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Patents and Development

Lessons Learnt from the Economic History of Switzerland

Richard Gerster

TWN
Third World Network

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CONTENTS

1. Introduction 1

2. The Purpose of the Patent System 3

3. Economic Miracles Without Patents 5
   "Pirate State" 6

4. Pressure on the South 8
   Price of refusal 9

5. Loss of National Sovereignty Due to TRIPS 11

6. The Indian Success Story 13
   Access to drugs 14

7. Patents on Life-Forms? 16

8. Playing Poker over Patents on Plants 18

9. The Role of Switzerland 22
   People's initiative 23

10. Conclusions and Suggestions 25

Bibliography 27

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1 Introduction

A **PATENT** is a statutory grant which confers on an inventor or his legal successor the right to exclude others from using the invention. Patents have a limited duration, usually a period of at least 20 years. The granting of a patent is conditioned on novelty, a minimal degree of inventive ingenuity, and the industrial applicability of an invention. The patent as a legal right is not to be confused with a printed patent specification or with a particular invention.

Inventions, such as the zipper, for example, are characterised by certain technical procedures or processes that are widely repeatable. Discoveries, by contrast, permit a better understanding of existing natural phenomena that came into existence independent of human activity. Because no patent protection is granted to discoveries, there is a need to draw clear legal boundaries. In reality, however, a certain arbitrariness is involved, as the difference between inventions and discoveries is not always clear.

One amusing example is that of a group of experts commissioned by the Federal Council of Switzerland, who declared in 1883 that modern developments in chemistry constituted discoveries, and were therefore not patentable (BBl 1886 III 1185; Gerster 1980, 17). Today, of course, no one in the field of chemistry would advance such an argument. On the other hand, analogous questions have now arisen in the field of gene technology.

The patent system is frequently characterised as an entirely self-evident proposition. Yet it must not be forgotten that the concept of patents arose within Western culture, and that other cultures have different ideas

about rights and ownership. In traditional Chinese culture, for example, imitation was the highest compliment an artist could receive. In ancient Java (Indonesia), exclusive rights – such as those guaranteed under patent law – were not permitted, as Javanese culture placed a higher value on the community than the individual.

In a law of 1810, the Austrian government reserved the legal right to decide in certain cases whether "the natural right to copy" (Gerster 1980, 13) should be restricted. At the turn of the millennium, the widespread and heated debate on patenting life forms demonstrates anew how strongly patents and social values are interlinked.

A patent constitutes a form of **monopoly**. By excluding third parties from commercial exploitation of a patented invention, the patent establishes legal barriers to production and importation; consequently, it is incompatible with freedom of trade and commerce. The concept of the patent grossly contradicts contemporary ideas about competition and the market economy. This explains why many liberal advocates of free trade opposed the introduction of patents during political debates on the issue in the 19th century.

The victory of the pro-patent forces at that time was a victory for protectionism (Machlup/Penrose 1950). Even in this century liberal thinkers such as Wilhelm Röpke expressed critical and sometimes negative views on patent protection (Röpke 1942, 362). This liberal critique of patents has now largely disappeared, having been subsumed by economic interests.

2 The Purpose of the Patent System

THE patent has always been regarded as a compromise between the private interests of the inventor and the public interest. As such, it constitutes a **barter transaction**: the inventor is granted a right of monopoly from the state, but is obligated to disclose his invention publicly in such a way that it can be carried out by those skilled in the art. The principle of barter expresses the social duty of intellectual property, although little remains of this concept early in the 21st century.

The principal reason for public disclosure of an invention is to ensure that **patents stimulate technological progress**. Further basic research may be carried out on a patented invention provided that no commercial applications are involved. This particular feature of patents has been substantially weakened, however.

Some years ago Friedrich-Karl Beier, a German professor of patent law, determined that only a small percentage of the inventions being patented were being publicly disclosed in a sufficiently clear manner. The information contained in current patent specifications frequently fails to provide the practical knowledge of technological progress that was standard 100 years ago. In addition, patenting of micro-organisms has made the problem of description more difficult; the duty of disclosure has now been complicated by an additional requirement of deposit. Moreover, some experts believe that unrestricted competition provides greater incentives for invention than state grants of monopoly (Hauser/Schanz 1995, 225).

Secondly, it is expected that the carrying out of an invention will **promote industrialisation and provide jobs**. The original 1883 version of Article 5 of the International Convention for the Protection of Industrial Property (Paris Convention), a fundamental document of international patent law, states that the patent holder has an obligation to exploit a patent. In the first revision of the Convention, it was expressly stated that interpretation of the term "working" should be a matter of national law.

At a conference to revise the Convention in 1886, the Swiss delegation contested the view advanced by Belgium that manufacture of a patented article in any of the convention's Member countries would fulfil this condition. The Federal Council at the time firmly stated Switzerland's interest in insisting that anyone receiving a patent in Switzerland also had to manufacture the patented product there, not merely import it (BBl 1886 III 523).

In today's global economy, very few patents are exploited through local production or the granting of licences. Instead, **working through importation is now the rule**. A patent not only grants exclusive rights to exploit an invention based on local or licensed production; it also grants a monopoly on importation of products based on the patent. Patent protection therefore perpetuates the existing inequitable division of labour between North and South, rather than overcomes it.

In principle, **compulsory licences** exist as an instrument for advancing the public interest as opposed to the interest of the patent holder. The conditions for administrative or legal grants of compulsory licences vary from country to country. In practice, however, they have proven to be an ineffective weapon. Because application is so restricted by time limits and other conditions in order to protect the patent holder, compulsory licences are rarely granted.

3 Economic Miracles Without Patents

MOST patents issued in developing countries are held by foreigners and are the property of a relatively few multinational concerns domiciled in the USA, Japan, Germany, France, Great Britain and Switzerland. In many developing countries there is a strong suspicion that patents are not a barter transaction but a state-sanctioned form of monopoly that benefits foreign companies.

As an **instrument of market control**, they not only contribute little to industrialisation but also prevent the import of inexpensive imitation products. The introduction of patent protection in countries with weak economies, that are primarily importers of technology, constitutes a form of taxation of the local population which benefits industries in the North.

This can be illustrated by the example of **Diazepam** (Gerster 1980, 63-64). A Greek company produced a sedative known as *Apollonset*, with the approval of the ministry of health. Diazepam, the basic substance used in production of this drug, was imported by the Greek manufacturer from the Italian firm S.I.M.S. However, the Swiss firm Hoffmann-La Roche had previously applied for a patent on the process used to produce Diazepam in Greece. Hoffmann-La Roche also manufactured a sedative based on Diazepam in Switzerland, which it sold on the market in Greece.

In an effort to eliminate competition from the Greek firm, the Swiss firm filed charges claiming that Greek importation of Diazepam from Italy constituted a patent violation. The court of jurisdiction in Greece ruled in favour of the claim, and ordered that Diazepam and *Apollonset* in the possession of the Greek firm be confiscated and destroyed.

The less developed countries have a fundamental interest in **unrestricted access to technology under the most favourable possible conditions**. It is not surprising that the history of economic development reveals that no country has enjoyed substantial benefits as a result of patent protection for inventions. On the contrary, it is well known that the very absence of a modern patent system, i.e. unrestricted copying of foreign inventions, allowed Japan, Korea and Taiwan to achieve economic success.

"Pirate State"

This situation, however, is **nothing new**. In 1883, in a message directed to "high-level federal authorities", eleven Swiss industrialists expressed their hope "in the interest of the general welfare of our industries and commercial enterprises", that "the 'cup of sorrow' of patent protection might pass from us untouched" (Beitrag 1883). This statement was signed by individuals whose names – among them Benziger, Bühler, Geigy, Jenny, Rieter, Steiger, Schwarzenbach and Ziegler – constituted a roster of leaders in Swiss industry.

The textile manufacturer Steiger offered the retrospective view that "Swiss industrial development was fostered by the absence of patent protection. If patent protection had been in effect, neither the textile industry nor the machine-building industry could have laid the foundations for subsequent development, nor would they have flourished as they did" (Protocoll 1883, 83).

Conditions 100 years ago were ideal: as a rule, Swiss industrial inventions could be patented abroad, where patent legislation was in effect. But as Switzerland had no patent laws, **Swiss industries were free to copy foreign inventions without restriction**. This situation was richly exploited. It was not without good reason that the cry was heard from France, "La Suisse, le pays de contre-facteurs" ("Switzerland, the land of counterfeiters", see Beitrag 1883, 52).

In the German Reichstag Switzerland was repeatedly characterised as a "pirate state" and a "predator state" for copying products such as aspirin and heroin without permission. At a Swiss patent congress, A. Benziger, a manufacturer from central Switzerland, declared, "Our industries owe their current state of development to what we have borrowed from foreign countries. If this constitutes theft, then all our manufacturers are thieves" (Protocoll 1883, 88).

Protection of intellectual property is often seen as an important factor affecting the **investment climate**. But as previously noted, economic history does not support this view. Countries such as Italy and Canada have had no trouble attracting foreign investors, despite the fact that they lacked patent protection for pharmaceutical products at various times. Other factors are far more decisive. Foreign investors are particularly attracted by market size – in countries such as India, China or Brazil, for example – even when conditions do not correspond to textbook descriptions of a market economy. Small countries, on the other hand, are frequently regarded as marginal and unattractive, even when they have created admirable market conditions.

4 Pressure on the South

OVER the course of decades, the rights of patent holders have been continually expanded within the framework of the above-mentioned Paris Convention of 1883. Yet considerable leeway was always allowed for national legislation in Member countries. Most prominent examples were the flexibility in the duration or the definition of working a patent. In the 1960s and 1970s a number of developing countries began to take advantage of this situation, simultaneously demanding a revision of the Convention to make it more favourable to development. As justification for such a revision, they cited the fact that **intellectual property must serve to stimulate invention, industrialisation, and technology transfer.**

However, revision of the Paris Convention became deadlocked in the face of major conflicts of interest between the South and the North (Gerster 1981). Eventually, the USA and other industrialised nations requested that negotiations on intellectual property be included in the **GATT Uruguay Round.** This manoeuvre put pressure on the South (on the asymmetry of negotiations, see Correa 1993).

The struggle to prevent pirate copies of patented articles, an uncontested issue that required attention, provided an opening for movement in this direction. In its annual report for 1986/87, the Swiss Association of Commerce and Industries ("Vorort") characterised GATT as an appropriate framework for dealing with the "specific problems of the industrialised countries" (!) with regard to intellectual property.

The advantages for the North in this context were:

- The basic principles of national treatment and most-favoured nation treatment of the GATT (now WTO) forbid discrimination against foreign suppliers and preference for domestic producers – a long-time concern of the North.
- GATT, which has now become the World Trade Organisation (WTO), has effective dispute settlement procedures, making it possible to enforce agreed-upon rules.
- Negotiations in the Uruguay Round covered a wide array of areas, ranging from agriculture to textiles to service industries. This opened the way for heavy political pressure, allowing the North to exert its collective economic power in very different domains.

Price of refusal

It was precisely for these reasons that many developing countries vehemently opposed transferring negotiations on the Paris Convention to GATT at the start of the Uruguay Round. But during the eight-year course of the negotiations, from 1986 to 1994, **the South had a change of opinion**, although it was not entirely voluntarily. On the basis of Article 301 of its national trade legislation, the United States threatened several of the more economically advanced developing countries with unilateral trade sanctions in the event that they failed to guarantee protection of intellectual property. Developing countries realised the price of refusal to co-operate.

The case of Indonesia illustrates this situation. In 1989 the Indonesian government drafted a proposed patent law in response to criticism from the Swiss pharmaceutical industry and the United States. The American Embassy immediately had the text of the draft law translated from Indonesian into English, and supplied it to interested parties. "Interpat", an informal consortium of large European and American chemical concerns, commented on the draft proposal.

National industrial associations – such as the Swiss Association for the Chemical Industry ("Schweizerische Gesellschaft für Chemische Industrie") – then lobbied their governments to intervene at the diplomatic level. Representatives of the USA, Switzerland, and the EU were thus able to present the Indonesian government with proposed changes to the draft law that were co-ordinated and consistent in content. Indonesia finally adopted patent legislation, not as the result of careful study but of extreme pressure from foreign countries.

In 1904 **Switzerland found itself in a comparable situation**. Germany was threatening not to renew a bilateral trade treaty unless Switzerland passed effective patent legislation by 1907, a demand which Switzerland met faithfully and punctually. Particularly worthy of note are the remarks that were addressed to Parliament by Federal Councillor Brenner in 1906, during debate on revisions in the law:

"In our deliberations on this law, we would do well to bear in mind that it should be framed in such a way that it is adapted to the needs of our own industries and conditions in our own country. These considerations, rather than the demands and the claims of foreign industries, must be our primary concern in shaping the law" (Amtl Sten Bull BV 1906 1482).

Just as the Swiss chemical industry once opposed patent protection, **pharmaceutical firms in developing countries now oppose patent laws**. For instance, the Latin American pharmaceutical industry association (ALIFAR), the Indian Drug Manufacturer's Association (IDMA) and the Indonesian pharmaceutical industry association either oppose extension of patent protection or are committed to eliminating it. But they have been unable to do anything more than make a few dents in national laws. Conditions in today's global economy can no longer be compared with those at the beginning of the 20th century.

5 Loss of National Sovereignty Due to TRIPS

JANUARY 1, 1995 marked a **milestone in the history of the international patent system**. On this date the World Trade Organisation's TRIPS (Trade-Related Aspects of Intellectual Property Rights) Agreement came into force. Among other things, the agreement provides that patents shall have a minimum term of protection of 20 years; recognises importation as working of a patent; and stipulates highly restrictive conditions for compulsory licences.

The TRIPS Agreement gives developing countries a **transitional period** of five years after the date on which WTO regulations went into force, i.e. until January 1, 2000, to enact patent legislation. A five-year extension of this transitional period is possible for inventions in the pharmaceutical and agrochemical sectors, although its effect is greatly weakened by special provisions (the so-called "mail-box" provision and the granting of exclusive marketing rights, see Werner 1998).

Least-developed countries are given a transitional period of 11 years, until January 1, 2006. Despite these transitional periods, the South is really left with no choice: developing countries must join the WTO if they wish to be integrated into the global economy. This step also obligates them to adopt patent laws with minimal standards of protection.

This **loss of national sovereignty** makes it impossible for developing countries to fully pursue their very own legitimate interests (Deardorff 1990). A limited space remains to shape national legislation in line with TRIPS (see Correa 2000). But the fact remains that countries which sell and export technology are the primary beneficiaries of intellectual prop-

erty protection. Economically weak countries, on the other hand, are predominantly importers of modern technology. By recognising the rights of patent protection in the TRIPS Agreement, developing countries **undermine their own well-being** by subjecting themselves to higher prices for imported goods (HAI 1997, 23).

A study done at Princeton University, entitled *Intellectual Property Rights and North-South Trade* (Chin/Grossmann 1988), came to the clear conclusion that the South would do better in terms of social welfare by refusing to acknowledge protection of foreign intellectual property than by succumbing to pressure from the North. The North, by contrast, always stands to benefit when patents held by its companies are respected beyond its borders.

This view was challenged by an empirical analysis of pharmaceutical prices in nine developing countries suggesting that improving intellectual property protection does not have a measurable impact on prices of existing drugs (Rozek/Berkowitz 1998, 215). The influence of patent protection on the drug prices in the initial stage of a new product has been neglected, however. Moreover, the keen interest of the pharmaceutical industry in patent protection demonstrates the high relevance of intellectual property in marketing strategies.

A recent case study on Zidovudine, a drug to improve the life of people with HIV/AIDS, showed how market domination is used to arbitrarily fix prices (Hakansta 1998). The AIDS related court case in South Africa (see e.g. ICTSD 2001) with the international pharmaceutical association pleading against the South African Government points into the same direction. Overviews on controversial patent claims on animals and plants indicate the economic potentials of intellectual property rights (GRAIN 1998; Mooney 1998, 152-163).

6 The Indian Success Story

THE Indian pharma-industry is a success story (for the following see Gerster 2000). 500,000 people are employed in this sector, in roughly 20,000 firms. In the pre- and post-production sector, a further 2.5 million jobs are thought to be involved. Compared to the general price index, drug prices have risen much less in the last 15 years and remain far below average. "Worldwide, India is a country of very low drug prices while producing high quality medicines", Nihchal H. Israni, president of the Indian Drug Manufacturers' Association (IDMA), states. Self-sufficiency with regard to pharmaceutics is far above 70% – in spite of the policy of a more open economy pursued by India since 1991.

The secret of this success is the Indian patent law of 1970. India had entered independence with the patent system of the British colonial masters. This secured the Indian market for the British industry; pharmaceutics were largely imported from abroad and local production was minimal. The "architect" of the patent law of 1970, S. Vedaraman, then director of the Indian Patent Office, summarises the principle as follows: "We are not against patents. And we are prepared to pay decent licence fees. But we in India cannot afford monopolies."

Since then, India has done without product patents for pharmaceuticals, with the exception of production processes that may be patented for seven years. In addition, the law allowed for compulsory licences granted by the state, in the case of a patent holder not granting voluntary licences on fair conditions. India profited from a large section of well-qualified experts who made good use of the new opportunities.

In spite of this positive experience, patent protection is winning the upper hand against the interests of developing countries. India, too, has become a WTO member in 1995 and will have to apply the new TRIPS rules for medical drugs in its national patent legislation by January 1, 2005 at the latest. US pharma-producers still call India a "centre of commercial piracy".

Nihchal H. Israni considers the situation very bleak unless the Indian government makes a countermove: "Indian producers are being pushed out of the market and multinational suppliers are going to dominate the market with far higher prices. Jobs will be lost and India's balance of trade in the area of pharmaceuties will in future be in deficit – in brief, a situation similar to the one before the patent law of 1970." IDMA is appealing to the Indian government to exhaust fully those positive possibilities that are still contained in the international TRIPS rules and especially to provide for effective compulsory licences.

Access to drugs

Product patents for medical drugs have only been known in Switzerland since 1978. This fact should not be ignored when discussing the appropriateness of patent protection in developing countries. The primary reason – in addition to the early fight of industry against patents – for the Swiss reluctance to extend patent protection to medical substances was the fear that corporate monopolies could hinder or even block access to health services.

For developing countries the list of essential drugs established by the WHO is of great importance when prioritising health expenditure. The 11th WHO model list includes 302 active substances of which 90% are available off-patent. For most of them patent protection has expired. Relevant exceptions are HIV / AIDS and drug-resistant forms of tuberculosis and malaria. In the trial of the Pharmaceutical Manufacturers' Association of South Africa (PMA) against the government, the industry

insisted on patent rights while the government through new legislation intended to improve access to drugs by permitting broad-scale parallel imports and compulsory licensing. In cases of public health emergencies, TRIPS allow for parallel imports and compulsory licensing but there are no practical tests of the rules yet.

The Indian drug manufacturer Cipla Ltd. has offered to make available the triple anti-retroviral therapy against HIV / AIDS at $ 350 per person a year to the NGO Médécins sans Frontiéres for use in African countries. The spectacular trial in South Africa has to be considered as a phase of a price war between Cipla and the multinational companies as patent holders. When manufacturing substances like the anti-retrovirals, Cipla was in line with the Indian patent legislation. But the pending changes to implement the TRIPS agreement may lead to judicial obstacles for Cipla and other imitating enterprises in India. The revision of the Indian patent legislation may result in the elimination of Cipla as a competitive manufacturer of protected high quality drugs.

The unique coordinated effort of the pharmaceutical companies to enforce TRIPS can only be understood on the background of a short-term shareholder oriented, profit-maximising business culture. Consumption of modern drugs in Sub-Saharan Africa equals just 1% of global sales, and even the more than one billion Indians do not consume drugs for more than some $3 billion, again 1% of global sales. Considering these marginal business opportunities, the future of pharmaceutical companies is not at stake when the global outreach of TRIPS is challenged. The industry could improve access to drugs in developing countries without even endangering their core business.

7 Patents on Life-Forms?

THE question whether to grant patents on life-forms has been and remains highly controversial. The concept of patents on living organisms was one of the most vigorously debated issues in the negotiations that produced TRIPS (see Arbeitsgemeinschaft 1997). **The TRIPS Agreement contains compromises relating to patents on living organisms** which provide that:

- Any member country may exclude plant and animal life from patentability (Art. 27.2);
- Micro-organisms and micro-biological and technical production processes must be patentable (Art. 27.3b);
- An effective system of protection must be provided for plant varieties.

These provisions make it possible to **exclude plants and animals from patentability in conformity with the TRIPS Agreement**. In Brazil, for example, patent laws specifically exclude all life-forms with the exception of genetically altered micro-organisms (Correa 1998, 86).

Despite a great deal of doubt and widespread criticism, however, patents on life-forms are granted in most industrialised countries. The only exceptions are plant varieties and animal species in the EU and Switzerland. The Union of Industrial and Employers' Confederations of Europe (UNICE), on the other hand, generally regards exclusions from patentability as a "confiscation of private and commercial rights" (UNICE 1997, 2).

The TRIPS Agreement does not define **invention**. Differentiating between a non-patentable discovery and a patentable invention is therefore one of the central tasks of national patent legislation, and is of particular importance with reference to genetic resources. Industrialised countries have continually expanded the meaning of invention to serve the interests of companies involved in gene technology. By contrast, patent laws in Brazil, Argentina, and the Andean Pact nations expressly exclude patents on natural substances and their reproduction, since no inventions are involved (Correa 1998, 79). Both these approaches conform to the terms of the TRIPS Agreement.

Novelty, inventiveness, and industrial applicability are the conditions that must be met for an invention to receive patent protection. Although these requirements are contained in the TRIPS Agreement (Art. 27.1), they are not defined there. Of particular interest in the present context is the scope for interpretation in national legislation with regard to the term "***novelty***".

Under US law, an invention is no longer considered novel once information about it is published either in the United States or abroad. But disclosing an invention in foreign countries "only" by word of mouth and selling it outside the United States are not grounds for excluding patentability. This unique interpretation of novelty discriminates against non-American inventors to the benefit of "inventors" in the United States. On August 14, 1997, the US Patent Office rescinded a patent it had granted on turmeric, only after worldwide public protest. Turmeric had been used for medicinal purposes in India for thousands of years. Such encouragement of bio-piracy is not possible in Europe or most non-European countries.

8 Playing Poker Over Patents on Plants

IN African, Asian and Latin American countries with weak economies, **agriculture is the backbone of survival**. Unrestricted access to seed and preservation of biodiversity are therefore matters of vital concern. Article 27.3b of the TRIPS Agreement, which obligates Members to provide **effective protection for plant varieties**, must be seen in this development-related context. It is open, however, whether plant protection is to be ensured by patents or by an effective *sui generis* system of protection. Nor has there been any definition to date of "effective".

Plant protection as defined in UPOV ("Union pour la protection des obtentions végétales", "International Union for the Protection of New Varieties of Plants") can be seen as constituting a *sui generis* system (see IPGRI 1997). **Protection for plant varieties** as it has so far existed allowed farmers the freedom to use seed from protected varieties to improve cultivation ("farmers' privilege"). In addition, protected varieties can also be used to breed for subsequent generations ("breeders' rights"). Both these provisions guarantee conditions that are essential for farmers in the North and the South to pursue their work free of hindrance. However, traditional style patents on plants would eliminate this balance between rights and duties in the protection of plant varieties. Plant protection as it currently exists is an obstacle to commercial seed producers.

Patents on plants discriminate against traditional breeding methods used by farmers, who frequently use communal methods of seed selection, often developed over many generations, do not constitute invention

Comparison of main provisions of PBR under the UPOV Convention and Patent Law (TRIPS)

Provisions	UPOV 1978 Act	UPOV 1991 Act	Patent Law (TRIPS)
Protection coverage	Plant varieties of nationally defined species	Plant varieties of all genera and species	Inventions
Requirements	• Distinctness • Uniformity • Stability	• Novelty • Distinctness • Uniformity • Stability	• Novelty • Inventive step • Industrial application
Protection term	Minimum 15 years	Minimum 20 years	Minimum 20 years
Protected scope	Commercial use reproductive material of the variety	Commercial use of all material of the variety	Commercial use of the protected matter
Breeder's exemption	Yes	No for *essentially derived* varieties	No
Farmers' privilege	Yes	Up to national laws	No
Prohibition of double protection	There can not be double protection	–	–

Source: van Wijk, J., G. Junne, J.I. Cohen, and J. Komen, 1993, Intellectual property rights for agricultural biotechnology: Options and implications for developing countries, ISNAR, Research Report No 3, The Hague, the Netherlands.

under the terms of patent law. No financial compensation is planned for plant resources that are used as the basis for genetic engineering. Income lost to the South through pharmaceutical patents held by firms in the USA alone has been estimated to exceed US$5 billion annually (Singh Nijar 1996, 33ff). Moreover, patents prevent farmers in the South from gaining access to research findings and new plant varieties.

This problem can be illustrated by the example of the neem tree, which is found in India (see, among many others, Kocken/van Roozendaal 1997). Indian farmers traditionally used the neem tree, especially its seeds, to derive medicines and biological agents for pest management. The W.R. Grace company in the USA holds a patent on a process for extracting and stabilising *Asa A*, the most important active substance contained in the neem tree. In 1995 a petition was submitted to the US Patent Office to rescind this patent, on the grounds that the patented process was not new, as it had been used in India for decades. Farmers' rights in India were being completely ignored. At a minimum, the patent closed the US market to Indian exporters.

Countries in the South that are rich in genetic diversity understandably regard free access to their plant genetic resources as bio-piracy. This leaves the South with an empty hand in the poker game over patents on plants, even though plant biodiversity in the South is the basis for genetic research.

M.S. Swaminathan, the Indian father of the Green Revolution, claims that things have changed since January 1, 1995, when the TRIPS Agreement came into force. He maintains that mutual distrust is on the rise between countries that are rich in biodiversity and those that are leaders in modern biotechnology (Arbeitsgemeinschaft 1997, 35). Cooperation is giving way to conflict, and lawyers are profiting more than plant breeders.

The **abundance of plant genetic resources were considered a heritage of all humankind** by the FAO convention of 1983 to ensure preservation and use of plant biodiversity, which was signed by more than 100 countries. A 1989 amendment to this convention recognised the past, present and future rights of farmers, in terms of their traditional knowledge about the conservation and enhancement of plant genetic resources and their access to these resources. But the issue of farmers' rights has remained a dead letter. As a major revision to the concept of genetic

resources as a common heritage of humankind, the Convention on Biological Diversity states that genetic resources are a matter of national sovereignty. Farmers' rights thus require legal clarification in the context of this Convention as well.

These **shortcomings in international law** are receiving increasing attention. A UNICE position paper of 1997 stated that European industry recognises the importance of traditional knowledge and encourages all WTO members to protect such knowledge in order to preserve the world's biological diversity and use it sustainably (UNICE 1997, 5). This unambiguous declaration is a welcome step. But it remains to be seen to what extent this position is incorporated in follow-up negotiations on the Biodiversity Convention and in future revisions of the TRIPS Agreement.

India, Thailand and other countries (see GRAIN/BIOTHAI 1997) are currently **drafting national laws on farmers' rights and the rights of local communities** specifically concerned with access to resources and financial compensation. In India it has been proposed that a fund be established for the benefit of rural communes, to be financed by a tax on the sale of seed. National laws of this sort, with new forms of intellectual property, are fully compatible with the TRIPS Agreement. But a detailed addendum must be formulated in the next revision of the TRIPS Agreement to ensure that these laws can be enforced by the WTO's effective dispute settlement procedures. One possible approach might be to make patents contingent on equitable compensation for traditional knowledge (Cottier 1997, 16).

9 The Role of Switzerland

SWITZERLAND takes a hard line in international negotiations on intellectual property (Gerster 1981). In particular, **the Swiss position is dominated by the interests of the Swiss chemical industry** – the same industry that used every possible manoeuvre in its vehement, decades-long opposition to effective patent legislation. This is not surprising, as Switzerland earns more per capita from the export of inventions than any other country in the world (Gerster 1988). Switzerland often follows comfortably in the political wake of the United States, virtually without publicity or any need for public accountability.

In 1986 a discussion of **patents on life-forms** was launched by Felix Auer, a member of Switzerland's national Parliament and a key figure in the Ciba-Geigy (now Novartis) chemical concern. Interestingly, another key figure in this same company, J. Geigy-Merian, also a member of Parliament, had vigorously opposed the introduction of patent legislation more than a century ago (Beitrag 1883). Ultimately, the controversial revision to make plants and animals patentable was suspended, and the existing law was interpreted in a new way that was favourable to patentability of life-forms.

Switzerland is a member of the European Patent Convention of 1973, and conforms with its terms, according to which plants and animals are currently excluded from patentability. This does not apply to all plants and animals in general, however, nor to microbiological processes. Inventions that are contrary to *ordre public* or morality may also be excluded from patentability. On May 12, 1998, a majority of the European

Parliament accepted a new Life Patent Directive paving the way for a pro biotechnology patents revision of the European Patent Convention in due course.

Switzerland's Government is aware of the problems of developing countries. It specifically stated, in a message to parliament on development cooperation of 21 February 1990, that further extension of patent protection in the Third World could be contrary to the interests of developing countries, since they are primarily importers of technology. In this sense, the Federal Council said to support different approaches to the patent problem, and took a positive view of the present scope of options for plant protection. The government has pointed out that developing countries can currently determine for themselves what rights of protection best meet their own needs (Federal Department of Justice and Police; EJPD 1993, 44). The Federal Council would not previously have raised objections even if the least-developed countries had wanted nothing to do with patent rights.

It should be pointed out that Switzerland does not deny the **legal shortcomings** that exist with respect to farmers' rights. It recognises these rights "in principle" and supports efforts to express them more concretely. The government has stated that the questions of increased compensation for industrial use of natural resources, sharing of benefits derived from natural resources, and appropriate use of such benefits should be closely studied (Federal Department of Justice and Police; EJPD 1993, 45). The extent to which these good intentions are realised remains to be seen. Up to now, conflicts of interests have far too often predominated over comprehension of development needs.

People's initiative

Exclusion of plants and animals from patentability was one of three major demands contained in a **people's initiative to restrict genetic engineering** ("Genschutzinitiative"), a national referendum aimed at establishing

safeguards by placing restrictions on gene technology. An alliance of about 70 non-governmental organisations (NGOs) made use of their democratic rights in Switzerland and enforced the referendum to amend the constitution accordingly (see Baumann / Pimbert 1998). The authors of a survey published by Interpharma state that the consequences of patent prohibition would be "minimal" for large businesses and pharmaceutical firms (Büchel / Brauchbar 1997). But they would be more serious for small and medium-size firms with 30 to 40% of their sales in Switzerland.

This initiative was rejected by a 67% majority of Swiss voters on June 7, 1998. Though a minority, the considerable support of more than 620,000 votes (a share of 33% of total votes) cast in favour of the people's initiative might make the Swiss authorities also attentive to the concerns evoked therein. On the political level, in particular a moderating influence in future WTO / TRIPS negotiations was expected by NGOs but so far did not materialise.

Following an opinion poll one month prior to the referendum, only 25% supported the patenting of life-forms, whereas a comfortable majority of 60% of the Swiss population favoured a prohibition of patents on living organisms. Several NGOs like the Swiss Coalition of Development Organisations or the Berne Declaration Group continue, of course, their advocacy work against bio-piracy and patenting of life-forms.

10 Conclusions and Suggestions

THE built-in WTO agenda for TRIPS calls for a re-examination of the entire TRIPS Agreement after January 1, 2000. Some relevant conclusions emerge as lessons of the economic and political history of Switzerland:

1. For market-oriented countries it is a must to become members of the WTO. It is often contrary to their own interests, however, to be forced to sign not only the GATT and the GATS but also the TRIPS Agreement. In the future, signing TRIPS should become a voluntary option for WTO members. In such a way, economically weaker developing and transition countries win their lost sovereignty back in the intellectual property domain: a sovereignty which Switzerland, Japan, Korea and other countries used for decades for their own benefit.

2. From the point of view of development policy, further extension of worldwide patent protection should be rejected. What has proved successful in technology enhancement for Switzerland and other advanced countries for their own economic development should remain accessible for today's developing and transition countries. The options of compulsory licensing and parallel imports contribute to an improved access to drugs for those in need.

3. Similarly, patents on living organisms and the obligation to protect plant varieties in accordance with Article 27.3 of the TRIPS Agreement should be eliminated. The question of whether and how to protect plants should be left to the sovereign judgement of individual member nations of WTO.

4. If the obligation of plant protection is not eliminated, the assessment of Article 27.3b should take care to safeguard the interests of farmers by putting no further restrictions on the variety of their options for plant protection. On the contrary, every WTO Member should be free to develop appropriate forms of plant protection, and especially to opt for farmers' privilege and breeders' rights.

5. Industrialised countries such as Switzerland should assist poorer developing countries interested in development partnerships in using the room for manoeuvre available in the TRIPS Agreement to shape legislation on intellectual property rights to their own advantage. In particular, the South should be able to count on active support in shaping its own plant protection laws and laws concerned with farmers' rights.

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PATENTS AND DEVELOPMENT
Lessons Learnt from the Economic History of Switzerland

This paper provides an analysis of the presently-dominant patent system from a North-South perspective. It shows how the current Intellectual Property Rights (IPRs) regime places enormous pressure on the South to adopt Northern-style patent laws.

The paper argues that the implementation of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement in developing countries would constitute a loss of national sovereignty and pose serious obstacles to development.

Drawing lessons from Switzerland's own history of economic development, the paper concludes that developing countries should be able to determine their own system of IPRs according to their specific needs and aspirations.

RICHARD GERSTER *holds a PhD in Economics from the University of Saint Gall, Switzerland. After many years of commitment to Swiss Non-Governmental Organisations, he is at present a well-respected independent consultant to the Swiss Government, NGOs and the World Bank. He has concerned himself with the North-South dimension of patent issues for over 20 years. He welcomes comments on this paper, which could be sent to: rgerster@active.ch*

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