

Intellectual Property Rights and Indigenous Peoples: A History of the Topic as an Object of Study

Jessica Scott Jerome

Introduction

The past decade has witnessed a proliferation of scholarship around the topic of intellectual property law and indigenous people. Joining together fields as diverse as law, ethnobotany, pharmacology and anthropology, this topic has transformed theory and practice in each of these fields, becoming, for example, an established subfield in the discipline of anthropology, a subject of ethical debate among ethnobotanists and a pragmatic framework for certain pharmaceutical companies and governmental agencies.

The justification most commonly invoked to explain the linkage of what might otherwise appear to be two contradictory objects sounds something like the following: The intensified search for commercially profitable substances among the ecosystems of indigenous peoples has emphasized the value of traditional cultures' knowledge and resources, and thereby raised the issue of the ways in which traditional societies might be compensated for their contribution to the creation of commercial products as well as underscoring the need to protect their biological resources.

Although I agree at the outset with this preliminary explanation for why the topics of intellectual property rights (IPR) and indigenous people have emerged as a united, and highly publicized front, my contention after collecting and reviewing material for the creation of this annotated bibliography is that the intensifying interest in the commercial value of indigenous peoples' knowledge and resources and the subsequent emergence of the topic of intellectual property rights and indigenous peoples as a legal, political and economic possibility was predicated on a series of ideological and concomitant practical shifts in what we have come to call the contemporary world system.

Here we will focus on the shifts that occurred within two domains of the world system that comprise relatively new terrain for anthropologists: international law and biotechnology. Thus, the body of this essay presents four of the most salient shifts in the legal and technological arenas that have contributed to the emergence of intellectual property rights and indigenous people as an object of study. In conclusion, I address the current trend in scholarship against using intellectual property rights as a means of compensating indigenous people, while also acknowledging the kinds of political possibilities that the consolidation of this topic has opened up for environmental and indigenous activism.

Salient Shifts

It would be hard to deny that among the more obvious reasons for the emergence of the concept of IPR and indigenous people was the increasing interest on the part of pharmaceutical companies in the collection and use of biological resources during the late 1980s and early 1990s. We might ask, however, what was peculiar about that particular period that encouraged pharmaceutical companies to embrace natural medicinal research?

In terms of the structuring of capital incentives within the pharmaceutical industry, one of the most significant events to occur during that time period was the 1980 United States Supreme Court ruling that a human-made strain of microorganism, genetically engineered to improve its ability to degrade crude oil, could be considered a patentable product because the strain was not a naturally occurring composition of matter. Prior to this ruling, it was generally recognized that living organisms and cells were “products of nature” and thus were not patentable.

The Supreme Court’s decision to allow the patenting of genetically engineered microorganisms had both ideological and material effects. At an ideological level, the Court’s decision substantially broadened the product of nature doctrine, thus reordering, albeit subtly, what fell within the legal categories of nature and culture. Simultaneously, at the level of social practice, patent applications for products using genetic material rose by almost 200 percent in the year following the Court’s decision and the cumulative equity invested in all types of biotechnology companies rose from fifty million dollars to over eight hundred million between the years of 1978 and 1981.

The expansion of intellectual property rights in the United States to include microbiological material can thus be seen as an important motivation for pharmaceutical companies to investigate plant resources for use in medicinal products. With the legal infrastructure supporting the approval of patents on genetically engineered microorganisms, man-made copies of nature were now considered to be legitimate vehicles for the accumulation of capital and thus biological resources became serious candidates for pharmaceutical research and development. To the extent that indigenous communities have participated in ethnobotanical projects, which use indigenous knowledge to help facilitate the collection of particularly efficacious genetic resources, they have also helped, albeit unwittingly, to legitimate the new legal categories of what are taken to be natural man-made products.

The second important event in this context was the United Nations Conference on Environment and Development (UNCED), which met in Rio de Janeiro in 1992 in order to consider the passage of the *Biodiversity Convention*. Although the *Convention* has been criticized for failing to set forth any specific standards for the promotion or regulation of biodiversity prospecting, it did importantly reconceptualize *to whom* biodiversity belonged. Specifically it recognized that nation states had sovereign rights over their biological resources, and that the access and use of those resources should be determined by national legislation.

The notion of state sovereignty over biological resources stands in direct contradiction to agreements that preceded the *Biodiversity Convention*. Historically, biological resources and specifically plant genetic resources, had been granted a unique distinction: they were considered to be the “common heritage of mankind.” This distinction was buttressed by a moral position taken by the United Nations Food and Agricultural Organization that, “The major plants of the world are not owned by any one people [but] are [rather] quite literally a part of our human heritage from the past.” Practically speaking, this distinction meant that plant genetic resources were available as a free good, and that the only cost associated with their use was the expense of their collection.

A concomitant principle to common heritage, was the principle of free availability, which mandated unrestricted exchange of plant germplasm among plant breeders and other scientists. While these principles were never formally given legal status, the norm of free exchange has been

sufficient to maintain the relatively free international flow of plant genetic material stored in the gene banks of the world.

Despite their altruistic sounding names, both the principle of Common Heritage and the practice of the free exchange of plant germplasm have primarily benefited advanced capitalist nations, for the pattern of plant genetic transfer between the North and South has been largely unidirectional: from the developing nations to the developed nations. Additionally, since the mid-1950s, plant germplasm has left the developing world as the common, costless heritage of mankind and returned to these countries as a commodity. As historian Jack Kloppenburg has pointed out, the principles of Common Heritage and free exchange have thus sent the developing world an ironic message: although the genetic material located within their borders is of great potential economic value, these resources, until transformed by technological invention, are a public good that can be freely appropriated.

Article 15 of the *Convention on Biological Diversity* which recognizes that States have sovereign rights over their natural resources clearly constitutes a direct challenge to the concept of “common heritage,” and one that might be seen as an attempt to redress what is now largely acknowledged to be the historic asymmetry of the flow of plant germplasm. Importantly, nation states now have the opportunity to regulate access to plant resources and to deny that access if they consider it to be inimical to their national interests.

Although the *Convention on Biodiversity* is not a binding agreement, the notion of state sovereignty over genetic resources lent significant legitimacy to the debate over the ownership and control of indigenous peoples’ resources. For the notion of state ownership of biological resources reconceptualized these resources and the knowledge embedded within them as something that belonged to an entity (in the case of nation states) or to people (in the case of indigenous peoples). Thus compensation for those resources was deemed appropriate. Put another way, the very idiom of ownership, property and hence compensation that the *Convention* introduced in relation to biological resources was essential to the emergence of the notion that indigenous people possessed rights to what now were considered “their resources” and “their knowledge.” In the context of this logic, the idea that intellectual property rights might be the appropriate vehicle for the compensation of such knowledge and resources appeared as a natural next step.

The final defining legal event to be considered here is the 1994 resolution to place IPR under the General Agreement of Trade and Tariffs (GATT), thereby creating international standards for intellectual property law and obliging member nations to commit to meeting these standards within a certain period of time. Taking the intellectual property laws of the developed countries as its basis, the new criteria of GATT patent law maintained that in order for intellectual property to be protected an invention must be novel, useful, non-obvious and intended for technical application (Roht-Arriaza, 1996: 17).

The placement of intellectual property law under the jurisdiction of the GATT had at least two effects in relation to the consolidation of IPR and indigenous people as an object of study. First, the agreements greatly exacerbated the debate already raging between developed and developing countries over the expansion of the GATT to include such things as intellectual property law and financial services, and thus brought IPR to the attention of social activists in both developed and developing countries. Second, the attempt to compensate indigenous knowledge using

international patent law highlighted the difficulty of protecting one kind of cultural knowledge by another culture's legal standards.

For example, one criterion that intellectual property must meet is that it must be considered non-obvious. Unless a product is substantially different from one found in nature, and is thus the result of a "non-obvious" human invention, the product is considered unpatentable. Any substantial alteration from a normal state makes a product "non-obvious" (Roht-Arriaza, 1996: 18). However, what constitutes such an alteration is a complicated question. For example, in many indigenous communities, shamanic knowledge or medicinal products are believed to come from natural or supernatural sources as opposed to being "man-made" or "invented" (Roht-Arriaza, 1996: 18). The extent to which definitions of natural and man-made differ from culture to culture point to the difficulty in determining what should be considered an "innovation" (a product of human intervention and conceptualization) or simply a product of nature.

Although the internationalization of IPR came nearly four years after the initial ferment about IPR and indigenous peoples, the GATT agreement significantly altered the nature of that discussion. For what the GATT agreement made evident was that intellectual property rights were far more interesting for what they revealed about the ways in which our understandings of knowledge, property, and scientific invention were socially constructed, than they were as an actual vehicle for the compensation of indigenous knowledge.

In addition to shifts in international and national intellectual property law, a series of technological advances within the pharmaceutical industry which helped to sustain support for natural product development, generated interest in the topic of intellectual property rights and indigenous peoples. For example, the advent of high-throughput screening (HTS), made possible the analysis of tens of thousands of plant samples per week. The development of combinatorial chemistry and combinatorial biology generated thousands of small molecular weight compounds for screening, thus creating the perfect match for HTS. These two technological developments have helped promote funding for plant-based pharmaceutical research, which had gone out of favor during the 1960s and 70s.

Ironically, although funding for natural product research actually peaked between 1953 and 1960, it wasn't until the early 1990s that natural medicinal products became a highly publicized industry. During the 1950s, pharmaceutical companies attempted to collect samples of species, which showed the promise of containing bioactive molecules. However, due to errors in sampling procedures, and perhaps the fact that almost no effort was made to use the ecological knowledge of indigenous peoples living near the sampling sites, positive results from the sampling were not forthcoming. Because of the lack of response, most pharmaceutical companies turned their attention to synthesizing new drugs in laboratories, and by 1980 none of the US pharmaceutical industry's research budget was allocated towards research on higher plants.

These recent developments in pharmaceutical technology have again reversed the trend in favor of funding natural product research and, as this bibliography makes clear, social scientists in a variety of fields have been quick to point to the implications of this trend. To take just one example, Paul Rabinow remarks, writing about a particular kind of pharmaceutical technology, "Biotechnology's hallmark lies in its potential to get away from nature, to construct artificial conditions in which specific variables can be known in such a way that they can be manipulated.

This knowledge then forms the basis for remaking nature according to our norms” (Rabinow, 1996: 20). The topic of intellectual property rights and indigenous peoples has called into question the very naturalness of the nature which certain biotechnological processes seek as its raw material. It also has underscored the importance of making explicit the author of the norms according to which nature is remade.

Conclusions

The decade of the 90s has, in some sense, generated the perfect conditions to embrace a topic such as intellectual property rights and indigenous peoples. First, the 1992 United Nations Conference on the Environment and Development focused world attention on biodiversity and the natural products that might be found within it. Second, 1992 marked the 500th anniversary of Columbus’ arrival in the New World, which resulted in a heightened awareness of the continuing plight of indigenous communities throughout the world.

Given this background, perhaps the only thing more dramatic than the intensity with which scholars initially embraced the topic of intellectual property rights and indigenous people, was the vigor with which they then proceeded to denounce it as a corrupt and potentially dangerous notion. Anthropologist Terence Turner’s point of view might be taken as emblematic of this latter position. He writes, “In sum, chemical prospecting for natural substances and new plant varieties, the concomitant quest for knowledge concerning such substances and varieties and their uses held by indigenous or peasant communities, and the Western legal concept of IPR, particularly in its contemporary formulations as exemplified by the GATT provisions on IPR, are three interrelated aspects of a single socioeconomic process centered in the dynamics of modern Western capitalism, that poses grave threats to the autonomy and integrity of Third and Fourth World indigenous and peasant communities” (Turner, 1995: 9).

Without doubt, the topic of intellectual property rights and indigenous peoples is often used today as a public relations campaign for savvy corporations engaged in bioprospecting, or as a simple way for social scientists to explain to laypeople who the winners and losers are in our contemporary economic system. Nonetheless, it is important to point out that the emergence of IPR and indigenous peoples as an object of study has opened up a new arena for indigenous and environmental activism.

First, the attention that has been focused on IPR as a possible forum for compensating indigenous peoples has generated discussion about alternative, and potentially more viable systems of compensation for indigenous peoples’ knowledge and resources. In particular, it has encouraged the creation of *sui generis* systems of law which might allow indigenous peoples and other marginalized groups the opportunity to design a more compatible framework for the protection of their environmental resources.

Next, the linkage of IPR to indigenous peoples has drawn attention to the ways in which traditional communities work to enhance and protect the biologically diverse and often fragile environments in which they live. The recognition of the distinctive contributions that local communities make to the protection of biodiversity can be seen as having opened up a space in national and international environmental legislation for indigenous people to act as stewards or custodians of biological diversity, and as resource owners entitled to exclude incompatible uses of

their biodiversity. It also demonstrates a potential convergence between local and international goals of maintaining ecosystem functions and biological diversity.

Finally, the compilation of the materials for this bibliography has made resoundingly clear that the topic of intellectual property rights and indigenous people has generated transformations within each of the disciplines that have simultaneously constructed this subject as an object of study—demanding, for example, that ethnobotanists take more seriously the contributions of indigenous labor to the plants and resources they study, that lawyers question the cultural assumptions upon which western intellectual property law is based, and that anthropologists work harder at making their own theories translate into effective social practice.