GLOBALIZATION, PATENTS, AND TRADITIONAL KNOWLEDGE

SHUBHA GHOSH*

* Professor of Law, University at Buffalo Law School, SUNY. J.D., Stanford; Ph.D., Michigan; B.A., Amherst College. Part IV of this paper is drawn heavily from a joint comment drafted with Professor Margaret Chon of Seattle University School of Law. I thank her for reviewing the manuscript and providing comments. The author also wishes to thanks participants of a Faculty Workshop, University at Buffalo Law School; the Conference on Commodification Futures, University of Denver Law School; and the Conference on Indigenous Knowledge, Cardozo Law School. Generous travel and research support made possible by Dean Nils Olsen of the University at Buffalo Law School and Professor James Heitzman, Department of History, Georgia State University, is also deeply appreciated. Finally, the author would like to thank the administration and staff of the National Law School India University of Bangalore, particularly Registrar Babu Matthew, Suprio Das Gupta, and Srividhya Ragavan, for their graciousness during my visit in the Summer of 2000 to conduct background research for this paper.

I. INTRODUCTION

As intellectual property continues to expand its domain,[1] proposals exist to extend its reach to such cultural artifacts as folk songs, tribal art work, medicines, know-how, which are part of what is sometimes referred to as traditional and sometimes referred to as indigenous knowledge.[2] The World Intellectual Property Organization published in 2001 a substantive study, based on years of extensive research, focused on the intellectual property needs of traditional groups in various countries.[3] The goal of this study, and the more general expansion of intellectual property law to cover such varied artifacts from Hopi dance and *kachinas* to uses of *neem*, is in most cases to preserve certain cultural artifacts and protect them from marketing by industry in the developed world.[4] In other cases, the goal is to promote marketing by traditional groups of their artifacts.[5]

---

[1] Mark A. Lemley, *The Modern Lanham Act and the Death of Common Sense*, 108 YALE L.J. 1687 (1999) (criticizing propertization of trademark law); Rosemary Coombe, THE CULTURAL LIFE OF INTELLECTUAL PROPERTIES: AUTHORSHIP, APPROPRIATION AND THE LAW 209, 229 (1998); Julie E. Cohen, *Lochner in Cyberspace: The New Economic Orthodoxy of "Rights Management"*, 97 MICH. L. REV. 462 (1998); James Boyle, SHAMANS, SOFTWARE, & SPLEENS: LAW AND THE CONSTRUCTION OF THE INFORMATION SOCIETY 52, 100 (1996).

[2] I use the term "traditional knowledge" over "indigenous knowledge" in part because this is the term preferred by WIPO and in part because of the complicated issues raised by the meaning of indigenous. For the WIPO position, *see* WIPO Report, *infra* note 3, at 23, 24. For an extensive discussion of the difficulties raised by the term indigenous, *see* Shelly Errington, THE DEATH OF AUTHENTIC PRIMITIVE ART AND OTHER TALES OF PROGRESS 175-176 (discussing treatment of indigenous culture in museums), 74-78 (discussing primitivism) (1998); Simpson, *infra* note 33, at 22-23 (proffering definitions of indigenous).

[3] World Intellectual Property Organization, Intellectual Property Needs and Expectations of Traditional Knowledge Holders 5-8 (2001) [hereinafter *WIPO Report*] (executive summary distilling goals of extending intellectual property law to traditional knowledge).

[4] For an overview of these issues, *see* INTELLECTUAL PROPERTY RIGHTS OF INDIGENOUS PEOPLES: A SOURCEBOOK (Tom Greaves ed., 1994). *See also*, Rosemary J. Coombe, *The Properties of Culture and the Politics of Possessing Identity: Native Claims in the Cultural Appropriation Controversy*, 6 CAN. J. L. & JURIS. 249, 283-5 (1993) (discussing aboriginal title); Stuart Kirsch, *Lost Worlds: Environmental Disaster, "Culture Loss," and the Law*, 42 CURRENT ANTHROPOLOGY 167, 176-7 (discussing cultural bases for determining inalienability of property rights); Laurence R. Helfer, *Adjudicating Copyright Claims Under the TRIPS Agreement: The Case for a European Human Rights Analogy*, 39 HARV. INT'L L.J. 357, 423-426 (human rights law as a basis for determining copyrightable subject matter); Graham Dutfield, CAN THE TRIPS AGREEMENT PROTECT BIOLOGICAL AND CULTURAL DIVERSITY 5-12 (1997) (intellectual property rights as a means of preserving biodiversity); Miriam Latorre Quinn, *Protection for Indigenous Knowledge: An International Law Analysis*, 14 ST. THOMAS L. REV. 287, 300-302 (2001) (discussing role of TRIPS in protecting indigenous knowledge); Patty Gerstenblith, *The Public Interest in the Restitution of Cultural Objects*, 16 CONN. J. INT'L LAW 197, 228-234 (2001) (property rights and restitution for appropriated property); Ruth Towse, *Achieving Public Policy Objectives in the Arts and Heritage*, *in* CULTURAL ECONOMICS AND CULTURAL POLICIES 143, 157-158 (Alan Peacock & Ilde Rizzo eds., 1994) (arguing for the need to subsidize the arts and humanities). For a journalistic account of the problem of preservation of culture, *see* John J. Miller, *How Do You Say 'Extinct'?: Languages*

Whether the goal is one of preservation or of commodification, there is something strange about this use of intellectual property.[6] A grant of exclusive rights by the government, intellectual property is often justified by serving the goal of promoting innovation and progress. The exclusive right is justified as necessary to create new products and their markets. The production of traditional knowledge, however, does not need to be "incentivized;" the knowledge and its artifacts already exist. The application of intellectual property rights to items like traditional music and dance or signs and devices or know-how about medicine is arguably misguided. Scholars have criticized the increased propertization of intellectual property to the detriment of the public domain and non-market values.[7] For such scholars, protecting traditional knowledge through patent, copyright, and trademark is another example of the pernicious trend. In addition, treating the artifacts of traditional knowledge as intellectual property, as in the same class as pop music, the great American novel, Cipro, Mickey Mouse, and The Terminator, subverts the notions of traditional and modern. Intellectual property law falls victim to post-modern impulses to sever the signifier (the forms of intellectual property) from

---

Die. The United Nations is Upset About This, THE WALL STREET JOURNAL, March 8, 2002, at W13 (describing efforts of United Nations to preserve dying languages in Alaska and Polynesia).

[5] *See* David Throsby, ECONOMICS AND CULTURE 74-92 (2001); Susan Scafidi, *Intellectual Property and Cultural Products*, 81 B.U. L. REV. 793, 816-834 (discussing appropriation of cultural products from the perspective of internal and external uses); Naomi Roht-Arriaza, *Of Seeds and Shamans: The Appropriation of the Scientific and Technical Knowledge of Indigenous and Local Communities*, 17 MICH. J. INT'L LAW 919, 947-962 (1996) (describing "bioprospector" contracts and other means of appropriation); Traci L. McClellan, *The Role of International Law in Protecting the Traditional Knowledge and Plant Life of Indigenous People*, 19 WIS. INT'L L.J. 249, 257-261 (2001) (discussing value of intellectual property rights including value of receiving compensation for uses of traditional knowledge by corporate entities). Meetali Jain, *Global Trade and the New Millennium: Defining the Scope of Intellectual Property Protection of Plant Genetic Resources and Traditional Knowledge in India*, 22 HASTINGS INT'L & COMP. L. REV. 777, 805-810 (1999) (discussing role of contract and material transfer agreements to protect the interests of groups within developing countries); Gianfranco Mossetto, *The Economic Dilemma of Heritage Preservation, in* CULTURAL ECONOMICS AND CULTURAL POLITICS 81, 94-95 (Alan Peacock & Hilde Rizzo eds., 1994) (illustrating how market cannot support goals of preservation); Shayana Kadidal, *Plants, Poverty, and Pharmaceutical Patents*, 103 YALE L.J. 223 (1993); John Henry Merryman, *Cultural Property, International Trade, and Human Rights Occasional Papers in Intellectual Property*, Cardozo No. 9 13-15 (questioning argument that there is public interest in cultural preservation).

[6] Justin Hughes, *The Philosophy of Intellectual Property*, 77 GEO. L.J. 287 (1988) (discussing Lockean and Hegellian justifications for intellectual property); Mark A. Lemley, *Reconceiving Patents in the Age of Venture Capital*, 4 J. SMALL & EMERGING BUS. L. 137 (2000).

[7] *See* works cited *supra* note 1.

the signified (innovation, newness, originality).[8] The traditional knowledge debate seems a topsy-turvy one indeed.

My argument is that the terms of the traditional knowledge debate are actually very traditional, the continuation of tensions between North and South in ownership and control of resources. At stake also are the tensions between the growth of a market culture and a communitarian, gift-based culture.[9] Even though these tensions are played out in the arena of intellectual property, it is important to recognize the difference between the traditional knowledge debate and debates over the expansion of intellectual property in other areas, such as with academic culture[10] or with the Internet[11]. The traditional knowledge debate occurs in the context of a culture clash between the developing and developed worlds, between different social structures in the South and in the North (as well as structures within those two regions). The questions of whether an artifact of traditional knowledge should have owners and of who the owner should be determine issues of development, sovereignty, and control over resources.

Later in this paper I analyze in detail patents over *neem*, basmati rice, and turmeric, but let me briefly touch on the *neem* patent for the sake of illustration. *Neem*, also known as the Indian lilac, is the source of many medicinal and cosmetic products. The bark and leaves of the tree can be used for therapeutic purposes, many of which have been known within India for centuries. There are also, very likely, many uses that have not been discovered yet. What role should intellectual property play in defining the ownership and control of these uses, both old and new? Those who are skeptical of intellectual property (and in many other respects, I consider myself in this camp) may argue that intellectual property should play no role, that *neem* and its uses should remain unowned and in the "public domain." But placing *neem* in the public domain does not necessarily mean that it will be unowned. The public domain is a sanctuary only from the

---

[8] *See* Coombe *supra* note 1, at 51-52. For a discussion of postmodernism outside the context of intellectual property, *see* Dennis Patterson, *Postmodernism*, *in* A COMPANION TO PHILOSOPHY OF LAW AND LEGAL THEORY 375-384 (Dennis Patterson ed., 1999).

[9] Marcel Mauss, THE GIFT: THE FORM AND REASON FOR EXCHANGE IN ARCHAIC SOCIETIES (W. D. Halls ed., 1954). For a discussion of gift culture in law, *see* Timothy L. Fort & James J. Noone, *Gifts, Bribes, and Exchange: Relationships in Non-market Economies and Lessons for Pax E-commercia*, 33 CORNELL INT'L L.J. 515 (2000).

[10] *See* Corynne McSherry, WHO OWNS ACADEMIC WORK?: BATTLING OVER CONTROL OF INTELLECTUAL PROPERTY (2001).

[11] *See* Jessica Litman, DIGITAL COPYRIGHT (2001).

control of intellectual property law; contract, the rule of force, and technology can be used to capture items from the public domain. An alternative, in order to ensure that traditional groups can continue to use and further exploit *neem*, is to vest an intellectual property right in the traditional group itself. Who that group is, what the contours of the right is, and what uses are protected are all questions that will need to be faced. But the creation of a right vested appropriately resolves many problems that are raised by putting *neem* in the public domain. Specifically, intellectual property rights can provide a countervailing force to those of multinational companies that may exploit the products on traditional knowledge for their own benefit.

An example of the complex relationship between corporate power, the public domain, and intellectual property is provided by Monsanto's terminator seeds, a patented item marketed to farmers in India that lasted only one growing season.[12] When the patent on the seed expired, Monsanto attempted to extend the life of the patent by contractually restricting the ability of Indian farmers to save seeds for the next growing season. Farmers who did save the seed would be denied future seeds or other benefit because they would have been deemed to breach the contract. Monsanto removed these contractual restrictions after farmers violently protested in the streets of Bangalore.[13] As this example illustrates, even though the patent had expired, the invention had not fallen into the public domain. Monsanto attempted to use contract law to extend its rights. Absent violence, the company may well have succeeded. A correction to the law of intellectual property could resolve the problem. Under United States law, the contract term would have been most likely pre-empted by patent law because the contract conflicts with the limited terms provision of patent law.[14] Preemption, however, is unique to of the federalist structure in the United States and would have no basis in Indian jurisprudence.[15] However, principles of unfair competition

---

[12] Alan McHughen, PANDORA'S PICNIC BASKET: THE POTENTIAL AND HAZARDS OF GENETICALLY MODIFIED FOODS 249-250 (2000).

[13] S.M. Mohammed Idris, *"Doublespeak and the New Biological Colonialism," Third World Network Features, reprinted in* A COURSEBOOK IN INTERNATIONAL INTELLECTUAL PROPERTY 1052-1053 (Doris Long & Anthony D'Amato eds., 1999).

[14] Brulotte v. Thys Co., 379 U.S. 29 (1964) (holding that license term that exceeded duration of patent was preempted as an attempt to increase the patent life).

[15] *See* Mark A. Lemley, *Beyond Preemption: The Law and Policy of Intellectual Property Licensing*, 87 CALIF. L. REV. 111 (1999).

could have served as legal tools to invalidate the contract.[16] Alternatively, vesting a breeder's rights in the farmers could also redress the problem.[17] Intellectual property rights, analogously, provides countervailing power in the global marketplace.

The question of economic relations between developing and developed countries, between the control and structure of global and regional marketplaces, is now being played out in the seemingly narrower and unusual questions of whether and how intellectual property maps onto traditional knowledge. For those who see the issue through the lens of United States law, protecting *neem* or turmeric or Hopi dance seems to stray from the constitutional mandate that intellectual property law should serve "to promote the progress of science and the useful arts."[i] But, of course, this directive is largely isolated to the United States. Intellectual property law serves many purposes, including the protection of author's rights and the creation and dissemination of cultural artifacts. Even within the narrow United States directive (to the extent that it can be extended to international intellectual property rights), protecting traditional knowledge is not entirely inconsistent with promoting progress in science and the useful arts. If property rights aid in developing and disseminating (whether through market or other institutions) knowledge, then recognizing intellectual property rights in what has already been created is consistent with the promotion of progress. The harder question is how the rights should be allocated and to whom. Who determines if there is a market, and what the market looks like: western corporations, local groups, the developing country, or some other entity? This last question is the big issue raised by the traditional knowledge debate.

I argue that the new international world order is a federated one that consists of and recognizes many diverse interests through a mix of domestic and international law. In this way, the traditional knowledge debate is a traditional debate but with a different and expanded set of

---

[16] Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Annex 1C: Agreement on Trade-Related Aspects of Intellectual Property Rights, Including Trade in Counterfeit Goods, GATT Doc. MTN/FA II-A1C (Dec. 15, 1993), *reprinted in* 33 I.L.M. 81 (1994) [hereinafter *TRIPS*] Art. 40(1) ("Members agree that some licensing practices or conditions pertaining to intellectual property rights which restrain competition may have adverse effects on trade and may impede the transfer and dissemination of technology"). *See* P. Roffe, *Control of Anti-competitive Practices in Contractual Licenses under the TRIPS Agreement, in* INTELLECTUAL PROPERTY AND INTERNATIONAL TRADE: THE TRIPS AGREEMENT 261-296 (Carlos M. Correa & Abdulqawi A. Yusuf eds., 1998).

[17] *See* Simpson, *infra* note 33, at 92-111 (discussing farmers' rights).

players. I develop the argument in this paper as follows. Part II presents the traditional knowledge debate as an example of a "New Mercantilism." Part III presents a legal analysis of the battles over patent and trademark protection for turmeric, basmati rice, and *neem*. I discuss the possible treatment of these and other items of traditional knowledge. In Part IV, I make the case that the emerging world of international intellectual property is one in which a mix of domestic and international law serves to create a federated world with both political and economic fora that recognizes participation of diverse interests while also permitting exit. Within this model of international intellectual property, I show how nation states can make strategic uses of intellectual property. Part V concludes.

II. TRIPS AND THE NEW MERCANTILISM

There are three basic positions in the traditional knowledge debate, which I will refer to as the public domain position, the appropriation position, and the moral rights[18] position. Proponents of the public domain position espouse keeping traditional knowledge in the public domain, to be shared by all constituencies in a global commons. The appropriation position, by contrast, supports exclusive ownership of traditional knowledge with rights vested in that entity that makes commercial or other practical use of the knowledge. In most instances, this position would lead to ownership of traditional knowledge by multinational companies situated in the developed world. Finally, the moral rights position would protect the interests of traditional knowledge holders, who would be given either a complete ownership interest that would block any claims by actual appropriators and exploiters of the knowledge or a stake in any commercial exploitation made by multinationals.

---

[18] The term "moral rights" is used to describe a particular philosophy of copyright law that supports granting nearly plenary rights to the author of a work in order to protect the personality, integrity and reputation of the author. *See* Paul Goldstein, INTERNATIONAL COPYRIGHT, 283-292 (describing moral rights), 8-10 (describing author's rights tradition) (2001); *see also* Roberta Rosenthal Kwall, *"Author-stories:" Narrative's Implications for Moral Rights and Copyright's Joint Authorship Doctrine*, 75 S. CAL. L. REV. 1 (2001). I am using the term "moral rights" in a broader sense to include protecting rights of all creators, not just authors, in their creations. Although the term "moral rights" is not typically used outside the copyright context, I feel that it captures a recurrent problem of how much ownership and control any creator of intellectual property is allowed to have. *See, e.g.*, Jerry Markon, *If City Employee Invents Process, Who Gets Patent?*, THE WALL STREET JOURNAL, Tuesday, March 26, 2002 at B1, B12 (discussing conflict between employer and employee in rights of ownership over patented invention).

These three positions can be aligned around two questions: (1) should traditional knowledge be commodified? and (2) who should decide the uses of traditional knowledge? Advocates of the public domain position are opposed to the commodification of traditional knowledge and are wary of any legal ownership created to control and regulate its use. In effect, they support traditional social structures for the preservation and control of traditional knowledge (presumably even if such structures prohibit the dissemination of socially valuable uses of such knowledge and serve as forms of intellectual property protection). By contrast, the appropriationist position is squarely aligned with the commodification of traditional knowledge, especially by entities that can make the greatest use of such knowledge through dissemination to as wide a market as possible. The moral rights position provides a more ambiguous approach to commodification. The aim of the moral rights position is to endorse the rights of traditional knowledge holders and their autonomy in deciding how the knowledge gets used, including the possibility of commodification. The moral rights and public domain positions overlap in preserving traditional social structures although the moral rights position is not inconsistent with decisions by members of the traditional structure to market traditional knowledge.

Players in the traditional knowledge debate are often quite strident about their positions. Public domain advocates see the creation of intellectual property rights in traditional knowledge as leading to the path of destroying traditional structures and institutions. Moral rights advocates extol the virtues of traditional knowledge and the long history of creating and disseminating traditional knowledge within traditional structures. Finally, appropriationists point to the beneficial uses of traditional knowledge and the need to disseminate such uses through the marketplace. Often, this debate loses sight of the questions of commodification and the locus of decision-making and focuses squarely on what can be described as rights-talk, specifically pitting the rights of traditional knowledge holders against the rights of Western companies. But this dichotomy is not a fruitful way of framing the discussion. It polarizes the positions without adequately resolving the underlying questions of markets, ownership and control. I propose that we rethink this debate in terms of the federated, participatory structure created by WTO and TRIPS.

Recognizing this structure will also highlight the traditional terms to the debate.[19]

What do I mean by a federated participatory structure? And what role does intellectual property play in this structure? Signatories to TRIPS should be viewed as independent sovereigns who operate under the restrictions of the TRIPS agreement, which functionally acts as a constitution for the member states. Under the terms of the constitution, member states must respect certain intellectual property rights of its own citizens. These rights extend to citizens of other member states under the principle of national treatment. Member states also have the ability to place limitations on these rights as long as these limitations fall under the substantive and procedural standards of Article 31 (which applies to compulsory licenses) and the substantive standards of Article 30 (which applies to all other limitations of rights).

The governance structure is not only federated, but also participatory, meaning that the member states have room to shape the structure of rights and powers within the general contours of TRIPS. To borrow a phrase from United States constitutional law, member states are "laboratories of experimentation." They can define intellectual property rights in a host of ways within the general provisions of the agreement. The importance of experimentation should not be overlooked. Instead of being a confining document that mandates uniformity, the TRIPS agreement provides a playing field within which law can be shaped to meet the political, social, economic, and other policy goals of member states. Although the full implications of TRIPS are yet to be worked out, the degree of freedom given to member states should not be ignored. Such freedom can take the new world order of trade and intellectual property in many

[19] For a discussion of the structure of the WTO system as a method of fostering international cooperation, *see* Alan Deardorff, *An Economist's View of the World Trade Organization, University of Michigan Department of Economics Working Paper Series*, Working Paper No. 96-05 (Nov. 4, 1996) (describing the WTO "as a remarkably well-conceived solution to the complex problems of international cooperation"). *See also* Jerome H. Reichman, *Securing Compliance with the TRIPS Agreement After U.S. v. India*, 1 J. INT'L ECON. LAW 585, 587-592 (1998) (describing a pro-competitive strategy for developing countries under TRIPS); J .H. Reichman, *From Free Riders to Fair Followers: Global Competition Under the TRIPS Agreement*, 29 N.Y.U. J INT'L L. & POL. 11 (1996/1997) (arguing that TRIPS provides a basis for international cooperation permitting transition for developing countries); David Henderson, *International Agencies and Cross-Border Liberalization: The WTO in Context*, *in* THE WTO AS AN INTERNATIONAL ORGANIZATION 97-132 (Anne O. Krueger ed., 1998).

directions. The direction will rest on how member states use their freedom in working within the parameters of TRIPS.[20]

The India mailbox decision illustrates this flexibility. Although India was found to be in violation of TRIPS for not providing a clearly stated mailing address to which patent filings could be sent, the WTO Tribunal followed the language of TRIPS expressly, holding that India had several years within which to come into compliance.[21] Such close reading of TRIPS gives one hope for how the Tribunal might interpret other provisions of the agreement, such as the ones that place limitations on protected intellectual property and exceptions to intellectual property rights. As I explore in this paper, a textual approach to TRIPS would support member states' creation of intellectual property rights, under a sui generis or possibly under a more established regime, for its traditional knowledge. Such a regime might preserve the ability of traditional knowledge holders to commercially exploit or protect from such exploitation the artifacts of traditional knowledge. Furthermore, such flexibility permits the expansion of how member states define fair use and prior art as limitations on protected property and the exclusive rights of intellectual property holders.

The federated, participatory structure created by TRIPS is one to be developed and recognized in assessing the implications of TRIPS for member states and various rights holders. A critic may challenge my characterization as overly optimistic, one that ignores the history of TRIPS as a means in part for developed countries to protect their intellectual property rights against piracy by developing countries. Such a critic would conclude that TRIPS is inevitably about commodification of all cultural and scientific artifacts and about the subversion of the public domain by market systems. Of course, my position is not to deny this possibility. But it is just a possibility, and not an inevitability. By reducing the terms of international exchange and trade to issues of intellectual property protection, the TRIPS agreement has potentially reduced the imbalance between the North and South by recognizing and providing the mechanisms to protect interests that both the North and South have. Intellectual property

---

[20] For a discussion of the place of diversity in a federated system, *see* James Tully, STRANGE MULTIPLICITY: CONSTITUTIONALISM IN AN AGE OF DIVERSITY 140-145 (1995).

[21] WTO, *India-Patent Protection for Pharmaceutical and Agricultural Chemical Products, Appellate Body*, WT/D550/AB/R. 97-5539 (Dec. 17, 1997); *see* Reichman, *Securing Compliance*, *supra* note 19, at 592-594.

rights provide greater scope for the generation of wealth and for experimentation by the state than natural resources, whose location are random and often outside the power of sovereigns to create and generate. An international system that rests on natural resources for the generation of commerce and wealth is one that is shaped by the luck of geology and biology. Some states will have natural resources and others will not. Those that do not will either be beholden to those that do or will have to obtain resources via conquest or consent. Intellectual property, on the other hand, consisting largely of knowledge and information-based resources, can be created by the state. Investment in education, for example, can generate the types of assets that are the subject of intellectual property protection. The problem, however, of access to resources for producing such assets is still present. An international system based on intellectual property does not remove the difference between the haves and have-nots. But such a system provides a means for states to compete in ways that do not entail pure conquest. The state has a range of tools to use to develop its assets and compete in the international arena.

I refer to this new role for intellectual property rights as "strategic intellectual property rights." I use the word strategic to emphasize that intellectual property rights can serve as an instrument by member states to subsidize their constituencies and engage more effectively in the international market place.[22] One possible way that intellectual property rights are used strategically is to subsidize research and development and innovation in order "to promote the progress in the science and useful arts," to borrow from the language of the United States Constitution. Another use, however, which is not wholly inconsistent with the goal of promoting progress, is to foster domestic industry. The arguments over copyright in the United States in the nineteenth century often focused on the use of copyright law to protect the U.S. publishing industry and to protect domestic authors from the encroachment of foreign ones.[23] Similarly, debates over

[22] For a discussion of strategic uses of law, particularly antitrust and intellectual property law, *see* Thomas Dreier, *Balancing Proprietary and Public Domain Interests: Inside or Outside of Proprietary Rights?*, *in* EXPANDING THE BOUNDARIES OF INTELLECTUAL PROPERTY: INNOVATION POLICY FOR THE KNOWLEDGE SOCIETY 295-316 (Rochelle Dreyfuss, Diane L. Zimmerman, & Harry First eds., 2001); Susan deSanti & William Cohen, *Competition to Innovate: Strategies for Proper Antitrust Assessment*, *id.* at 317-342.

[23] *See* Siva Vaidhyanathan, COPYRIGHTS AND COPYWRONGS: THE RISE OF INTELLECTUAL PROPERTY AND HOW IT THREATENS CREATIVITY 50-80 (2001) (detailing the nineteenth century debates over copyright); Shubha Ghosh, *The Merits of Ownership; or How I Learned to Stop*

patent law in many developing countries center around the effect of patent protection on the stimulation of domestic industry or the promotion of foreign investment.[24]

The debate over traditional knowledge protection is yet another illustration of strategic intellectual property rights. Take the case of pharmaceutical products based on traditional forms of knowledge. Often, a Western company appropriates some form of traditional medicine, improves the technique, or identifies the process that makes the medicine effective, and patents the result in its home country. The patent right gives the company the exclusive right to make and market the patented invention within the territory of the nation state that accords patent protection. When the Western company profits from the marketing of the patented invention, some portion of that profit represents a return that should have inured to the source of the traditional knowledge, assuming that the company used the knowledge without permission or compensation. Who is entitled to that return, which I will refer to here as a rent? One argument is that it belongs fully to the Western company, but for whose actions the invention would not have been disseminated. But that analysis ignores that but for the traditional knowledge, the Western company would have lacked an input necessary for its invention. The political concern over bio-piracy is sparked by the question of who should obtain the rent. Intellectual property rights are strategic tools for the expropriation of this rent. If the invention is subject to patent protection alone, then the company acquires the rent fully. If the patent is denied (because of lack of novelty or non-obviousness), then the rent becomes dissipated as the original inventor now faces competition. If the source of traditional knowledge is protected as intellectual property, then the owner of traditional knowledge (and it is a separate knotty problem of

---

Worrying and Love Intellectual Property, 15 HARV. J.L. & TECH. 453-496 (2002) (commenting on Vaidhyanathan's historical analysis).

[24] A similar debate occurred in the United States in the late eighteenth and early nineteenth centuries over the patent of importation. *See* Doris Estelle Long, *The Impact of Foreign Investment on Indigenous Culture: an Intellectual Property Perspective*, 23 N.C. J. INT'L L. & COM. REG. 61, text accompanying notes 71-78 (1998); Ruth L. Gana, *Prospects for Developing Countries under the TRIPS Agreement*, 29 VAND. J. TRANSNAT'L L. 735, n.40 (1996); J.H. Reichman, *Charting the Collapse of the Patent-copyright Dichotomy: Premises for a Restructured International Intellectual Property System*, 13 CARDOZO ARTS & ENT. L.J. 475, n.26 (1995); Edward C. Walterscheid, *Patents and Manufacturing in the Early Republic*, 80 J. PAT. & TRADEMARK OFF. SOC'Y 855, 861-868 (1998). For a general overview of the issues raised by the transplantation of intellectual property law, *see* Anthony D'Amato & Doris Estelle Long, INTERNATIONAL INTELLECTUAL PROPERTY LAW 70-81 (1997) (discussing the realist, normativist, and realist arguments for and against transplantation and placing the transplantation debate in a historical context).

who that may be) becomes a stakeholder and can potentially expropriate the rent from the sale of the marketed product. Intellectual property, as seen in this example, is a strategic tool for rent extraction.

I should emphasize that this view of intellectual property is not inconsistent with the conventional view that intellectual property serves as a reward for innovation. Understood properly, the conventional view is a strategic use of property, inducing the inventor to produce and often disseminate an invention that might otherwise have remained in the inventor's head or as a secret.[25] Recognizing the strategic uses of intellectual property highlights the broad role that intellectual property rights play in the creation and dissemination of innovation. The structure of intellectual property law shapes the structure of market and other mechanisms through which the products of intellectual property are disseminated. A simple example will illustrate this point. Imagine first a world with strong copyright and no fair use. In such a world, we would expect that works would be created and distributed largely through market transactions whose terms are dictated by the copyright owner. Now imagine a world with weak copyright and very strong fair use. In this second world, works will still be created (although of a different amount and quality than in the first world) and will largely be disseminated through non-market transactions or through more competitive markets. Notice how the structure of rights shapes the structure of markets and how the rights can be manipulated (though not necessarily with any degree of certainty) to reach various desired states of society.

Combining the freedom accorded by the TRIPS agreement with the strategic uses of intellectual property law implies that the new world order we live in can be thought of as a New Mercantilism. It is

---

[25] For a discussion of intellectual property law's use to resolve the problems of appropriation and disclosure, known as the "Arrow paradox," *see* Stanley M. Desen & Leo J. Raskind, *An Introduction to the Law and Economics of Intellectual Property,* 5 J. ECON. PERSPECTIVES 3, 5-6 (1991); Steven N.S. Cheung, *Property Rights and Invention*, RESEARCH IN LAW AND ECONOMICS (John Palmer eds.,1986). *See also* RICHARD D. NELSON & ROBERTO MAZZOLENI, ECONOMIC THEORIES ABOUT THE COSTS AND BENEFITS OF PATENTS, IN INTELLECTUAL PROPERTY RIGHTS AND THE DISSEMINATION OF RESEARCH TOOLS IN MOLECULAR BIOLOGY18-25 (1997) (discussing four justifications for patent protection: invention-inducement theory, disclosure theory, development and commercialization theory, and prospect development theory); Keith Aoki, *The Stakes of Intellectual Property Law,* THE POLITICS OF LAW 259, 270-271 (David Kairys eds., 1999)(describing the exportation of United States intellectual property law); Keith Aoki, *Authors, Inventors, and Trademark Owners: Private Intellectual Property and the Public Domain Part I,* 18 COLUM.-VLA J.L. & ARTS 1, 5-34 (1994)(describing the "conflicting considerations" in intellectual property law).

like the old Mercantilism in that the new world order is centered around states, using intellectual property law as a form of trade protection and nation-state building. It is unlike the old Mercantilism in its stronger reliance on the market mechanism. The old Mercantilism was about nation-state building and engrossing the sovereign. The new version is about wealth maximization by market players. Intellectual property law serves to tilt the returns from the market to different players within the global market. The New Mercantilism uses intellectual property as a tool for redistribution as well as growth.[26]

The connection between the old Mercantilism and what I am calling the New Mercantilism is illustrated by Professor David Landes' description of the Industrial Revolution in Europe:

> European science and technology derived considerable advantage from the fact that the continent was divided into nation-states, rather than united under the rule of an ecumenical empire. Fragmentation...entailed competition, specifically competition among equals. In this contest, science was an asset of the state, not only because it furnished new tools and improved techniques of war, but because it contributed directly and indirectly to the general prosperity, and prosperity contributed to power. Hence, mercantilism. Mercantilism was, in short, pragmatism gilded by principle.[27]

Within the federated structure of TRIPS, nation-states are free to structure their intellectual property law to further their specific policy goals. Just as the old Mercantilism relied on developing technology and advances in natural and social science, so the New Mercantilism uses intellectual property, with its regulation of invention, discoveries, and writings, to steer the market in the direction of strengthening the national economy.

Some may argue that the New Mercantilism is inconsistent with the free trade philosophy underlying the WTO that has its roots in

---

[26] David M. Gould & William C. Gruben, *The Role of Intellectual Property Rights in Economic Growth*, 48 J. DEV. ECON. 323 (1996).

[27] DAVID S. LANDES, THE UNBOUND PROMETHEUS: TECHNOLOGICAL CHANGE AND INDUSTRIAL DEVELOPMENT IN WESTERN EUROPE FROM 1750 TO THE PRESENT 31-32 (1969); *see also* DAVID S. LANDES, THE WEALTH AND POVERTY OF NATIONS: WHY SOME ARE SO RICH AND SOME SO POOR 443 (1998)("Mercantilism was not a doctrine, nor a set of rules. It was a general recipe for political-economic management").

GATT.[28] I think it is certainly right that we have in some ways moved away from a world of liberated and completely unprotected trade. I do not have time here to fully explore how the free trade spirit evolved within GATT.[29] Let me point out, however, that the WTO's concern with intellectual property rights, as evidenced by TRIPS, in itself reflects a modification of free trade doctrine to recognize that some regulatory structure is needed for the creation of markets. Economists are wont to say that there is no such thing as free lunch. Logically, there cannot be any such thing as a free market. The creation of market institutions comes at some cost, at the minimum the costs of creating legal institutions that protect contract and property. The TRIPS agreement provides a structure within which global expectations about the rights attendant to intellectual property can be formed as a basis for the development of markets. The cost of creating such expectations comes in the form of markets that are not completely free in the idealized sense of being unprotected and unfettered by state intervention.

There is one recurring problem in this new world order, and this problem appears in the traditional knowledge debate. What if a state or a group within the state wants to opt out of the market? By this question, I do not mean the use of protectionist policies that balkanize the market. I mean a decision that market mechanisms are not the appropriate way to deliver resources. Phrased another way, does the new order commodify everything or is it possible for a state or a group within the state to opt out? These issues are particularly salient for traditional knowledge. What if a traditional knowledge holder decides not to market a product? Should they be given that

---

[28] *See* CHRISTOPHER ARUP, THE NEW WORLD TRADE ORGANIZATION AGREEMENTS: GLOBALIZING LAW THROUGH SERVICES AND INTELLECTUAL PROPERTY 64-65 ("The WTO TRIPS agreement is the clearest indication that the catalogue of norms includes security for certain kinds of investment as well as the freedom to trade."); Judith Goldstein, *International Institutions and Domestic Politics: GATT, WTO, and the Liberalization of International Trade* in Krueger, *supra* note 19, at 147 ("To suggest that free trade ideas are important ... is not to argue that the trade vision found in the GATT or the WTO is akin to free trade models found in an economic textbook."). For an interesting case study involving protectionism in the film industry, *see* Bernard Simon, *Using Tariffs to Discourage Movie Production Outside U.S.: A request to treat films like lumber and steel*, N.Y.TIMES Mar. 29, 2002, at W1, W7.

[29] For an overview of the issue, *see* Abdulqawi A. Yusuf, *TRIPS: Background, Principles, and General Provisions* in Correa & Yusuf, *supra* note 16 at 6-10 (discussing the relationship between GATT and TRIPS and the contradictions in free trade philosophy); J.H. Reichman, *Intellectual Property in International Trade: Opportunities and Risks of a GATT Connection*, 22 VAND. J. TRANSNAT'L L. 795-796 (1989)(highlighting the contradictory assumptions of free trade and regulation in the developed and the developing world, the former wanting free markets domestically with regulated markets globally and the latter seeking the opposite).

right? To make the example more compelling: what if a traditional knowledge holder has the cure for cancer? A Western company wants to help in marketing the cure and is willing to negotiate with the holder for the rights. The knowledge holder believes that such marketing use of the cure is not appropriate. Furthermore, he believes that the knowledge should only be used for the ritual endemic to his group. Should the knowledge holder have the right to say no? Or should a utilitarian calculus dictate marketing or other forms of dissemination?[30]

Those familiar with intellectual property policy will recognize this problem as the most difficult problem for intellectual property doctrine. It is in some ways the converse of the problem of AIDS drugs. Pharmaceutical companies have AIDS medicine but distribute it at too high a price for the indigent to afford.[31] Should they be forced to sell at a lower price or give away for free? The case of the traditional knowledge holder who refuses to sell is analogous, except that the knowledge holder refuses to sell at any price. Conceptually, we could say that the knowledge holder's price is so high that no one can afford it. But that conceptualization would miss an important distinction. In the case of the AIDS drug, the company is willing to market; the problem is negotiating the appropriate terms. In the case of the traditional knowledge holder with the cure for cancer, the problem is that the market mechanism or any other form of dissemination is anathema. The aversion to markets is different from an unwillingness to charge a lower price.

---

[30] For an excellent framing of this issue, *see* MARGARET RADIN, CONTESTED COMMODITIES 1-16 (1996) (describing commodification as a worldview and extolling the importance of personhood). Although Professor Radin's personhood theory is a seminal contribution to the literature on inalienability, I am not sure the theory can address the issues raised in this paragraph, especially when group or cultural autonomy as opposed to individual autonomy is the concern. For the seeds of a general theory of culture, technology, and property, *see* THROSBY, *supra* note 5, at 45-8 (discussing the concept of "cultural capital"); Richard R. Nelson, *What is Private and What is Public About Technology?*, 14(3) SCIENCE, TECHNOLOGY & HUMAN VALUES 229-241 (1989) (assessing public-private distinction in ownership and dissemination of technology); John O' Neill, *Property in Science and the Market*, *in* PROPERTY LAW VOL. II 457-476 (Elizabeth Mensch & Alan Freeman eds., 1992) (contrasting a market culture and an academic gift culture for creation of scientific knowledge); JOSEPH STIGLITZ, *Knowledge as a Global Public Good*, *in* GLOBAL PUBLIC GOODS 308-325 (Inge Kaul, Isabelle Grunberg & Marcia Stern eds., 1999) (applying public goods thoery). For a cultural studies approach that would be instructive in addressing some of the issues I raise, *see* Madhavi Sunder, *Cultural Dissent*, 54 STAN. L. REV. 495 (2001) (proposing a more robust and thick definition of culture in right of association cases).

[31] Shubha Ghosh, *Pills, Patents, and Power: The State Creation of Gray Markets As a Limit on Patent Rights*, 53 FLA. L. REV. 789, 814-819 (2001) (describing AIDS experience in South Africa).

Of course, the dilemma has another analogue in the doctrine of moral rights in intellectual property policy. Under the doctrine of moral rights, the creator of intellectual property has an absolute right not to publish or otherwise distribute the creation in order to protect the creator's interest in the integrity of the work and his personality. Once again, this analogy is not completely accurate because the traditional knowledge holder may very well not be the creator of the knowledge in question. But the comparison with moral rights is fruitful because of the possibility within moral rights theory to protect against the marketing of a creation. Admittedly, with any exclusive property right, the owner has the right not to market, even the right to completely destroy the property. But the key difference is that in legal systems without a deep moral rights tradition (such as the copyright system in the United States), courts and legislatures will subject the property right to a utilitarian calculus in determining permitted uses and will often award liability rule protection to violations of the property right.[32] Such utilitarian considerations are inappropriate in a moral rights regime.

The issue of the extent of marketing is one that has emerged and will continue to emerge as an important question as interpretation of the TRIPS agreement progresses. The agreement does allow great latitude in how intellectual property rights are created and protected, and this latitude includes a member state adopting a moral rights-like regime for intellectual property. I make no predictions on how these issues will be resolved. However, I am certain that intellectual property law will play a role as an important strategic tool in the shaping of markets and in the protection of a wide range of interests, including those of traditional knowledge holders. I provide two concrete illustrations in the next two sections. Section III looks at the early debate in the United States about patents of importation as an example of strategic intellectual property rights. Section IV considers the treatment of turmeric, basmati, and *neem* under the new world order of trade, intellectual property rights, and the New Mercantilism heralded by TRIPS.

---

[32] *See, e.g.*, Jerome Reichman, *Of Green Tulips and Legal Kudzu: Repackaging Rights in Subpatentable Innovation, in* DREYFUSS, ET AL, *supra* note 22, at 39-52 (describing a liability rule regime to facilitate follow-on innovation for patent and for copyright); *but see* PAUL GOLDSTEIN, INTERNATIONAL COPYRIGHT: PRINCIPLES, LAW, AND PRACTICE 8 (2001) (pointing out that the common law tradition for copyright "fails any strict utilitarian measure" and that, similar to the civilv law tradition, the common law tradition of copyright extends "rights into nearly every corner where a work's value can be economically maximized").

III. TURMERIC, BASMATI RICE, AND *NEEM*: THREE CASES OF THE STRATEGIC USES OF INTELLECTUAL PROPERTY RIGHTS

The traditional knowledge issue entails U.S. and European companies visiting developing countries, learning about local knowledge concerning uses of traditional resources, and exporting the discovered knowledge to the respective Western countries where they are patented.[33] The concern raised by the practices of Western companies with respect to traditional knowledge is that once the intellectual property right has been established, the companies will have a proprietary interest in the products or services that embody the patented forms of traditional knowledge. The proprietary interest could result in higher prices for the products and services which will be paid by the real creators of the Traditional knowledge, the traditional groups themselves. Often referred to as bio-piracy, the actions of the Western companies are viewed as the mirror image of what the developing world has done to Western companies: creating inexpensive copies of published books and movies and patented drugs.[34] Such piracy by the developing countries was the main impetus for the establishment of the World Trade Organization and of TRIPS.[35] Now, many argue, the WTO regime is being used for reverse piracy.[36]

The concern over bio-piracy is not only that the developing countries are being forced to buy back the very traditional knowledge that traditional groups claim a right to. There is the related issue of the indigenous groups being deprived of the profits being reaped by the Western companies. After all, if traditional knowledge is such a valued input, then should not the companies have to pay for it? The problem, of course, is that rights in the knowledge are not defined, and

---

[33] Rosemary J. Coombe, *Intellectual Property, Human Rights & Sovereignty: New Dilemmas in International Law Posed by the Recognition of Indigenous Knowledge and the Conservation of Biodiversity*, 6 IND. J. GLOBAL LEG. STUD. 59 (1998); TONY SIMPSON, INDIGENOUS HERITAGE AND SELF-DETERMINATION: THE CULTURAL AND INTELLECTUAL PROPERTY RIGHTS OF INDIGENOUS PEOPLES 30-47 (1997).

[34] For background history, *see* ARUP, *supra* note 28, at 64-65 (2000); MICHAEL P. RYAN, KNOWLEDGE DIPLOMACY 4-7 (1998).

[35] *See* ARUP, *supra* note 28, at 177-187.

[36] *See* SIMPSON, *supra* note 33, at 49-52; VANDANA SHIVA, STOLEN HARVEST 21-36 (1999) (describing the destruction of local food cultures by 'soy imperialism'). *But see* Someshwar Singh, *U.S. Not Sure What's Biopiracy, available at* http://www.twnside.org.sg/title/whats.html.

in fact may be an alien or hostile notion.[37] Some developing countries have responded to this problem by granting quasi- intellectual property protection, either through existing law or new, sui generis legislative schemes, to traditional knowledge.[38] The World Intellectual Property Organization has recently completed a study which involved extensive field work, that proposes protection for traditional knowledge (or "traditional knowledge," the term used by the drafters of the report) based on an intellectual property model. The drafters conclude:

> An efficient IP [intellectual property] system that protects TK [traditional knowledge] will promote continued creation and innovation based on that knowledge. IP is not only about conferring property rights. It is also about recognition of and respect for the contributions of human creators. From this perspective, IP has a very important role to play in protecting the dignity of holders of TK and, by recognizing property rights in relation to such knowledge, giving those holders a degree of control of its use by others.[39]

There is much to commend about WIPO's position, and I agree in spirit with granting property rights in traditional knowledge to the creators of traditional knowledge. As I discuss in more detail in Section IV, the position of not recognizing a property right at all, or in effect relegating traditional knowledge to the public domain, creates the problem that acquisition and exploitation of the knowledge will be

---

[37] *See* SIMPSON, *supra* note 33, at 53-57; WIPO Report, *supra* note 3, at 57-65.

[38] *India Needs Patent Laws*, THE INDIAN EXPRESS (March, 2000) (quoting an Indian agricultural scientist as saying "Patent regime should be one which respects our IPR, others' IPR and makes provisions for protecting health and food security of the people, particularly the poor"). *See also Plant Patent's Rejection Highlights Conflict Between Traditional Knowledge and IP Law*, 1 INTELL. PROP. L. WEEKLY 741 (Nov. 17, 1999); Sarah Harding Value, *Obligation and Cultural Heritage*, 31 ARIZ. ST. L.J. 291, text accompanying notes 10-12 (1999); Janet McGowan, *Collecting Traditional Medicines in Nigeria: A Proposal for IPR Compensation*, *in* Greaves (ed.), *supra* note 4, at 57-68; Steven R. King, *Establishing Reciprocity: Biodiversity, Conservation and New Models for Cooperation Between Forest-Dwelling Peopls and the Pharmaceutical Industry*, *in id.*, at 69-82; Paul Richards, *Cultural and Community Values in the Selection and Maintenance of African Rice*, *in* VALUING LOCAL KNOWLEDGE: INDIGENOUS PEOPLE AND INTELLECTUAL PROPERTY RIGHTS 209-229 (Stephen B. Brush & Doreen Stabinsky eds., 1996); Alex Adeyinka, *Intellectual Property Rights in Developing Countries: Nigeria's Copyright Decree, 1988*, *in* THE LAW AND ECONOMIC DEVELOPMENT IN THE THIRD WORLD 43-82 (P. Ebow Bondzi-Simpson ed., 1992). For some case discussion, *see* Yumbulul v. Reserve Bank of Australia, 21 I.P.R. 481 (Federal Court of Australia-General Division, 1991); Mulpurrurru v. Indofurm, 30 I.P.R. 209 (Federal Court of Australia–Northern Division, 1994). For a discussion grounded in economic theory, *see* W. Lesser, *An Economic Approach to Identifying an 'Effective sui generis System' for Plant Variety Protection under TRIPS*, *in* AGRICULTURE AND INTELLECTUAL PROPERTY RIGHTS: ECONOMIC, INSTITUTIONAL, AND IMPLEMENTATION ISSUES IN BIOTECHNOLOGY 53-76 (V. Santaniello, R.E. Evenson, D. Zilberman, & G.A. Carlson, eds., 2000).

[39] WIPO Report, *supra* note 3, at 7

based on conquest and bargaining strength.[40] As the drafters of the report recognize, the creators of traditional knowledge lack strength to exploit the knowledge in bargaining, especially with large pharmaceutical companies. The conclusion of the report rests on the assumption that intellectual property rights are necessary to promote continued creation and innovation. The drafters of the report, in structuring the appropriate regime for traditional knowledge, should recognize the strategic uses of traditional knowledge detailed in this paper.

There are three major sources of law that serve as background to this discussion. The first is the United States patent law, under which a person who is the first to invent or discover "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof" that is nonobvious, obtains the right to exclude others from use of the invention or discovery.[41] The scope of the patent holder's rights under the patent is determined by the claims granted in the patent. Once granted the patent, the holder has the right to exclude any use that overlaps with the claims granted in the patent.[42]

The second body of law is the provisions of the TRIPS Agreement, which was signed in 1994, and currently has 134 signatories, including India and the United States. Intellectual property rights under the agreement include copyright, patent, trademark, geographic indicators, industrial designs, integrated circuit design layouts, and undisclosed information. The Agreement establishes certain minimum standards that each signatory country must comply with in enforcing intellectual property rights under domestic law.[43] For example, the TRIPS agreement requires that patents be available for any inventions in all fields of technology, provided that they are new, involve an inventive step, and are capable of industrial application; signatories to TRIPS are permitted to exclude certain items from patentability to protect the public order or morality.[44] The TRIPS also provides standards for the protection of geographic indications, that is words and symbols which indicate the

[40] *See* Section IV, *infra*, and therein.
[41] 35 USC §§ 101-103.
[42] 35 USC § 271(a). *See* Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 234 F.3d 558 (1st Cir., 2000) (discussing infringement and doctrine of equivalents).
[43] TRIPS, art. 1(1), Nature and Scope of Obligations.
[44] TRIPS, art. 27(1)-(2), Patentable Subject Matter.

place of production or creation of certain goods and services.[45] Furthermore, TRIPS requires national treatment by all signatories, which means that a country must treat its citizens and foreign nationals similarly in protecting intellectual property rights.[46] Finally, TRIPS establishes most favored nation status for all signatories, which means that signatory countries extend the same rights to all other signatory countries.[47] Disputes under TRIPS can be negotiated under the arbitration mechanism of the World Trade Organization, known as the dispute resolution mechanism.[48]

Finally, Indian patent law serves as a background to these three case studies. India enacted a patent act in 1970. The Act was amended in 1999.[49] Under the Act, India has been noncompliant with respect to protection for pharmaceutical products (though recent proposed amendments attempt to bring India into compliance)[50] and with the requirement of having a designated mailbox where patent applications can be sent (but after a recent ruling against India by the WTO, India has amended its Act).[51]

A. Turmeric

Turmeric is a plant that grows widely throughout India and Pakistan. The commercial value of the plant is in the rhizome, or roots, of the plant, from which a yellow powder is extracted through boiling. The powder is use as a dye, often in conjunction with other dyes, for leather goods, cotton, confectionary, and calico. It is also used as a cosmetic, condiment, and as an ant repellant.[52]

In 1995, the USPTO granted a patent to Drs. Suman Cohly and Hari Har P., two Indian-American scientists at The University of Mississippi for "the use of turmeric in wound healing." The patent covered the following six claims:

> 1. A method of promoting healing of a wound in a patient, which consists essentially of administering a

[45] TRIPS, art. 22(2)-(3), Protection of Geographic Indications.
[46] TRIPS, art. 3.
[47] TRIPS, art. 4.
[48] TRIPS, art. 64.
[49] The Patents Act, Akalank, 1970 [Act No. 39 of 1970] (As amended by Act No. 17 of 1999, w.e.f. 1.1.1995).
[50] *See* Jerome H. Reichman, *Securing Compliance with the TRIPS Agreement After U.S. v. India*, 1 J. INTER. ECON. L. 585, 592 (1998).
[51] *See* Reichman, *supra* note 24, at 593-594.
[52] J.S. PRUTHI, SPICES AND CONDIMENTS 244-250 (1976).

> wound-healing agent consisting of an effective amount of turmeric powder to said patient.
> 2. The method according to claim 1, wherein said turmeric is orally administered to said patient.
> 3. The method according to claim 1, wherein said turmeric is topically administered to said patient.
> 4. The method according to claim 1, wherein said turmeric is both orally and topically administered to said patient.
> 5. The method according to claim 1, wherein said wound is a surgical wound.
> 6. The method according to claim 1, wherein said wound is a body ulcer.[53]

The inventors describe turmeric as "a yellow powder developed from the plant *Curcuma longa*, [which] is commonly used as a food colorant in many Indian dishes and imparts a bitter taste. Turmeric is also used as an additive in prepared mustard. Although it is primarily a dietary agent, turmeric has long been used in India as a traditional medicine for the treatment of various sprains and inflammatory conditions."[54] The two scientists discuss their ability to isolate the active agent in turmeric and their experiments in determining the healing power of the powder on ulcers and wounds when applied topically or orally. All patent applications must be accompanied by a statement of prior art, and Drs. Cohly and Har P.'s application included a discussion of prior attempts to isolate the active agent and to test the healing powers of turmeric.[55]

In 1998, after a challenge by the Council of Scientific and Industrial Research in India, the US PTO canceled all six claims in the patent on the healing power of turmeric.[56] The Council challenged the validity of the patent on the grounds that the patent was not novel, citing the prior art in the traditional knowledge of India, the PTO canceled the patent, although there is no written opinion of the office.

The turmeric cancellation is the earliest example of a successful challenge to a patent over traditional knowledge,

---

[53] U.S. Patent No. 5,401,504.
[54] *See* abstract to U.S. Patent No. 5,401,504.
[55] *See* list of citations to U.S. Patent No. 5,401,504.
[56] *See* Reexamination Certificate B1(3500th) (Apr. 21, 1998) (cancelling claims in U.S. Patent No. 5,401,504). *But see* U.S. Patent No. 6,048,533 and U.S. Patent No. 5,897,865 (patents for use of turmeric for health ailments and skin disorders respectively granted in April, 2000, to a Vietnamese doctor in Maryland).

demonstrating both that "unjustified patents can be challenged" and the "difficulty of checking in one country (in this case the United States) whether public knowledge about an idea already exists in another country (in this case India).[57] The PTO's decision caused a great deal of excitement in India, especially among grass root activists. Vandana Shiva, an environmental biologist and activist on behalf of traditional knowledge in India, saw the cancellation as a victory against "biopiracy," or theft of biological and local knowledge by corporate interests in Western developed countries.[58] Dr. Shiva characterizes the granting of the turmeric patent as resulting from distortions in U.S. patent law, particularly the PTO's interpretation of prior art.[59] The interpretation permits "Western style IPR regimes which attempt to transform all life and living resources under the monopoly of corporations."[60] To remedy this problem, Dr. Shiva recommends that the Government of India revisit "the European Patent Convention, US patent laws, TRIPS and the Patent Cooperation Treaty: all of them fail to based on global, cross cultural scrutiny and on investigations about 'prior art,' though TRIPS and PCT are imposing global IPR frameworks on countries like India. Global recognition of patents without global recognition of prior art is a recipe for biopiracy."[61]

Despite Dr. Shiva's concerns about TRIPS and WTO, the turmeric decision illustrates how the new world order of intellectual property is not necessarily hostile to the interests of the developing world. Although TRIPS has been criticized for exporting Western style intellectual property law to the developing world, many aspects of intellectual property law are quite flexible. What the turmeric case illustrates is that while the TRIPS agreement did in many ways impose Western ideas of property and ownership, the agreement also expanded the scope of what constitutes prior art.[62] Invention does not mean merely discovering in country A what is already known in country B. As a result, TRIPS permits the use of the history and

---

[57] *See* Trade and Development Case Studies, *infra* note 83.

[58] Vandana Shiva, *Free Tree*, THE HINDUSTAN TIMES, June 9, 2000 available at http://www.hindustantimes.com/nonfram/080600/detOPI10.htm.

[59] VANDANA SHIVA, PROTECTING OUR BIOLOGICAL AND INTELLECTUAL HERITAGE IN THE AGE OF BIOPIRACY 12-17 (1996); SHIVA, STOLEN HARVEST, *supra* note 36, at 90-93.

[60] Shiva, *Free Tree*, *supra* note 58.

[61] *Id.*

[62] ARUP, *supra* note 28, at 220-222.

durability of traditional knowledge as a weapon against their expropriation.

However, despite the cancellation, there are currently over 200 existing patents in the United States that incorporate turmeric. These patents include: "Turmeric for treating health ailments," "Turmeric for treating skin disorders," and "Turmeric as an Anti-irritant in Compositions Containing Hydroxy Acids or Retinoids."[63] Many of these are novel and exemplify the type of invention that US patent law requires for protection. Dr. Shiva would argue that none of these patents are valid; that the incorporation of traditional knowledge in each of these patents calls into question and invalidates their novelty. This claim is legally a bold one. The cancellation of the turmeric patent denied rights only in the particular claims made by Drs. Cohly and Har P. about turmeric's healing property. The prior art was knowledge pertaining to the healing properties of turmeric. Therefore, there is nothing suspect under patent law about granting protection in truly novel inventions even if one of the inputs is in the public domain.

Nonetheless, Dr. Shiva's claim is an important one. Since India provided turmeric, and may have provided the inspiration for the patented inventions, why should the country not stake a claim in the patents? The answer is that granting such a right may give India too much strategic power to block certain inventions. While it is certainly true that public domain is necessary for the cultivation and development of ideas and inventions, it is also the case that invention is cumulative and that there is very little truly new or invented in a vacuum. Inventors often stand on the shoulder of giants and this process would involve using ideas from the public domain.[64] Too broad a reading of the public domain and what constitutes prior art can vitiate intellectual property rights.[65]

The response to my criticism would be that vitiating property rights is desirable, especially when biopiracy is involved. But putting turmeric and other traditional knowledge in the public domain and hence making them not expropriable is not satisfactory. The public domain is not a static place or set of ideas. Even if intellectual

---

[63] *See supra* note 56 for discussion of the first two patents. The third patent is U.S. Patent No. 6,277,881.

[64] Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29-41(1991).

[65] Michael Heller & Rebecca Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research* 280 SCIENCE 698 (May 1998); John Barton, *Reforming the Patent System* 287 SCIENCE 1933 (Mar. 2000).

property rights cannot be used to secure rights in the public domain, force and technological means might. Technology and law often substitute for each other, and the fear is that rights over the public domain will be acquired through force.[66] In fact, this description captures the colonial system of expropriation that existed, and predates by several centuries, the current battle over intellectual property rights. Dr. Shiva proposes protection of traditional knowledge through Indian laws. While this solution addresses the concerns over placing traditional knowledge in the public domain, it does not address whose rights are to be protected by the law. Certainly, at best, an appropriately drafted intellectual property law designed to protect traditional knowledge would protect India's interests against the rest of the world. But would such a law necessarily protect the interests of the Indian people who live in villages and practice much of the traditional knowledge at issue? An Indian legal response would resolve the commons problem created by the public domain by narrowing the size of the commons. There is still room for the commons to be exploited by the national government at the expense of the people that Dr. Shiva and other critics of biopiracy purport to protect.

The turmeric case highlights the major issues in the battle over traditional knowledge and illustrates the strategic uses of intellectual property rights. A more careful understanding of the strategic uses can bring to the surface the major tensions involved in defining rights and protecting interests through intellectual property law. The next two case studies illustrate other dimensions of this ongoing debate.

B. Basmati Rice

The Oxford English Dictionary defines basmati as "a long grained aromatic kind of Indian rice."[67] The name "basmati" derives from the Hindi word for fragrant, an appropriate connection because the rice is known for its aromatic scent which has been described as nut-like.[68] Basmati is traditional to Indian and Pakistan, and in 1997 comprised four percent of India's export earnings. It is important to

---

[66] *See, e.g.*, Jeannine Purdy, *Postcolonialism: The Emperor's New Clothes?*, *in* LAWS OF THE POSTCOLONIAL 203, 209-211 (Eve Darian-Smith & Peter Fitzgerald eds., 1999) (discussing colonialism and law's violence).

[67] THE OXFORD DICTIONARY AND THESAURUS 111 (1996).

[68] Yemi Adewumi, *Who owns It?: US-India Basmati Rice Dispute in WTO*, *at* http://www.american.edu/projects/mandala/TED/basmati.html.

note that Basmati refers to a particular class of rice, of which there are at least 400 varieties in India and Pakistan[69].

In 1997, RiceTec, a Texas company, acquired a patent in a novel method of breeding a long grain of aromatic rice, in a novel method of preparing and cooking the rice, and in the grains themselves.[70] The patent contains the following twenty claims:

> 1. A rice plant, which plant when cultivated in North, Central or South America, or Caribbean Islands *a)* has a mature height of about 80 cm to about 140 cm; *b)* is substantially photoperiod insensitive; and *c)* produces rice grains having *i)* an average starch index of about 27 to about 35, *ii)* an average 2-acetyl-1-pyrroline content of about 150 ppb to about 2,000 ppb, *iii)* an average length of about 6.2 mm to about 8.0 mm, an average width of about 1.6 mm to about 1.9 mm, and an average length to width ratio of about 3.5 to about 4.5, *iv)* an average of about 41% to about 67% whole grains, and *v)* an average lengthwise increase of about 75% to about 150% when cooked.
>
> 2. The rice plant of claim 1, wherein said starch index of *i)* consists of the sum of percent amylose of about 24 to about 29 and of alkali spreading value of about 2.9 to about 7.
>
> 3. The rice plant of claim 2, wherein said rice grains additionally have an average burst index of about 4 to about 1.
>
> 4. The rice plant of claim 2, wherein said rice grains consist of less than about 20% chalky, white belly or white center grains.
>
> 5. The rice plant of claim 1, wherein said plant produces about 3,000 lbs to about 10,000 lbs of seed per acre.
>
> 6. The rice plant of claim 1, which plant *a)* has a mature height of about 119 cm; and *b)* produces rice grains having *i)* an average starch index of about 29, an average percent amylose of about 24.5, and an average

---

[69] *Id.*

[70] *See* Vandana Shiva, *Basmati Biopiracy: Ricetec must withdraw all patent claims for basmati seeds and plants*, THE HINDUSTAN TIMES, Nov. 20, 2000, *available at* http://www.vshiva.net/aticles/basmati_biopiracy.htm.

alkali spreading value of about 4.5, *ii)* an average 2-acetyl-1-pyrroline content of about 400 ppb, *iii)* an average length of about 6.75 mm, an average width of about 1.85 mm, and an average length to width ratio of about 3.65, *iv)* an average of about 50% whole grains, and *v)* an average lengthwise increase of about 90% when cooked.

7. The rice plant of claim 1, which plant *a)* has a mature height of about 115 cm; and *b)* produces rice grains having *i)* an average starch index of about 29, an average percent amylose of about 26.2, and an average alkali spreading value of about 2.9, *ii)* an average 2-acetyl-1-pyrroline content of about 150 ppb, *iii)* an average length of about 7.26 mm, an average width of about 1.85 mm, and an average length to width ratio of about 3.92, *iv)* an average of about 45% whole grains, and *v)* an average lengthwise increase of about 75% when cooked.

8. A rice plant produced from Bas 867 seed having the accession number ATCC 75941.

9. A rice plant produced from RT1117 seed having the accession number ATCC 75939.

10. The rice plant of claim 1, which plant *a)* has a mature height of about 115 cm; and *b)* produces rice grains having *i)* an average starch index of about 28.9, and average percent amylose of about 25.8, and an average alkali spreading value of about 3.1, *ii)* an average 2-acetyl-1-pyrroline content of about 400 to about 450 ppb, *iii)* an average length of about 6.49 mm, an average width of about 1.77 mm, and an average length to width ratio of about 3.87, *iv)* an average of about 41% whole grains, and *v)* an average lengthwise increase of about 90% when cooked.

11. A rice plant produced from RT1121 seed having the accession number ATCC 75940.

12. A seed produced by the rice plant of any of claims 1 to 11.

13. A rice grain derived from the seed of claim 12.

14. A progeny plant of the rice plant of any of claims 1 to 11.

15. A rice grain, which has *i)* a starch index of about 27 to about 35, *ii)* a 2-acetyl-1-pyrroline content of about 150 ppb to about 2,000 ppb, *iii)* a length of about 6.2 mm to about 8.0 mm, a width of about 1.6 mm to about 1.9 mm, and a length to width ratio of about 3.5 to about 4.5, *iv)* a whole grain index of about 41 to about 63, *v)* a lengthwise increase of about 75% to about 150% when cooked, and *vi)* a chalk index of less than about 20.

16. The rice grain of claim 15, which has a 2-acetyl-1-pyrroline content of about 350 ppb to about 600 ppb.

17. The rice grain of claim 15, which has a burst index of about 4 to about 1.

18. A method of selecting a rice plant for breeding or propagation, comprising the steps of: *a)* preparing rice grains from rice seeds; *b)* determining *i)* the percent amylose (PA), and *ii)* the alkali spreading value (ASV) of samples of said grains; *c)* summing said PA and said ASV to obtain the starch index (SI) of said grains; *d)* identifying a rice plant which produces grains having an average PA of about 22 to about 29, an average ASV of about 2.9 to about 7, and an average SI of about 27 to about 35; *e)* selecting a seed from said plant; and *f)* growing said seed into a plant.

19. A method of selecting a rice plant for breeding or propagation, comprising the steps of: *a)* preparing rice grains from rice seeds; *b)* determining *i)* the percent amylose (PA), and *ii)* the alkali spreading value (ASV) of samples of said grains; *c)* summing said PA and said ASV to obtain the starch index (SI) of said grains; *d)* cooking a sample of said grains and determining the percent elongation of cooked grains; *e)* identifying a rice plant which produces grains having an average PA of about 22 to about 29, an average ASV of about 2.9 to about 7, an average SI of about 27 to about 35, and an average cooked grain elongation of about 75% to about 150%; *f)* selecting a seed from said plant; and *g)* growing said seed into a plant.

20. A method of selecting a rice plant for breeding or propagation, comprising the steps of: *a)* preparing rice

> grains from rice seeds; *b)* determining *i)* the percent amylose (PA), and *ii)* the alkali spreading value (ASV) of samples of said grains; *c)* summing said PA and said ASV to obtain the starch index (SI) of said grains; *d)* determining the burst index of a sample of said grains; *e)* identifying a rice plant which produces grains having an average PA of about 22 to about 29, an average ASV of about 2.9 to about 7, an average SI of about 27 to about 35, and an average burst index of about 4 to about 1; *f)* selecting a seed from said plant; and *g)* growing said seed into a plant.[71]

RiceTec's claims are for a a specific rice plant(Claims 1-11, 14), for seeds that germinate the patented rice plant(Claim 12), for the grain that is produced by the rice plant (Claims 13, 15-17), and for the method of selecting plants for breeding and propagating particular grains of rice (Claims 18-20). RiceTec had also filed an "intent to use" application to trademark the mark BasmatiUSA in the United States in 1992; the mark, however, was abandoned in 1994.[72] Several companies, both U.S. and Indian, have recently filed trademark applications for marks that contain the term "basmati;" a search of the PTO website uncovered 32 live or inactive registrations.[73] Most of these applications disclaim any rights to "basmati" independent of the incorporation in the mark itself. However, one California company filed an application for the mark "Maryam Premium Aromatic Basmati Rice," and did not disclaim rights in the term "basmati;" the mark, however was abandoned as of June, 2001.[74]

At the time the basmati rice patent was granted to RiceTec, the Council for Scientific and Industrial Research (CSIR) was challenging the turmeric patent. The granting of the patent to RiceTec immediately launched a challenge to the basmati rice patent. As attorneys for the Indian government stated: "RiceTec has got a patent for three things: growing rice plants with certain characteristics identical to Basmati, the grain produced by such plants, and the method of selecting rice based on a starch index (SI) test devised by

---

[71] U.S. Patent No. 5,663,484.

[72] *See* U.S. trademark application no. 74,305,936.

[73] Based upon a search of word "basmati" on TESS (Trademark Electronic Search Service) on the USPTO website on April 12, 2002.

[74] *See* U.S. trademark application no. 76,081,451.

RiceTec, Inc."[75] The attorneys have publicly stated that they base their challenge on the fact that the plant varieties and grains already exist as a staple in India.[76] They also point to the fact that 75 percent of U.S. rice imports are from Thailand and that the remainder are from India and Pakistan; and that neither variety of rice can be grown in the United States. The legal theory is that the patent is not novel and is for an invention that is obvious, being based on rice that is already being imported in the United States. Finally, India's attorneys also seek to challenge the use of the term "basmati" in conjunction with the patent and in marketing of the rice.[77] Such use of the term creates confusion as to geographic origin and usurps the goodwill and recognition established with basmati rice grown in and sold from India.[78]

Many analysts have concluded that the battle against RiceTec will very likely not succeed.[79] As a result of the re-examination application filed by the Indian government through an NGO named APEDA (Agricultural and Processed Food Products Export Development Authority), Ricetec agreed to withdraw the claims. On January 29, 2002, the United States Patent and Trademark Office issued a Reexamination Certificate canceling claims 1-7, 10, and 14-20 (the broad claims covering the rice plant) and entered amendments to claims 12-13 on the definition of chalkiness of the rice grains. Claims 8, 9, and 11, covering the specific samples of the plant from the genetically modified seed itself, still stand.[80] This means that Ricetec has lost its claims that provide a specific written description of the plants that the company claims ownership in. Ricetec must rely on the submission of the seeds deposited at the ATCC (American Type Culture Collection), since under claims 8,9 and 11 it still has valid claims in the plants that are germinated from the seed. These

---

[75] *See Basmati Rice: US firm withdraws patent claim*, THE HINDUSTAN TIMES, September 28, 2000, *available at* http://www.hindustantimes.com/nonfram/280900/fryNAT05.asp. *See also* Ranjit Devraj, *"Basmati" Patent Win Not Final, say Food Security Experts*, DEVELOPMENT-SOUTH ASIA (article, currently on-file with the author, sent via email October 16, 2000).

[76] *See* Shiva, *supra* note 70.

[77] *Id.* (discussing inadequacy of protecting the term basmati as a geographic indicator).

[78] For a discussion of trademarks and geographic indicators, *see* ARUP *supra* note 28, at 194-196; WIPO Report, *supra* note 3, at 38-39. In a related story, producers of Darjeeling tea (referred to sometimes as the "champagne of teas") are complaining about competition from tea manufacturers that sell non-Darjeeling tea under the Darjeeling label. *See Darjeeling Tea Industry Sees Dark Days*, THE STATESMAN (India), Dec. 9, 2001 (describing the dismal economic situation and quoting one CEO's stronger protection of the Darjeeling trademark).

[79] *See, e.g.*, Frederic Douglas, International Intellectual Property Rights Regarding Plants Native to India: Texmati=Basmati? (on file with author).

[80] Reexamination Certificate C1 (4525th)(Jan. 29, 2002).

limitations pose problems for Ricetec because of the written description requirement under section 112 of the Patent Act. A recent Federal Circuit decision held that the ATCC deposit of nucleic acid probes that selectively hybridized the genetic material of a bacteria causing gonorrhea did not satisfy the written description requirement of section 112.[81] It is not hard to extrapolate from this holding to the surviving claims in Ricetec's basmati patent.

Trademark law might also be a basis for challenging the use of basmati. RiceTec could be prevented from marketing basmati rice in a way that creates confusion with the Indian product. But, in order to be successful on such a claim, the Indian government would have to show likelihood of confusion among consumers.[82] RiceTec did not trademark the term "basmati" and it has been careful in marketing its product so as not to use the term basmati as an indication of source. For example, in the United Kingdom, RiceTec markets the product as Texmati rice, since British law protects the use of the term basmati to refer to rice coming from India and Pakistan.[83] RiceTec also uses Texmati in its U.S. sales, but it does use the term basmati in its packaging. The Indian government could argue that this use of the term basmati is what creates confusion among consumers. The term basmati need not be federally registered as a trademark for India to raise the claim.[84] However, RiceTec would have a strong argument that India cannot bring an infringement action because "basmati" can not be protected as a trademark. RiceTec's strongest argument is that basmati is really a descriptive mark; the word means fragrant and

---

[81] Enzo Biochem, Inc. v. Gen-Probe Inc., 2002 U.S. App. LEXIS 5642 (3d Cir. 2002).

[82] 15 U.S.C. § 1114 (1) (a)-(b) (specifying likelihood of confusion as an element of trademark infringement claim).

[83] "For the American industry, the position is clear. On 9 July 1998 the USA Rice Federation declared that 'the terms basmati and jasmine refer to types or generic classes of aromatic rice and that these terms cover many varieties and a broad range of qualities. Additionally, these terms are not restricted to products or varieties produced in any specific country or groups of countries.'...
"RiceTec has applied for trademark registration in the United Kingdom. In February 1998, the Indian Agricultural and Processed Foods Development Authority (APEDA) said it would oppose RiceTec''s trademark application for basmati in the United Kingdom.
"APEDA says the UK has established a Code of Practice for rice which allows the term basmati to be used only for the long grain aromatic rice grown in India and Pakistan. Therefore, APEDA believes that the case is winnable in favour of India, but the case remains unsettled." Trade and Development Centre, Trade and Development Case Studies, Country Studies, India Part 6: *Local Species–turmeric, neem, and basmati* at http://www.itd.org/issues/india6.htm.

[84] 15 U.S.C. § 1125(a) (allowing claims for confusing or deceptive marks even if the marks are not registered).

hence describes a major attribute of the product.[85] Descriptive marks are protected only if they have secondary meaning, that is, if the term makes the ordinary consumer recognize the source of the product as opposed to the product itself.[86] In this vein, RiceTec could also argue that the term basmati has become a generic term for a particular category of rice and hence cannot be protected.[87] Finally, even if the Indian government could win on the point of the strength of the mark, RiceTec still has a good argument that its use of the term basmati does not cause confusion among consumers, who most likely can see that the rice comes from Texas, not India.[88]

If India loses the fight against RiceTec, the issue remains of what India can strategically do to protect its rights in "basmati" rice. U.S. trademark law does not offer a successful avenue for India. The TRIPS agreement expressly protects "indicators of geographic origin" and permits legal recourse through the WTO process to discontinue use of misleading geographic indicators.[89] The problem with relying on TRIPS is the "basmati" is not a geographic indicator; the word describes the scent of the rice, not its geographic source.

One tactic that the government has recently pursued is to enact its own law granting protection to marks that indicate geographic origin.[90] Basmati is arguably protected under these recently enacted provisions. One argument that the Indian government made in challenging RiceTec's patent is that basmati should be treated like "champagne" and "burgundy."[91] The TRIPS agreement expressly forbids trademark protection for geographic indicators as applied to wine and spirits.[92] The United States has amended its trademark law to

---

[85] 15 U.S.C. § 1052(e)(1) and 15 USC § 1052(f) (statutory limits on registrability of descriptive marks absent showing of secondary meaning).
[86] 15 U.S.C. § 1052(f).
[87] 15 U.S.C. § 1064(3) (permitting cancellation of trademarks that are generic). *See supra* note 57.
[88] *See, e.g.* Mother's Restaurant v. Mother's Other Kitchen, Inc., 218 U.S.P.Q. 1046 (TTAB 1983)(rejecting opposition claim by Canadian company alleging likelihood of confusion between Canadian company's registered Mother's mark and U.S. company's Mother's mark because "prior use and advertising of a mark in connection with goods or services marketed in a foreign country...creates no priority rights in said marks in the United States").
[89] TRIPS, arts. 22-24.
[90] *See* 15 U.S.C. § 1052(a) (geographic indicators for wines and spirits). *See also* 15 U.S.C. § 1052(e)(2)-(3) (denying registration to marks that are geographically descriptive and marks that are deceptively geographically misdescriptive). *But see* 15 U.S.C. § 1052(f) (allowing registration to geographically descriptive marks, but not deceptively geographically misdescriptive marks, if there is a showing of secondary meaning).
[91] *See* Arup, *supra* note 28, at 196.
[92] TRIPS, art. 23.

reflect this prohibition.[93] The Indian government sought the same protection for rice and other agricultural products as accorded to wines and spirits.[94] Unfortunately, there is no basis in treaty or statute for this treatment. However, the government's enactment of laws designed to protect geographic indicators demonstrates one step to accord the same protection to agricultural products as currently given to wine and spirits. The strategy is that once terms like basmati gain protection domestically, pressures may arise to accord protection internationally. However, this is at best a long term strategy.

Some advocates within India have questioned the wisdom of pursuing a challenge against RiceTec. One critic has suggested that if the government wants to protect traditional knowledge, it should adopt a trust model for protection.[95] Under the trust model, rights in the knowledge would rest in a government agency or a non-governmental organization (NGO) acting as trustee.[96] The trustee's duties would be to manage the knowledge and negotiate rights, on behalf of the citizens, with companies that seek to exploit the knowledge. One example of this trust model is provided by the Tropical Botanical and Garden Research Institute, an Indian NGO established to manage a herbal preparation from a medicinal plant native to Trivandrum, a city in the South Indian province of Kerala.[97] The Institute negotiates license with foreign and domestic pharmaceutical companies with fifty percent of the royalties going to the Kani people, an indigenous group that has been using the herb for many years. Some advocates propose that the Indian government create a similar framework to protect basmati rice. Although such an arrangement would not protect the government against RiceTec, it might provide a means to protect basmati rice against future users.

---

[93] 15 U.S.C. § 1052(a).

[94] "[I]t is safe to say Basmati rice is as exclusively associated with India or Pakistan as Champagne is to France and Scotch Whiskey is to Scotland." Jolayemi Adewumi, *TED Case Studies: Who owns it? US-Indian asmati rice Dispute in WTO* (1998) at www.american.edu/projects/mandala/TED/basmati.htm. *But see* Shiva, *Basmati Biopiracy*, *supra* note 76 (arguing that treatment of basmati as a geographic indicator is not adequate).

[95] *See* Adewumi, *id.*

[96] JOSEPH SAX, PLAYING DARTS WITH A REMBRANDT 1-10 (2000) (critiquing model of private ownership of cultural artifacts).

[97] *See* Douglas, *supra* note 79; *How to Sell a Wonder Herb*, 7 DOWN TO EARTH: SCIENCE AND ENVIRONMENTAL FORTNIGHTLY 29 (Nov. 15, 1998); Sanjay Kumar, *Traditional Indian Medical Knowledge for Sale*, THE LANCET (April 3, 1999); J. John & Sindhu Menon, *Kerala Tribe Accuses Indian Biologists of Stealing Knowledge*, PANOS (April 4, 1998).

The basmati rice example offers a more subtle example of strategic intellectual property rights. Arguably, RiceTec's patent did not spur its innovation of a new method to imitate basmati rice. Certainly, the patent allows RiceTec to recoup its investment in the creation of the new process. But the chief value to RiceTec is a strategic one that gives the company an advantage in the global rice market. India's responses are equally strategic, especially in its enactment of domestic legislation protecting its traditional knowledge against the rest of the world. The trust model is one part of this strategy. The various strategies discussed need to be assessed and analyzed, but notwithstanding the big question of what strategy is desirable, the story of basmati rice demonstrates intellectual property's role as a strategic tool.

C. Neem

Neem, also called the Indian lilac, is a tree that is native to the Indian sub-continent and has spread to Australia, Africa, Fiji, Central and South America, Puerto Rico, Hawaii and other places. Extracts from the *neem* tree have been used as a pesticide, medicine, and fertilizer.[98] Currently there are about 130 patents granted by the USPTO on products and processes involving extracts from the *neem* tree.[99] The most controversial of these are two patents granted to W.R. Grace in 1990 and 1994. The older patent is "for improving the storage stability of *neem* seed extracts containing azadirachtin," a chemical that is an active agent in *neem*.[100] The second patent is "for storage of stable insecticidal composition comprising *neem* seed extract" which permits "increasing the shelf-life stability of azadirachtin solution."[101]

Because of W.R. Grace's international prominence in the chemical and pharmaceutical industry, the Indian government filed a complaint in the U.S. patent office accusing W.R. Grace of copying an Indian invention. The government, however, withdrew the complaint when it became clear that W.R. Grace had invented a new process that was not based on traditional knowledge in India.[102] The European

---

[98] *See TED Case Studies*, *supra* note 94 at 3; N.S. RANDHAWA & B.S. PARMAR, *NEEM* 1 (1996).
[99] Based upon a title search of the patent database on the term "*neem*" conducted on Apr. 12, 2002.
[100] U.S. Patent No. 4,946,681.
[101] U.S. Patent No. 5,124,349.
[102] *India Wins Neem Patent Case*, INDIA EXPRESS NETWORK, May 12, 2000; *India: Farmers Regain Neem Patent from US Corporation*, DECCAN CHRONICLE, (May 12, 2000); *The 'Neem Battle' in*

Patent Office was less receptive to W.R. Grace. After two days of oral argument before the Opposition Board of the EPO and five years of legal wrangling, the Board, on May 11, 2000, withdrew the EPO's patent grant to W.R. Grace and the U.S. Department of Agriculture for a process to extract oil from the *neem* tree.[103] The opposition was brought by the Research Foundation for Science, Technology, and Environment, an Indian NGO, one of whose directors is Dr. Vandana Shiva. The Board found that the patent granted lacked novelty. The success in Europe has made some activists reconsider strategies to challenge the U.S. patents involving *neem*.[104]

The legal battles over *neem* illustrate two dimensions of strategic intellectual property rights that do not appear in the turmeric and basmati cases. The first is the differential international treatments of the novelty requirement. The patent challenged in the EPO was a modification of those that W.R. Grace held in the United States. If the reasoning of the EPO had been applied in the U.S. proceedings, the U.S. patents almost certainly would have been revoked. This dimension reflects the territorial nature of intellectual property rights even under TRIPS. The second dimension is W.R. Grace's strategy in obtaining intellectual property protection for its products and processes. The EPO patent was an incremental improvement over the U.S. patents and provided protection for an application of the processes patented in the U.S. This sequencing of patents reflects, in part, the development of the product from the process to the application stage. The sequence also reflects the relative ease with which process patents can be obtained in the United States as compared to the rest of the world.

The Indian government's response to the traditional knowledge issue in general, and to the *neem* case in particular, also exemplifies the strategic uses of intellectual property rights. In 1999, the Indian legislature considered amendments to the Patent Act that would expressly grant patent rights to indigenous people.[105] The proposed

---

India Highlights A Modern Day David-And-Goliath Struggle on Intellectual Property Rights, 5 ECONEWS AFRICA (February 1996).

[103] *Method for controlling fungi on plants by the aid of a hydrophobic extracted neem oil*, European Patent Office, Patent No. EP0436257 available through search engine at http://ep.espacenet.com/.

[104] *See* Shiva, Free Tree, *supra* note 58.

[105] *See* WIPO Report, *supra* note 3, at 106-111 (describing application of intellectual property law to traditional knowledge). For a discussion of some legislative proposals in India, *see* Suprio Dasgupta, *Protecting the Traditional Knowledge System in the Era of Intellectual Property Rights Syndrome*, National Law School of India University, Bangalore, India (manuscript on file with the

amendments would provide protection for plant varieties to any person or group of persons or any governmental or non-governmental organizations acting on behalf of a village or local community.[106] The proposed bill also suggests a sui generis protection for traditional knowledge, though the details remain unclear.[107] The goal, as with geographic indicators in the basmati case, is to strengthen rights domestically so as to protect India's interests internationally.

D. Summary

The three cases discussed in this section are the most salient examples from India of Traditional knowledge issues. These are the ones that have attracted the most attention and are perhaps legally the canonical cases to study. But the legal battles over Traditional knowledge arise globally, and within India extend across many products. Each case discussed here indicates important dimensions in the strategic uses of intellectual property rights. The turmeric case demonstrates the crucial role that the definition of prior art, or public space, defines the scope of intellectual property protection. The basmati case illustrates how patent law, by protecting certain processes, can permit the imitation of products. It also illustrates the battle over geographic indicators. Finally, the *neem* case illustrates the differences internationally in how agencies interpret the basic requirements of intellectual property protection, such as the novelty requirement. What general principles about intellectual property can be gleaned from this example?

IV. IMPLEMENTING STRATEGIC USES OF INTELLECTUAL PROPERTY LAW

In this section, I discuss the ways in which intellectual property law can be strategized, particularly by developing countries. My focus is on the various models of intellectual property ownership and control that can be implemented. I take as my starting point much of the analysis from the WIPO Report on Intellectual Property Needs and

---

author). For a general discussion of Indian intellectual property law, *see* Kanthi Tripathi, *Intellectual Property Rights in India* at http://www.indianembassy.org/special/ipr/ipr.htm. For a discussion of criticisms of intellectual property within India, *see* Pravin Anand, *In India, IP Falls on Hard Times*, IP WORLDWIDE (May/June 1998).

[106] *See* Dasgupta, note 105 at 13-14.

[107] *Id.* at 14 (describing proposed biodiversity bill).

Expectations of Traditional Knowledge Holders. The analysis in this section is drawn from a joint comment drafted with my colleague Professor Margaret Chon of Seattle University Law School, but the positions espoused in this section represent my viewpoints on the issue.

The term "intellectual property" is not limited to positive, statutory law. As the WIPO draft report executive summary itself notes, "the definition of IP in the Convention Establishing the World Intellectual Property Organization (WIPO), 1967 makes it clear that "intellectual property" is a broad concept and can include productions and matter not forming part of the existing categories of intellectual property, provided they result, as the definition states, *'from intellectual activity in the industrial, scientific, literary or artistic fields.'*"[108] This definition allows the formal recognition of sui generis forms of protection, or customary forms of traditional knowledge protection under the rubric of "intellectual property."

Disrupting the dichotomy between "intellectual property" (protected by formal, positive law) on the one hand, and "traditional knowledge" (protected by custom or not at all) on the other, may enable lawmakers to mix and match different forms of protection to achieve the best possible results for different traditional knowledge communities, situated in radically different circumstances. These protections, however, need to be fashioned in light of appropriate normative guidelines.

The conclusions reached by WIPO in its assessment of intellectual property protection for traditional knowledge raises questions about the implicit and explicit normative assumptions that guide its inquiry. The drafters of the WIPO report state that the fact-finding missions and other activities are designed to

> Identify and explore the intellectual property needs and expectations of new beneficiaries, including the holders of indigenous knowledge and innovations, in order to promote the contribution of the intellectual property system to their social, cultural, and economic development.[109]

The WIPO has identified these "needs and expectations" through fact-finding missions in the major regions of the world. These missions conducted surveys of members of indigenous groups,

---

[108] WIPO Report, *supra* note 3, at 5.
[109] *Id.* at 19.

governmental organizations, non-governmental organizations, and industry in each of the regions to discern how these various constituencies defined traditional knowledge and how they would assess the needs for protection of traditional knowledge under the intellectual property system.

It is not clear what normative guidelines WIPO envisions in identifying the "needs and expectations" of traditional knowledge holders and beneficiaries. The drafters' statement quoted above appeals to intellectual property and the goal of promoting "social, cultural, and economic development." Intellectual property, of course, is a culturally loaded term and covers a range of subject matter and property rights structures to protect the subject matter. For example, U.S. copyright law differs in many of its features from the copyright systems of European countries by de-emphasizing moral rights and emphasizing exploitation of the commercial value of the created work. Furthermore, within what can be referred to as U.S. intellectual property law, there is a vast difference between the goals of patent law, which is designed to stimulate technological innovation, and copyright law, which is designed to protect expressions of ideas. The goal of "promoting social, cultural, and economic development" may not be consistent with intellectual property protection, depending upon the assumptions of what intellectual property means.

Equally unclear is what the drafters mean by "social, cultural, and economic development." The three may be at odds. For example, granting an intellectual property right to commercially exploit traditional knowledge may facilitate economic expansion and growth by permitting the expansion of capital. But such protection may come at the cost of social and cultural development if economic expansion disturbs traditional social structures like the family or village network. Similarly, intellectual property protection based on traditional social and cultural systems, such as reliance on the memory of tribal elders or village medicine men, may be at the cost of economic development.

Since the drafters did not provide a coherent normative framework for their inquiry, it becomes more difficult to interpret the responses from the various groups surveyed in the regions. The responses may reflect pure self-interest, as members of the group surveyed respond to questions in terms of what intellectual property system works best for their economic or social goals. If so, it is very difficult to assess the answers to the questions WIPO has posed without a clearer normative framework. Even if the answers do not

reflect pure self-interest, the difficult problem is determining what values are being represented. Again, lack of a clear normative framework obfuscates the issues.

The creation of an appropriate system for the protection of traditional knowledge should be guided by the goal of *empowering traditionally subordinated groups*. Empowerment involves structuring rights over traditional knowledge that address the balance between ownership and control. Since traditional knowledge is rooted in the groups that have developed such knowledge over time, it is necessary to protect the peoples who are the source of the knowledge. Protecting the people entails granting and protecting fundamental economic and non-economic rights held by the people. While acknowledging that intellectual property law and human rights are distinct, they should be guided by the same principle: protection of groups that have been typically subordinated and on whose existence the development of intellectual property depends. Indeed, WIPO itself has acknowledged the growing interdependence of intellectual property with human rights norms, in its panel discussion to commemorate the 50th Anniversary of the Universal Declaration of Human Rights (November 9, 1998).

This normative goal is also consistent with TRIPS, which permits adherents to "adopt measures necessary . . . to promote the public interest in sectors of vital importance to their socio-economic development." Art. 8(1). Since most of the protection of traditional knowledge will take place within the context of territorial sovereignties (as modifications to or extensions of national intellectual property regimes), it is important to note that multilateral instruments such as TRIPS do allow nation-states to pursue the protection of traditional knowledge for the sake of promoting public interest.

In the context of traditional knowledge, two normative propositions that are central to traditional notions of intellectual property law have special meaning. The first proposition is that the author should be the owner of his creation that is the subject of intellectual property. The second proposition is that the owner of intellectual property should exercise complete control over its use. The creator of intellectual property, if identified as the originator or author in the Western sense, has no clear meaning with respect to traditional knowledge. But even if no individual author can be found, there is no reason to preclude ownership of traditional knowledge by traditional groups themselves. But group ownership raises questions

of control. To the extent hierarchy functions, creating group ownership may cede control to the dominant group. Furthermore, problems of voice arise in the management of collectively owned property. The solution would be to separate ownership and control through some mechanism. In the remainder of this section, I explore four models for structuring rights over traditional knowledge: the public domain model, the commercial use model, the trust model, and the ownership model.

A. The Public Domain Model

Under the public domain model, traditional knowledge is not owned by anyone, and everyone is free to use it. The appeal of this model is that it facilitates sharing of knowledge and eliminates the threat of expropriating traditional knowledge and exploiting indigenous peoples through intellectual property law.

Effectively, by relegating all traditional knowledge to the public domain, this model maintains the status quo. Traditional knowledge cannot be protected by statutory or common law intellectual property law embodied in patent, copyright, trademark, trade secret, and other doctrines. But it could still be protected by social structures and conventions that the drafters indicate serve as a form of intellectual property protection. For example, the draft report states that in Canada certain traditional designs associated with the Elders of the Bloodtribe are protected by a complex set of rules which govern "the rights to their subsequent reproduction, adaption and public display." The drafters also report that

Customary regimes also governed the transfer, licensing, and enforcement of these rights as well as the settlement of disputes arising from the infringement of such rights. The right holders could be either individuals, families, "houses," or entire nations. The possible subject matter of exclusive rights could include a wide range of designs, including designs for traditional dresses, headdresses, moccasins, basket designs, and tipi designs.[110]

Systems of codification and secrecy also protected traditional medicines in South Asia. While the Indian government has recognized that inventions of modern medicine can be protected by the patent system, traditional model is protected either through codification or

[110] *Id.* at 58.

through regimes of ritual and secrecy. The codification system is based on sacred texts that describe various types of medicines and methods of healing with deep roots in three ancient medical systems, the Ayurvedic, the Siddha, and the Unani Tibb. Medical practices not codified in one of these three systems are protected through ritual, whose rules are kept secret among the village elite. As the drafters report:

> Ritual regimes can create exclusive rights approximating those of modern patents which confer on their owners certain exclusive rights in relation to the products and processes, which constitute the subject matter of the patent. Numerous TK holders indicated that exclusive rights and monopoly powers over informal innovations are not uncommon within indigenous and local communities.[111]

One example of such practice is a traditional healer in a village in Karnataka, a state in southern India. This healer's knowledge of curing psoriasis was known only by himself, his daughter, and his son-in-law.[112]

The analogy between the social and cultural systems of protecting traditional knowledge and the statutory forms of intellectual property protection such as patent, copyright, trademark, and trade secret is troubling. It is not clear that concepts of licensing, monopoly, and exclusivity can so readily be exported from western intellectual property law to social and cultural means of protecting knowledge. It may seem that functionally the village healer in Karnataka is like a patent monopolist in the sense that he has exclusive control over the knowledge. But even if the village healer is technically a monopolist in one sense, it does not follow that he exploits the monopoly position in the same way that a pharmaceutical company would. The analogy rests on a narrow notion of the ability of intellectual property law to exclude use, but does not take into account the many ways in which a right to exclusivity may be exercised. The village healer may exploit his position to extract resources from his fellow villagers, or he may share the knowledge openly out of a sense of altruism or to gain prestige and status. Recognizing the existence of an exclusive right does not determine how the right will be exercised.

Alternative, social means of controlling traditional knowledge raises some serious questions for the public domain model. The first issue is what constitutes the public. Academic discourse about the

---

[111] *Id.* at 62.
[112] *Id.*

public domain, which has its roots in the West with Garret Hardin,[113] represents the public domain as a set of individual persons who have access to some common resource that no one owns but everyone can use. This model of the public domain is referred to as the theory of the commons. Controlling traditional knowledge through social means raises another dimension to the accepted conception of the commons: knowledge that may be shared among a group of individuals with access denied to everyone outside the group. This type of control has been referred to as "limited commons" by Professor Carol Rose.[114] Proponents of the public domain model have to choose between the commons and the limited commons in determining how traditional knowledge is to be controlled.

The choice between the two types of commons raises a second issue. If the commons model is adopted, then the social and cultural means of controlling knowledge has to go, along with the legal means of controlling knowledge through patent, copyright, trademark, trade secret, and other laws. This implication is devastating for obvious reasons. It is one thing to decide not to adapt western models of intellectual property to the developing world; it is another to say that alternative means of protecting knowledge should be removed in order to liberate the use of knowledge. As a result, it is fair to say that proponents of the public domain model must be advocating a limited commons, rather than the concept of the commons going back to Garret Hardin.

But the limited commons raises a third issue, one of power and access to the traditional knowledge. The commons results in the problem of overuse of the shared resource. If no one owns the resource but everyone is free to use it, then each individual will have an incentive to reap as much as possible since a particular user gains the benefit of the use but the costs associated with the diminished value or quantity of the resource can be spread among all the users. The limited commons raises more difficult problems. Among members of the group sharing the resource, the problem of overuse just described will arise. But there is also the problem of the group

---

[113] Garret Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243-1248 (1968); E. Donald Elliott, *The Tragi- Comedy of the Commons: Evolutionary Biology, Economics and Environmental Law*, 20 VA. ENVTL. L.J. 17 (2001). For a comprehensive discussion of the commons and the limitations of Hardin's approach, *see* ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION 2-3 (1990).

[114] Carol M. Rose, *The Several Futures of Property: of Cyberspace and Folk Tales, Emission Trades and Ecosystems*, 83 MINN. L. REV. 129 (1998).

members using their exclusive control of the resource to exploit non-members. The problem is one of essentially defining the appropriate size of the group. If the group has too many members, then the overuse problem of the commons increases. If the group has too few, then the problem of exploitation is exacerbated. Proponents of the public domain model have to address these pressing issues.[115]

A possible response is, of course, to support the status quo and preserve existing social and cultural means of control and avoid the use of intellectual property law. But the WIPO report does not provide any insight into how bad the status quo is in terms of the problems of overuse and exploitation. Furthermore, if the threat from formal intellectual property law is one of expropriation of traditional knowledge by corporate interests in the developed world, then there is no reason to believe that the social and cultural means of controlling traditional knowledge will not be used to the same ends. The turmeric patent, which was canceled in the United States in 1997 after a challenge from the Indian government, was based upon knowledge gleaned from village elders in India. Although formal protection was lost, the company, and others like it in the United States, do have access to the knowledge and can exploit it commercially. The point is that the limited commons may not protect the interests of indigenous people and does not necessarily give them the political and economic clout that we have taken as the central normative guideline.

B. The Commercial Use Model

This model is the simplest to describe and assess. Instead of adopting formal intellectual property law or maintaining the status quo, the commercial use model would protect the rights of the first entity to make commercial use of the traditional knowledge. This model is based on the common law of misappropriation, which protects the investment a person has made in creating a new product or service from subsequent users. Under this model, protection is not granted in the traditional knowledge, but in anything that is created for commercial use that uses the traditional knowledge.

The disadvantages of this approach are obvious. If the goal is preserving traditional knowledge from commercial exploitation, then this model fails. However, this model would provide incentives for

[115] *See* LAWRENCE LESSIG, THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD 19-23 (2001).

developing and improving traditional knowledge. Furthermore, the model is, on its face, neutral since it would protect the product of traditional knowledge holders as well as that of multinational companies.

The imbalance of financial and political power would imply that the multinationals would always win under this model. But what this model allows that the public domain model does not is possible use and value creation by the developing countries and indigenous peoples themselves. Economic exploitation, which may be anathema to many groups, would permit the creation of wealth and expansion of economic resources. The danger is one of cream-skimming with the wealthier, more powerful groups exploiting the high value uses leaving only the low value uses to indigenous people. The most glaring example of this is Native American reservations in the United States that have to look to gambling and tourism for the creation of wealth. Again, this model does not strengthen the position of indigenous peoples, although it may, in the best case, however unrealistic, allow indigenous peoples to acquire power.

The situation may not be completely pessimistic. A model of commercial exploitation has been applied in India and could serve as an application to follow elsewhere. As reported by attorney Frederick Douglas:

This conflict [between preservation of biodiversity and exploitation of resources] was resolved in Thrivanthpuram, India, over a herbal preparation from a medicinal plant, *Trichopuszelamiscu*. This plant has been used by the *Kani* people in India for many years to treat fatigue. The Tropical Botanical & Garden Research Institute ("Institute") found that the plant had properties that enhance the human bodies immune system.

Not wanting to wait the lengthy time to obtain an Indian process patent on the medicine, the Institute sought out the *Kani* people. They negotiated a license to manufacture the medicine from the plant. The Institute then sold its rights to a drug company for a sum plus a royalty for the following seven years. The Institute put fifty percent of the proceeds in a fund for the *Kani*'s tribal welfare.[116]

The commercial exploitation model may benefit indigenous people even in the shadow of the financial and political powers of multinationals if the appropriate intermediary can be found. The

[116] Frederic Douglas, *supra* note 79.

example of the *Kani* people suggests that some of the problems with the commercial exploitation model that exists in isolation can be resolved when the model is applied in conjunction with the two other models: the trust model and the indigenous rights model. The licensing arrangement negotiated by the Institute presents an intriguing blend of these three models.

C. *The Trust Model*

Under this model, the right created by law is assigned to an entity other than the traditional knowledge community. This entity could be a nation state or a political subdivision thereof, a non-governmental organization, a tribal corporation, or some other entity that would act as a trustee for the benefit of the traditional knowledge holders.

This model is one that is embodied in the Convention for Biological Diversity (CBD), which, through Article 8(j), directs signatories to find means to "respect, preserve and maintain knowledge, innovations and practices of the indigenous and local communities embodying traditional lifestyles." At the same time, through Article 15, the state is assigned the right to grant access to genetic resources. The CBD then creates a legal basis for signatory states to bargain with those who desire access for commercial development, and to negotiate benefit-sharing agreements. Presumably, royalties or other remuneration is paid to the state, which in turn distributes the proceeds to the traditional knowledge community. The draft report cites an analogous example. In the South Pacific, specifically Fiji, "plant breeders' rights, or specific genetic resources access and benefit-sharing legislation" was relevant to the protection of the indigenous plant *kava* from wholesale exploitation by non-Fijian corporations.

The trust model has the benefit of having an identifiable bargaining agent, typically the state, in situations where traditional knowledge holders may be far-flung and/or not familiar with formal legal rules of intellectual property and/or contract law. Ideally, this agent would presumably not only bargain for terms most favorable to the traditional knowledge communities, but would also be sensitive to other local concerns such as ecological preservation and the preservation of cultural values. The bargaining agent may have more bargaining power and knowledge (compared to traditional knowledge

holders) vis-à-vis those who are seeking to commercialize traditional knowledge, which are typically large corporations.

In practice, however, the trust model suffers from at least two major deficiencies. As Professor Rosemary Coombe and others have pointed out, the "assumption that transnational corporations or more developed countries are unfairly exploiting local communities is exaggerated in comparison to the exploitation by the political-economic elites of less developed countries who are far more likely to be engaged in commercial extraction resulting in the resource degradation that impoverishes local communities."[117] Related to this observation is that the traditional knowledge communities may or may not have given informed consent to the access granted by the trustee. Prior informed consent is of critical importance in preserving the autonomy of these communities.

Thus, one's view of the trust model depends heavily on whether one 'trusts' the trustee. Given the normative focus of these comments (i.e., to empower traditionally subordinated groups), successful implementation of the trust model would require attention to the disparities of power within the entity acting as a trustee. This is true not only of states, but also of NGOs and even tribal corporations. No organization is exempt from these dynamics.

D. The Ownership Model

Under this model, rights would be assigned to an individual or group within the traditional knowledge community. This model most resembles the current way in which intellectual property is conceptualized in formal legal systems. A number of informants in the draft report expressed a desire for greater participation as intellectual property owners, some even going so far as to articulate rights that do not currently exist. For example, some North American informants desired some form of database protection, in order to document rapidly vanishing cultural information. Yet database protection is generally not available under U.S. law.

Individual or group ownership of traditional knowledge might benefit traditional knowledge communities. The simple recognition of a legally defined domain could have the effect of protecting and

---

[117] Rosemary J. Coombe, *Intellectual Property, Human Rights & Sovereignty: New Dilemmas in International Law Posed by the Recognition of Indigenous Knowledge and the Conservation of Biodiversity*, 6 INDIANA JOURNAL OF GLOBAL LEGAL STUDIES 59 (1998).

preserving traditional knowledge. Although U.S. intellectual property law is typically viewed as encouraging invention and commercialization, it is also a method of protecting privacy and controlling access. Indeed, the moral rights theory of European intellectual property law, despite its bias in favor of individuals rather than collectives, would prevent indigenous works from being commercialized in a degrading or distorting manner.

A growing number of U.S. academics have examined the fit between the ownership model and traditional knowledge.[118] Many of these commentators are dubious about the benefits of the ownership model. Chief among their concerns is the disjuncture between the goals of intellectual property law, which are dominated by economic incentive concerns, and the nature of traditional knowledge, which may be about the sacred and has not been commercially exploited. However, as stated above, intellectual property laws can act as a legal shield for preserving cultural forms. And, as noted in our introduction, there may be somewhat of a false dichotomy between intellectual property laws and traditional knowledge. As the draft report notes repeatedly, great care must be taken not to impose the dominant legal systems wholesale upon traditional knowledge communities. Any deployment of the ownership model must be sensitive to this concern. Implicit in the draft report as well as these comments is the assumption that traditional knowledge deserves and requires greater recognition and protection through legal means, without unduly compromising its essence.

There may also be skepticism about the ability of intellectual property concepts forged within Western industrialized cultures to accommodate the practices of traditional knowledge communities. This is a legitimate issue. For example, U.S. copyright law does not provide easily for collective forms of ownership. However, as Professor Long points out, TRIPS does not require national copyright laws to include recordation or fixation in some tangible medium of expression, originality, or even authorship by a single identifiable author.[119] Her observations suggest that national intellectual property regimes could be modified quite substantially, consistent with TRIPS.

---

[118] *See, e.g.*, Angela R. Riley, *Recovering Collectivity: Group Rights to Intellectual Property in Indigenous Communities*" 18 CARDOZO ARTS AND ENT. L.J. 175 (2000); Christine Haight Farley, *Protecting Folklore of Indigenous Peoples: Is Intellectual Property the Answer?*, 30 CONN. L. REV. 1 (1997).

[119] Doris Estelle Long, *The Impact of Foreign Investment on Indigenous Culture: An Intellectual Property Perspective*, 23 N.C.J. INT'L L. & COM. REG. 229 (1998).

Rather than forcing traditional knowledge concepts into rigid definitional categories of "copyright," the existing conceptual apparatus of intellectual property law conceivably could be modified to accommodate traditional knowledge systems.

E. Summary

This section has laid out the various ways in which intellectual property can be used strategically to protect traditional knowledge holders and traditional knowledge systems. The analysis has been built around the normative assumption that intellectual property law should be used to protect traditionally subordinated groups. While we can debate over the desirability of this normative assumption, the role of intellectual property in promoting various normative criteria, other than the traditional one promoting science and the useful arts, should be clear and should remain the subject of ongoing debate.

V. CONCLUSION

There is much that is traditional about using intellectual property to protect traditional knowledge. Intellectual property has often been the locus for battles over property rights and access among many interest groups. Copyright law, for example, has historically centered on the relationship among publishers, authors, and consumers. Patent law increasingly is becoming a locus for battles over scientific validity and access to technology. It should be no surprise that intellectual property is now being looked to in order to protect traditional groups and their culture. Globalization and the expansion of international trade has further implicated intellectual property as patent, copyright, and related areas of the law are used as strategic tools to further myriad political and policy goals. This paper has explored the strategic uses of intellectual property and has made the case for the traditional terms of the traditional knowledge debate. Future research will build on these ideas to develop intellectual property's strategic role and the myriad issues raised by traditional knowledge.