

The Agreement on Trade Related Aspects of
Intellectual Property Rights:
Is TRIPS Appropriate for
the Third World?

LLM Paper for LLB(Hons) Degree
Catriona Duncan
1 October 1996
LAWS 517 World Trade Organization Law

e
AS741
VUW
A66
D911
1996

D911 DUNCAN, C.J. The agreement on Trade-related aspects of intellectual property rights.

VICTORIA
UNIVERSITY OF
WELLINGTON

*Te Whare Wananga
o te Upoko o te Ika a Maui*



LIBRARY

CONTENTS

- I INTRODUCTION
- II BASIC PATENT LAW
 - The Requirements for the Grant of a Patent*
- III BIOTECHNOLOGY AND PHARMACEUTICAL ISSUES IN PATENT LAW
 - A *Biotechnology*
 - 1 Are biotechnical products different?
 - 2 Must 'morality' be considered when dealing with the patent protection of biotechnology?
 - B *Pharmaceuticals*
- IV WHY IS INTELLECTUAL PROPERTY AN INTERNATIONAL ISSUE?
 - A *The Development of Intellectual Property into an International Issue*
 - 1 The vulnerability of new industries to piracy
 - 2 Technological changes made piracy more prevalent
 - 3 The American trade deficit
 - 4 Many countries were changing their intellectual property laws
 - B *The Consequences*
 - C *Intellectual Property's Inclusion within the International Trading Sphere has generally been justified in Two Ways*
 - 1 The free-rider problem
 - 2 The incentive problem
- V THE IMPACT OF TRIPS ON THE INTERNATIONAL INTELLECTUAL PROPERTY SYSTEM
 - A *Previous Treatment of Intellectual Property in the International Arena*
 - 1 Territoriality
 - 2 National Treatment
 - 3 Minimum protection
 - B *Advantages of Using the GATT to Protect Intellectual Property*
 - C *The System under TRIPS*
 - D *Disadvantages of the New System*
 - E *New Features of the TRIPS System*
- VI THE UNDERLYING PURPOSE OF THE PATENT SYSTEM: THE WESTERN VIEW
- VII IS THIS PURPOSE REFLECTED IN THE TRIPS AGREEMENT?
 - A *TRIPS Does Contain Assumptions About Rights*
 - B *Non-Western Views on Intellectual Property*

C *Presumptions within the TRIPS Agreement*

VIII THE POSITION OF INDUSTRIALISED NATIONS

A *Intellectual Property Protection Makes Technology More Readily Available*

B *Technology which is Better Suited to Developing Nations will be Produced*

C *Indigenous Industry in Non-protecting Nations will Suffer*

D *Developing Countries will Pay Less for Patented Products Anyway*

IX THE RESPONSE OF THE DEVELOPING NATIONS

A *Countries save Money by Refusing to Protect Intellectual Property*

B *Non-protection Promotes Local Industry*

C *Lack of Intellectual Property helps Developing Nations Acquire New Technologies*

D *Are these Countries really Free-riders?*

E *How to make 'Incentive' more Effective in Developing Countries*

X THE TRIPS PARADIGM EXCLUDES THE TYPE OF 'TECHNICAL KNOWLEDGE' USUALLY POSSESSED BY DEVELOPING COUNTRIES

A *Current Interest in Indigenous Knowledge*

B *This Knowledge is not Protectable under TRIPS*

XI PIRACY CAN EVENTUALLY MAKE PATENT PROTECTION PROFITABLE FOR DEVELOPING COUNTRIES

A *The Indian Example*

B *The Effect of Patent Protection on a Country Depends on its Level of Development*

1 Newly industrialised countries

2 Larger developing countries

3 Smaller Developing countries

XII CONCLUSION

I INTRODUCTION

The Agreement on the Trade Related Aspects of Intellectual Property Rights (TRIPS) is now an integral part of the overall World Trade Organization's (WTO) regime. It sets up minimum standards of intellectual property protection to which all WTO members must adhere. It also brings the concept of intellectual property within the scope of multilateral trade negotiations, describing it as inherently linked with trade, due to its potential to become a barrier to trade between nations.

To comply with TRIPS, states must provide detailed enforcement procedures under their domestic laws. Also, new recourse to GATT dispute resolution mechanisms increases the likelihood that actions will be lodged against states. Altogether, intellectual property has become actionable, enforceable and harmonised.

There is a fundamental problem with the imposition of one universal standard for the protection of intellectual property, however: member states who are at less advanced stages of scientific and economic development are unlikely to benefit from the new TRIPS regime, as they lack the legal and technical infrastructures necessary to make it profitable, or even desirable to put laws protecting intellectual property into place.

In addition, many nations lack a tradition of intellectual property protection, due to their different perceptions of intangible goods, or even more fundamentally, their different perceptions of the nature of property and ownership. To impose a property regime which has been based solely on the jurisprudence of western, industrialised societies on these states is thus arguably counterproductive, and has the potential to result in a basic lack of philosophic commitment to the new TRIPS scheme.

This paper will look at whether or not the TRIPS Agreement is fundamentally incompatible with the notions of 'intellectual property' and economic and development needs of many non-industrialised countries. It will do so in relation to the law of patents in the biotechnical and pharmaceutical fields, as arguably, these are the sorts

of products that are most valuable to the health and well-being of the citizens of developing countries.

II BASIC PATENT LAW

A patent gives its owner the right to a 'limited monopoly' - the right for a certain period of time, (once set individually by states, now harmonized by TRIPS¹) to determine who, if anyone, can make, use or sell the item or process in question. Once this time has elapsed, the information contained in the patent enters the public domain.²

A 'disclosure' requirement entitles the public to a complete description of the invention or process, immediately following the grant of the patent. This condition is contained in Article 29 of TRIPS, and together with the time limit placed on the inventor's exclusive use of the patented product, ensures that the pool of information available to the public is increasing, as is the dissemination of scientific information.

The Requirements for the Grant of a Patent

Under article 27(1) of TRIPS, there are three technical requirements that must be met before a patent will be granted:

1. New. A patent will not be granted for an item or process that is already known and used, or that is already patented.
2. Involves an inventive step. An item or process must deviate enough from common practices so as not to be self-evident.
3. Capable of industrial application. The invention must be useable, serve an intended purpose, and have some minimum level of social benefit.³

¹ A patent monopoly lasts for 20 years, see TRIPS, 33 I.L.M. 81 (1994).

² AE Carroll "Not Always the Best Medicine: Biotechnology and the Global Impact of United States Patent Law" (1995) 44 Am. UL Rev. 2433, 2444.

³ MS Greenfield "Recombinant DNA Technology: A Science Struggling with the Patent Law" (1992) 44 Stanford L. Rev. 1051, 1061.

Article 27(1)⁴ requires the latter two terms be interpreted identically to the terms 'non-obviousness' and 'useful' respectively, which are the terms used in Title 35 of the United States Code, the codified intellectual property law of America. Therefore, when these terms need to be clarified further, it will probably be useful to look at American law.⁵

Patent law is designed to intensify technological competition. If companies are trying to develop the same product at the same time, each wants to be first, as only the first to patent the product will have the right to use it, even though both may have expended similar amounts of time, money and labour in the development of the product. The fact that only one of them gets the patent however, does not stop the other from developing a better product later, so that their research is not necessarily in vain.

III BIOTECHNOLOGY AND PHARMACEUTICAL ISSUES IN PATENT LAW

The question whether patents should be available for natural substances often used in the production of both biotechnical and pharmaceutical products is subject to great debate. The general rule is understood to be that you cannot patent nature, unless you can show that your invention is an "application of [a] law of nature to a new and useful end".⁶ Single natural products are not patentable two or more natural substances must be combined before a patent will be granted.⁷ The discovery that a natural product has a previously unknown effect will not suffice for a patent grant, as the patent regime is designed to encourage the development of new products and processes.⁸

⁴ TRIPS Agreement, above n1, 94, at footnote 5.

⁵ This is also an indication that the concepts of intellectual property that have been incorporated into TRIPS have been transplanted from the West, with little or no input from societies with alternative intellectual property traditions. This will be discussed in greater detail below.

⁶ *Funk Bros. Seed Co. v Kalo Inoculant Co.* (1948) 333 US 127, 130.

⁷ See 35 U.S.C. section 101 (1988). Also *Dennis v Pitner* 106 F.2d 142, 151 (7th Cir. 1939), 308 US 606 (1939).

⁸ *Le Roy v Tatham* (1852) 55 US (14 How.) 156, 177.

There are two ways to avoid the natural products exception in patent law, however:⁹

1. Develop a method to synthetically produce the compound. Although the product will not be patentable, the new process used to obtain it will. However, a synthetic product, slightly different from its natural counterpart but retaining the beneficial properties of the natural product, can be patented.¹⁰

2. If the natural product can be purified, and this purification results in "unexpected properties" which are beneficial to society in general, then the purified substance can be patented.¹¹

Should natural products be treated differently? If the patent system is designed to encourage the introduction of new products, is it wise to exclude natural products?

A *Biotechnology*

Biotechnology includes "any technique that uses living organisms to make or modify products, to improve plants or animals, or to develop micro-organisms for specific uses".¹² The majority of research being done on human cells and tissues utilizes three technologies:

1. tissue and culture technology;
2. hybridoma technology, that is, the creation of hybrid cells through the fusion of two types of cells; and
3. recombinant DNA technology, also known as genetic engineering.¹³

⁹ C Edgar "Patenting Nature: GATT on a Hot Tin Roof" (1994) 34 Washburn LJ 76, 86-87.

¹⁰ *Merck & Co. v Olin Mathieson Chem. Corp.* 253 F.2d 156 (4th Cir. 1958).

¹¹ *In Re Mertz* 97 F.2d 599, 600 (C.C.P.A. 1938).

¹² L Daniels "Commercialization of Human Tissues: Has Biotechnology Created the Need for an Expanded Scope of Informed Consent?" (1990) 27 Cal. W.L. Rev 209, 210.

¹³ Above n12, 211.

Biotechnology will result in the development of new methods of medical treatment, such as gene therapy. Human gene therapy has been defined as "the deliberate administration of genetic material into a human patient with the intent of correcting a specific defect".¹⁴

In biotechnical research, it is often unclear exactly what is, and is not, patentable. 'Inventions' that are not patentable are laws of nature, physical phenomena, and abstract ideas.¹⁵ To be patentable, an item has to be new, and naturally-occurring organisms do not meet this test, their structure must be manipulated and changed in some way. Items that have received patents include sexually and asexually reproduced plants; substances which occur in nature in an impure form and which have been isolated and purified by the patentee; and genetically made bacteria.¹⁶

The requirement by TRIPS that the applicant must demonstrate the usefulness of his or her invention creates two problems. Firstly, if technological problems remain to be solved before the discovery can be put to use, it may not be patentable; and secondly, an invention with no demonstrated 'utility' may not be patented, however interesting and significant it may be to research scientists.¹⁷

In domestic intellectual property regimes this has been a continuing problem. For example, when the Human Genome Project in America filed for over two thousand patents on fragmented gene sequences, the applications were rejected by the US Patents and Trademarks Office because in most cases the Project did not know what these sequences could be used for. This was in keeping with an earlier decision of the US Supreme Court, which held that granting a patent to an item with no known utility "may confer power [to the inventor] to block off whole areas of scientific development."¹⁸

¹⁴ United States Congress, Office of Technology Assessment, Human Gene Therapy (Washington, D.C.: Office of Technology Assessment, 1984).

¹⁵ See for example *Diamond v Chakrabarty* (1980) 447 U.S. 303, 309-310.

¹⁶ See *Parke-Davis & Co v H.K. Mulford Co.* 189 F. 95, 103 (C.C.S.D.N.Y. 1911).

¹⁷ RS Eisenberg "Proprietary Rights and the Norms of Science in Biotechnology Research" (1987) 97 Yale LJ 177, 186.

¹⁸ *Brenner v Manson* (1966) 383 U.S. 519, 534.

1 Are biotechnical products different?

Should biotechnological inventions be patentable? Proponents argue that once the traditional criteria of patentability have been met patents should be available for biotechnology inventions.¹⁹ Morality does not properly belong as a consideration in patent law. Technology is neither moral nor immoral, moral judgements can only be attached to what people do with a new product or process. Additionally, the concept of morality is too subjective, differing between societies, even within societies, and over time. The role of the patent system is to promote technology, not regulate it.

The response of those opposed to the patenting of biotechnologically produced products focuses on many aspects of the industry. They are concerned about experimentation on animals because of the pain caused to such animals, and uncertainty as to where such experiments might lead.²⁰ There are also objections to the idea that the owner of a patent may 'own life' and fear that species integrity may be diminished. Animals are viewed as possessing the right not to have their species integrity destroyed by the interchanging of their genetic material. If species integrity is compromised, the natural order will be broken down into an assortment of artificial organisms.²¹

The grant of patents on living matter has always been controversial. This doubt has existed in many jurisdictions and has been founded on several grounds.²² Before 1970 it was widely accepted that only primitive forms of life, such as yeasts²³ and bacteria could be patented.²⁴

¹⁹ P Culbert "Biotechnology Inventions and the Morality Exclusion in Patent Law" LLM Research Paper (LAWS 546) (Law Faculty, Victoria University of Wellington, 1994), 10.

²⁰ See R Dresser "Ethical and Legal Issues in Patenting New Animal Life" (1988) 28 *Jurimetrics J.* 399.

²¹ Above n19, 12.

²² See R Nott "Patent Protection for Plants and Animals" [1992] 3 *EIPR* 79; and JH Burton "Patenting Life" (1991) 264 *Scientific American* 18.

²³ For example, in 1873, Louis Pasteur was granted US Patent No. 141 072 for a purified strain of yeast.

²⁴ Above n19, 29.

- 2 Must 'morality' be considered when dealing with the patent protection of biotechnology?

Morality is a consideration that the TRIPS Agreement deals with in relation to all products. Article 27(2) provides that members may exclude from patentability inventions, when this is necessary to protect *ordre public* or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by domestic law.

These terms are taken from various intellectual property Conventions, including the European Patent Convention.²⁵ The Guidelines for the EPC²⁶ state that the purpose of these exclusions is to prevent the patenting of inventions likely to induce public disorder or riot, or to lead to generally offensive behavior. The test used is "whether it is probable that the general public would regard the invention as so abhorrent that the grant of patent rights would be inconceivable". The example used to illustrate this concept is a letter bomb.

Although there has typically been much debate over the morality of patenting human genetic material, such applications have been allowed, not only in countries where there is no morality criteria, like the US, but also within the EC, as long as all the standard requirements for patentability are satisfied.

For example, the morality criterion was considered in the application for a European patent for the Harvard Onco-mouse. The mouse was a transgenic animal, where a gene from one animal has been inserted into another. Transgenic animals have many potential uses, including the production of medicines, as research tools, or as farm animals.²⁷ The mouse had a cancer-causing gene (an 'oncogene') inserted into its genetic structure which caused it to develop cancers within a few

²⁵ EPC, article 53(a). The European Union has attempted to incorporate moral values into its patent system, while the US has refused to do so.

²⁶ European Patent Office Guidelines C-IV, 3.1-3.3.

²⁷ Above n19, 5.

months of its birth. It was used by research facilities investigating the causes and treatment of human cancer.

The European Patents Office initially rejected the application for a patent on the Harvard Onco-mouse.²⁸ However, on appeal to the Technical Board of Appeal, this decision was set aside and referred to the Examining Division²⁹ which applied the morality test. The Examining Division looked at competing public interest considerations, and held that in the long run the invention would reduce animal suffering as fewer animals would be needed for conventional testing and research. Therefore the invention was not contrary to 53(a). The benefit the public received from this invention outweighed the risk to the environment and the harm to the animal itself.

Issues of morality are not necessarily the same as natural rights issues. Morality does not relate to indigenous conceptions of whether or not there actually is any sort of property right in intangible goods, but more to describing the scope of products/processes in which intellectual property rights are recognized. The public interest considered is not the 'general public interest', if this was the case, in many developing countries public interest would prohibit the grant of intellectual property rights in many types of goods where it is widely accepted *in developed nations* that these goods will receive patents.

Opposition to the grant of patents in transgenic animals such as the Harvard Onco-mouse, has been lodged on many different grounds. A wide range of moral concerns are represented: the Technical Board of Appeal failed to sufficiently consider the suffering of the animal³⁰ (a morality presumably based on the premise that animals should not suffer in order that humans should benefit); the Board overrated the benefit of the animal; that the Board underrated the environmental risks, for example the possibility that an Onco-dog could escape and breed with other normal dogs (to prevent wild packs of dogs roaming Europe, but more importantly, to preserve 'genetic integrity'); and

²⁸ OJ EPO 1989, 451.

²⁹ T19/90, *Harvard/Onco-mouse*, OJ EPO 1990, 476.

³⁰ This argument was arguably strengthened by the inclusion in the patent application of an Onco-chimpanzee.

finally the balancing test was not suitable to determine whether the invention could be patented. If an invention was inherently immoral, it could not be made moral simply because it benefitted society.

This raises a fundamental question about the nature of morality- is something moral if it can be justified on a practical basis, or is a product 'moral' only if it is not inherently wrong?

Other complaints about the Board's decision related to the argument that the patenting of a human oncogene and of living matter was an affront to the dignity of the human race. Arguments were made about the unknown risks of genetic engineering.

The opposition to the Harvard Onco-mouse patent eventually resulted in an emergency motion in the European Parliament calling for the revocation of this patent by the EPO. This resolution was carried by a majority of 178 to 19 (with 27 abstentions) and declared the "resolute opposition" of the Parliament to the patent.³¹

B Pharmaceuticals

The distinction between inventions in the fields of pharmaceuticals and biotechnology is very fine.

Pharmaceutical patents are a highly political issue, as a very large number of extremely poor people in developing countries view their patentability not as merely an intellectual property issue, but as a social equity issue.

Although pharmaceutical companies dislike being singled out and stress that their industry has just as much right to patent protection as any other, in the pre-TRIPS era pharmaceuticals were the products (and processes) most frequently denied patent protection on a world-wide basis. In addition to few, or poor intellectual property regulations protecting pharmaceuticals, there was a tendency in developing countries to have extremely broad compulsory licensing provisions. If an invention was not worked in that particular country within a

³¹ Above n19, 44.

specified length of time, an abuse of the patent system was assumed, and the invention was made available to others under a compulsory licence.³²

The concept of compulsory licensing was developed at the end of the last century, and the standard term of three to four years was established in the Paris Convention. This was a practicable length of time in the 1880's when most inventions only took around three years to develop and market. New technological products now take much longer to produce, rendering the standard term unreasonably short.³³

IV WHY IS INTELLECTUAL PROPERTY AN INTERNATIONAL ISSUE?

Perhaps the initial question should be: Why should the GATT/WTO be used to obtain a single global standard for intellectual property? Does intellectual property in fact have trade-related aspects? Intellectual property has traditionally been seen as territorial, a matter for the domestic policy of individual states. Its inclusion within the ambit of the WTO has made intellectual property part of international trade relations.

A *The Development of Intellectual Property into an International Issue*

Until the 1970's, intellectual property was not even seen as an important academic topic of discussion.³⁴ By the end of the decade, however, this had begun to change, primarily due to the economic analysis that was beginning to be applied to intellectual property law. It was not until the 1980's that the international implications of intellectual property were realised. This was mainly due to the growing awareness of the importance of intellectual property to the economies of the world's most technologically advanced, (and powerful), nations.

³² RM Sherwood "Patent Protection in the Pharmaceutical Industry" (1993) 8 Fla J. Int'l L 255, 257.

³³ Above n32, 258.

³⁴ WP Alford "How Theory Does -And Does Not- Matter: American Approaches to Intellectual Property Law in East Asia" (1994) UCLA Pac. Basin LJ 8, 9.

1 The vulnerability of new industries to piracy

The increasing importance of intellectual property was primarily due to the transformation of industrial economies, which were becoming more and more dependent on the revenue produced by knowledge-intensive industries, such as biotechnology and pharmaceuticals. These industries are particularly susceptible to piracy, and rely heavily on intellectual property laws for protection. The limited monopoly right granted by patent laws was indispensable for the generation of new capital and the maintenance of an international competitive edge. The inclusion of intellectual property within the international trading regime is a reflection of the vulnerability of information-based economies to the demands of the global market for pirated products.³⁵

According to industrialised nations, it is this very global market that they need for their new high-technology products to become profitable. The domestic markets of developed countries by themselves, although providing the security of intellectual property protection, may not be sufficient to recoup the enormous research and development costs in the new information-intensive industries.

However, increasing demand for available consumer goods coupled with an inability or unwillingness to pay the prices of the developed world made piracy an attractive economic option. There was also a strong desire within most developing countries to promote their own industries, and a lack of intellectual property protection was seen as one way in which to give their citizens a head start.³⁶

2 Technological changes were also making piracy more prevalent.

Technological developments in many developing countries meant that the copying of products was often much easier than before. In India, for example, the withdrawal of patent protection for pharmaceutical products facilitated the development of one of the most highly

³⁵RL Gana "Has Creativity Died in the Third World? Some Implications of the Internationalization of Intellectual Property" (1995) 24 *Denv. J Int'l L & Pol'y* 109, 119.

³⁶RM Gadbow "Intellectual Property and International Trade: Merger or Marriage of Convenience?" (1989) 22 *Vand. J Transnat'l L* 223, 227.

competitive pharmaceutical markets in the world.³⁷ The initial development of the Indian pharmaceuticals industry was facilitated by Indian nationals who had been involved with foreign pharmaceutical companies working in India. The new industry was essentially copied products previously made by foreigners.

3 The American trade deficit

One of the most important factors that initially connected intellectual property with trade issues was the growth in the American trade deficit in the mid 1980's.³⁸ The trade deficit could be explained, so many technological industry groups claimed, by the unlawful use of intellectual property, primarily by lesser developed nations. The argument was made that if the consumers of intellectual goods paid retail prices, to the 'owners' of the intellectual property rights to those goods, then the extra revenue generated in this way would eliminate much of the deficit.

4 Many countries were changing their intellectual property laws

Another reason why intellectual property issues emerged at this particular point in time was that the intellectual property laws of many countries were changing. Until the 1970's, the patent laws of most third world nations tended to be similar to those of their former colonial rulers. In the 1970's, developing countries were becoming increasingly concerned with the high costs of many technological products, especially pharmaceuticals, which caused many of them to change their patent laws. The new laws of Brazil, Columbia, Ecquador and India completely abolished patents granted on pharmaceutical products.³⁹

³⁷ See below for a more extensive look at the Indian pharmaceuticals industry.

³⁸ Above n34, 12.

³⁹ Above n9, 81. The example of the Indian patent system will be discussed in greater detail below.

B The Consequences

By the end of the 1980's, the link between intellectual property and trade had become an important element of American public policy. The Omnibus Trade Act of 1988 created Special 301, which requires the US Trade Representative to make a list of what he or she decides are offences committed against American intellectual property, and to initiate actions -potentially in contravention to US obligations under the GATT, and certainly contrary to its spirit- against the offenders. It was essentially statutory authority for the American government to use trade measures as leverage to achieve minimum intellectual property protection standards world-wide.⁴⁰

Both the Bush and Clinton administrations turned intellectual property into one of the central objectives of US foreign policy.⁴¹ In a 1983 address to the American public, President Reagan promised to maintain his country's technological superiority into the next century.⁴² The Democratic Party responded by drawing attention to the 'need' to promote competitiveness through a stronger focus on research and development. At this stage, neither political party was quite aware of how to obtain these objectives. The industrial sector, however, was quite willing to step in and give them advice.⁴³ This illustrates how early interest in the intellectual property aspects of international trade was generated principally by the public sector, whereas in the 1980's impetus shifted to the huge technology-industry lobby. The US, followed by many other industrialised countries, changed its trade laws to classify the intellectual property protection laws of other countries as 'defective.' These laws were seen to constitute a type of unfair trade practice, being non-tariff barriers to trade,⁴⁴ which had significant effects on trade in technological and knowledge-intensive products.

⁴⁰ Above n36, 224.

⁴¹ Above n34, 14.

⁴² Above n36, 234.

⁴³ Above n36, 235.

⁴⁴ G Garcia "Economic Development and the Course of Intellectual Property Protection in Mexico" (1992) 27 *Tex. Int'l LJ* 701, 703.

Eventually, the American strategy of making trade concessions depend on the availability of intellectual property protection in the state concerned, had to deal with the fact that it was incompatible with the GATT. The GATT contains only limited reference to intellectual property issues, illustrating the relative non-importance of intellectual property rights as an international matter in the early 1970's.⁴⁵ Prior to the introduction of TRIPS, when the protection of intellectual property rights was not considered to be part of the obligations imposed on members by the GATT, it could not be imposed on unwilling nations.

The only possible argument that the United States could have used in their defence was that a lack of intellectual property protection laws in a given state could be brought up as an international trading issue under the GATT through Article XXIII, (which permits a contracting party to claim a nullification or impairment of GATT rights as a result of either a violation of the GATT or any other measure that has the effect of nullifying or impairing rights gained during the GATT's negotiating rounds).

The above argument was never made, however, and it is unlikely that it would have been accepted even if it had, although this seems exactly the sort of situation that may have been envisaged when section XXIII was being drafted. The United States would not have negotiated for the same concessions that it has in fact received, if it had been anticipated that the value of those concessions would be seriously undermined. GATT Panel decisions, however, suggest a reluctance to adopt such "broad, almost constitutional" arguments.⁴⁶

Prior to the Uruguay Round of Gatt Multilateral Trade Negotiations, the US demanded that the Round should produce a code authorising trade sanctions in response to intellectual property violations. A code was necessary to establish that 'violations' had in fact taken place, and therefore so was a single, universal standard of intellectual property protection. Many nations complained, it was widely felt that such a step would diminish the authority of existing international bodies that dealt with intellectual property issues, like WIPO and UNESCO.

⁴⁵ Above n36, 230.

⁴⁶ Above n36, 232.

Concerns were also raised that the inclusion of intellectual property as an international trade issue would divert GATT from its traditional focus, and that intellectual property was not necessarily consistent with the basic function of the GATT.

C Intellectual Property's Inclusion within the International Trading Sphere has generally been Justified in Two Ways.⁴⁷

1 The free-rider problem

The lack of a single global standard to which all member countries are required to adhere is said to be an incentive for countries to give their own citizens the benefits of the international intellectual property system, while denying benefits to the nationals of other countries.

2 The incentive problem

A country that has not fully participated in the international system creates incentives among its own citizens to engage in activities that rely on the absence of intellectual property protection. As a result, industries develop that cannot operate if a patent protection scheme is in force, and thus an interest in avoiding intellectual property rules is established.⁴⁸ Of course, this argument assumes that it is in fact in these countries' long term interests to participate in the international intellectual property system.

V THE IMPACT OF TRIPS ON THE INTERNATIONAL INTELLECTUAL PROPERTY SYSTEM

TRIPS is not the first international agreement to establish minimum standards of protection for intellectual property, however it does raise the level of required protection and provides more substantive rules as well as sanctions and procedures for enforcement.

⁴⁷ EW Kitch "The Patent Policy of Developing Countries" (1994) 13 UCLA Pac. Basin 166, 178.

⁴⁸ Above n47, 178.

For the first time, an international convention exists which standardises the treatment of patents, copyright, trade-marks, geographical indications, industrial designs, topographies of integrated circuits and trade secrets. Prior to the Uruguay Round, the GATT dealt with trade in manufactured, tangible products. Since then, two new subject matters have been added to the scope of the international trading regime: intellectual property and trade in services.

The TRIPS Agreement requires that WTO members establish particular forms of intellectual property protection as a condition of membership. Previously, involvement in multilateral trading relationships was not premised on intellectual property protection, countries' intellectual property objectives had to be accomplished through bilateral agreements and non-membership of the international intellectual property conventions did not necessarily result in political ostracism or the loss of trade benefits. The United States, for example, did not join the Berne Convention for many years, and suffered no ill effects.⁴⁹

Can the GATT accommodate the notion that the balance of trade concessions contains the requirement that GATT members respect minimum standards of intellectual property protection? The TRIPS Agreement at best prioritizes the issue of intellectual property, and at worst imposes a model assumed to be the 'right' form of intellectual property protection.

A Previous Treatment of Intellectual Property in the International Arena

Traditionally, intellectual property has been governed by three main principles:⁵⁰

1. Territorial protection;
2. National treatment of foreign owners of intellectual property; and
3. International minimum protection.

⁴⁹ Above n35, 122.

⁵⁰ H Ullrich "TRIPS: Adequate Protection, Inadequate Trade, Adequate Competition Policy" (1995) 4 PAC. RIM L. & POL'Y J. 153, 157.

These principles are a reflection of the traditional importance of national sovereignty and open markets.

1 Territoriality

The exclusive right of the owner of intellectual property to make use of or sell a patented product was limited to the country which had granted that right. If the owner wanted use that right in another state's territory, another patent application would have to be made to this new jurisdiction, as the formal and substantive rules governing the grant of patents varied from country to country. If an intellectual property owner had the right of exclusive usage in more than one country, it was likely that the nature of the monopolies would differ considerably.

The issue of territoriality underlines the fact that the acquisition, existence, maintenance, validity, scope, and termination of an exclusive right were public policy issues to be decided by individual governments, due to their effects on the flow of knowledge to their own citizens and the technological competition within a sovereign state's domestic marketplace.⁵¹ All countries have the right to regulate their intellectual property protection in relation to their own social and economic environment, and to set their own domestic goals. Intellectual property was seen to be national by nature, and different standards and areas of protection were the norm. What a country was likely to protect depended less on international or western norms and more on the disadvantages/benefits a country felt would accrue from protection.

2 National treatment

The principle of national treatment meant simply that all foreign owners of intellectual property should be dealt with on an equal footing to national owners of intellectual property. Again, no minimum standards were necessarily imposed, but each state was free to determine the formal and substantive provisions of its intellectual property regime. If a particular state decided that no foreigners were to

⁵¹ Above n50, 158.

be granted intellectual property rights within its territory, this was appropriate as long as the state's nationals did not receive any additional protections.

The rule of national treatment is the cornerstone of the Paris Convention,⁵² the Berne Convention⁵³ and the Universal Copyright Convention.⁵⁴ Due to the large membership of the Conventions⁵⁵ and their wide ranging subject matter, the principle of national treatment has become fundamentally linked with intellectual property on an international level.

National treatment is the antithesis of a system that is based on intellectual property 'rights,' as under this principle an inventor having a right to patent protection in one country should also be protected in another state. Therefore, previous regimes under the Berne and Paris Conventions were not based on natural rights but on utilitarian concerns.⁵⁶

3 Minimum protection

The pre-TRIPS Conventions claim to provide a minimum level of protection to the member states' nationals. However, the extent to which the provisions of a Convention are ratified by individual states, as well as the extent to which nationals of these states can rely on them in their national courts, varies from country to country and from provision to provision.

These principles meant that international enterprises dealing with intellectual property had to take into account the purely territorial effect of protection, the strength of the protection available and the

⁵² See the Paris Convention for the Protection of Industrial Property, article 2.

⁵³ The Berne Convention for the Protection of Works of Literature and the Arts, article 5.

⁵⁴ Article II.

⁵⁵ At the beginning of 1995, there were 117 members of the Paris Convention and 105 members of the Berne Convention. As the Conventions have been revised several times, states may adhere to different versions of them. See Above n50, 163.

⁵⁶ AS Oddi "TRIPS - Natural Rights and a 'Polite Form of Economic Imperialism'" (1996) 29 Vand. J Transnat'l L 415, 422.

effectiveness and cost of infringement litigation in a given country.⁵⁷ Selective strategies of filing, maintaining and enforcing national patents generally aim to defeat the competing pirate either directly in its home market, or in some of its major supply markets. These strategies are formulated with respect to the comparative interests and strengths of the owner of the intellectual property and of the competitor.

B Advantages of Using the GATT to Protect Intellectual Property

One of the major problems with the pre-TRIPS system, at least according to the lobby of the industrialised nations, was that the World Intellectual Property Organization (WIPO), the major international institution dealing with intellectual protection, was incapable or unwilling to deal with the claims of countries who were heavily involved in the trade in information- technology, that the failure of developing nations to protect intellectual property infringed their trading rights.

This unwillingness was blamed on the block voting power that developing countries could wield in WIPO, which lead to a stalemate between the two factions.⁵⁸

GATT was seen as a good venue, as it had the huge advantage of trade leverage as greater progress was felt to be attainable through the GATT because it had more fluid mechanisms for adopting new measures. GATT members had not yet formed inflexible blocs, mainly because the variety of economic interests differed according to which of the myriad of trade issues involved was the subject of GATT negotiation.

The GATT's dispute settlement process, while viewed as needing considerable improvement, is generally considered to be better than the voluntary WIPO system.⁵⁹ Of the two international bodies that formerly governed intellectual property in the international arena, WIPO and

⁵⁷ Above n50, 169.

⁵⁸ Above n56, 425.

⁵⁹ See General Accounting Office (GAO) *International Trade: Strengthening World-Wide Protection of Intellectual Property Rights* (1987) pp 36-37. See above n56, 425.

UNESCO, neither had a formal dispute resolution mandate, and could not make law in a judicial sense. Only at the request of both parties could they become involved. The Conventions do not generally approach the matter of remedies for infringement or enforcement. The Paris Convention treats the granting of patents purely as a matter to be dealt with purely by the individual states themselves.⁶⁰

Although the Conventions do provide for some form of dispute settlement by arbitration,⁶¹ compliance with the rules of the Conventions is primarily dependent on the self-interest of the member states. Although the majority of member states have accepted arbitration, this has generally not been practical because of the broad discretion member states have in implementing the Conventions' rules.⁶² Whether or not the subject matter qualifies for Convention status and triggers international protection is determined by the individual state itself, due to the lack of one standard, across the board definition for many different key concepts, for example, what constitutes an invention.

C *The System Under TRIPS*

New substantive rules for intellectual property protection are to be put into place by member states. TRIPS prescribes what must be protected, and how it is to be protected. Previous treaties and institutions dealing with intellectual property issues in the international arena, such as the Paris and Berne Conventions, laid down minimum standards of protection, but TRIPS also raises the floor and provides more substantive rules as well as procedures for enforcements and sanctions.⁶³

TRIPS requires that its members put into place an effective patent system for essentially all branches of technology.⁶⁴ Article 28 sets forth

⁶⁰ Paris Convention, article 2, sections 3, 6, 12.

⁶¹ Paris Convention, article 28, Berne Convention, article 33.

⁶² Above n50, 165.

⁶³ Above n35, 121.

⁶⁴ TRIPS, above n1, article 27: "Subject to the provisions of paragraphs 2 and 3 below, patents shall be available for any inventions, whether products or processes, in all fields of

clearly defined patent rights, and establishes a new standardised term of 20 years of patent monopoly. Remedies for infringement include the availability of damages and injunctions.⁶⁵ TRIPS shifts the burden of proof so that process patents can be more readily enforced than under the burden of proof rules that are commonly in place in most domestic jurisdictions, where the 'defendent' has the burden to prove that the process to obtain an identical product is different from the patented process in question. This automatically puts the holder of an existing patent at an advantage.⁶⁶ Each country must establish a reasonably effective enforcement regime for patents,⁶⁷ and comply with Articles 1-12 and 19 of the Paris Convention.⁶⁸

The conditions of the WTO are essentially substantive international 'law' that members must follow as the result of the dispute resolution system that the WTO administers.⁶⁹ The scope of the WTO's responsibility, its dispute settlement process, and the binding nature of its decisions, all set it apart from the previous Conventions.

One of the key functions of the WTO is dispute resolution. The Council for TRIPS was set up under the Charter of the WTO to be responsible for monitoring the operation of the Agreement and to ensure that it was complied with by the contracting parties. Disputes arising under TRIPS are governed by the central dispute resolution process of the WTO.⁷⁰ In contrast, WIPO's activities are limited to the coordination and promotion of intellectual property protection in member states. WIPO focuses on maintaining and increasing respect for intellectual property on a world wide scale, in order to further industrial and cultural development. TRIPS is an enforcement mechanism for a standard that has already been imposed, rather than a persuasive mechanism.

technology, provided that they are new, involve an inventive step and are capable of industrial application..."

⁶⁵ TRIPS, above n1, articles 45 and 44.

⁶⁶ TRIPS, above n1, article 34.

⁶⁷ TRIPS, above n1, articles 41-43.

⁶⁸ TRIPS, above n1, article 2.

⁶⁹ GATT at Article XXIII.

⁷⁰ TRIPS, above n1, article 64(1).

D *Disadvantages of the New System*

There are two major disadvantages to enforcing minimum standards of intellectual property using the threat of trade sanctions.⁷¹

1. It is at odds with the general principles of the GATT, as it sanctions low levels of intellectual property protection regardless of whether such a low level of protection is the genuine cause of injury to the exporting state. On other issues, such as antidumping, the GATT requires an examination on a country by country and product by product basis, of the causes of the injury to the domestic industry involved.
2. If domestic intellectual property is used, not to prevent piracy or free-riding, but more to prevent competition by low-cost competitors, TRIPS may bring discredit to the operation of intellectual property in general, as since its foundations are controversial in the first place, it risks being labeled protectionist by developing nations.

Arguably, TRIPS' major effect will be in relation to products such as pharmaceuticals which have previously received special treatment in many countries. Not only have these products been exceptionally exempt from patent protection in many developing nations, they also receive different treatment from TRIPS. Although, depending on the nature of the state involved, a state may have a period of grace when the TRIPS Agreement does not apply, in which to establish the appropriate infrastructure needed to administer an intellectual property regime, it must be possible to grant patent protection for pharmaceuticals and agricultural chemical products straight away.⁷²

⁷¹ FK Beier & G Schriker *GATT or WIPO? New Ways in the International Protection of Intellectual Property* (Max Planck Institute for Foreign and International Patent, Copyright and Competition Law, Munich, 1989), 132.

⁷² TRIPS, above n1, see articles 66 (establishing a transitional period for developing country members) and 70(8)(I), (providing that members shall, for pharmaceutical and

E New Features of the TRIPS System

In summary, protecting intellectual property within a trade paradigm establishes several new features of the international intellectual property system:

1. It is now easier to monitor states' compliance with TRIPS' requirements, through the institutional mechanisms of the WTO. Although WIPO set out minimum standards of intellectual property protection, it had no real enforcement mechanisms, or really even the ability to ensure that the same standards were being implemented by all states.
2. The private rights of the individual intellectual property owner have essentially been transformed into rights upon which the state can act in the international arena.
3. Countries who want to be part of the international trading system are required to enact domestic laws ensuring that they comply with TRIPS.
4. TRIPS has created a truly global system of intellectual property.⁷³

VI THE UNDERLYING PURPOSE OF THE PATENT SYSTEM: THE WESTERN VIEW

In Western societies, intellectual property protection is seen as existing to advance the development of scientific and other types of knowledge. This view centres around the conviction that a system should reward

agricultural chemical products, provide as from the date of entry into force of the MTO a means by which applications for patents for these products can be filed).

⁷³ Above n35, 123-124.

creativity by granting limited⁷⁴ monopolies over the use, possession and disposition of the object created. Intellectual property is basically the incentive for creation.

This is illustrated in the American Constitution, which sets out the justification of intellectual property protection.⁷⁵ The Congress has the power to “promote the Progress of Science and the useful Arts” through patents and copyrights. Not only the United States, but European nations based recognition of intellectual property on the economic benefits provided to society as a whole.

Although one objective was to reward the individual inventor, this justification was also originally designed to encourage innovation. The fame and honour awarded to the innovator were an incentive to others, who “would then apply their genius, would discover, and would build devices of great utility to [the] Commonwealth.”⁷⁶ The focus on inventors’ rights came later, at the time of the development of natural rights theories, during the American and French revolutions.

The prevailing Anglo-American view is that intellectual property laws are necessary prerequisites for innovation.⁷⁷ It is not that creativity would not take place without the incentive that intellectual property provides, but that creative activity would be minimal, and that as a result, the development of artistic thought and scientific knowledge would be adversely affected.

The argument is that by defining the parameters for the use of scarce resources (establishing the areas of human endeavour that society can most benefit from, that is, what will, and will not be patentable subject matter) and assigning the associated rewards and costs (granting the right of exclusive monopoly), the prevailing system of property rights concentrates labour and research in the areas that will be the most useful.

⁷⁴ Limited in that the monopoly right only exists for a specified, finite period of time.

⁷⁵ U.S. CONST. Art. I, Section 8, Clause 8.

⁷⁶ First general patent law, enacted in 1474, by the Venetian State. See above n2, 2444.

⁷⁷ Above n35, 126.

Since property rights define the behavioural norms for the assignment and use of resources, people are most likely to put effort into a project for which they will be rewarded. It is then possible to predict how differences in property rights affect economic activity⁷⁸ Intellectual property laws are thus linked to economic development, and their absence leads to industrial stagnation, inefficient use of scarce resources, and technological backwardness.

If the value of intellectual property law lies in the incentive provided, then society only benefits when patented products are actually induced by the patent system. That is, there must be a causal connection between the system and advancements in a society's body of knowledge.

Arguably, so-called 'revolutionary' inventions are the ones that are most dependent on the patent system. These are inventions that produce revolutionary changes in the patterns of public consumption or production.⁷⁹ These inventions generally have an intermediate to high benefit-to-cost ratio, that is, they incur considerable investment and development costs, and run a significant risk of failure. Examples include the airplane, antibiotics, television, tranquilisers and the telephone.⁸⁰

Inventions with a high benefit-to-cost ratio rely less on the incentives that the patent system offers, as they tend to be merely improvements on existing products, and so incur fewer research and development costs, and can depend on an already-established market and distribution system. The primary inducement for production of these products is the market itself.

The inducement justification of patents relies on the amount being gained by a society from the production of revolutionary inventions outweighing the costs of the administration and infrastructure required to operate the intellectual property system. It is important, when

⁷⁸ RT Rapp & RP Rozek "Benefits and Costs of Intellectual Property Protection in Developing Countries" (1990) 24 J of Wrl'd Trade 75, 77.

⁷⁹ Above n56, 442.

⁸⁰ Above n56, 442-3.

determining this, to distinguish revolutionary inventions from products that would have been developed regardless of whether the intellectual property regime was in place.

VII IS THIS PURPOSE REFLECTED IN THE TRIPS AGREEMENT?

The major problem with imposing one global intellectual property standard is that philosophical differences about the nature of intellectual property exist. Industrial countries see the right to "own" intellectual property as equivalent to rights over physical property. On the other hand, the attitude of developing countries reflects a development strategy based on making technology available to their own citizens at the lowest possible price.⁸¹

The global standards introduced by TRIPS mean that new ways for understanding and justifying intellectual property rights will need to be found now that it is no longer just Western countries that share the moral, religious heritage and economic environment in which these rights are implemented.⁸² TRIPS arguably rests on no solid theoretical or empirical basis whatsoever.⁸³ Moral arguments do not figure strongly in the international discussion of the intellectual property issue. They have been de-emphasised to avoid the problem that not all cultures accept that there is such a thing as a 'natural right' of an inventor to intellectual property. But even by placing economic considerations in a central role, the supporters of TRIPS have left the incompatibilities of belief relating to the definitions and attributes of property unaddressed.

A *TRIPS Does Contain Assumptions About Rights*

Far from being universal, ideas of ownership contained in TRIPS reflect the modern, Western legal notions of property and the nature

⁸¹ Above n44, 714.

⁸² MA Hamilton "The TRIPS Agreement: Imperialistic, Outdated and Overprotective" (1996) 29 Vand. J of Transnat'l L. 613, 614.

⁸³ "Compliance with the TRIPS Agreement: Introduction to a Scholarly Debate" (1996) 29 Vand. J. Transnat'l L. 363, 370.

of human effort and appropriate rewards. TRIPS installs a universal intellectual property protection standard, and its requirements must be met despite the fact that these standards may be both incompatible with the cultural practices within many societies, and invalid under local law and custom.

Intellectual property, like other forms of property that each society recognises, embodies rights values. The very selection of what to protect and the nature of the protection given, are shaped by what a society sees as its most fundamental values and needs. The economic incentive theory has dominated recent discourse on intellectual property, as has the utilitarian conception of patent laws. Typically, Western societies see the purpose of intellectual property regulation as the balancing of private reward and the encouragement of creativity with the benefit of public access to new information,⁸⁴ at least within their domestic jurisdictions. International intellectual property is described primarily as a mechanism for redressing trade deficits and for maintaining 'fair' competition in global markets.

This reflects the Western focus on individual rights, such as liberty, property, equality and the accumulation of capital. Western intellectual property theory is based on the assumption that individual rewards are a prerequisite for innovation, and that human behaviour is a series of responses to incentives.⁸⁵ When faced with a choice, individuals will always take the option that maximises their own welfare. The granting of a limited monopoly right allows people to make welfare-maximising decisions without the fear of free-riders. The ultimate goal of the intellectual property system is therefore to maximise benefits to society from the creation of additional inventions.⁸⁶ Along the way an inventor's right to his or her creation became 'propertised.'

An argument commonly used by developed nations to support the imposition of the universal TRIPS standard is that intellectual property laws are closely linked with economic development, growth

⁸⁴ Above n35, 112.

⁸⁵ Above n35, 116.

⁸⁶ Above n35, 118.

and prosperity, and that failure to implement them will lead to inefficient use of scarce resources, economic stagnation and technological backwardness, in part due to the general discouragement of indigenous innovation.⁸⁷

This makes at least three assumptions that are not necessarily shared by all of the members of the WTO. Firstly, an assumption is made that human innovative labour is actually valuable. Secondly, society should aim to reward the products of innovation. Entitlement to reward is determined according to the attributes of the resulting product, effort in itself is not sufficient. Finally, to be valuable, products should be able to be commercially exploited.⁸⁸

If Western utilitarian and economic justifications do not provide a strong enough basis for intellectual property protection,⁸⁹ the imposition of a universal intellectual property scheme upon countries where these arguments do not stand up, must therefore be based on moral conceptions of property rights. The insistence upon world-wide standards of intellectual property in itself, if it cannot be so justified, means that intellectual property is deemed to be of such importance that it has acquired natural rights aspects.⁹⁰

B Non-Western Views on Intellectual Property

It is obvious that innovation does not only take place in countries that have a tradition of intellectual property protection. Every society at any stage of development invented, created and developed products necessary to sustain the life and well being of the society.⁹¹ Both mechanical and expressive innovation abound in any society. Things such as songs, dances, artistic designs and medicinal formulas were developed despite any 'lack' of intellectual property protection.

Many societies have a different understanding of 'authorship,' and therefore ownership, than is found in most Western cultures. In

⁸⁷ Above n35, 127.

⁸⁸ Above n82, 617.

⁸⁹ See below.

⁹⁰ Above n56, 426.

⁹¹ Above n35, 128.

relation to artistic works especially, the individual was not recognised as the source of the created work, and a claim to personal ownership would have been unthinkable.⁹²

For example, in China, the 'new' was not traditionally admired merely because it was new, and copying was looked upon as a noble art.⁹³ The link made in American rhetoric between Chinese recognition of intellectual property rights, or the lack thereof, and its human rights record,⁹⁴ reflects not necessarily that intellectual property rights are thought of in the same light as fundamental human rights, but the traditional Western view that the holders of 'rights' are individuals, rather than any other larger entities.

Norms governing the recognition of property rights in intangible goods tend to be based in the nature of the organisation of the particular state. Ancient Israel, for example, was governed under a theocracy, so that the primary purpose of property protection was ecclesiastical. The decision as to what type of goods were to be protected was made so that the sanctity and purity of certain processes and products could be preserved.⁹⁵

As well as differing in the fundamental purposes behind the patent system itself, the nature of the right in an intangible good, once recognised, is not necessarily the same in all societies. In many indigenous societies, the knowledge of traditional medicine that had been developed through a process of time and training was guarded by groups of specialists, rather than the originating individual. The 'right' granted is therefore the right to participate in the group's collective knowledge, rather than the right to exclude others from benefitting from the new discovery.

Developing countries often consider intellectual property and scientific knowledge in general to be the "common heritage of mankind," and therefore preventing access to such knowledge is

⁹² See for example, many Native American Indian Tribes, and ancient Israel. Above n35, 129-130.

⁹³ Above n82, 619.

⁹⁴ Above n82, 619.

⁹⁵ Above n35, 130.

wrong, especially in areas of knowledge vital to public well-being such as medical information and innovation. Even if a developing nation does have some intellectual property laws, often it will exclude from protection subject matters it considers too important to be left to individual regulation, so that the public can have unrestricted access to them. Such was the case with India's intellectual property laws, which excluded pharmaceutical goods from patent protection.⁹⁶

C *Presumptions Within the TRIPS Agreement*

In contrast, the Western view, enshrined in TRIPS, is that science and technology are the result of investment and labour, and therefore belong to the creators, and not to society in general. Property includes the right to exclude others from using your invention, and the right to dispose of property as one wishes. This right to exclude is imposed on the international system in TRIPS, which focuses on the right to:

“prevent third parties not having [the inventor's]...consent from the acts of: making, using, offering for sale, selling, or importing for these purposes that product”⁹⁷

and; “where the subject matter of the patent is a process, to prevent third parties not having [the inventor's]...consent from the act of using the process, and from the acts of: using, offering for sale, selling or importing for these purposes at least the product obtained directly by that process.”⁹⁸

Along with the Western traditional conception of property exclusivity is the central attribute of patent rights conferred by the TRIPS Agreement.

As a result, TRIPS not only encourages innovation, but also puts into place one particular conception of property privileges, and enforces it across national boundaries. The Agreement makes the protection of

⁹⁶ See discussion below.

⁹⁷ TRIPS, above n1, article 28(1)(a), “Rights Conferred.”

⁹⁸ TRIPS, above n1, article 28(1)(b).

intellectual goods in the forms and categories recognised in Western cultures, a mandatory requirement for nations within the multilateral trading system. The basis of the international economy has been re-ordered, and countries must adopt this new rationale, or at least comply with it, in order to benefit from the new system.⁹⁹

Arguments that base the 'right' of a person to intellectual property based on their expended labour or discovery, not only relate to the utilitarian need to encourage innovation, but to arguments that base entitlement on higher principles, that is, natural law.¹⁰⁰ There are two basic lines of reasoning underpinning the granting of the status of natural right to intellectual property. The first is that the creator has the right of "first occupancy," that the act of discovery or invention in itself gives rise to a moral entitlement to exclusive use. The second is that the person who expends the labour should be morally entitled to the fruits of that labour.

Natural rights theories played a major rhetorical role in the strategy of Western industrial groups trying to get their governments to put intellectual property onto the international trade agenda.

Universalism, which the industrial lobby saw as the primary target of introducing intellectual property into the Uruguay Round Negotiations, is one of the fundamental characteristics of a natural right. If the ability to exclude others from using your intellectual property is an entitlement, rather than a privilege granted by a particular intellectual property regime, that right should not be territorially limited because it does not arise from the positive law of any given sovereign, but from a 'higher order.' The arbitrary fact of where the invention was created should therefore not affect the recognition of a natural right.

By insisting on one single standard for the whole of the global trading community, TRIPS is moving the recognition of intellectual property away from the terms of a privilege granted by individual states where the grant can be limited in terms of subject matter, territory and

⁹⁹ Above n35, 120.

¹⁰⁰ Above n56, 427.

duration, to one where each individual state can focus more closely on the specific goals its intellectual property regime is designed to achieve. The lack of ability to tailor intellectual property systems to a country's particular needs seems more in line with a natural law concept of intellectual property than the economic, utilitarian justifications which are frequently put forward to justify the imposition of TRIPS.

The Agreement contains two clauses which indicate at least some level of natural rights theory implicit within TRIPS. Article 27, Patentable Subject Matter, goes far beyond what many countries consider to be the proper subject of a patent grant. Aside from the exceptions in paragraphs two and three,¹⁰¹ members must provide intellectual property protection for any invention, whether processes or products, in all fields of technology.¹⁰²

Many nations, if they implement an intellectual property system, have exclusions on the nature of patentable subject matter in order to further government objectives and public policy. A 1988 WIPO study showed that the areas most commonly denied patent protection are pharmaceutical products, animal varieties, plant varieties, food products, computer programmes, chemical products and pharmaceutical processes.¹⁰³ Although members may still deny patentability for animal and plant varieties,¹⁰⁴ none of the other products or processes may be excluded from protection, not even to implement potentially vital public policy.

¹⁰¹ "Members may exclude from patentability inventions, the prevention within their territory of the commercial exploitation of which is necessary to protect *ordre public* or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment..." Above n1, article 27(2). "Members may also exclude from patentability: (a) diagnostic, therapeutic and surgical methods for the treatment of humans or animals; (b) plants and animals other than microorganisms, and essentially biological processes for the production of plants or animals..." article 27(3).

¹⁰² TRIPS, above n1, article 27(1).

¹⁰³ See W.I.P.O., Existence, Scope and Form of Generally Internationally Accepted and Applied Standards/Norms for the Protection of Intellectual Property, WO/INF/29 Sept., 1988 GATT Document MTN. GNG/NG 11/W/24/Rev. 1.

¹⁰⁴ See above n17. TRIPS Article 27(2) and Article 27(3).

The broad, mandatory nature of Article 27 points more clearly to a natural rights theory of intellectual property than a utilitarian conception of it. It can be argued that Article 27 has a utilitarian basis, as individual countries may have made mistakes concerning the merits of their public policy, which have now been rectified by the international community. However, this argument is unlikely to be accepted by many developing countries as it is highly patronising and dependent upon the objectivity of those analysing the merits of different states' domestic policy.¹⁰⁵

Another article that seems to embody a natural law conception of intellectual property is Article 33, which standardises the term of patents to a universal 20 year grant. Previously, most countries granted a shorter period of patent protection. Individual members are now excluded from establishing the term of protection on an instrumentalist basis according to the perceived value of a particular class of inventions.¹⁰⁶ A uniform term, irrespective of the impediment to individual members' public policy, fits better with natural rights theory than instrumentalist values.

A section of TRIPS that seems not to be based on a natural law view of intellectual property rights, but on a utilitarian basis, is Article 70, Protection of Existing Subject Matter. Under paragraph 8 of the Article, all members must make available as of the date of entry into force of the Agreement...patent protection for pharmaceutical and agricultural chemical products commensurate with its obligations under Article 27...". What is unusual about these two categories of products is that they must be protected immediately once the Agreement becomes applicable,¹⁰⁷ whereas for all other protectable products and processes, the date protection is to be provided depends on the nature of the state involved.

For other products, any developing country member is entitled to delay for an extra period of four years the date that they must begin to

¹⁰⁵ Above n56, 436.

¹⁰⁶ Above n56, 439.

¹⁰⁷ The Agreement is not obliged to be applied by its members before "the expiry of a general period of one year following the date of entry into force of the Agreement establishing the MTO (Multilateral Trade Organization)." TRIPS Article 65(1).

apply the Agreement.¹⁰⁸ Least-developed country members, “in view of their special needs and requirements, their economic, financial and administrative constraints, and their need for flexibility to create a viable technological base”,¹⁰⁹ do not need to comply with Article 27 for a period of ten years from the date of the application of the Agreement.

By excluding the right to a transitional period to pharmaceutical and agricultural chemical products, TRIPS implies that these products are of such importance that immediate protection must be implemented, even when the products were created prior to their protectability under the positive laws of certain members.¹¹⁰ In this way, the characteristic of universality, thought to be necessary for a natural right, is diminished, at least in respect of subject matter. For an entitlement theory to work, creation and labour should automatically give rise to the right of exclusivity, so that invention should always result in a patent, and the same rules should apply to all patents, regardless of subject matter.

Therefore, Article 70 sits uneasily with Articles 27 and 33. The differentiation of the nature of the protection of pharmaceutical and agricultural chemical products suggests a utilitarian foundation, and the assignment of differing levels of importance to different patent rights. This seems contrary to the main purpose of TRIPS, which is to standardise the international treatment of intellectual property.

However, the distinction is easier to justify if it is assumed that TRIPS rests on a utilitarian basis. The important thing is that *everyone* treats things the same way, not that every single product is given identical protection. The different treatment of pharmaceuticals and agricultural chemicals, especially taking into account the fact that flexibility is allowed in relation to the varying transitional periods given to developing and least-developed countries, suggests that universality, although important, is not necessarily the primary principle upon which TRIPS rests.

¹⁰⁸ TRIPS Article 65(2).

¹⁰⁹ TRIPS Article 66.

¹¹⁰ TRIPS Article 70(8)(ii).

Even though TRIPS itself may be designed on a utilitarian basis, by imposing a single standard upon the whole of the international trading community, it does effectively impose upon non-Western countries the Western 'exclusivity/individual rights' conception of property that necessarily attaches to a regime that gives an individual, exclusive right over intangible goods.

If this is true, putting into place intellectual property legislation in developing countries not sharing this perception of intellectual property will be more problematic than initially expected, as mere legislation cannot change attitudes overnight, and developed countries cannot expect that institutions needed to implement such legislation will suddenly emerge.¹¹¹

It is important that there is some effort made to link intellectual property laws with social realities in developing countries, not only in relation to the different ways that a universal system will effect such countries economically, but so that the cultural differences which affect the understanding of what constitutes property or what may rightly be subject to private ownership, must be taken into account.¹¹²

Although formal compliance will result, in as far as the laws themselves are implemented, so will formal indifference to enforcement and infrastructure. Changing the law will not necessarily change the way that the general public in developing nations, especially those who live outside main centres, conduct themselves. The successful commodification of intellectual goods can only be achieved in a society which is based on this type of individualism.

Until developing societies have reached a point where they have adopted the values that were once imposed on them, the international community may have to come to terms with a persistent level of piracy in the global marketplace.¹¹³ With the introduction of the TRIPS model of intellectual property, governments in developing

¹¹¹ Above n34, 17.

¹¹² Above n35, 115.

¹¹³ Above n35, 141.

countries are faced with the difficult job of overturning their citizens' conceptions of the nature of property, and of the nature of the individual's importance within society. Piracy will not be wiped out with the mere implementation of intellectual property laws. It must be remembered that intellectual property laws are not the cure-all that they are held up to be. There is still a significant incidence of piracy in such strongholds of intellectual property protection as the USA and Europe.

VIII THE POSITION OF INDUSTRIALISED NATIONS

It is undoubtedly advantageous for developed countries to participate in a global intellectual property regime. Their industries can exploit intellectual property rights that must be granted in the markets of the countries that belong to the international trading network. The question therefore is, what are the benefits of the newly imposed TRIPS system for developing nations?

The arguments from developed nations focus on the benefits other states can receive from implementing intellectual property laws of their own, and that developing nations should in fact accept TRIPS not simply because TRIPS had to be implemented if they were to get improved access to the developed world's markets, but because it was in their own best interests to do so.¹¹⁴

A Intellectual Property Protection Laws Make Technology More Readily Available

New technology will not be transferred by its owners unless it can be protected by an intellectual property regime. Technological firms are reluctant to send their products into nations that will not grant intellectual property protection, as they can be reproduced by 'pirates,' who, because of much lower costs of reproduction technology, will be able to put the same product out on the market for a much lower price. This disadvantaged position that inventors almost invariably suffer means that they will not bother to introduce their

¹¹⁴ Above n47, 167.

product, as they are unlikely to recoup their costs due to the unfair competition.¹¹⁵

As a result, new high-tech products and information will not be as readily available in states which do not protect intellectual property. The more highly advanced a new invention is, the less likely it is to be introduced into a non-patent granting state. The higher the research and development costs of a product are, the greater the cost discrepancy between the 'genuine' invention and the 'pirated' invention, and the more the developer has to lose.

Related problems could include situations where the export markets of non-protecting countries could be affected as countries with intellectual property protection may forbid the importation of patent-infringing products, and the active retaliation by intellectual property states through the WTO dispute resolution mechanism.¹¹⁶ It is unlikely that foreign firms will want to develop facilities in a certain state if the goods produced there are only good for a single market. A facility can produce for the international market only if its goods do not infringe the intellectual property laws of the market countries.¹¹⁷

B Technology Which is Better Suited to Developing Nations Will be Produced

Products geared especially for conditions in developing countries will not be produced by Western nations. The products needed by developing countries are not necessarily the same as those required by developed nations.

Firms producing goods for a variety of different markets need an incentive to make further improvements or adaptations to their product so that it better meets the requirements of people living in a particular environment. If they are likely to lose money on a product in a certain market, there is little reason to introduce it into that

¹¹⁵ Above n9, 92.

¹¹⁶ This, however, is not an inherent advantage of supplying intellectual property protection, but an effect of the new intellectual property regime. See above n44, 709.

¹¹⁷ Above n47, 176.

market, let alone to invest money making it more appropriate for that market. Pirating may appropriate the technology, but not necessarily the right technology for that environment.

C *Indigenous Industry in Non-protecting Nations will Suffer*

Non-protection would have a chilling effect on local industry, especially in relation to the development of indigenous technological capacity. The lack of patent protection would discourage original works because of the fear that patent infringers would prevent recouping of invention costs. As a result, scientists and engineers would be more likely to leave that country, in search of better intellectual property protection. Total technological and scientific dependence on other nations would be the likely outcome.¹¹⁸

Even assuming technology would be transferred to a non-protecting country, this by itself may not be of much use to a country seeking to increase its indigenous technology base. The information needed, not merely to reproduce a product, but to improve on it, learn from it, and alter it to suit local conditions, may not be apparent on its face, and often is not found in the patent application itself.¹¹⁹

The best way to gain access to information is education. Locals need to work for an institution that allows them access to technological information, such as a technologically sophisticated business, a university or other institution involved in advanced scientific research.¹²⁰ If there are no indigenous institutions that fit this description, local technological culture can be developed by attracting foreign high-technology firms.¹²¹ Otherwise, the state will have to develop its own technological capacity without sharing in the existing pool of globally available scientific knowledge, and the domestic economy becomes isolated from the international economy, denying its citizens the advantages that the international exchange of goods and services can provide.¹²²

¹¹⁸ Above n44, 709.

¹¹⁹ Above n47, 172.

¹²⁰ Above n47, 173.

¹²¹ Above n47, 174.

¹²² Above n47, 176.

Foreign firms can be brought in by laws that protect them from employees who leave these firms and use the technological insight they gained there in independent, competitive businesses. Without them, there will be no employment for technologically sophisticated nationals, and no incentives for such nationals to become involved in scientific careers.

Some of the manufacturing steps which add the most value to a product are less likely to be performed in a nation with weak patent protection.¹²³ If it is made in such a country, there is no incentive to make improvements, as a pirate competitor could just steal it, and if manufacturing improvements are not made, a product which might have become improved or reduced in price, is not.

Additionally, if a country does not offer patent protection, if, despite the odds, local industry does become the source of innovation, that country runs the risk that its inventions will not be eligible for patent protection in other states, and its industry will suffer the same losses that it has caused other more developed states.¹²⁴

D Developing Countries will Pay Less for Patented Products Anyway

The ability of the owners of intellectual property rights to charge for the use of their patents, either through royalties or end product prices is constrained by the ability of the country granting patent rights to pay.¹²⁵ Poor countries will pay less for the use of patent rights, and so the owner of the patent will have to set the price proportionately lower than it would be in wealthier countries.

¹²³ Above n9, 93.

¹²⁴ See TRIPS, above n1, article 1(3). "Members shall accord the treatment provided for in this Agreement to the nationals of all other Members." However, this is more due to the existence of TRIPS itself, than a fundamental consequence of the lack of patent protection. For example see article 3(1)- "Each Member shall accord to the nationals of other Members treatment no less favourable than that it accords to its own nationals with regard to the protection of intellectual property..." National treatment was required before TRIPS. The usage of both principles relies on a state being a party to TRIPS.

¹²⁵ Above n47, 177.

On top of the benefits to developing nations, the international community as a whole benefits from minimum standards of intellectual property protection, as the free-rider disincentives to innovate are eliminated from all markets, increasing the supply of inventions.¹²⁶ In other words, the justification of intellectual property regimes in a domestic environment also operates on a world-wide scale.

For example, in relation to pharmaceuticals, the dilemma for the pirating nations of the third world is whether to leave the cost of development of new, and potentially vital, drugs to the developed world, and thereby make currently available pharmaceuticals cheaper for their own citizens, or to provide patent protection, and avoid the disincentive that would otherwise occur. If free riders are prevented from copying, the incentive to invest in development is protected.

An international patent system therefore is justifiable if the ratio of patent induced inventions to non-patent induced inventions is high enough to ensure an overall benefit to the international community.¹²⁷ Is the recognition of further nations of intellectual property 'rights' actually a greater incentive to produce? Will this marginal increase in incentive result in an equivalent increase in investment in research and development? Will the global community actually benefit from new products that would otherwise not have come into being?¹²⁸

IX THE RESPONSE OF THE DEVELOPING NATIONS

The third world argues that the imposition of minimum intellectual property standards disadvantages the poorer citizens of the international community. There are three main arguments made by lesser developed nations supporting their weak intellectual property protection.¹²⁹ Firstly, lack of intellectual property protection saves a country money. Secondly, it promotes local industry. Thirdly, lack of intellectual property protection helps developing countries acquire

¹²⁶ Above n83, 379.

¹²⁷ Above n56, 443.

¹²⁸ Above n56, 443-444.

¹²⁹ Above n44, 711.

new technologies, lessening third world dependency on industrialised countries. Most of these propositions are in direct contrast with assertions made by the nations of the developed world.

A Countries Save Money by Refusing to Protect Intellectual Property

If the grant of patent monopolies was non-compulsory, the cost of acquiring and introducing new technology into developing nations would be lower, making technology cheaper and more accessible to the citizens of the third world.¹³⁰ Having no patent system is a good way to enjoy the technology of other states without having to pay for research and development yourself, especially if the other states still grant patents to your nationals.¹³¹

A counterargument to this is that it is based on a false assumption. Monopoly 'rents' -that is the difference between what the public is willing to pay for the invention, and the higher price that is actually charged so that development costs can be recouped by the inventor¹³²- are included in the price charged by patent holders; if patents were abolished, then costs would decrease as the monopoly rent will no longer be part of the price.

Is this a false assumption? Perhaps not, although pirates may charge the same price as the owners of intellectual property rights, they are unlikely to, because when 'genuine' and pirated goods are competing in the same markets, the pirates will want, and be able to price themselves more competitively than other products, as a 'rent' does not have to be charged. To make their argument, the developed world needs to prove that if the citizens of developing countries were

¹³⁰ Above n9, 92. This is of course assuming that the arguments of developed nations were incorrect, and that technology would reach countries that offered little or no intellectual property protection.

¹³¹ For example, when Switzerland and the Netherlands had no patent laws (1869-1912 in the Netherlands, and 1850-1907 in Switzerland), Dutch and Swiss nationals were able to apply for patents in other countries, which they did in significant numbers. There seemed to be no decrease in the amount of creative and innovative output during these periods. See above n47, 170-171.

¹³² Above n56, 445.

prevented from buying cheaper, pirated products, they would still want to, and be able to, purchase the item at its full retail price.¹³³

Developing countries who do grant patent protection usually suffer from an initial drop in the number of products on the market, and then from a subsequent increase in price. In the case of pharmaceuticals, and biotechnical products, these items are ones that are often necessary for the health and social welfare of their citizens.

Of course, this argument is based on the premise that intellectual property necessarily creates monopoly rents. This may not be so for all products, but in the biotechnology and pharmaceutical industries, where research and development costs are often enormous, inventors will, out of economic necessity, be forced to charge intellectual property 'rent' or risk making a loss once their product is in the market.¹³⁴

B Non-protection Promotes Local Industry

Patents are granted primarily to foreigners.¹³⁵ A fundamental difference between developed and lesser-developed countries is that the latter do not generally have the history of intellectual property protection that developed nations do. As a result, these systems are perceived as running contrary to their own legal histories and being imposed primarily to safeguard foreign interests at the expense of their own citizens.

Domestic innovation in a country that does not have an advanced technological infrastructure, and does not have the vast amount of investment capital behind it that western industries do, is often limited

¹³³ Above n34, 12.

¹³⁴ This argument does reinforce the premise put forward by developed nations that weak or non-existent intellectual property protection in a particular country makes it unlikely that inventors will introduce their products into that domestic market, as they are unlikely to recoup their development costs if their product is in competition with pirated goods which can price themselves more competitively. However, the non-inclusion of rent would make products more cheaply available.

¹³⁵ K Paterson "Recent Intellectual Property Trends in Developing Countries" (1992) 33 Harvard Int'l LJ 277, 280.

to making incremental changes to existing technology. Few of these products would meet the standards of novelty or non-obviousness required by TRIPS.¹³⁶

The beneficiaries of intellectual property protection are developed nations, as it is largely foreign investors to whom patents are granted, those producing more protectable goods as a result of their more advanced technical knowledge, and the greater amount of capital which they are able to dedicate to scientific research. The costs of the of intellectual property laws are borne by domestic consumers, and the governments which have to implement them.

Having intellectual property owned by foreign firms prevents domestic industry using this technology, whereas piracy stimulates domestic production, enhancing competitiveness and economic development.¹³⁷

The developed nations' argument that technology is unlikely to be worked in a country that does not protect the inventor's right to exclusive use, is based on an assumption that patent owners are willing to transfer the necessary technology to that country in the first place. However, the primary motive for obtaining patent rights in developing countries is not so that the product can be protected while it is being manufactured in that country, but to preserve a potentially important market by means of a patent.¹³⁸ Technology will only be locally worked if this confers some economic benefit on the manufacturer, such as cheaper labour costs, readily available local materials or an advantageous local market size.

The non-recognition of intellectual property rights seems to be more of a growth stimulus than their recognition, however. For example, Japan and China have experienced rapid economic growth, because at particular stages of their industrial development they liberally made unauthorised use of the technology of other countries. Additionally,

¹³⁶ D Brenner-Beck "Do As I Say, Not As I Did" (1992) 11 UCLA Pac. Basin LJ 84, 97.

¹³⁷ Above n135, 280.

¹³⁸ Above n56, 451.

the same could be said of America, where the same thing was done in the 19th century.¹³⁹

C *Lack of Intellectual Property Protection Helps Developing Nations Acquire New Technologies*

It is difficult to see how developing nations will benefit from TRIPS, unless its implementation results in an increased investment and technology transfer to them. There is no proven relationship between the strength of intellectual property protection in a country and direct investment.¹⁴⁰ TRIPS assumes that developing countries are *consumers* of technology, as it protects an import monopoly for patent holders, who overwhelmingly tend to be citizens or corporations from industrialised nations, but contains little incentive for local working or adaptation for the local market.

The protection of foreign intellectual property prevents the acquisition of technology by developing countries, and therefore there should be a freedom to copy needed products. The need for ready access to patented goods, at lower prices, makes intellectual property protection a burden on development. Developing countries do not want to allocate scarce resources to the implementation and enforcement of intellectual property laws.

Developing countries want the right to grant the local firms of their choice the right to use foreign patents which have not been 'worked' in their jurisdiction within a specified period of time. There is the fear also that foreign companies will exploit citizens by charging full prices for goods made elsewhere, while preventing similar goods from being locally produced.¹⁴¹

The above argument is based on the assumption that all worthwhile technology comes from outside a country, and the non-protection of

¹³⁹ Above n34, 16.

¹⁴⁰ Above n56, 459.

¹⁴¹ MA Leaffer "Protecting United States Intellectual Property Abroad: Toward a New Multilateralism" (1991) 76 Iowa L Rev. 273, 286.

intellectual property will make the technology available to the appropriate groups.¹⁴²

The conclusion is that it is not in the interests of developing nations to adopt an intellectual property regime. What is needed is not a strict minimum standard of patent protection, but intellectual property systems that are more flexible, and that stimulate domestic industries and investment in sub-patentable innovation at a local level, so that technological infrastructure can reach a stage of development where intellectual property protection is in fact economically feasible.¹⁴³

D Are These Countries Really Free-riders?

The need for flexibility is especially compelling when it cannot be proven, in relation to a particular country, that the underlying purpose for adopting an intellectual property regime is being achieved. Are new products being created through the additional incentive created by the expansion of patent protection to the entire global marketplace? If a country did not provide any incentive for the production of goods in the first place, how can that country be described as a free rider?

If the domestic market of a developing country played no part in an inventor's decision to create a product, the profit and control which he or she expected to receive for and over that product was not calculated with that country in mind, and should not necessarily become part of the profit equation after the fact of invention. Marginal countries, by offering intellectual property protection in order to comply with the WTO are paying for products that they otherwise would have had free.¹⁴⁴

E How to Make 'Incentive' More Effective in Developing Countries

One solution may be to decrease the scope of patent protection guaranteed by TRIPS. The broader the scope of intellectual property

¹⁴² Above n44, 712-713.

¹⁴³ Above n83, 372.

¹⁴⁴ Above n56, 445.

protection, the less incentive there is to make improvements on a product.¹⁴⁵ That is, it becomes more difficult to 'invent around' a patent. A world-wide market would provide greater incentive if products could be adapted slightly to suit the needs of citizens in different countries.¹⁴⁶ Then the patent protection offered by developing countries would more likely be a source of incentive to product developers.

However, 'adapted' inventions will not be protected under the TRIPS Agreement, even though consumers of pharmaceutical products in particular, would benefit from a more flexible system which allowed scientists to adapt an already patented drug to meet the health conditions of a different climate and receive a patent for the adapted or improved product.

Patents granted on pharmaceutical products tend to be unusually strong, however, and are often difficult to 'invent around' as patents can be granted for an actual molecule, including its analogs, so that the patent gives exclusive control over the molecule's recognised functional equivalents.¹⁴⁷ To truly make the most of the potential incentives that TRIPS could provide for inventors, the scope of patent protection should be drawn more narrowly, so that there would be a race to improve existing products, and so products would be tailored for different markets.

If this is not done, TRIPS merely ensures that the high-technology corporations of the West obtain the maximum profit from their research and development. Fair enough, but when there are only two globally accepted justifications for protecting intellectual property, scientific development and ensuing economic gain, if the protection of patents by developing countries neither provides an incentive for production, nor provides them with any economic benefit, it looks as

¹⁴⁵ Above n56, 447.

¹⁴⁶ For example, in Japan, where patent protection has traditionally been very narrow, once a patent was filed, it was common practice for competitors to begin to develop improvement products and to file patent applications on these improvements. See above n56, 447.

¹⁴⁷ Above n56, 447.

if Western rights theories are being imposed through a trade mechanism.

X THE TRIPS PARADIGM EXCLUDES THE TYPE OF 'TECHNICAL KNOWLEDGE' USUALLY POSSESSED BY DEVELOPING COUNTRIES

The motivations behind developing countries' increasing acceptance of the concept of 'intellectual property' and property rights in biological material are different from those of the developed nations.

A *Current interest in Indigenous Knowledge*

Industrial research by pharmaceutical interests has been recently increasingly focused on rain forests and natural resources, typically sourced from third world countries, for basic production materials. 'Natural' pharmaceuticals, such as medicinal plants, are of new importance due to two factors. The yield of synthetic chemistry is decreasing, as the molecules which are easiest to synthesise and reproduce have already been created and tested. Additionally, advanced research into plant materials has become more viable, as new techniques in molecular biology allow more efficient screening of plant matter.¹⁴⁸

Accompanying this attention to natural sources for pharmaceuticals, is a new interest in indigenous traditional knowledge as to possible uses for these materials. This traditional knowledge, which is of increasing importance to the development of new products, is not covered by the TRIPS Agreement.

B *This Knowledge is not Protectable under TRIPS*

In recent years it has been suggested that intellectual property rights relating to products developed in reliance on indigenous knowledge be shared with the governments or citizens of that country.¹⁴⁹ The

¹⁴⁸ Above n135, at 282.

¹⁴⁹ See MJ Huft "Indigenous Peoples and Drug Discovery Research: A Question of Intellectual Property Rights" (1995) 89 NW Uni. L. Rev. 1678, 1685.

problem arises due to the fact that knowledge of this kind is difficult to fit within the standard categories of Western intellectual property, or meet its requirements. For example, indigenous knowledge often belongs to a group, rather than an individual or a corporation and is generally not patentable. In contrast to the inventions of a commercial or academic research unit, the cultural knowledge of a tribal or indigenous group is not patentable, as it is considered public knowledge.¹⁵⁰ Under Article 27 of the Agreement, traditional indigenous knowledge would have difficulties in that it is not "new".

For example, one patent which caused major controversy was for the natural pesticide obtained from the seeds of the Neem tree, which is native to India and Burma. Indians have traditionally used the Neem seeds as an antiseptic and an insect-repellant. In the 1980's, the agricultural chemical company W.R. Grace began investigating the potential of azadirachtin, the pesticidal substance extractable from the Neem seeds.¹⁵¹

Grace's problem was how to obtain a patent for such a pesticide. The complex chemical structure of azadirachtin meant that the traditional methods of avoiding the natural substance exception in patent law, such as producing a synthetic substitute or purification, were unavailable for economic reasons. Instead, Grace focused on ameliorating azadirachtin's major weakness, its instability in solution. In 1989, Grace obtained a patent detailing how, if the pH of azadirachtin was adjusted in an aqueous ethanol solution, its stability increased dramatically.¹⁵²

One of the main grounds on which Indian nationals opposed the grant of this patent was the fact that the subject matter was not novel, as its use as a pesticide was already known by Indian farmers. However, the stabilization of the azadirachtin was found to be sufficiently novel to meet the requirements of American patent law, as increasing the storage life of the pesticide once it had been removed from its natural

¹⁵⁰ Above n135, 285.

¹⁵¹ Above n9, 88-89.

¹⁵² Above n9, 89.

source, made the product useful to western farmers, who were unable to obtain fresh Neem seeds.¹⁵³

The governments of the developing world are increasingly aware of the value of their genetic resources, and are taking steps to ensure that what they perceive are their rights are protected. For example, the *Manila Declaration Concerning the Ethical Utilisation of Asian Biological Resources* was produced by scientists from 38 countries attending a symposium in the Philippines.¹⁵⁴ The Declaration states that developing countries, as well as being the source of many of the natural ingredients used in drugs, often provide the key to the proper and full exploitation of these resources, namely, their national traditional knowledge. Developing countries maintain the role of this knowledge has been insufficiently recognised, and the current methods of exploitation of both local resources and knowledge are inequitable, and favour industrialised countries.

Traditionally, indigenous people did not view their knowledge in terms of property at all, but its increasing exploitation by the nations of the developed world has resulted in demands for compensation,¹⁵⁵ usually in the form of intellectual property rights. The problem however, is bringing indigenous expertise within a model developed exclusively in the countries of the West, and based on an entirely different conception of what property actually is.

XI PIRACY CAN EVENTUALLY MAKE PATENT PROTECTION PROFITABLE FOR DEVELOPING COUNTRIES

The benefits that can be gained from intellectual property protection often depend on a nation's state of development. As a nation advances technologically, it reaches a threshold where the long term costs of non-protection¹⁵⁶ begin to be outweighed by the benefits a patent system can bring.¹⁵⁷ It is only the fact of a developed

¹⁵³ Above n9, 90.

¹⁵⁴ The Seventh Asian Symposium on Medicinal Plants and Spices (ASOMPS VII). See above n149, 1692.

¹⁵⁵ Above n149, 1694.

¹⁵⁶ The short term benefits of piracy are not really in any doubt.

¹⁵⁷ Above n136, 102.

infrastructure that allows a country to benefit from intellectual property protection .

The advantages of intellectual property systems, espoused by the developed nations of the world, such as technology transfer, increased foreign investment in a country's production industries and increased incentive for domestic innovation, are not just dependent on a system of intellectual property being put into place. A country will also need an educated workforce, developed roads, and an advanced communications network, as this will be just as, if not more attractive, to those individuals and corporations, both foreign and domestic, who wish to become involved in technological production and innovation within that country.

The question now becomes, does an intellectual property regime help or hinder a developing country when it is attempting to develop this initial infrastructure? Is a country more likely to reach a high level of technological development with or without intellectual property protection? The development of a country's scientific infrastructure to the stage where it will be able to benefit from intellectual property laws is often reached with the help of non-protection, that is, piracy.

A The Indian Example

An example of how piracy can lead to a more advanced level of technological development within a country is the Indian treatment of pharmaceuticals. After India became independent in 1947, reviews were made of its patent system, and whether or not it was operating in the best interests of the Indian public.¹⁵⁸ It was discovered that 80-90% of patents granted were held by foreigners, and that more than 90% were not worked in India itself.¹⁵⁹ Vital industries like food, chemicals and pharmaceuticals were being monopolised by foreign interests, who were pricing these goods at levels virtually unaffordable to local consumers.

¹⁵⁸ MJ Aldelman & S Baldia "Prospects and Limits of the Patent Provision in the TRIPS Agreement: The Case of India" (1996) 29 Vand J Transnat'l L 507, 518.

¹⁵⁹ Above n158, 518.

As a result of these investigations, when India passed its 1970 amendment of the Patents Act,¹⁶⁰ it was different from previous intellectual property legislation, modeled on English intellectual property regulations in that it was not only designed to encourage innovation, but “to secure that the inventions are worked in India on a commercial scale”¹⁶¹ and that patents were “not granted merely to enable patentees to enjoy a monopoly for the importation of the patented article.”¹⁶²

What was arguably the most fundamental change brought about by this amendment was the abolition from Indian law of the patent protection of food, medicines, drugs or any substance produced by a chemical process.¹⁶³ As a result, the Indian pharmaceutical industry has seen one of the most rapid growth rates since independence. It has leapt from producing c. 100 million rupees in 1947 to 70 billion rupees in 1994-1995.¹⁶⁴ The 100 million rupees from 1947 was basically generated by the processing and compounding of imported drugs for making formulations. This is no longer the case, as Indian-manufactured drugs not only dominate the domestic market, but are fiercely competitive internationally as well.

This expansion is the direct result of the protection that Indian pharmaceutical producers have been given by their government against foreign competition.¹⁶⁵ The patent scheme, in particular has shifted the balance in favour of domestic manufacturers. Indian corporations had access to foreign pharmaceutical inventions, could then re-engineer them, and sell them in the domestic market.¹⁶⁶ Not only did this make locally produced goods extremely competitive price-wise, it encouraged the development of technological skills, such as process-engineering, for Indian nationals, and the

¹⁶⁰ The Patents Act, 1970, No. 39 (1970) (India).

¹⁶¹ The Patents Act, above, section 83(a).

¹⁶² The Patents Act, section 83(b).

¹⁶³ However, process claims covering methods of their manufacture were still patentable. See section 5(a) and (b).

¹⁶⁴ Above n158, 525.

¹⁶⁵ Such as high tariffs, regulatory controls, foreign equity restrictions, price controls, and virtually no patent protection.

¹⁶⁶ Above n158, 527.

establishment of a complete domestic pharmaceutical manufacturing capability.

Additionally, the strength of the competition between domestic producers forced Indian producers to look to the export market, where Indian pharmaceutical products became very competitive.¹⁶⁷ This fierce competitiveness is mainly due to the low expenditure by Indian companies on research and development.¹⁶⁸

While the question could be asked: what has India contributed to the development of new drugs, and the advancement of pharmaceutical knowledge in general, this is perhaps not the point. The point is that India is now in a position where it can make such contributions, whereas if it had not protected its pharmaceutical industry through the non-protection of pharmaceutical patents, it would have not, either now or previously, been in a position to do so.

Today, Indian pharmaceutical manufacturers are beginning to move away from the mass production of more generic drugs and increasing their involvement in the research and development of new products. This is mainly being done through joint ventures with major foreign companies, who, have been brought in by the technological capabilities of Indian manufacturers, and the strength of their domestic scientific infrastructure, rather than their intellectual property laws.

India is now in a position where it can benefit from the strong patent protection standards that it must impose under the TRIPS Agreement. It is attracting a lot of foreign investment, and its producers are putting increasing focus on diseases of local importance. However, it would probably not be able to do these things if it had not, for a substantial amount of time, protected its manufacturers and consumers, through the non-protection of patents.¹⁶⁹

¹⁶⁷ In the last ten years, the Indian pharmaceutical export market has been growing at c. 35% annually. See above n158, 527.

¹⁶⁸ Above n83, 379.

¹⁶⁹ This argument, from the opposite perspective, could be made about the Italian pharmaceutical industry. It implemented strong intellectual property protection regulations

B The Effect of Patent Protection on a Country Depends on its Level of Development

The imposition of intellectual property laws will affect different countries differently. Developing countries can be placed into three broad categories, which will arguably determine the desirability of intellectual property protection :¹⁷⁰

1 Newly industrialised countries

Countries such as the Republic of Korea, Singapore Taiwan, Hong Kong and Thailand have experienced rapid growth in their export of technological and electronic products -the result of a relatively high inflow of investment capital and technology transfer.

2 Larger developing countries

These larger countries have experienced fairly high levels of technology transfer, both from international corporations and from licensing of foreign technology by nationally-owned enterprises, including state-owned corporations. Examples include Argentina, Brazil, China, India, Indonesia and Mexico.

3 Smaller developing countries

Other developing countries which do not fit within the two previous categories have had relatively limited technology transfer and absorption. These are the countries most unlikely to benefit from the imposition of intellectual property laws, as the chances for foreign investment, technology transfer and local innovations that are able to be protected by patents, become more limited the less technologically developed a country is in the first place. The first two groups of countries are in a better position to benefit, as they already have relatively advanced technological infrastructures in place.

in 1978, and so far has failed to attract the same amount of foreign investment interest that India has. See above n83, 380.

¹⁷⁰ Above n44, 710.

Although standardisation of intellectual property laws has the advantage of uniformity and therefore certainty, it prevents reform and adaptation of intellectual property laws on an individual basis with a view to what will most benefit a particular nation. The concerns of countries of more or less equal development status are being met by the TRIPS Agreement.¹⁷¹

XII CONCLUSION

Although the Agreement on the Trade Related Aspects of Intellectual Property Rights is at first glance lacking in obvious 'norms' in relation to the imposition of intellectual property rights, it is in fact a normative, Western document. It was introduced by Western governments, and is modeled on legislation from industrialised nations. The normative nature of the Agreement is more apparent, when the failure of its economic justifications in relation to many WTO members is observed, and its incapability of protecting common types of intellectual property, such as indigenous tribal knowledge found in developing countries, while it protects information that only developed countries have traditionally acknowledged as 'protectable'.

TRIPS is seemingly justified on economic terms, but it only delivers benefits to countries in a relatively advanced stage of scientific and economic development. For those countries who have not yet reached this stage, the justifications for imposing TRIPS in the first place begin to break down. Should a global system have been imposed if it only benefits a certain type of country?

Lesser-developed nations need access to Western intellectual goods for their development, and to have stringent standards of patent protection imposed on them may be debilitating. However, intellectual property protection issues cannot be ignored by the international community. If creators do not recover their investment

¹⁷¹ Above n71, 133.

costs, the goal of free trade is undermined, as the result is lower production and fewer trading opportunities.

To be effective, TRIPS must try to reconcile the needs of both industrialised and developing nations. Arguably, TRIPS could be more inclusive of the needs of a greater number of nations if its scope of the protection was narrowed. This would increase the amount of incentive it provides, as well as establishing a lower threshold which could be more easily reached by producers in developing countries, and would enable manufacturers to 'adapt' products for the markets of developing countries.

If TRIPS is not made suitable for all members of the WTO it risks being viewed as a mechanism created to prevent competition by low-cost local producers, rather than being designed to prevent trade distortions.

20. ...

21. ...

22. ...

23. ...

24. ...

25. ...

26. ...

27. ...

28. ...

29. ...

30. ...

31. ...

32. ...

33. ...

34. ...

35. ...

36. ...

37. ...

38. ...

39. ...

40. ...

41. ...

42. ...

43. ...

44. ...

45. ...

46. ...

47. ...

48. ...

49. ...

50. ...

51. ...

52. ...

53. ...

54. ...

55. ...

56. ...

57. ...

58. ...

59. ...

60. ...

61. ...

62. ...

63. ...

64. ...

65. ...

66. ...

67. ...

68. ...

69. ...

70. ...

71. ...

72. ...

73. ...

74. ...

75. ...

76. ...

77. ...

78. ...

79. ...

80. ...

81. ...

82. ...

83. ...

84. ...

85. ...

86. ...

87. ...

88. ...

89. ...

90. ...

91. ...

92. ...

93. ...

94. ...

95. ...

96. ...

97. ...

98. ...

99. ...

100. ...

BIBLIOGRAPHY

Articles

- MJ Adelman and S Baldia "Prospects and Limits of the Patent Provision in the TRIPS Agreement: The Case of India" (1996) 29 Vand. J Transnat'l L. 507.
- WP Alford "How Theory Does -And Does Not- Matter: American Approaches to Intellectual Property Law in East Asia" (1994) 13 UCLA Pac. Basin LJ 8.
- CAP Braga "The Economics of Intellectual Property Rights and the GATT: A View from the South" (1989) 22 Vand. J Transnat'l L. 243.
- D Brenner-Beck "Do As I Say, Not As I Did" (1992) 11 UCLA Pac. Basin LJ 84.
- JH Burton "Patenting Life" (1991) 264 Scientific American 18.
- AE Carroll "Not Always the Best Medicine: Biotechnology and the Global Impact of US Patent Law" (1995) 44 Am. UL Rev. 2433.
- "Compliance with the TRIPS Agreement: Introduction to a Scholarly Debate" (1996) 29 Vand. J Transnat'l L. 363.
- P Culbert "Biotechnology Inventions and the Morality Exclusion in Patent Law" LLM Research Paper (Laws 546), Law Faculty, VUW, 1994.
- L Daniels "Commercialization of Human Tissues: Has Biotechnology Created the Need for an Expanded Scope of Informed Consent?" (1990) 27 Cal. W.L. Rev. 209.
- R Dhanjee & L Boisson de Chazournes "Trade Related Aspects of Intellectual Property Rights (TRIPS): Objectives, Approaches and Basic Principles of the GATT and of Intellectual Property Conventions" (1990) 24 J of Wrld Trade 5.
- R Dresser "Ethical and Legal Issues in Patenting New Animal Life" (1988) 28 Jurimetrics J. 399
- G Dworkin "Moral Rights and the Common Law Countries" (1994) Aust. IP J. 5.

- C Edgar "Patenting Nature: GATT on a Hot Tin Roof" (1994) 34 Washburn LJ 76.
- RS Eisenberg "Proprietary Rights and the Norms of Science in Biotechnology Research" (1987) 97 Yale LJ 177.
- RM Gadbow "Intellectual Property and International Trade: Merger or Marriage of Convenience?" (1989) 22 Vand. J Transnat'l L. 223.
- RL Gana "Has Creativity Died in the Third World? Some Implications of the Internationalization of Intellectual Property" (1995) 24 Denv. J Int'l L & Pol'y 109.
- G Garcia "Economic Development and the Course of Intellectual Property Protection in Mexico" (1992) 27 Tex. Int'l LJ 701.
- DF Greer "The Case Against Patent Systems in Less-Developed Countries" (1973) 8 J. Int'l L. & Econ Dvlpmt 223.
- MS Greenfield "Recombinant DNA Technology: A Science Struggling with the Patent Law" (1992) 44 Stanford L Rev. 1051.
- MA Hamilton "The TRIPS Agreement: Imperialistic, Outdated and Overprotective" (1996) 29 Vand. J Transnat'l L. 613.
- MJ Huft "Indigenous Peoples and Drug Research: A Question of Intellectual Property Rights" (1995) 89 NW Uni. L. Rev. 1678.
- EW Kitch "The Patent Policy of Developing Countries" (1994) 13 UCLA Pac. Basin LJ 166.
- MA Leaffer "Protecting United States Intellectual Property Abroad: Toward a New Multilateralism" (1991) 76 Iowa L. Rev. 273.
- R Nott "Patent Protection for Plants and Animals" [1992] 3 EIPR 79.
- AS Oddi "TRIPS- Natural Rights and a 'Polite Form of Economic Imperialism'" (1996) 29 Vand. J Transnat'l L. 415.
- K Paterson "Recent Intellectual Property Trends in Developing Countries" (1992) 33 Harv. Int'l LJ 277.
- RT Rapp & RP Rozek "Benefits and Costs of Intellectual Property Protection in Developing Countries" (1990) 24 J of Wrld Trade 75.

- RM Sherwood "Patent Protection in the Pharmaceutical Industry" (1993) 8 Fla J. Int'l L. 255.
- H Ullrich "TRIPS: Adequate Protection, Inadequate Trade, Adequate Competition Policy" (1995) 4 Pac. Rim L & Pol'y J. 153.

Texts

- FK Beier & G Schricker (eds) *GATT or WIPO? New Ways in the International Protection of Intellectual Property* (Max Planck Institute for Foreign and international Patent, Copyright and Competition Law, Munich, 1989).
- RS Crepsi *Patenting in the Biological Sciences* (John Wiley & Sons, New York, 1982).
- RS Crepsi *Patents: A Basic Guide to Patenting in Biotechnology* (Cambridge University Press, Cambridge, 1988).
- RH Folsom & JH Minan (eds) *Law in the People's Republic of China* (Kluwer Academic Publishers, Netherlands, 1989).
- F Vogel & R Grunwald (eds) *Patenting of Human Genes and Living Organisms* (Springer, Berlin, 1994)
- ES Yambrusic *Trade Based Approaches to the Protection of Intellectual Property* (Oceana Publications, USA, 1992).

Other Publications

- US Congress, Office of Technology Assessment *International Property Rights in an Age of Electronics and Information* (US Government Printing Office, Washington DC, 1986).

VICTORIA
UNIVERSITY
OF
WELLINGTON

A Fine According to Library
Regulations is charged on
Overdue Books.

LIBRARY

LAW LIBRARY

VICTORIA UNIVERSITY OF WELLINGTON LIBRARY



3 7212 00494837 6

r Duncan, Catriona J
Folder The Agreement on
Du Trade-Related
Aspects of
Intellectual
Property Rights

