws that developed in that period foreclosed viable pathways for IPLCs in those countries to (re)gain whatever had been their expressions of rulership.[13]

The methods for integrating newly independent countries into the international legal order comprised advocacy for human rights, the rule of law, and related concepts of good governance that focused on defining the terms by which these countries would engage the global order.[14] The significant efforts at integration did not address, much less alter, the idea of Western dominance or the disregard of non-European peoples and cultures.[15] Rather, the important and democratically salient post-war regimes masked the deeply contested bases for European conquest in the first place, leaving inchoate the necessary consideration of what sovereignty and statehood could involve for these new societies.[16] As the role of the post-independence state evolved in

13. Antony Anghie, *The Evolution of International Law: Colonial and Postcolonial Realities*, 27 Third World Q. 739, 740, 745 (2006). *See also* Martin Chanock, *Branding Identity and Copyrighting Culture: Orientations towards the Customary in Traditional Knowledge Discourse*, *in* Traditional Knowledge, Traditional Cultural Expressions and Intellectual Property Law in the Asia-Pacific Region 177, 178 (Christoph Antons ed., 2009) ("The colonial state brought immensely far reaching changes to colonized peoples which undermined their structures of authority, their relationships to land, their relationships to other peoples, gender and generational relationships in their communities; and usually completely changed the economic world within which they lived.").

14. Anghie, *supra* note 6, at 894 ("Attempts by Western states to promote good governance in the non-European world are simply one example of . . . reproducing in the non-Western world a set of principles and institutions which are seen as having been perfected in the Western world and which the non-Western world must adopt . . . .").

15. *See* Ruth L. Gana, *Has Creativity Died in the Third World – Some Implications of the Internationalization of Intellectual Property*, 24 Denv. J. Int'l L. & Pol'y 109, 143–44 (1995).

16. To adapt a phrase from the eminent legal historian Martin Chanock to how international law jurists framed the integration of developing countries into international law, "concerns with the minutiae of their field obscure the broader political and moral issues that lay behind their intellectual pursuits." *See* Martin Chanock, *Anthropology, Law, and Empire Foundations in Context*, *in* The Oxford Handbook of Law and Anthropology (Marie-Claire Foblets et al. (eds.), 2020).

the Global South, it had two related challenges, namely how to hold on to a sort of cultural nationalism that had buoyed independence efforts and how to adapt to the institutional framework of a global order into which they were being welcomed.

The quest for economic development became a particularly effective intellectual and political tool for developing and least-developed countries to navigate the recurring contest between domestic governance according to local customary values and membership in a community of states with fixed rules, norms, processes, and institutions. Development ideals won, largely because the idea of "development" seemed constitutive of the sovereignty which the new states demanded as a moral imperative. If sovereignty was the antithesis of the colonial apparatus, absorbing the substantive content of international law regimes was both an expression of triumph over the colonial past and an embrace of the duties of the modern state.[17]

With development a foremost priority, fiscal policies, the rule of law, human rights, and other international obligations, including IP norms, were accepted as part of the governance mantle of the newly independent states.[18] As leading commentators have pointed out, taken together, the design of sovereignty in international law explicitly redefined the internal functioning of these societies. Former colonies joined the international IP system by adopting extant IP treaties they had not helped design, while at least implicitly eschewing the distinctive knowledge systems of their IPLCs and the values from which they derived.[19] As I have noted elsewhere:

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17. David Kennedy, *New Approaches to Comparative Law: Comparativism and International Governance*, Utah L. Rev. 545, 569 (1997) ("[T]he classic international legal system consolidated the state sovereign as the only subject of international law and extended a proceduralized order . . . to universal application, equated it with civilization . . . as an expression of European enlightenment culture and colonial power.").

18. Ruth L. Okediji, *The Limits of International Copyright Exceptions for Developing Countries*, 21 Vand. J. Ent. & Tech. L. 689, 698–99 (2020) ("In a longstanding tradition, development rhetoric from international organizations helped shape the expectations of governing elites in developing countries so that they welcome, demand, and sometimes even lead in the paternalism that has long characterized their participation in the international IP system.").

19. *See* Ruth L. Okediji, *The International Relations of Intellectual Property: Narratives of Developing Country Participation in the Global Intellectual Property System*, 7 Sing. J. Int'l & Comp. L. 315, 330–31 (2003) (describing the use of declarations to extend the Berne Convention to the newly independent countries). *See also* Martin Chanock, *Branding Identity and Copyrighting Culture: Orientations Towards the Customary in Traditional Knowledge Discourse*, *in* Traditional Knowledge, Traditional Cultural Expressions and Intellectual Property Law in the Asia-Pacific Region 177–93 (Christoph Antons ed., 2009) ("The current ways in which cultural identity is experienced and cultivated is a product of processes, first of colonization, now of globalization. These experiences must be understood if we are not to misidentify the world for which 'traditional knowledge' regimes are being devised.").

> Since the 1960s, development goals have provided powerful rhetoric and shaped institutional and political strategies for encouraging newly independent developing countries to enact a full suite of domestic [IP] laws, to join international IP treaties, and to send government officials for 'capacity building' or training programs. Development rhetoric also has conditioned developing and least-developed countries to demand formal assurances of technical assistance for 'development' as a quid pro quo for their participation in the international IP framework.[20]

None of the technical or developmental assistance from the post-war multilateral institutions considered GRs or TKs as objects of strategic or institutional importance. Indeed, participation by the new states in the existing international IP system meant that the knowledge of IPLCs was considered as something other than IP.[21] Canonical IP doctrines, including inventorship/authorship, ownership, novelty/originality, and the public domain, disqualified the knowledge systems of IPLCs from the discrete categories of IP recognized in the founding conventions.[22] The harmonization impulse propelling the global IP system also facilitated arguments by proponents and critics against using IP to protect TK, emphasizing its differences[23]: Communal authorship or inventorship is not a feature of copyright or patent law, and fixed terms of protection are not typically associated with IPLCs' knowledge systems. This lingering narrative of difference between IP on the one hand, and GRs and TK on the other, amounts to a rejection of the claims of IPLCs. Or, as Carol Rose points out, it is a failure to persuade conventional innovator communities of the legitimacy of the claims of IPLCs.[24]

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20. *See* Okediji, *supra* note 18, at 691. *See also* Ruth L. Gana, *The Myth of Development, the Progress of Rights: Human Rights to Intellectual Property and Development*, 18 L. & Pol'y, 315 (1996).

21. Silke von Lewinski, *Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions*, *in* Research Handbook on The World Intellectual Property Organization: The First 50 Years and Beyond 243 (Sam Ricketson ed., 2020) ("Genetic resources, traditional knowledge and traditional cultural expressions may well be regarded as the 'aliens' within the overall work of WIPO. They may be so regarded because they are quite different from the objects of pre-existing 'classical' intellectual property rights in many fundamental respects.").

22. Paris Convention for the Protection of Industrial Property, Mar. 20, 1883, as last revised at the Stockholm Revision Conference, July 14, 1967, 21 U.S.T. 1583, 828 U.N.T.S. 305 [hereinafter Paris Convention]; Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, as revised at Paris, July 24, 1971, 1161 U.N.T.S. 3.

23. The desire to exempt cultural property, or heritage, from the commoditization process, and to preserve it as a distinctive marker of cultural boundaries necessarily falls back on distinguishing it from other commodities, and this in turn has required a particular view of indigenous culture.

24. Carol M. Rose, Property and Persuasion: Essays on the History, Theory, and Rhetoric of Ownership 3 (1994) ("One person's property can only exist, by and large, because other people accept it. In turn, that social relationship of claim and recognition only exists because people are able to communicate their claims and because others understand and

It is no surprise, then, that when applied by IP offices or courts, those key IP doctrines strip GRs and TK of any moral claim to the law's solicitude precisely because they do not conform to the requisite cultural forms and conditions (e.g., sole authorship, fixation, or novelty) or easily map onto the constitutive justifications for IP protection.[25] And because the public interest is arguably at the center of IP theory, the denial of legal status to IPLCs' GRs or TK claims likely did not appear morally outrageous. Instead, failure to recognize IPLCs and their knowledge was an implicit condition for participation in the international legal order. IP, along with free trade, human rights, and the rule of law, was an element of "responsible" statehood: a marker of sovereignty equal to that of Western States and necessary to achieve the economic transformation attendant to meaningful independence.[26] Indeed, from the independence era of the 1960s through the development era of the 1990s, the conception of IP as a requisite institution for economic development took firm shape[27] and steadily displaced any idea of advancing domestic innovation without conventional IP rights.[28]

The outcome of all this is that countries in the Global South engaged in the international IP system as sovereigns with structural deficits. The intellectual project to reject claims of innovation specifically tied to local cultures and practices of IPLCs partially explains why every IP treaty in the post-war period featured deeply contested provisions on technical assistance, differentiated enforcement periods, or other development-related assurances and aspirations.

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more or less agree to honor them."); *see also* Carol M. Rose, *Traditional Knowledge and the Limits of Property*, 66 Harv. Int'l L.J. 81 (2025) (Special Edition).

25. Justin Hughes, *The Philosophy of Intellectual Property*, 77 Geo. L.J. 287 (1988). *See also* William Fisher, *Theories of Intellectual Property*, *in* New Essays in the Legal and Political Theory of Property (Stephen Munzer ed., 2001) (noting four principal approaches to IP and stating that "[t]he first and most popular of the four employs the familiar utilitarian guideline that lawmakers' beacon when shaping property rights should be the maximization of net social welfare.").

26. Gana, *supra* note 15. *See also* Ruth L. Okediji, *Reframing International Copyright Limitations and Exceptions as Development Policy*, *in* Copyright Law in an Age of Limitations and Exceptions 429 (Ruth L. Okediji ed., 2017).

27. The link between IP protection and development is often highlighted in the preambles of international IP agreements. *See, e.g.*, Agreement on Trade-Related Aspects of Intellectual Property Rights, pmbl. ¶ 5, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299 [hereinafter TRIPS Agreement] ("Recognizing the underlying public policy objectives of national systems for the protection of intellectual property, including developmental and technological objectives;"); GRATK treaty, *supra* note 1, pmbl. ¶ 6 ("Recognizing and reaffirming the role that the intellectual property system plays in promoting innovation, transfer and dissemination of knowledge and economic development, to the mutual advantage of providers and users of genetic resources and traditional knowledge associated with genetic resources . . . .").

28. Keith E. Maskus, *Intellectual Property Rights and Economic Development*, 32 Case W. Res. J. Int'l L. 471 (2000); Keith E. Maskus. Intellectual Property Rights in the Global Economy (2000).

In short, one way to understand these welfare promises to developing countries and IPLCs is to view them as efforts to address the deficit induced by the loss of their innovation systems under criteria hostile to their epistemological frameworks. The categories of IP, the structures of IP, and the norms of IP remain fundamentally European—not universalist as international law classically posits.[29] As Graham Dutfield's article notes, both advocates and critics rely on IP as the benchmark for comparison of IPLCs' knowledge assets,[30] and on Western property theory as the best framework from which such analyses should proceed.

Professors Raustiala and Munzer, for example, confidently conclude in their important article arguing against strong property-based protection for TK that:

> [t]he arguments from desert, firstness, and incentives to innovate do little, jointly or severally, to justify the legal protection of TK. The arguments from incentives to commercialize, from unjust enrichment, misappropriation, and restitution, and perhaps from the moral right of the community, have a bit more force. Trademark infringement and dilution fit poorly. As a result, we find only mild support for TK protection in existing theories of property . . . and existing philosophical justifications for property do not sustain a robust package of rights in TK.[31]

Their view mirrors the dominant thinking in international policy circles.[32] The past quarter-century of WIPO IGC negotiations sought ways to

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29. *See generally* Georges Abi-Saab, *International Law and the International Community: The Long Road to Universality*, *in* Essays in Honour of Wang Tieya 31 (Ronald St. John Macdonald ed., 1994); Onuma Yasuaki, *When Was the Law of International Society Born?*, 2 J. His. Int'l L. 1 (2000).

30. Graham Dutfield, *Landscape and Law: Territoriality and Rights in Knowledge*, 66 Harv. Int'l L.J. 155 (2025) (Special Edition).

31. Stephen R. Munzer & Kal Raustiala, *The Uneasy Case for Intellectual Property Rights in Traditional Knowledge*, 27 Cardozo Arts & Ent. L.J. 37, 80 (2009).

32. The view likely emerges from an erroneous but baseline presumption that access and appropriation of traditional knowledge [hereinafter TK] is entirely consistent with (perhaps even encouraged by) intellectual property [hereinafter IP] rights because genetic resources [hereinafter GRs] and TK are in the public domain. *See, e.g.*, Silke von Lewinski, *supra* note 21, at 248 ("[E]xploitation without permission is mostly in compliance with the existing intellectual property law, which considers indigenous knowledge as being in the public domain . . . ."). Similarly, there is an erroneous but deeply embedded view that GRs can be found in nature rather than being products of intellectual labor. *See id.* at 249. This view has undergone significant transformation, particularly in light of innovations by Indigenous Peoples and Local Communities [hereinafter IPLCs] in farming and agriculture. *See, e.g.*, Daphne Ewing-Chow, *Indigenous Wisdom Meets Innovation for a More Resilient Food Future*, Forbes (Jan. 20, 2025), https://www.forbes.com/sites/daphneewingchow/2025/01/20/indigenous-wisdom-meets-innovation-for-a-more-resilient-food-future/. *See also* Dutfield, *supra* note 30, at 164 (discussing Indigenous Peoples' innovative engagement with land which, as he notes "were for long almost entirely overlooked"); *see generally* Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services [hereinafter IPBES], Karen O'Brien et al., Summary for Policymakers of the Thematic Assessment Report on the Underlying Causes of Biodiversity

appease—not challenge—the IP system's rules and normative design. Whatever the formal outcome, it seemed reasonable at the outset of the IGC to expect that some recognition for IPLCs and TK might occur, but the realists in the room did not expect that any space at the IP table would be conceded. The project was one of de facto co-existence on terms consistent with the IP system.

The distinction between procedural and substantive IP treaties[33] played a vital role in making co-existence a politically feasible option. It did so primarily by framing the uncomfortable focus on misappropriation of GRs and TK by patent applicants as an assault on the proper functioning of patent administration. The issue was not that the patent system needed to change, only that its integrity had to be defended.[34] This defense of the patent system defines the work of the more than one hundred WIPO member states who concluded the GRATK treaty.[35]

Unquestionably, the treaty is important to IPLCs and conventional users of the patent system. Mandatory disclosure functions as both a procedural safeguard and an epistemic tool, ensuring that patent examiners and the broader public are cognizant of the contributions of IPLCs to inventive processes. This alone is a decidedly moral and ethical victory for IPLCs—one that augurs well for the varied goals of the global regime complex that concerns GRs and TK.[36]

Loss and the Determinants of Transformative Change and Options for Achieving the 2050 Vision for Biodiversity of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES Secretariat 2024) (emphasizing the role of IPLCs in agricultural innovation and biodiversity conservation).

33. The principal function of procedural patent agreements is harmonization of formal processes for obtaining patent protection and to provide a unified procedure that patent owners can utilize to obtain protection across multiple national jurisdictions. The leading procedural patent agreement is the Paris Convention for the Protection of Industrial Property. The Paris Convention contains no provisions concerning substantive requirements for patentability or the types of inventions for which patents must be available. Rather, the Convention establishes the two fundamental principles that are responsible for the international patent system's growth: national treatment and the right of priority. The treaty also sets common rules that strive for balance between uniformity and national sovereignty, and it creates an administrative framework responsible for implementing and administering the Convention. *See* Paris Convention, *supra* note 22. In contrast, the primary objective of substantive patent agreements is either to create a framework for the grant of patent rights or to establish minimum international standards of substantive patent law, such as those relating to conditions of patentability and the scope of protection. The leading example of a substantive patent agreement is the TRIPS Agreement. *See* TRIPS Agreement, *supra* note 27.

34. Margo A. Bagley, *The WIPO 2024 IP Treaties: The Triumph of Inclusivity and Strategic Framing*, GRUR Int'l, Mar. 2025, at 2; *see also generally* Ruth L. Okediji, *WIPO-WTO Relations and the Future of Global Intellectual Property Norms*, 39 Neth Y.B. Int'l L. 69 (2008).

35. Wend Wendland, *The New WIPO Treaty 25 Years in the Making: What Does It Mean and What Happens Next?,* WIPO Mag. (Oct. 3, 2024), https://www.wipo.int/en/web/wipo-magazine/articles/the-newwipo-treaty-25-years-in-the-making-what-does-it-mean-and-what-happens-next-68223 [https://perma.cc/WLX7-LAE9].

36. In addition to the IGC, the institutions for which GRs and TK are a focal point include the CBD; the UN Food and Agriculture Organization [FAO] International Treaty on Plant

But mandatory disclosure also reflects a tacit concession that the traditional patent system is rooted in a very narrow conception of innovation, and that the system's historic design around the interests of a specialized class of inventors cannot sustain the needs of an increasingly diverse innovation landscape. Put differently, the patent system—and reward to Western patent holders—can no longer be the unrivaled focus of international IP. Time will tell how much space the GRATK treaty has opened for strengthening other international regimes that directly implicate public health, biodiversity, human rights, and the interests of IPLCs.

B. Signposts and Milestones: Innovation Across Diverse Cultural Contexts

The global IP framework was designed around liberal visions of innovation and private versus social benefit.[37] In leading theoretical models, innovation is a fundamental driver of economic growth that requires significant and risky private investments.[38] According to these models, the social benefit of innovation is greater than the private benefit to inventors because inventions generate positive externalities. To incentivize greater technological progress for the public interest, IP rights grant inventors temporary monopolies to make and market their inventions, increasing their private benefit. As the U.S. Supreme Court puts it:

> A patent by its very nature is affected with a public interest . . . . It is an exception to the general rule against monopolies and to the right to access a free and open market. The far-reaching social and economic consequences of a patent, therefore, give the public a paramount interest in seeing that patent monopolies spring from backgrounds free from fraud or other inequitable conduct and that such monopolies are kept within their legitimate scope.[39]

Genetic Resources for Food and Agriculture; the FAO Commission on Genetic Resources for Food and Agriculture; the World Health Organization Pandemic Influenza Preparedness Framework; the International Union for Conservation of Nature; and the Intergovernmental Conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.

37. *See* Ruth L. Okediji, *Traditional Knowledge and the Public Domain in Intellectual Property*, *in* Intellectual Property and Development: Understanding the Interfaces 249, 249–75 (Carlos Correa & Xavier Seuba eds., 2019).

38. *See, e.g.*, Alberto Galasso & Mark Schankerman, *Patents and Cumulative Innovation: Causal Evidence from the Courts*, 130 Q.J. Econ. 317 (2015); Leonid Kogan, Dimitris Papanikolaou, Amit Seru & Noah Stoffman, *Technological Innovation, Resource Allocation, and Growth*, 132 Q.J. Econ. 665 (2017).

39. Precision Instrument Mfg. v. Automotive Maintenance Machinery, 324 U.S. 806, 816 (1945). For a similar point in relation to copyright, see Macauley, *Copyright* (1841 speech in House of Commons), *in* Works 195, 197 (Trevelyan ed. 1879), quoted in Gana, *supra* note 15, at 113:

> The principle of copyright is this. It is a tax on readers for the purpose of giving a bounty to writers. The tax is an exceedingly bad one; it is a tax on one of the most innocent and most salutary of human pleasures . . . but it is desirable that we should have a supply of good

In contrast to utilitarian models based on economic incentives, Indigenous epistemic systems emphasize communal discovery of truth. Instead of conceptualizing discovery as a process which requires an individual to undertake an upfront investment, systems developed by IPLCs tend to emphasize social structures which form "an integrated response to the cosmological nature of knowledge."[40] For example, the Lardil People of Mornington Island convey their invention of fish traps through oral histories. Their cultural story emphasizes a journey of three ancestors who travel to different islands, naming the new animal and plant life they encounter and building new traps to capture fish along the way.[41] Knowledge is not something an individual discovers; it is a form of truth that exists within the environment.

Early property-based approaches to GRs and TK rest on two bedrock assumptions: One must be able to specify what the "thing" is and identify its single owner or creator. These assumptions are, however, ill-fitting in the context of intergenerational, collective knowledge of IPLCs. As Carol Rose notes in her article within this volume:

> [A] major limitation of modern property institutions derives from their promotion of trade and commerce; trade and commerce entail the ability to find or define an owner or specific set of owners—something often not feasible with TK. In defining a single owner, whether an individual or group, property law undergirds alienability, but at the cost of ignoring complex traditional claims and undermining respect for them.[42]

In a similar vein, Professor Henry Smith emphasizes that property works largely through "persuasion" within a moral community—one in which all parties share or at least recognize common norms about ownership and boundaries. In Smith's view, a mismatch arises when we try to apply in-rem property duties across fundamentally different moral communities—such as a traditional, custom-oriented group and an economy with high rates of innovation.[43]

A parallel debate arises in scholarship about Locke's natural law insights. Professor Wendy Gordon argues that justifications for IP often presuppose a single original creator; in contrast, traditional communities may claim rights based on collective stewardship of "ancestral works."[44] She demonstrates that

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books: we cannot have such a supply unless men of letters are liberally remunerated; and the least objectionable way of renumerating them is by means of copyright.

40. Peter Drahos, Intellectual Property, Indigenous People and their Knowledge 32 (2014).

41. David McKnight, People, Countries, and the Rainbow Serpent: Systems of Classification Among the Lardil of Mornington Island 78–79 (1999).

42. Rose, *Traditional Knowledge*, *supra* note 24, at 93.

43. Henry E. Smith, *Introduction: Traditional Knowledge and Property in Moral Communities*, 66 Harv. Int'l L.J. 75, 78 (2025) (Special Edition).

44. Wendy J. Gordon, *Natural Rights and Ancestral Writings*, 66 Harv. Int'l L.J. 183, 192 (2025) (Special Edition).

from Locke's own emphasis on "no harm" and "leaving enough and as good," it is possible to justify certain indefinite or communal-stewardship rights without necessarily subverting IP's core equality concerns. Professor Gordon also critiques the idea that recognizing ancestral works amounts to "special treatment," stressing that Western IP frameworks themselves have long recognized proprietary protections for non-creative works (e.g., trademark, secrecy).[45]

The tension between knowledge systems of Indigenous Peoples writ large and IP frameworks also has roots in legal history. Valuable medicinal plants and agricultural knowledge were treated as part of the common heritage[46] of mankind freely available for exploitation, despite the role of IPLCs in innovative plant-breeding techniques and animal husbandry.[47] The legally mediated dispossession of IPLCs' knowledge goods was reinforced in orthodox justifications for IP that emphasized the primary role of the public domain from which successive creators could draw to generate new outputs. Well publicized cases of creative products in modern markets that were a result of misappropriation by Western actors led to growing Indigenous activism by the late 20th century. In 1993, a gathering of Indigenous leaders produced the Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples, asserting Indigenous Peoples' rights to protect and control dissemination of their knowledge and GRs.[48]

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45. *Id.* at 8.

46. J.H. Reichman, *Why the Nagoya Protocol to the Convention on Biological Diversity Matters to Science and Industry Everywhere*, *in* Intellectual Property and Development: Understanding the Interfaces 295 (C. Correa & X. Seuba eds., 2019) ("[The] once customary view that genetic resources, together with associated traditional knowledge, constituted the 'Common Heritage of Mankind' was first directly challenged in 1962, when the United Nations adopted a Resolution on the sovereignty of states over national resources.").

47. Chidi Oguamanam, International Law and Indigenous Knowledge: Intellectual Property, Plant Biodiversity, and Traditional Medicine (2006); *see also* Michael J. Huft, *Indigenous Peoples and Drug Discovery Research: A Question of Intellectual Property Rights*, 89 Nw. U. L. Rev. 1678, 1679 (1995); Craig D. Jacoby & Charles Weiss, *Recognizing Property Rights in Traditional Biocultural Contribution*, 16 Stan. Env't L.J. 74 (1997).

48. *See* Comm. on Hum. Rts. Sub-Comm. of Prevention of Discrimination and Protection of Minorities Working Group on Indigenous Populations, First International Conference on the Cultural & Intellectual Property Rights of Indigenous Peoples, The Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples [hereinafter Mataatua Declaration], U.N. Doc. E/CN.4/Sub.2/AC.4/1993/CRP.5 (June 1993) (declaring that Indigenous Peoples are guardians of their cultural and intellectual property and have the right to protect it). The Mataatua Declaration was an outcome of the First International Conference on the Cultural & Intellectual Property Rights of Indigenous Peoples, attended by representatives from numerous Indigenous nations. Such declarations, alongside others like the Kari-Oca Declaration (1992) and Julayinbul Statement (1993), signaled a clear call from Indigenous communities across continents (e.g., Māori in Aotearoa/New Zealand, First Nations in Canada, Amazonian peoples, etc.) for greater control over their traditional knowledge and heritage.

Concurrently, high-profile cases of patenting GRs and TK drew international attention and galvanized demands for international IP reform.[49] In 1995, the United States Patent and Trademark Office ("USPTO") granted a patent on the use of turmeric—a traditional Indian medicinal plant—for wound healing to U.S. researchers. Indian scientists objected, submitting ancient Sanskrit texts as prior art. In 1997, the USPTO revoked the turmeric patent for lack of novelty, marking a landmark victory for TK defenders.[50] Similarly, the Neem tree (Azadirachta indica), long used in India for its pesticidal and medicinal properties, was the subject of a European patent held by a multinational firm.[51] Patents on quinoa, barbasco (Mexican yam), ayahuasca (a sacred Amazonian plant), and basmati rice provoked similar outrage.[52] These incidents, often labeled as "biopiracy,"[53] underscored how the patent system could be used to appropriate resources and know-how originating from IPLCs without permission, attribution, or compensation.

States and international organizations slowly responded.[54] By the late 1990s, developing countries and Indigenous Peoples' advocates were pressing for

49. In excluding the knowledge goods of IPLCs, the IP system upheld a vision of universality, doctrinal coherence, and administrative integrity of the global IP system. For knowledge goods to fit within the system, they had to be in the image of the existing categories. As these "biopiracy" examples suggest, international law's reluctance to recognize and protect innovation by IPLCs did not foreclose Western developers' ability to exploit and profit from it. *See* Drahos, *supra* note 40; U.N. Comm'n on Hum. Rts., Report of the Special Rapporteur on the Situation of Human Rights and Fundamental Freedoms of Indigenous People, Mission to Canada, U.N. Doc. E/CN.4/2005/88/Add.3 (Dec. 2, 2004); Okediji, *supra* note 4, at 277, 293 (reviewing case studies of biopiracy and misappropriation).

50. K. S. Jayaraman, *U.S. Patent Office Withdraws Patent on Indian Herb*, 389 Nature 6 (1997) (reporting on the USPTO's revocation of a patent on turmeric after India submitted evidence of its historic use in India).

51. *See India Wins Landmark Patent Battle*, BBC News (Mar. 9, 2005), http://news.bbc.co.uk/2/hi/science/nature/4333627.stm [https://perma.cc/BYH5-98LE]. The EPO's Technical Board of Appeal in 2005 upheld the revocation of the patent, which had been initially revoked in 2000, confirming that traditional knowledge rendered the claimed invention unpatentable.

52. In response, countries like India began documenting their TK in accessible formats to prevent frivolous patents. India's Traditional Knowledge Digital Library [hereinafter TKDL], established in 2001, digitized tens of thousands of pages of Ayurvedic, Unani, and Siddha medicinal knowledge and made them available to patent examiners worldwide as a defensive tool against misappropriation. *See* Martin Fredriksson, *India's Traditional Knowledge Digital Library and the Politics of Patent Classifications*, 34 L. & Critique 1, 2–4 (2023) (noting that the TKDL contains extensive traditional medical knowledge in patent-examiner-friendly format as a means of defensive protection against biopiracy). The TKDL and similar documentation initiatives illustrate one strategy ("defensive protection") to combat the limitations of conventional IP regimes by ensuring patent offices have access to prior art from traditional sources.

53. Okediji, *supra* note 4, at 275 (biopiracy of the rosy periwinkle, the Neem tree, and the Enola Bean).

54. The International Labour Organization's Convention No. 169 (1989) on Indigenous and Tribal Peoples in Independent Countries was one early instrument acknowledging Indigenous Peoples' rights to preserve their cultures and way of life, though it did not create specific IP rights in TK. Around the same time, the United Nations Educational, Scientific and

systemic change at the international level. In 1999, prompted by countries such as India and Colombia, WIPO member states agreed that it was necessary to formally discuss the interplay of IP with GRs and TK. In 2000, WIPO established the IGC as a special forum to examine these issues.[55] After more than two decades of intense debates, WIPO members agreed to convene a Diplomatic Conference in Geneva in 2024 to finalize a treaty on GRs and associated TK focusing on disclosure.[56]

C. Turning the Corner: War, Work, and the Run-up to a Diplomatic Conference

The diplomatic breakthrough achieved by the GRATK treaty represents the culmination of persistent advocacy by representatives from the Global South, select countries from the Global North, and WIPO leaders spanning several decades. The unlikely coalition of international actors and serendipitous circumstances that forced a vote for the Diplomatic Conference at which the treaty was concluded cannot be fully described here. Suffice it to say, however, that those circumstances that led to the Treaty marked a pivotal turning point in the WIPO negotiations. Out of the routine politics of the WIPO General Assemblies ("GAs")—a mostly benign and characteristically scripted process—came the stone that killed the Goliath of resolute opposition to any change to the international IP system for the benefit of IPLCs and their knowledge goods. The astonishing events deserve a brief mention.

The IGC negotiations had become one of the many recurring WIPO GA agenda items for which seasoned participants could routinely predict an outcome. The GA meetings rarely engender new ideas, controversies, or conversations. Against the backdrop of the conflict between Russia and Ukraine, however, a cross-regional list of countries mainly from Group B (industrialized

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Cultural Organization [UNESCO] and WIPO turned their attention to protecting "expressions of folklore." In 1982, UNESCO and WIPO issued Model Provisions for national laws aimed at preventing the illicit exploitation of folklore (traditional cultural expressions). *See* WIPO, *WIPO-UNESCO Model Provisions for National Laws on the Protection of Expressions of Folklore Against Illicit Exploitation*, U.N. Doc. UNESCO/WIPO/FOLK/AFR/2 (1982). These model provisions suggested legal mechanisms to prevent unauthorized reproduction, adaptation, or public performance of traditional cultural expressions, reflecting early efforts to craft *sui generis* protection for folklore.

55. WIPO General Assembly, *Matters Concerning Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore*, WIPO Doc. WO/GA/26/6, at 4 (2000) (Proposing the establishment of the IGC). *See also* Nirmalya Syam & Carlos M. Correa, *Understanding the New WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge*, S. Ctr. Pol'y Brief No. 131, July 2024, at 1 (noting WIPO General Assembly's 2000 decision to establish the IGC as a forum to discuss IP issues related to GRs, TK and folklore). *See also generally* Okediji, *supra* note 4.

56. Press Release, WIPO to Host Diplomatic Conference on Genetic Resources and Associated Traditional Knowledge, WIPO Press Release PR/2024/917 (May 7, 2024).

countries), the Central European and Baltic States ("CEBS") group, and the European Union ("EU") submitted a new agenda item just days before the start of the July 2022 GA.[57] The proposed agenda item was the adoption of a resolution condemning Russian aggression against Ukraine, highlighting the real and potential impact of Russia's use of force on IP assets, innovators, creators, and users in Ukraine, and the need for WIPO to provide all necessary support to Ukraine in that regard.[58]

This practice was unusual in WIPO and there were murmurings by some delegations that the proposed agenda item risked overt politicization of WIPO. To the shock of many delegates, the proponents expressed readiness for a vote to adopt the contested agenda. While the right to vote exists in WIPO's rules and procedures,[59] it is rarely invoked. Member states usually only vote during the selection of the WIPO Director General. For every other matter, WIPO is a consensus-oriented organization. But, in quick succession, the requisite number of "yeses" were obtained and the GA voted. The vote occurred in two stages; first to adopt the contested agenda, and second to pass the desired resolution.[60] In a stunning diversion from longstanding institutional culture, both sets of votes succeeded.

Sensing a momentous opportunity, diplomats and representatives from the Global South went immediately to work. A small group organized quickly, reaching out to member states of Group B, CEBS, and the EU to propose a potential package deal to be voted on by the GA. The package deal would include adoption of a decision to hold a Diplomatic Conference on GRs and

57. WIPO member states are divided into seven groups that share common socio-economic interests and individually enjoy the right to vote in the organization. These include, in alphabetical order: (i) Africa Group (AG - 54 members); (ii) Asia and the Pacific Group (APG - 46 members); (iii) Group of Central Asian, Caucasus and Eastern European Countries (CACEEC – 10 members); (iv) Central European and Baltic States (CEBS – 18 members); (v) China; (vi) Group of Industrialized Economies (Group B – 32 members); and (vii) Group of Latin American and Caribbean Countries (GRULAC – 33 members). The European Union (EU), drawn from Group B and CEBS, also negotiated as a block; likewise, the Like-Minded Countries (LMCs), drawn from the AG, APG and GRULAC.

58. WIPO, *Consolidated Agenda – Sixty-Third Series of Meetings*, WIPO Doc. A/63/1 (2022) (the Consolidated Agenda adopted at GA 63 in July 2022 contains a sub-heading OTHER MATTERS, no. 19, on 'Assistance and Support for Ukraine's Innovation and Creativity Sector and Intellectual Property System.'); *see also* WIPO, *Proposal on Assistance and Support for Ukraine's Innovation and Creativity Sector and Intellectual Property System*, WIPO Doc. A/63/8 (2022) (this document is the actual cross-regional proposal; the 52 proponent member states are listed within).

59. The right to vote in WIPO and the rules and procedures thereof are contained in Chapter VI (Voting) of the WIPO General Rules of Procedure, as adopted on 28 September 1970, amended on 27 November 1973, 2 October 1979, 23 July 2022 and 15 July 2023, and the Annex to the General Rules of Procedure of WIPO, https://www.wipo.int/web/decision-making-and-negotiating-bodies/rules-of-procedure [https://perma.cc/JD8S-RATA].

60. WIPO, *List of Decisions – 2022*, at 12-14, WIPO Doc. GA/63/22/Decisions/E, 2022.

associated TK, along with a decision on a Diplomatic Conference to conclude the Design Law Treaty ("DLT") long championed by the EU. Initial feedback from the frenetic consultations was positive. The delegation of Nigeria was tapped by African ambassadors to develop a detailed draft decision reflecting the negotiated package. The Nigerian delegation presented the proposal to the Africa Group, which adopted it by a unanimous vote, transforming the document into a proposal by a regional bloc comprising 54 countries. The Africa Group then formally presented the proposal for adoption by the GA.[61] The proposal called for both Diplomatic Conferences to occur no later than 2024, with the GRATK Conference taking place before the DLT Conference.

Unsurprisingly, negotiations and consultations over the package deal were politically sensitive. Senior diplomats made pronouncements with standard expressions of caution, such as stating that there was "insufficient readiness," that "more clarity was needed," and concern that there was "no common understanding on the issues." Nonetheless, it was clear that the protests lacked the vigor of past resistance. The Africa Group and other proponents remained flexible and continued to engage directly with individual member states, regional groups, and other relevant stakeholders to shore up the momentum. The seeds of amity and cross-regional alignment forged over the two decades of negotiation were evident in full force. A separate team of diplomats representing a coalition of developing countries combed through the arcane WIPO rules and procedures and analyzed the percentage of "yes" votes needed to secure a win. The team prepared and shared an analysis of likely voting patterns of each country. These interactions happened during the formal session, breaks, and over the weekend during the Sixty-Third Series of Meetings of the WIPO GAs.

By the penultimate day of the Sixty-Third Series of Meetings, the makings of a successful deal had emerged. The proponents, sensing victory, stood ready to act and called for another irregular vote. There were a few last-minute tweaks to language in the decision document that successfully convinced the EU to join the Africa Group-led coalition. The vote was called, and the proponents gained a decisive victory.

And so, history was made. With the set patterns of practice and procedure discarded, the demandeurs moved swiftly under the determined leadership of Ian Goss who, as Chair of the IGC, had quietly and steadfastly prepared a Chair's Text that was all but ready to become a treaty. And it did.

61. *See* WIPO, *Proposal to Advance WIPO Normative Agenda on the Subjects of Genetic Resources Associated with Traditional Knowledge, and the Design Law Treaty*, WIPO Doc. WO/GA/55/11, Jul. 20, 2022. *See also* WIPO, *Basic Proposal for the Design Law Treaty (DLT)*, WIPO Doc. DLT/DC/3, May 10, 2024.

II. Achievements of the GRATK Treaty

A. Symbolic and Moral Acknowledgment of Indigenous Knowledge Systems

The GRATK treaty is a de facto attribution treaty, and in this regard, it accomplishes the stated interests of many developing countries that emphasize the importance of recognizing the innovation activities of IPLCs and the value of their knowledge in the global innovation ecosystem.[62] The mandatory disclosure mechanism of the GRATK treaty validates Indigenous ways of knowing and fulfills a moral imperative to reflect the value of GRs and TK in legal systems. Unlike mere subjective viewpoints, law derives its distinctive authority not from universal moral perfection or from simple majoritarian consensus, but rather from its function as a meta-value system: a mechanism for organizing, prioritizing, and actualizing collective principles. The domain of IP jurisprudence, like other legal disciplines, functions as the essential infrastructure that enables societies to translate abstract ethical considerations into concrete practices and enforceable standards.[63]

Case studies illustrate how legal recognition of IPLCs' knowledge contributes not only to innovation but also to symbolic empowerment, cultural continuity, and reparative justice. A landmark example comes from the Supreme Court of Canada's decision in *Delgamuukw v. British Columbia* (1997).[64] In the 1980s, two First Nations (the Gitxsan and Wet'suwet'en) went to court to prove their title to ancestral lands, introducing as evidence their adaawk (oral histories) and traditional laws. The trial judge initially dismissed their testimony, even describing Indigenous life as "nasty, brutish and short," and ruled that their oral history was insufficient to establish land rights.[65]

But on appeal, the Canadian Supreme Court reversed course. The Court acknowledged that oral histories like the Gitxsan's adaawk were as valid as written evidence, and it directed courts to interpret evidence considering Indigenous

62. Nigeria's statement at the WIPO General Assembly that established the IGC, for example, mentioned that the focus ought to be to examine TK "with a common objective, namely, to recognize its existence, to assign it a role, and to devise a scheme to reward its contribution to humanity." *See* Abdel-Latif, *supra* note 4, at 17. Malaysia, speaking on behalf of Asian countries, stated that the importance of the issues with which the IGC would be tasked were "of concern and interest to all," not just developing countries. *See id*.

63. Gana, *supra* note 15, at 112.

64. Delgamuukw v. British Columbia, [1997] 3 S.C.R. 1010 (Can.); Rachel Yurkowski, *"We Are All Here to Stay"; Addressing Aboriginal Title Claims after Delgamuukw v British Columbia*, 31 Victoria U. Wellington L. Rev. 471, 471–96 (2000).

65. *See* Maureen Tehan, *Delgamuukw v British Columbia*, 22 Melb. U. L. Rev. 763 (1998); *see also* Trevor Jang, *Twenty Years After the Historic Delgamuukw Land Claims Case, a Pipeline Divides the Gitxsan Nation*, The Discourse (Feb. 7, 2017), https://thediscourse.ca/energy/twenty-years-historic-delgamuukw-land-claims-case-pipeline-divides-gitxsan-nation [https://perma.cc/KY68-FEX6].

perspectives.[66] *Delgamuukw* thus set a precedent that Indigenous ways of preserving and transmitting knowledge must be treated with equal respect in the legal system. This was not just a procedural change—it was a symbolic affirmation of Indigenous epistemologies.[67]

For IPLCs, recognition as knowledge contributors is a matter of dignity and cultural continuity. To paraphrase Miranda Fricker,[68] such attribution has the capacity to repair "social disadvantage" so that "unjust epistemic disadvantage"[69] is no longer an automatic or inevitable feature of global knowledge governance. It is also an important expression of their citizenship in an international community of innovators, a citizenship that requires room to assert and accept new forms of governance of their knowledge goods or to insist on new ways to engage with international institutions.

The future of creativity and innovation of IPLCs is inextricably intertwined with cultural survival.[70] When their knowledge and traditions are respected in law, their communities can flourish and their collective knowledge forms can be passed to future generations.[71] Each legal development—be it a court admitting oral histories as evidence, a benefit-sharing contract, or a statute granting personhood to a river—is thus more than a legal formality. It is a symbolic gesture of respect and an investment in a more cooperative future. By associating GRs and TK with the patent system, the GRATK treaty restores a credibility deficit that IPLCs' knowledge—and innovation in developing countries more broadly—have long struggled with.[72] Rather than undermine IPLCs'

66. *Delgamuukw*, [1997] 3 S.C.R. at 1072.

67. Beyond courts and patents, some legal systems are evolving in even more creative ways to incorporate Indigenous knowledge—for example, by redefining legal persons to include elements of nature revered in Indigenous worldviews. In New Zealand, the Whanganui river's journey to legal personhood exemplifies the symbolic power of recognition for cultural continuity and healing. The Whanganui River (Te Awa Tupua) is considered a living ancestor by the Whanganui Māori, who view the river as inseparable from their community and identity. After over a century of disputes, the New Zealand Parliament in 2017 approved a settlement recognizing the river as a legal person with its own rights, named Te Awa Tupua. The law acknowledged the Māori conception of the river as "an indivisible and living whole" with its own mana (authority) and mauri (life force), thereby merging Indigenous knowledge into state law. Two guardians (one appointed by Māori, one by the government) would henceforth speak for the river's interests. *See* Christopher Rodgers, *A New Approach to Protecting Ecosystems: The Te Awa Tupua (Whanganui River Claims Settlement) Act 2017*, 19 Env't L. Rev. 266 (2017).

68. *See* Miranda Fricker, Epistemic Injustice: Power and the Ethics of Knowing (2007).

69. *Id*. at 2.

70. Angela R. Riley, *The Ascension of Indigenous Cultural Property Law*, 121 Mich. L. Rev. 75, 81, 92 (2022).

71. *See, e.g.*, Press Release, U.N. Econ. & Soc. Council, Indigenous People's Traditional Knowledge Must Be Preserved, Valued Globally, Speakers Stress as Permanent Forum Opens Annual Session, U.N. Press Release HR/5431 (Apr. 22, 2019).

72. *See* Gana, *supra* note 15 (highlighting the influence of Edward Gibbons' ideas about race on beliefs about the capacity of non-Europeans to invent and noting that those ideas were full

knowledge systems, it is possible that the link to patents makes *devaluing* GRs and TK more structurally difficult. By making clear that use of GRs and associated TK must be disclosed, the treaty not only strengthens transnational innovation but also upholds principles of equity and dignity.[73] This convergence of the symbolic and the moral fosters a more just innovation landscape—where IPLCs' knowledge systems and Western science co-exist as partners. In such a landscape, innovation is not only measured by novel solutions, but also by the breadth of voices and traditions it uplifts, ensuring that the drive for progress also carries forward the integrity, identity, and rights of all creators.

B. Potential Economic Benefits

Mandatory disclosure creates legal and financial opportunities for corporate and Indigenous stakeholders to collectively foster economic growth, for example, through benefit-sharing agreements. One example of the value of working with IPLCs is the experience of the San people of Southern Africa and the South Africa Council for Scientific and Industrial Research ("CSIR"). For generations, San elders used *Hoodia gordonii* (a type of local cactus)[74] to suppress hunger and thirst during long desert treks.[75] In the 1990s, CSIR learned of this traditional use and isolated *Hoodia's* active appetite-suppressing compound—patented as "P57"—for a potential diet drug.[76] The San were neither consulted nor compensated; in fact, a director of the British partner company assumed "the San were extinct," exemplifying how Indigenous contributors were rendered invisible as others profited.[77] In response, the San people, backed by advocates, asserted

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blown during the colonial encounter that linked technological superiority to racial superiority). *See also generally* Michael Adas, Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance (1989).

73. Here, I am invoking Miranda Fricker's idea of "testimonial injustice":

> [T]estimonial injustice [is] a distinctively epistemic injustice, . . . a kind of injustice in which someone is wronged specifically in her capacity as a knower. Clearly credibility deficit can constitute such a wrong, but while credibility excess may (unusually) be disadvantageous in various ways, it does not undermine, insult, or otherwise withhold a proper respect for the speaker qua subject of knowledge; so in itself it does her no epistemic injustice, and a fortiori no testimonial injustice.

Fricker, *supra* note 68, at 20.

74. *See* Stephen R. Munzer & Phyllis Chen Simon, *Territory, Plants, and Land-Use Rights Among the San of Southern Africa: A Case Study in Regional Biodiversity, Traditional Knowledge, and Intellectual Property*, 17 Wm. & Mary Bill Rts. J. 831, 856 (2008).

75. *See* Wanjiku Karanja, *The "Hoodia Cactus" and the Efficacy of Access and Benefit Sharing Agreements*, CIPIT (Mar. 6, 2016), https://cipit.strathmore.edu/8940-2/ [https://perma.cc/NV6W-JSEL].

76. *See* Julie Cook Lucas et al., *Sharing Traditional Knowledge: Who Benefits? Cases from India, Nigeria, Mexico, and South Africa*, *in* Benefit Sharing 65 (Doris Schroeder & Julie Cook Lucas eds., 2013).

77. Lere Amusan, *Politics of Biopiracy: An Adventure into Hoodia/Xhoba Patenting in Southern Africa*, 14 Afr. J. Traditional Complementary & Alternative Med. 103, 104 (2017).

their rights. After intense negotiations, CSIR signed a benefit-sharing agreement in 2003, formally recognizing the San as the collective owners of their TK about *Hoodia's* properties.[78] The agreement guaranteed the San a share of royalties from any *Hoodia*-based products, with funds to be paid into a community trust for their benefit.[79] Although the commercial diet drug ultimately failed, the *Hoodia* agreement was precedent-setting: It proved that TK holders and researchers could craft licenses that share profits and credit.

Since then, benefit sharing has been emphasized in various spheres and some countries have enacted robust measures.[80] In 2019, South Africa witnessed a pioneering deal for its famous *Rooibos* tea—producers, guided by biodiversity law, concluded an agreement to share a portion of *Rooibos* revenues with the Indigenous San and Khoi communities who first cultivated and used the wild plant.[81] Uniquely, this agreement applies across an entire agricultural sector—a 1.5 percent levy on farm sales of *Rooibos* now funds community trusts—showing that benefit sharing can be scaled beyond one-off research projects to ongoing commercial undertakings. Collaborative profit frameworks are supported by the disclosure mandate. By linking patentability to benefit-sharing compliance, the law incentivizes the creation of formal mechanisms (standard contracts, community protocols, certification schemes) to license TK on fair terms. But whether formal conditions of fairness are translatable into measurable or sustainable turns remains highly uncertain.

In conclusion, the topic of benefit sharing is on the agenda of many international fora, and recent developments signal wary acceptance in important spheres.[82] While the idea of benefit sharing has certainly metastasized, potential enforcement through patent offices imbues the GRATK treaty with soft-law-making attributes that reading the text of the treaty alone does not convey.

C. Patent Integrity, Human Rights, and Hybrid Knowledge

Structural transparency reform directly strengthens patent integrity through enhanced prior art examination, while simultaneously advancing human rights principles by ensuring IPLCs receive attribution and economic benefits for their

78. Saskia Vermeylen & Gordon Walker, *Environmental Justice, Values and Biological Diversity: The San and the Hoodia Benefit Sharing Agreement*, *in* Environmental Inequalities Beyond Borders 105, 105–28 (JoAnn Carmin & Julian Agyeman eds., 2011).

79. *Id.* at 113.

80. *See, e.g.*, Margo A. Bagley, Toward an Effective Indigenous Knowledge Protection Regime Case Study of South Africa, CIGI Papers No. 207, Dec. 2018.

81. Doris Schroeder et al., *The Rooibos Benefit Sharing Agreement – Breaking New Ground with Respect, Honesty, Fairness, and Care*, 29 Cambridge Q. Healthcare Ethics 285, 286 (2020).

82. *See generally* Viral Sovereignty and Technology Transfer: The Changing Global System for Sharing Pathogens for Public Health Research (Sam Halabi & Rebecca Katz eds., 2020).

intellectual contributions.[83] If the GRATK treaty's provisions can recognize the validity of hybrid knowledge systems, where traditional ecological wisdom and Western scientific methodologies converge, it can create institutional pathways for collaborative innovation that honor different epistemological frameworks.[84] Through a tiered protection approach, such acknowledgment would reflect the nuanced nature of TK—from sacred to widely diffused—enabling more sophisticated legal protections that respect both cultural sensitivities and the imperative for scientific advancement.[85] This represents a crucial recalibration of IP governance toward more equitable and sustainable knowledge ecosystems that benefit global innovation while safeguarding IPLCs' ongoing development of knowledge and creative expression.

Commentators have highlighted linkages between the GRATK treaty on the one hand and the Convention on Biological Diversity (and Nagoya Protocol) on the other.[86] Both treaties are essential components of a regime complex that governs the management of biodiversity resources and the relationship among access to GRs, scientific research and innovation, and the interests of IPLCs.[87] The CBD and NP obligate users of GRs to share the benefits of resource utilization with resource providers.[88] The GRATK treaty arguably is the latest addition to this complex, though nothing in the treaty addresses benefit sharing.

To be clear, the GRATK treaty was not negotiated to address biodiversity concerns or facilitate implementation of the NP, though its utility in this regard added moral urgency to the task of concluding a treaty. Prospects of strengthening the objectives of the CBD/NP also made some developed countries more

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83. *See generally* Keith Aoki, (*Intellectual) Property and Sovereignty: Notes Toward a Cultural Geography of Authorship*, 48 Stan. L. Rev. 1293 (1996).

84. Okediji, *supra* note 4.

85. *See* WIPO, *The Protection of Traditional Knowledge: Revised Objectives and Principles*, WIPO Doc. GRTKF/IC/18/5 Prov., at Annex, pg. 55 (2011) (suggesting differentiated treatment for secret, sacred, narrowly diffused, and publicly available traditional knowledge).

86. *See* CBD, *supra* note 9, arts. 8 & 15; Nagoya Protocol, *supra* note 10.

87. Other treaties in the regime complex include the CBD, *supra* note 9; the Nagoya Protocol, *supra* note 10; the International Treaty on Plant Genetic Resources for Food and Agriculture, *opened for signature* Nov. 3, 2001, T.I.A.S 17-313, 2400 U.N.T.S. 303 (entered into force Jun. 29, 2004); the Convention for the Safeguarding of the Intangible Cultural Heritage, Oct. 17, 2003, 2368 U.N.T.S. 3; the Convention on the Protection and Promotion of the Diversity of Cultural Expressions, Oct. 20, 2005, 2440 U.N.T.S. 311; and the United Nations Declaration on the Rights of Indigenous Peoples, U.N. Doc. A/RES/61/295 (Sept. 13, 2007).

88. CBD, *supra* note 9, arts. 8 & 15; Nagoya Protocol, *supra* note 10, art. 10:

> Parties shall consider the need for and modalities of a global multilateral benefit-sharing mechanism to address the fair and equitable sharing of benefits derived from the utilization of genetic resources and traditional knowledge associated with genetic resources that occur in transboundary situations or for which it is not possible to grant or obtain prior informed consent. The benefits shared by users of genetic resources and traditional knowledge associated with genetic resources through this mechanism shall be used to support the conservation of biological diversity and the sustainable use of its components globally.

favorably inclined to engage in the IGC negotiations. What has emerged from this constellation of treaties is a landscape of protection for some, not all, of the concerns and interests of IPLCs and developing countries. In addressing biodiversity conservation and the misappropriation of GRs, the CBD recognized a harm related to the unauthorized access to GRs and associated TK. Reversing the historic assumptions of 19th- and 20th-century international law, the CBD provides that each country is sovereign over its natural resources, that access to GRs requires prior informed consent ("PIC") of the contracting state, and that measures shall be taken with the aim of fair and equitable sharing of the results of research, development, and usage based on GRs.[89]

Adopted in 2010, NP focuses on the access and benefit-sharing features of the CBD. It requires contracting parties to establish measures that facilitate access, benefit sharing, and compliance with domestic laws and regulations established pursuant to the treaty's provisions. The GRATK treaty is especially important in this regard. Its mandatory disclosure-of-origin requirement offers a credible and relatively efficient pathway for states to ensure that GRs utilized within their jurisdiction have been accessed in accordance with the NP's PIC standards and mutually agreed terms. For CBD and NP compliance, therefore, implementation of the GRATK treaty would reasonably satisfy the obligation to establish measures to ensure lawful access and use of GRs and associated TK, including possibly secure benefit-sharing agreements.

In one regard, then, the GRATK treaty can be understood as a gap-filler. Its mandatory disclosure obligation offers a practical key needed to instantiate the normative goals of the CBD and NP. An in-depth study by several leading international organizations, WIPO included, expressed the view that "mechanisms concerning patent disclosure . . . may help determine how benefits from the utilization of genetic resources are generated and shared and how the appropriate transfer of relevant technologies is undertaken."[90]

The fact that mandatory disclosure may facilitate CBD and NP compliance is noteworthy. But access and benefit-sharing outcomes—important as they are—do not constitute the primary justification for the GRATK treaty. It is a means for closing gaps related to GRs and associated TK in the global IP system that, left unchecked, undermines the sustainability and value of IPLCs' knowledge system. The treaty sets a boundary line between IPLCs and conventional innovators, and between their respective systems of knowledge production.

89. *See* CBD, *supra* note 9, art. 15, ¶¶ 1, 5, 7.

90. CBD, WIPO & United Nations Conference on Trade and Development, The Role of Intellectual Property Rights in Technology Transfer in the Context of the Convention on Biological Diversity: A Technical Study 6 (2008).

Despite being principally an administrative treaty, the GRATK treaty nonetheless imposes substantive duties on researchers and the public and alters the historic paradigm of Western engagement with IPLCs. The disclosure requirement means that researchers must see and recognize the communities that have stewarded the knowledge on which the patent is based. No longer can IPLCs be rendered invisible or irrelevant at the global IP table.

III. Challenges to Integrating the GRATK Treaty into Existing IP Frameworks

A. Implementation and Enforcement

Enacting laws or treaties is one step; enforcing them is another, often more difficult, step. Many Indigenous communities are in remote areas or lack resources to engage in lengthy legal processes. Suppose the herbal medicine of a tribe is patented without disclosure or consent. Even if the law provides for invalidation or penalties, will the community have the means to monitor patent filings worldwide, file oppositions, or sue for benefit sharing? This asymmetry in capacity is a major challenge.

Some capacity-building initiatives are underway. The GRATK treaty contemplates an "information system" that could notify communities of published patent applications that disclose their GRs or TK, giving them a chance to raise concerns.[91] However, even identifying the rightful beneficiaries of benefit sharing is problematic when a GR or TK is held widely. The idea of international or national trust funds to store benefits on behalf of knowledge holders who cannot be individually identified has emerged from international discussions. The WIPO Voluntary Fund at least helps Indigenous Peoples get to the table; a next step might be an international Indigenous Knowledge Fund financed by a small levy on relevant patents or products, which could then finance community conservation and education projects. These proposals remain largely theoretical but underscore ongoing innovative thinking aimed at addressing enforcement and equity challenges.

The treaty's enforcement architecture reflects a compromise between developed and developing countries. While mandating "appropriate, effective, and proportionate" sanctions for failure to disclose,[92] the treaty stops short of universally prescribing patent invalidation as a consequence of non-compliance, a position that constituted a significant fault line during negotiations. This

91. Syam & Correa, *supra* note 55, at 3–4 (noting that effective implementation of the WIPO disclosure requirement will require international information-sharing mechanisms for verification by provider countries and communities). For example, WIPO might develop a database linking disclosed origins to national ABS authorities or community contacts.

92. GRATK Treaty, *supra* note 1, art. 5.

equilibrium represents a carefully calibrated trade-off: Developing nations advocated for robust invalidation provisions to comprehensively address biopiracy concerns, while developed countries expressed apprehension about innovation inhibition.[93] If the treaty is ratified and implemented, an outcome that is not at all certain, contracting parties will be obligated to incorporate disclosure obligations into their domestic patent regimes and establish corresponding enforcement protocols.[94]

The GRATK treaty also imposes no verification requirement on individual patent offices, many of which lack the resources or capacity to confirm applicants' claims. From a contract theory perspective, the treaty resembles an "incomplete contract" because it sets forth obligations—such as disclosing GRATK sources—without providing strong mechanisms for verifying performance or specific, meaningful sanctions beyond fraud.[95] This creates the possibility for moral hazard in countries which choose a minimal sanctions regime where applicants can provide incomplete or erroneous information with little risk of consequences. Because enforcement is left to each country's voluntary choices and efforts, a self-enforcing dynamic emerges, relying on goodwill and reputational incentives rather than legal compulsion. The treaty's incompleteness, combined with its dearth of specific sanctions and the inherent difficulty

93. Bagley, *supra* note 34, at 2. For a historical overview of these early developments, see WIPO, Intellectual Property Needs and Expectations of Traditional Knowledge Holders: WIPO Report on Fact-Finding Missions on Intellectual Property and Traditional Knowledge (1998–1999) (2001).

94. At the national level, various countries have already previously enacted *sui generis* statutes to protect TK and cultural expressions in line with these human rights and heritage approaches. For example, Panama's Law No. 20 (2000) creates a special IP regime for the collective rights of Indigenous Peoples over their creations, such as art, music, and traditional dresses, managed by Indigenous congresses. *See* Republic of Panama, Act No. 20, Special System for the Collective Intellectual Property Rights of Indigenous Peoples, June 26, 2000. This law, along with its implementing decree, establishes registers for handicrafts and art, and protects against unauthorized commercialization of Indigenous cultural creations. The United States' Indian Arts and Crafts Act of 1990, while not a TK law per se, protects the integrity of Native American art by making it unlawful to market products as "Indian-made" when they are not made by a member of a recognized tribe, indirectly supporting Indigenous artisans' livelihoods and cultural heritage. *See* Indian Arts and Crafts Act, 25 U.S.C. §§ 305–305e (imposing truth-in-advertising requirements to prevent sale of goods falsely labeled as Native-American-made). Likewise, New Zealand, in response to Māori claims (notably the Wai 262 claim concerning Māori traditional knowledge and flora/fauna), has been exploring legal and policy reforms to grant Māori greater authority over the use of traditional symbols and knowledge, though comprehensive legislation has yet to be enacted following the Waitangi Tribunal's recommendations in Ko Aotearoa Tenei (2011). These human rights and heritage-based initiatives emphasize community stewardship, prior informed consent, and respect for customary law, complementing the more commercial focus of IP law.

95. *See* Eric Maskin & Jean Tirole, *Unforeseen Contingencies and Incomplete Contracts*, 66 Rev. Econ. Stud. 83, 97 (1999); Oliver Hart & John Moore, *Incomplete Contracts and Renegotiation*, 56 Econometrica 755, 779 (1988).

of assessing the accuracy of disclosures, underscores why it is plausible that without robust institutional support and reciprocal enforcement, the treaty's aims of transparency and benefit sharing may not materialize in practice.

B. Advancements in Synthetic Biology and Artificial Intelligence

The intersection of synthetic biology, digital information globalization, and patent disclosure requirements presents a critical structural dilemma for Indigenous knowledge protection frameworks. The emergence of digital sequence information ("DSI")—genetic information that can be accessed, downloaded, and utilized independent of physical samples—has created a fundamental tension that undermines the benefit-sharing objectives of the CBD and NP.[96] While open access to DSI has accelerated scientific advancement in areas like vaccine development and therapeutics, it simultaneously enables researchers to circumvent traditional benefit-sharing obligations to provider countries and IPLCs who conserve GRs.[97] Furthermore, the proliferation of commercial Large Language Models introduces profound structural challenges for the protection and governance of TK within existing IP frameworks.[98] The case of India's Traditional Knowledge Digital Library—developed in response to biopiracy incidents like the contentious 1995 USPTO turmeric patent[99]—exemplifies the fundamental paradox confronting IPLCs: Digital documentation serves as a critical defensive mechanism against misappropriation, while simultaneously

96. *See* Deepa Kharb, *The Legal Conundrum over Regulation of Access and Benefit-Sharing Obligations in Digital Sequence Information over Genetic Resources-Assessing Indian Position*, 24 J. World Intell. Prop., 152, 154–60, (2021); *see also generally* Lyria Bennett Moses, *Recurring Dilemmas: The Law's Race to Keep up with Technological Change* (UNSW Law Research Paper No. 21, 2007). This systemic vulnerability was institutionally reinforced in Diamond v. Chakrabarty, where the Supreme Court's validation of living organisms as patentable subject matter accelerated genetic material commercialization without corresponding protections for Indigenous contributions. *See* Diamond v. Chakrabarty, 447 U.S. 303 (1980).

97. Margo A. Bagley, *"Just" Sharing: The Virtues of Digital Sequence Information Benefit-Sharing for the Common Good*, 63 Harv. Int'l L.J. 1, 47, 60 (2022) (arguing that a balanced solution requires reconceptualizing digital sequence information not as genetic resources per se (which would trigger problematic access restrictions), but as products of GR utilization that still warrant benefit sharing).

98. For example, in 2022, Meta AI released NLLB-200, a 54-billion-parameter sequence-to-sequence model supporting 200 languages for machine translation. This included many low-resource and Indigenous languages that previously had little or no machine translation support. Meta gathered training data largely by mining the web and existing translations, and in some cases had to rely on machine-translated sentence pairs due to the scarcity of human-transcribed text. NLLB-200 can translate to and from languages like Luganda or Inuktitut, but the lack of rich native corpora means subtle cultural or idiomatic content may be mistranslated. *See* Brooke Tanner & Cameron F. Kerry, *Can Small Language Models Revitalize Indigenous Languages?*, Brookings (Mar. 19, 2025), https://www.brookings.edu/articles/can-small-language-models-revitalize-indigenous-languages/ [https://perma.cc/GJA5-G49Z].

99. *See generally* Sanjay Kumar, *India Wins Battle with USA over Turmeric Patent*, 350 The Lancet 724 (1997).

exposing cultural knowledge to unprecedented forms of technological extraction. Indigenous knowledge holders face an asymmetric dilemma wherein documentation essential for legal recognition and patent invalidation necessarily entails digital vulnerability through web-scraping and algorithmic incorporation.[100] This technological appropriation represents a sophisticated form of extraction that preserves the informational content of TK, while potentially divorcing it from its essential cultural, spiritual, and community-based contexts. Such structural contradictions reveal the inadequacy of conventional disclosure-based frameworks in addressing the unique characteristics of digital knowledge flows. Consequently, effective governance requires multidimensional approaches that extend beyond transparency mechanisms to encompass comprehensive digital provenance systems, community-controlled data governance architectures, and legally enforceable benefit-sharing obligations calibrated to the realities of digital propagation.

C. Customary Law and Indigenous Governance

IPLCs emphasize that sacred or ceremonial knowledge requires governance mechanisms that reflect their distinctive cultural parameters rather than external impositions that compromise communal decision-making structures. National attempts at recognizing customary authority, exemplified by the Philippines' Indigenous Peoples' Rights Act, which acknowledges Indigenous IP rights and requires PIC for knowledge access, have encountered significant operational challenges in authenticating legitimate community representatives and reconciling competing normative frameworks.[101] The fundamental tensions between Indigenous knowledge systems and conventional IP regimes represent a multidimensional governance challenge with profound implications for economic equity, cultural sovereignty, and legal pluralism. This structural tension

100. For example, Masakhane is an open research collective of African Natural Language Processing researchers that has organized data-gathering projects and competitions for African languages. Masakhane's collaborative efforts have produced datasets and benchmarks for languages ranging from Swahili and Luganda to Fulani and Wolof. In 2023, a Masakhane-led consortium released IrokoBench, a benchmark suite to evaluate AI performance on 16 diverse African languages. Many of these languages had oral literature and community knowledge that was never in mainstream corpora; Masakhane members worked with native speakers to transcribe stories, oral histories, and create translations. In Brazil, an IBK team developed a prototype writing assistant for Guaraní Mbya to help speakers write in their language. However, when community elders raised concerns about exposing their language and cultural content online, the project leaders paused deployment of the model until a consensus could be reached within the Guaraní community.

101. Philippines Indigenous Peoples' Rights Act, Rep. Act No. 8371, §§ 34–35 (Oct. 29, 1997) (Phil.) (asserting Indigenous Peoples' rights to own their IP and require consent for access to Indigenous knowledge). However, operationalizing this has faced challenges in identifying legitimate elders and processes, and in conflicts between customary norms and other regulations.

derives from competing epistemological foundations. Existing IP frameworks privilege individual invention, time-limited monopoly rights, and commercial exploitation, whereas Indigenous knowledge operates through intergenerational transmission, communal stewardship, and cultural-spiritual integration.[102]

The GRATK treaty raises additional governance questions. A critically important point runs through this entire Article: International IP *law* is inextricably bound by public international law *theory*. State sovereignty over IP rights is an unyielding organizing principle in both fields. As such, new theoretical developments in and empirical insights from international law-making[103] will inevitably influence the processes and implementation of the GRATK treaty, including its relation to state-sanctioned IP categories which IPLCs find inhospitable and from which they often seek to deviate.

There are profound implications of this relationship. One stark consequence of the symbiosis is that non-state actors, such as IPLCs, face tremendous structural barriers to full participation in the international IP system. The GRATK treaty, despite addressing knowledge goods of IPLCs, reinforces this point. From the preamble through its administrative provisions, IPLCs are less than full members of the new GRATK regime. For example, the preamble to the treaty merely affirms that "best efforts should be made to include Indigenous Peoples and local communities, as applicable, in implementing the Treaty."[104] Additionally, the treaty's governance is limited to state actors that as an Assembly should "encourage the effective participation of representatives from IPLCs as accredited observers."[105]

Because the state is the primary actor in international law, and because IP rights are expressions of the state's lawmaking authority, IPLCs will require doctrinal tools in IP and in international law that cohere with state interests. This is, then, one way to understand the GRATK regime—as an opportunity to create and embed new nodes of cooperation among disparately situated actors. But caution is warranted. The more the GRATK treaty is celebrated as a departure from IP, the more likely it will encounter recurring—even if unrelated—implementation challenges from established stakeholders, including states.

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102. Drahos, *supra* note 40, at ch. 1–2.

103. *See* S. Block-Lieb & Terence C. Halliday, Global Lawmakers: International Organizations in the Crafting of World Markets (Cambridge Studies in Law and Society) (Cambridge Univ. Press, 2017).

104. GRATK treaty, *supra* note 1, pmbl., ¶8.

105. *Id.* art. 10.1(c). *See also id.* art. 6.1 ("Contracting Parties may establish information systems (such as databases) of genetic resources and traditional knowledge associated with genetic resources, in consultation, where applicable, with Indigenous Peoples and local communities, and other stakeholders, taking into account their national circumstances.").

In the end, the GRATK treaty is a surgical response to the underlying moral claim that IPLCs' knowledge was being improperly appropriated by inventors using the agency of the patent system to both facilitate and legitimate it. At a minimum, the GRATK treaty correctly, even if narrowly, says a clear and unequivocal "no" to such conduct.

D. Tensions with the Patent System

Whether the GRATK treaty delivers on the expectations of its most ardent advocates will depend in significant part on addressing the well-known limits of the patent system, especially regarding patent acquisition.[106] Echoing strains of a deep and longstanding debate over the need for patent reform, industry stakeholders and academic critics assert that implementing new rights or recognizing the interests of IPLCs in their knowledge goods could potentially constrain research pathways and introduce prohibitive transaction costs throughout innovation ecosystems. Proposals such as Peter Drahos' Global Bio-Collecting Society concept represent theoretical approaches to reducing transaction costs while preserving equity through intermediary institutions that would pool TK, streamline access agreements, and distribute benefits to communities.[107] Though implementation remains aspirational, such models offer potential pathways for reconciling competing economic interests within a governance framework that acknowledges both innovation imperatives and historical power asymmetries in knowledge production, governance, and appropriation.

But there may be fixes more immediately helpful in the current landscape of patent law. Concerns about legal certainty and the consequences for the patent system, through which innovation advances are primarily stewarded, bedeviled the GRATK treaty drafters and are partly responsible for the terse statement of objectives in article 1.[108] These objectives are clear enough, but they ignore problems with the patent system and oversimplify the nature of the problems to which mandatory disclosure is directed.[109]

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106. A. Jaffe & J. Lerner, Innovation and its Discontents, at x (2004) ("[T]he problem with the patent system is . . . . that the system that we use for determining who should get a patent in the first place is not sufficient. . . . [T]he technology world today is awash in patents that should not have been granted in the first place . . . .").

107. Peter Drahos, *Indigenous Knowledge, Intellectual Property and Biopiracy: Is a Global Bio-Collecting Society the Answer*, 22 Eur. Intell. Prop. Rev. 245, 250 (2000) (suggesting an international cooperative mechanism where communities register TK and a centralized agency licenses it to users and returns royalties to communities). This idea would function akin to a clearinghouse for TK licenses, reducing the burden on individual negotiations.

108. GRATK treaty, *supra* note 1, art. 1.

109. As Peter Drahos put it, "[t]he global level of governance has delivered principles that are important to the design of property standards for indigenous knowledge, but it has not delivered property systems for the protection of indigenous knowledge." Drahos, *supra* note 40, at 77.

At least in some leading jurisdictions, such as the United States, the patent system is not normally an exemplar of efficacy, transparency, and quality.[110] Patent applications are presumed valid,[111] and those who wish to challenge their issuance face significant costs. Indeed, erroneously granted patents—including for reasons that the claimed invention is not "novel or inventive with regard to genetic resources and traditional knowledge associated with genetic resources"[112]—are an enduring reality of the patent system. Enhancing the efficacy, transparency, and quality of the patent system requires serious attention to the design and structure of the patent acquisition system, including the rules that govern the processing of applications, the incentive structures granted to examiners, and much more.[113] If under normal circumstances, the attitude towards erroneously granted patents is to tolerate them, and corrections of such errors entail high costs and are normally unsuccessful,[114] it is hard to imagine that the mandatory disclosure obligation in the GRATK treaty will attract better scrutiny by patent offices. The mandatory obligations of the GRATK treaty will contribute to the objectives laid out in article 1 only to the extent that policymakers and regulators are genuinely committed to a more secure and just innovation system. Among other things, this requires a political commitment to ignore the objections of actors whose interests in the status quo make meaningful reform infeasible.

In this light, it is easy to understand why some observers may consider the GRATK treaty as much ado about nothing, at least as a matter of improving the quality of patents issued. The real issue is that the GRATK treaty requires an investment in the patent system by high-income countries, whose patent offices will largely be tasked with enforcement of the disclosure obligation. Thus, we are left with an irony: To the extent the GRATK treaty is viewed strictly as a formalities treaty dedicated entirely to safeguarding the integrity and quality of the patent system, it ought to attract the fidelity and investment of the very countries who long opposed its conclusion. Failure by high-income

110. Jaffe & Lerner, *supra* note 106, at 5. ("Patenting rules are inherently ambiguous, and so actual patent practice depends on the decisions of the patent office. Changing the way that office is organized and funded alters its incentives; with different incentives, it produces different decisions, causing patent practice to change without any Congressional action to change the law.").

111. Sean B. Seymore, *The Presumption of Patentability*, 97 Minn. L. Rev. 990 (2013).

112. GRATK Treaty, *supra* note 1, art.1(b).

113. Mark A. Lemley, Fixing the Patent Office, NBER Working Paper No. 18081, http://www.nber.org/papers/w18081 (May 2012); Michael J. Meurer, *Patent Examination Priorities*, 51 Wm. & Mary L. Rev. 675 (2009).

114. Lemley, *supra* note 113, at 6 (citing Mark A. Lemley & Kimberly A. Moore, *Ending Abuse of Patent Continuations*, Bos. U. L. Rev. 84 (2004)) ("Patent examiners can never finally reject a patent application; applicants dissatisfied with the outcome can come back an unlimited number of times to try again through various mechanisms.").

countries to ratify the treaty may reflect not only a rejection of its normative underpinnings that recognize the knowledge contributions of IPLCs, but also the difficult political economy of patent reform more broadly.[115]

Whatever its future may be, the GRATK treaty has materially added to WIPO's institutional profile a new set of considerations and tensions and occasioned new structural features in WIPO's operational landscape, since the treaty of necessity includes a governance system with recurring meetings and a regularity of decision making. Even without much traction on implementation and/or enforcement, these institutional changes are noteworthy, and they embed the reality of other types of knowledge production in an institutional setting where IP previously permitted no such room.

Conclusion

On paper, the WIPO GRATK treaty is not a complex instrument. It implements an old idea that has been the topic of debate and controversy in multiple fora for a long time. In reality, however, the treaty masks significant tensions in global IP relations and an incredibly complex negotiating history that is likely to haunt its interpretation and implementation.

By institutionalizing mandatory disclosure requirements, the treaty establishes mechanisms that could simultaneously strengthen patent integrity, advance distributive justice, and enable equitable benefit-sharing across diverse knowledge systems. However, the treaty confronts significant implementation challenges that threaten its effectiveness: enforcement asymmetries between resource-constrained Indigenous communities and sophisticated corporate entities; technological developments in synthetic biology and artificial intelligence that enable digital appropriation while circumventing traditional oversight mechanisms; and fundamental epistemological tensions between communal stewardship traditions and individualistic innovation frameworks. The treaty's transformative potential hinges on developing robust verification systems, equitable benefit-sharing architectures, and adaptive governance frameworks

115. An important aspect of the patent reform debate that directly bears upon the mandatory disclosure requirement is the amount of time patent examiners devote to an application. Arguments that highlight reducing the amount of time invested in upfront examination obviously cut against the benefit of mandatory disclosure. For an overview of various scholarly analyses of patent office reform, see, e.g., Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 Nw. U. L. Rev. 1495 (2001); *see also* F. Scott Kieff, *The Case for Registering Patents and the Law and Economics of Present Patent-Obtaining Rules*, 45 B.C. L. Rev. 55, 70–72 (2003) (suggesting an approach to lower the scrutiny level the USPTO gives to an application); Robert P. Merges, *As Many as Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform*, 14 Berk. Tech. L.J. 577, 590 (1999) (making the point that the volume of patent applications causes low-quality examination).

responsive to accelerating technological change. It also requires shifts in the culture and mindset of patent offices most responsible for its enforcement.

Despite these substantial challenges, the GRATK treaty represents a meaningful change in global IP law, introducing transparency requirements that acknowledge—and potentially empower—diverse innovation communities and traditions. One of the many problems with the old IP order is how ruthlessly it rendered entire classes of knowledge producers invisible and thus silenced their voices in the ongoing project of global IP relations. The explicit mention of IPLCs in a WIPO IP treaty is a meaningful step in correcting a historical record and it *formally* portends recalibration of the narrative of global IP relations as the function of only inter-state relations. Moreover, it offers new possibilities for IPLCs to exploit gaps, opportunities and levers to advance their interests in historically hostile environments.[116]

Finally, the GRATK treaty is an international accord that will require the agency of national IP offices for implementation and enforcement. The treaty's efficacy thus curiously depends on the actions of states least amenable to its existence (and least likely to ratify it), and on IP offices with clients whose interests are most likely in tension with robust compliance with mandatory disclosure. The treaty's failure to improve transparency around unauthorized uses of GRs and TK in the patent system is not an unlikely outcome. Even so, however, the treaty is notable for overcoming significant resistance from competing interests and complex stakeholder dynamics. In short, the treaty's conclusion is a moral and institutional victory for all innovators and the public interest that defines IP law and innovation more broadly. If ratified and properly implemented, the treaty offers a practical tool for addressing aspects of the epistemic injustice for which many commentators have assailed the international IP system. The global society would benefit from its successful implementation.

Nevertheless, the future is daunting for the GRATK treaty. It does too little for its presumed beneficiaries—IPLCs—and at the same time goes too far for the entrenched interests of IP rights holders around which the global IP system has long been organized. It stands as an important detour from the well-worn paths of international IP lawmaking which, since its ambitious beginnings in the late 19th century, has served the economic priorities of states that viewed foreign markets solely in extractive terms, and often to the detriment of the

116. Ian Goss, *25 Years in the Making: The WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge*, 66 HARV. INT'L L.J. 35 (2025) (Special Edition). As Ian Goss aptly notes:

> It is not only the first WIPO treaty instigated by the Global South, but also the first WIPO instrument explicitly acknowledging the aspirations and interests of IPLCs in relation to their genetic, knowledge, and cultural assets. The Treaty demonstrates what we can achieve even in a fractured multilateral environment, against significant odds, if we keep the faith and have courageous leaders driving change. *Id.* at 73.

citizens in the region. The opportunities and obligations now facing treaty signatories will test whether our collective commitment to transparent and just innovation can endure—and whether IPLCs can participate on better terms in the global IP frameworks their knowledge has so profoundly shaped. The task of creating a moral community around which global IP norms are negotiated is especially difficult in an era of retreat from multilateralism. But no retreat can overcome the reality of a global stage in which the exchange of knowledge goods is an indelible part of our shared human experience.