
North–South Conflicts in Intellectual Property Rights

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Western intellectual property rights (IPR) regimes have emerged as major instruments of North–South inequality. Not only do they block technology transfer, they facilitate piracy of the indigenous knowledge and biodiversity of Third World countries. They could, if not revised and reviewed, make northern countries into the monopoly owners of knowledge, including knowledge that has evolved cumulatively and collectively in indigenous cultures, selling it at high cost to already impoverished and indebted countries of the South, pushing them further into poverty and debt. Since the majority of the people in the South depend on biodiversity for their livelihoods and survival, the hijack of their resources and knowledge through IPRs is the hijack of their lives and livelihoods.

The IPR regimes in a digital age carry the mask of earlier times, when patents were licensed to plunder and piracy. The primary difference between patents in a digital age and patents in the gunboat age is that the new technologies can colonize life itself, while the older technologies could only colonize land. But patents and IPRs in the digital age share the earlier history of patents as instruments of conquest, which deny prior rights and erase prior histories of cultures. The appropriation of biodiversity and indigenous knowledge through patents is made possible by making one language, one culture and one world-view associated with rights while rendering all other languages, cultures and worldviews disenfranchised. In the digital age, the language of genes and molecules is used to rob the Third World of its biological and intellectual heritage, through biopiracy, just as in the colonial era the language of Christianity was used to rob non-European people's of their land and gold.

Today patents are associated with creativity and invention. They are an exclusive right granted to an inventor to make, produce, distribute and sell the patented product or use patented processes. However, patents have had other functions and meanings in history. Patents have, through history, been associated with colonization. At the beginning of colonization of the world by Europe, they were aimed at the conquest of territory; now they are aimed at the conquest of economies.

Letters, patents and charters created property rights to conquered lands. The most frequent phrase in Columbus' charter the *Capitulaciones de Santa Fe*, was the dual verb “discover and conquer.” It was used seven times to assert rights to all “islands and mainlands” before their discovery. The charter states:

This charter makes patent the existence of “islands and mainlands” in the generative formations of its language, and, in doing so, assigns proprietary jurisdictional authority for that terrain to its would be, more accurately its “will-have-been-discoverer and conqueror” as discoverer and conqueror.

These patents for discovery and conquest provide the background for the contemporary conflicts over patents generated by the General Agreement for Trade and Tariffs (GATT) and the World Trade Organization (WTO), which are often viewed as tools of recolonization by the Third World but viewed as “natural” a right as conquest was during colonialism by Western powers.

There are, of course, differences in yesterday’s colonization and today’s recolonization. Religion is not the ultimate justification for today’s conquest. Recolonization is a “secular” project, but there is a new religion of the market that drives this so-called secular project. Territory, gold and minerals are no longer the objects of conquest. Markets and economic systems are what have to be controlled. Knowledge itself has to be converted into property, just as land was during colonization. This is why today “patents” have been covered by the broader label of “intellectual property” or property in the “products of the mind.” Just as land that was claimed to have been “discovered” and was treated as “*Terra Nullius*” or empty land in spite of being inhabited by indigenous people just because it was not inhabited by white Europeans, knowledge that is claimed to have been “invented” and hence “patented” and converted to “intellectual property” is often an existing innovation in indigenous knowledge systems.

The claim to invention, like the claim to discovery in the patent charters of colonial conquest, is the justification for the take-over of market systems and economic systems through globalized patent regimes. The cloak of reward to inventiveness hides the real object—the control over the global economy. This secular conquest of diverse knowledge systems and economies is at the heart of the intense conflicts and controversies on patents.

Patent laws in the U.S. are guided by myths on which today’s superpower stands. The first is the myth of discovery that went hand in hand with the original definition of the scope of letters patent that allowed it to be said that Columbus discovered America. The second is the myth of ignorance as innovation. This is categorically stated in the 1715 Connecticut law:

If any person or persons shall set themselves to work to discover any commodities that may be of use for the country, for the bringing in a supply of goods from foreign parts, that is not as yet of use among us, he that discovers it shall have due encouragement granted to him.

The early U.S. Patent Laws, like European laws, were for introducing new methods, which were unknown in the U.S. but practiced elsewhere. They were not related to inventiveness, only to the fact that the practice was not being undertaken within the sovereign’s domains, and hence could be treated as “presumed to be unknown.”

Prior art and prior use in other countries was therefore systematically ignored in U.S. laws on monopolies granted on the basis of claims to invention. The same assumption of ignorance as invention is enshrined in the U.S. Patent

Act of 1952. Section 102 of the Act treats as a prior art use in the U.S. and publications in foreign countries. Use in foreign countries is not recognized as prior art. Section 102 of the U.S. law, which defines prior art, reads as follows:

A person shall be entitled to a patent unless:

- A. The invention was known or used by others in this country or patented or described in a publication in this or a foreign country before the invention thereof by the applicant for patent, or
- B. The invention was patented or described in a trade publication in this or a foreign country or in public use or on sale in this country more than one year prior to the date of the application for patent in the United States.

Use in a foreign country therefore does not constitute prior art in U.S. patent law.

Since patents are granted for new inventions, denial or non-recognition of prior art elsewhere allows patents to be granted for existing knowledge and use in other countries. This is the basis of biopiracy or knowledge of Indian knowledge systems, and indigenous uses of biological resources being patented. As Peter J. Thana has stated,

The statute talks about things that are publicly known and publicly used in this country before the date of invention. You should not be able to claim as your invention, something that was on the shelf, out there, before you invented it. *Prior art* excludes devices in use elsewhere in the world. If, for example, somebody in Europe were operating a machine and you independently and without knowledge of the existence in good faith developed your own invention that was essentially the same machine, that fact would not prevent you from obtaining a patent in the U.S. The European invention would not be considered *prior art* in the statute.

The U.S. statute, which was designed to make the U.S. an independent industrial power, was thus deliberately designed to deny prior art and hence treat ignorance of prior innovation as the grounds of invention. Paradoxically, a legal system aimed at preventing “intellectual piracy” is itself based on legitimizing piracy.

This is the reason that neem, turmeric, ginger, bitter gourd, and basmati have been patented. Biopiracy has emerged as an intrinsic part of Western industrial IPR regimes that have now been globalized through the Trade Related Intellectual Property Rights Agreement (TRIPs) of the WTO. The need for TRIPs reform, and reform in Northern IPR regimes is therefore of utmost urgency.

The epidemic of biopiracy is rooted in the old colonial assumption of “*Terra Nullius*” or the empty earth—if a territory is empty of “white Christians” it is assumed to be empty. Today, the “empty earth” has been replaced by empty life—plants, animals, micro-organisms and humans become “inventions” when their knowledge is discovered by Western science or Western commercial interests, even if this knowledge has existed for centuries in indigenous cultures, and even though life forms are not human inventions. Patents on life are based on biopiracy, either because they involve the theft of nature’s creativity and intelligence or the creativity and innovation of other cultures.

The era of biopiracy began with the first patent of life granted by the U.S.

patent office. In 1971, General Electric and one of its employees, Anand Mohan Chakravarty, applied for a U.S. patent on genetically engineered pseudomonas bacteria. Taking plasmids from three kinds of bacteria, Chakravarty transplanted them into a fourth. As he explained, "I simply shuffled genes, changing bacteria that already existed." Chakravarty was granted his patent on the grounds that the micro-organism was not a product of nature, but was his invention and, therefore, patentable. As Andrew Kimbrell, a leading U.S. lawyer, recounts, "In coming to its precedent-shattering decision, the court seemed unaware that the inventor himself had characterized his 'creation' of the microbe as simply 'shifting' genes, not creating life."

On such slippery grounds, the first patent on life was granted, and, in spite of the exclusion of plants and animals from patenting under U.S. law, the United States has since rushed to grant patents on all kinds of life forms. Currently, well over 190 genetically engineered animals, including fish, cows, mice, and pigs, are figuratively standing in line to be patented by a variety of researchers and corporations. According to Kimbrell, "The Supreme Court's Chakravarty decision has been extended to be continued up the chain of life. The patenting of microbes has led inexorably to the patenting of plants, and then animals." Biodiversity has been redefined as "biotechnological inventions" to make the patenting of life forms appear less controversial. These patents are valid for 20 years and, hence, cover future generations of plants and animals. Yet even when scientists in universities or corporations shuffle genes, they do not "create" the organism that they then patent.

Referring to the landmark Chakravarty case, in which the court found that he had "produced a new bacterium with markedly different characteristics than any found in nature," Key Dismukes, Study Director for the Committee on Vision of the National Academy of Sciences in the United States, said:

Let us at least get one thing straight: Anand Chakravarty did not create a new form of life; he merely intervened in the normal processes by which strains of bacteria exchange genetic information, to produce a new strain with an altered metabolic pattern. "His" bacterium lives and reproduces itself under the forces that guide all cellular life. Recent advances in recombinant DNA techniques allow more direct biochemical manipulation of bacterial genes than Chakravarty employed, but these too are only modulations of biological processes. We are incalculably far away from being able to create life *de novo*, and for that I am profoundly grateful. The argument that the bacterium is Chakravarty's handiwork and not nature's wildly exaggerates human power and displays the same hubris and ignorance of biology that have had such devastating impact on the ecology of our planet.

This major shift in the scope of patentability was not the result of any debate in parliament or among the public, but of a patent office. Patents on life were then globalized by a decision made during the Uruguay Round of GATT to include IPRs in trade treaties, and to include life in IPR regimes. TRIPs was drafted and pushed by industry. As James Enyart of Monsanto has stated,

Besides selling our concepts at home, we went to Geneva where [we] present [our] document to the staff of the GATT Secretariat. We also took the opportunity to present it to the Geneva based representatives of a large number of countries. ... What I have described to you is absolutely unprecedented in GATT. Industry has identified a major

problem for international trade. It crafted a solution, reduced it to a concrete proposal and sold it to our own and other governments. ... The industries and traders of world commerce have played simultaneously the role of patients, the diagnosticians and the prescribing physicians.

The TRIPs agreement of GATT, by allowing for monopolistic control of life forms, has serious ramifications for biodiversity conservation and the environment. Article 27.5.3(b) of the TRIPs agreement states:

Parties may exclude from patentability plants and animals other than microorganisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, parties shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof. This provision shall be reviewed four years after the entry into force of the Agreement establishing the WTO.

The period for the review of TRIPs has therefore begun in 1999. While most Third World countries wanted TRIPs changed to prevent patents on life and biopiracy, the U.S. is upholding the patenting of life forms and indigenous knowledge.

In granting the first patent on life in 1980, the U.S. Supreme Court interpreted life as “manufacture” and “constitution of matter.” This started the slide down the slippery slope of patenting seeds, cows, sheep, human cells and micro-organisms. The U.S. is proud of having started a perverse trend based on flawed scientific assumptions that ignore the self-organizing, dynamic, interactive nature of life forms, defining them as mere “constitution of matter.” As the U.S. paper on the TRIPs review states, “The Supreme Court’s decision in *Diamond, Commissioner of Patents and Trademarks vs. Chakrabarty* spurred the development of a new industry—the biotechnology industry.”

The U.S. is committed to patents on life in order to defend its biotechnology industry. Having opened the flood gates to treating life forms and these modifications as patentable, the U.S. patent office started to grant patents not just to genetically modified organisms (GMOs), but to process and products derived from indigenous knowledge of biological resources. This is how patents on neem, karela, and basmati have been given in the U.S. Instead of recognizing that it is promoting piracy and changing its laws to prevent its practice, the U.S. has rejected all Third World proposals for the recognition and protection of indigenous knowledge.

The U.S. states that requiring patent applicants to identify the source of genetic materials or traditional knowledge used in developing their claim “would be impractical.” Recognizing indigenous knowledge should be a necessary element of the test for inventiveness and novelty that is required under any patent system. However, when it comes to traditional knowledge, this screening for prior art is declared as impractical. Forcing all countries to change their patent laws in spite of protests is considered practical. Imposing patents on life on people in the North and South who reject patents on life is considered practical. Changing the world’s cultures and enforcing property rights on seed is considered practical. Collecting royalties from the poor in the Third World for

resources and knowledge that came from them in the first place is considered practical. But taking the simple step to change one clause in one law in the U.S. and one clause in TRIPs is considered impractical. This suggests that the U.S. is committed to promoting biopiracy.

TRIPs and U.S. style patent laws annihilate the rights of Third World communities by not having any system of recognition and protection of indigenous knowledge. Biopiracy is intellectual and cultural rape. It is the slavery of the new millennium, and there is only one way to stop it—to make it illegal in international law by changing TRIPs. Anything short of stopping biopiracy through reforming TRIPs is participation in a crime against nature and the poor.

When TRIPs was forced on countries during the Uruguay Round, many issues of public concern were bypassed and the full ethical, ecological and economic implications of patenting life were not discussed. Third World countries were coerced into accepting the Western style IPR system. As a result of sustained public pressure after the agreement came into force in 1995, many Third World countries have made recommendations for changes in Article 27.3 (b) to prevent biopiracy.

In a discussion paper submitted to the TRIPs Council in Geneva concerning the patenting of life forms, the Indian Government wrote that:

Patenting of life forms may have at least two dimensions. Firstly, there is the ethical question of the extent of private ownership that could be extended to life forms. The second dimension relates to the use of IPRs concept as understood in the industrialized world and its appropriateness in the face of the larger dimension of rights on knowledge, their ownership, use, transfer and dissemination. Informal systems, e.g. the “*shrutis*” and “*smritis*” in the Indian tradition and grandmother’s potions all over the world get scant recognition. To create systems that fail to address this issue can have severe adverse consequences on mankind, some say even leading to extinction.

African and Central American countries, as well India’s prestigious Research Foundation for Science, Technology and Ecology, have also demanded a five-year delay in the implementation of TRIPs. As a Third World country, India’s interest lies in working with other developing countries to change the IPR systems being globalized through TRIPs, claiming that TRIPs is biased in favor of rich industrialized countries and global corporations.

Another flaw of TRIPs that is also rooted in using the U.S. Patent as the model is the introduction of patents on life forms through Article 27.3(b). This Article was to be reviewed during the last WTO Seattle Ministerial Conference. Bolivia, Columbia, Ecuador, Nicaragua and Peru submitted a proposal, Protection of Intellectual Property Rights Relating to the Traditional Knowledge of Local and Indigenous Communities. The paper states that:

The entire modern evolution of intellectual property has been framed by principles and systems which have tended to leave aside a large sector of human creativity, namely the traditional knowledge possessed by local and indigenous communities.

The group proposed that negotiations be initiated at the WTO Third

Ministerial Conference at Seattle to establish a multilateral legal framework for granting protection to traditional knowledge. The entire African Group has also called for systems to protect traditional knowledge. The African Group, represented through the Organization of African Unity (OAU), proposed that a footnote be inserted to Article 27.3(b) stating that any *sui generis* law for plant variety protection can provide for the protection of the innovations of indigenous and local farming communities in developing countries, consistent with the Convention on Biological Diversity and the International Undertaking on Plant Genetic Resources. The African Group and India have also called for the exclusion of life forms from patentability and for the WTO to be subordinate to the Convention on Biological Diversity (CBD).

Although the African Group, five countries in Central and Latin America, and India have called for changes in Article 27.3(b) on the basis of their right to a review as built into the Agreement, the US and Europe are determined to block the reform of TRIPs and any attempt to stop biopiracy. In a "Green Room" consultation (the undemocratic structure of decision making in WTO), the powerful industrialized countries told Mike Moore, the Director General that they rejected all the proposals for the reform of TRIPs. The U.S. and Europe have rejected developing country proposals related to Article 27.3(b) on the grounds that the WTO cannot be subordinated to other international agreements. This confirms the environmental movement's fears that the WTO sacrifices the environment for trade. Through the WTO, the rich North is committed to protecting corporate monopoly rights, even if this means undermining protections for nature and people guaranteed by international agreements and national constitutions.

On May 10, the anniversary of the launch of the first Indian movement for independence, a major milestone was crossed in the contemporary movement of freedom from biocolonialism and biopiracy. The European Patent Office (EPO) struck down Patent No. 0436257 B1, jointly held by the U.S. Government and the multinational W.R. Grace, as based on the piracy of existing knowledge, and lacking in novelty and inventiveness. U.S.D.A. and W.R. Grace had filed the Patent on December 12, 1990. On September 14, 1994, the European Patent Office granted a patent for

A method for controlling fungi on plants comprising contacting the fungi with a neem oil formulation containing 0.1 to 10% of a hydrophobic extracted neem oil which is substantially free of azadirachtin, 0.005 to 50% of emulsifying surfactant, and 0 to 99% water.

I filed a patent challenge on June 5, 1995 as Director of the Research Foundation for Science, Technology and Ecology, with Linda Bullard, President of the International Federation of Organic Agriculture Movements, and Magda Alvoet, currently Health and Environment Minister of Belgium. We filed a legal opposition because the use of neem extracts for fungicide and pesticide has been practiced for centuries and investigated scientifically and commercially for decades prior to the claim to invention in the USDA-Grace patent. Over five

years, we brought every possible evidence to bear on the case through affidavits from farmers and scientists.

The work for the “Neem Challenge” started in 1994 when I first read about the neem patents in a journal. We launched the “Neem Campaign” in India, and formed the “Neem Team”—an international network of patent warriors to support our national campaign. We started the campaign because of the importance of neem in our culture, our agriculture and our health systems. We picked the fungicide patent because it was owned by the U.S. Government and a big multinational corporation (MNC). It was therefore a powerful symbol of biopiracy and the flaws of Western industrial IPR systems. Neem is an important symbol because it is used on a large scale for medicine and agriculture in India. If biopiracy can occur with such commonly used knowledge, what would be the fate of less prevalent examples of traditional innovation? Neem was also important because it is an ecologically sound alternative to hazardous pesticides. Our campaign “No more Bhopals, plant a neem” started in 1984 at the time of the Bhopal disaster. Neem has been a central part of the ecological and sustainable agriculture work that we have done in India through national networks on organic farming. Finally, neem is a symbol of freedom as the “Free Tree.” Its scientific name, *Azadirachtin Indica*, is derived from *Azad Darakt* which means free tree. Liberating the free tree thus became the symbol of our liberation movement to free knowledge systems and biodiversity from biopiracy.

The neem battle has been described as one between Davids and Goliaths—the Davids being three women and their organizations, the Goliaths being a superpower and a major multinational corporation. The USDA and Grace attorneys tried every argument under the sun to dismiss the case and block the proceedings, including procedural arguments that as an Indian I could not bring a case to the EPO and that the Research Foundation had not paid a \$2,000 fee. Working together as friends and colleagues over more than a decade, Linda Bullard, Magda Alvoet, and others in the movement against biopiracy evolved creative ways to challenge money power with moral power, and the might of corporations and governments with solidarity. In this case David won and on the afternoon of May 10, 2000 the patent was revoked! Freeing the free tree was part of an experiment in finding new ways to defend liberty in an era of biocolonialism.

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