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INTELLECTUAL PROPERTY RIGHTS and AGRICULTURE.  
OLD STRUCTURES, NEW CONSTRAINTS

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"If no patent system existed, it would be a mistake to establish one, but since we do have it we may as well keep it going"

F. Machlup (1958)

## Introduction<sup>1</sup>

When starting to work on intellectual property rights I have never been thinking to question the basic structures. Even more. Taking the intellectual property rights "as such" I rather thought on its gradual implementation to other new and various dimensions of social relationships, like for example the whole breeding industry (plants and animals).

Studying closer the going on development in this scope I started to realize that we have to do not with only wider implementation of intellectual property rights but something that could be named "expansion". The word "expansion" has not a positive connotation and indicates that the direction intellectual property rights are developing is questionable. With this tough observation I have raised a few puzzling questions.

1. The first one is associated with the law meaning. When dealing with intellectual property rights we can ask whether law (norms concerning intellectual property rights) should carry a certain values? Let's take for example a difference between formal equality *versus* factual inequality of a contract or agreement parties. At one side of a contract or agreement we would have economically powerful states, corporations, international organizations, often backed up by international business, and on the other side the weaker ones like poorer states, or individuals (organized individuals), weaker from political as well as economical point of view. Whose interests associated with intellectual property rights dominate here, who and how should be protected ? This questions arise especially when analyzing a phenomenon of imposing certain legal models by strong international organizations (GATT, for instance) on weaker states.

2. Should we think on creating borders for what intellectual property rights embrace (see the case of so-called "species patents"); what is here just and unjust?

I have organized my paper in a following manner. First, I present some remarks on main features of the property rights considering the nature of its exclusiveness. Then I deal a bit with the historical background of intellectual property rights. I have found a development of intellectual property rights as being rather a development of certain interests involved in taking out various profits when exercising intellectual property rights and "located" beyond the main legal construction. These "interests" are in a way hidden behind the intellectual property rights concept. (Chapter I 1, 2, 3, 4,)

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<sup>1</sup>I much appreciate all the inspirational talks with and comments by professor Vincent Ostrom (Co-director of the Workshop in Political Theory and Policy Analysis at the Indiana University) which were a great help in working on this paper.

In Chapter I 5 ab I am trying to show how both parties, i. e. the granter (a state) and the receiver of intellectual property rights are related to each other and how much a notion "receiver" has less and less to do with a factual creator (author) of invention.

Writing about creation in agriculture I wanted to show dangers associated with doing research aimed mainly on selling the research product. How this can effect the life-organisms future, life generally, also our human life. I have focused in my article on agriculture to make my discussion more concrete, however agriculture is not the only case here( Chapter II).

The last part deals with an "expansion" of intellectual property rights. My sense is that the "expansion" manifests many pathologies of legal solutions. Good examples here are so called "species patents" as well as term-traps like: "legal systems harmonization" concept. The latter means very often a submission (for the sake of economical powers) of a weaker state rather than "harmonization" by forcing it to introduce a given legal model (Chapter III).

At the end I have incorporated (with some hesitation however, as to whether this will not require more elaborate work)) some current streams in law philosophy represented for. ex. by Harold J. Berman. I decided to do this as for me a presence of values which are not man-made but God's-made will always be a proof that we are going a right direction. The direction the contemporary intellectual property rights "walks" seems to be very much man-made, made by those who are powerful and only profit-oriented.

## I. Intellectual Property Rights

### 1. Some Remarks on Main Features of the Property Rights

Concept of the property rights, rooted in Roman law, is in the same time simple as well as complicated. In Roman law property rights meant exclusive rights to use, to derive an income from, and to dispose of, an object. In doing so, one avoids the mistake of confusing the content of the property right, i.e. the powers over an object by virtue of such a right, with the object itself.

Property owners' rights to exclude, powers of transfer, and privileges of use are not unlimited. First, the privileges of others limit the rights that attach to ownership of land or tangible personality. For example, though owners may have many rights against intentional harm, most jurisdictions give the public privileges to act reasonably even when reasonable acts accidentally cause intrusive harm . As a result owners have no right to keep their real property secure from the unintentional and nonnegligent harms that others might inflict upon them<sup>2</sup>.

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<sup>2</sup>For example a property owner may not even have a right of redress against intentional entry to the land if the entrant acted pursuant to some recognized excuse or justification, such as the preservation of life or public necessity.

In fact though property rights had never been fully exclusive. Certain categories of property owners have had their power to decide exclusively over the use of their property restricted by legislation. This is the case, for instance, where landlords are restrained from evicting tenants without proper cause. Other categories of property owners have been forced by changing circumstances to give up their exclusive right to use their property. In modern times we have a case of shareholders in capitalist corporations, who, in practice, only retain the right of receiving remuneration from and disposing of, their property. **Indeed, some authors seem to discern such a trend applying to all productive property, i.e., property having an economic value to society apart from its value to its owner**<sup>3</sup> An owner's power of transfer has its limitations as well. Also the owner's power to affect property is not fully exclusive and they have duties that limit their privileges of action. Occasionally also strangers have powers to affect ownership. W.J.Gordon argues that there is a common structure underlying both intellectual and tangible property. All property involves compulsions<sup>4</sup>.

We know that the inventor can be granted the patent, but legal sanctions for an "abuse" of the patent grant exists and can lead to its revocation. Starting with the first Venetian practice in XV century (see the following discussion on first patents) which included revocation of grants if the invention was not used (compulsory working) and forced reduction of excessive royalty rates (determination of "reasonable royalties").

Lawyers and theorists have long recognized that property is not a matter of touchable "things" but rather a **set of rules governing human relations in regard to resources**. New knowledge can be considered to be a resource too.

One justification often used in favor of property rights in general is that people are naturally entitled to the fruits of their labor. This is originally the Lockean argument<sup>5</sup>. Labor may naturally entitle a person to possess the product of his labor. But it does not naturally entitle a person to exclude everyone else from using things of the same type as what she or he produced. This is precisely what a patent monopoly involves<sup>6</sup>.

## 2. Legal Model of the First Exclusive Rights to Invention

It is quite obvious that creativity exists as a one of the human features, law had been introduced to human realm. Incentives for creativity also exist despite the legal system, whether the system is harmonized or not with human desires. Creativity is a human

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<sup>3</sup> See Ripert, G. (1955). Les Forces Creatrices du Droit. Paris: Librairie Generale de Droit et de Jurisprudence, p. 28

<sup>4</sup> Gordon W. J., (1989) " An Inquiry into the Merits of Copyright: The Challenges of Consistency, Consent, and Encouragement Theory", Stanford Law Review, Vol. 41, No 6

<sup>5</sup> See Locke, J. (1666) The Second Treatise of Government and a Letter Concerning Toleration, chapter 5, Gough, J.W. ed.

<sup>6</sup> Hettinger, N. (1995) "Patenting Life: Biotechnology, Intellectual Property, and Environmental Ethics", Boston College Environmental Affairs Law Review, Vol. 22, Winter Number 2, p. 280. See there a whole discussion against patenting the life-forms with a very elaborated argumentation and rich bibliography.

attribute. H. J. Berman says that "humanity has a divine capacity to be creators and lawmakers".<sup>7</sup>

In Egypt and other ancient cultures, including Greece and the Roman empire those who, through their education, were most likely source of technological progress had little or no interest in establishing patent-like institutions. With one exception. For the first evidence of monopoly for an invention we must go back to about 500 B.C. to the luxury-loving Greek colony of Sybarites. Here, according to the Greek historian Phylarchus, "if any confectioner or cook invented any peculiar and exclusive dish, no other artist was allowed to make this for a year; but he alone who invented it was entitled to all the profit to be derived from the manufacture of it for that time, in order that others might be induced to labor at excelling in such pursuits"<sup>8</sup> At that time manual labor was performed largely by slaves and was not deemed worthy of educated men. Also scientific and technological knowledge was closely held within priestal and intellectual castes and guarded through secrecy (Egypt).

In 529 A.D. Emperor Justinian closed Plato's Academy at Athens, called by Hegel "the establishment of pagan philosophy" and at the same time St. Benedict founded at Monte Cassino a new monastery whose rule "*ora et labora*" ("pray and work"), viewed manual labor as cooperation with God in the task of creation<sup>9</sup>. Hugo of St. Victor's (1130 A. D.) added "*artes mechanicae*" to ancient classification of sciences of "logic", "theory" and "ethics".

Occasional privileges by which a sovereign granted the exclusive use of an invention to its inventor or introducer were known as early as the thirteenth century (some have roots in mining law) and were quite frequent in the fourteenth century. They conferred manufacturing monopolies or only licensing monopolies and were given either to a **producer introducing technology** already used abroad or to the **"first and true inventor"**.

In medieval Europe, royal letters closed by seal were called "*litterae clause*"; those that were sealed but open were "*litterae patentes*". *Litterae patentes* mean thus were open documents granting their holder certain rights, privileges, titles, or offices. From this came the nomenclature for modern invention patents, called "letters patent" or simply "patents". It should be stressed here, that the power of exercising the exclusivity was **always given by the ruler either then a state.**

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<sup>7</sup> "Nevertheless, humanity does have three kinds of attributes that may be called divine: the capacity to be creators and lawmakers, the capacity to live - or at least to seek to live holy and redemptive lives, and the capacity to inspire, teach, prophesy, and form new relationships of community", Berman, H.J. (1994) "Law and Logos", DePaul Law Review, Vol. 44, No 1, p. 146.

<sup>8</sup> See Liebesny, F (Ed). (1972). Mainly on Patents, The Use of Industrial Property and its Literature, Archon Books, Connecticut, p. 2

<sup>9</sup> See Kaufner, E. (1989) The Economics of the Patent System. Harwood Academic Publishers, Switzerland, p. 2

At that time Italian cities like Florence, Lucca, Milan and Venice became leaders in artisan production. The concept of intellectual property rights occurred in XV c. in Venice (first 1474 patent for an invention), and from the very beginning was based in a way on the concept of property rights. The Venetian administrative practice distinguished between an **invention privilege** and a **trade privilege**, i.e. with or without licensing provisions.

During the middle ages, the term "invention" had a meaning much closer to what we would now call "discovery". In medieval Latin, "*invenire*" meant discovery, while "*ars*" was used to connote derived technological know-how.

### **3. Development of Patents in Selected European Countries; Whose Interest Was Protected?**

Under the reign of Queen Elizabeth I in England, patent grants were used increasingly to implement mercantilist policy, and especially to benefit royal favorites. Parliament and the Crown decided who had, or ought to have, the prerogative of granting monopoly privileges. At the time, the Statute of Monopolies (1623) authorized grants of patents to true and first inventors, however the newness had no international meaning; it was sufficient if the manufacture was new to England. The duration was to be fourteen years. This term was chosen because it encompassed the time it took to train two successive generations of apprentices, each serving a term of seven years.

We have to admit also that out of the American and French Revolutions was born the concept of certain **inherent and inalienable rights of individuals**; among them was the absolute and total control over private property. The first patent Acts of both France and the United States came shortly after the promulgation of the French Civil Code and the American Constitution. The theory of "inherent" property rights in inventions introduced two new concepts: that a patent grant constituted private property and that an inventor had an "inherent right" to claim exclusive patent protection.

In France, systematic use of patents as an instrument of mercantilist policy began in the middle of the 16th century. Even before the Revolution, public opinion turned toward rejecting patents as contrary to freedom of trade. To underline the break with the past brought about by the Revolution, the patent law of 1791 declared that the inventor had a natural property right to his invention. Under juridical construction **the word "monopoly", with its bad connotations, was replaced by the word "property" recognized as a good thing**. The public—relations scheme —admitted to be such by Stanislaus de Bouffler when he proposed it in introducing the French patent bill of 1791 - was successful. It **persuaded** the public to regard patent protection not as a government intervention designed for a purpose but, rather, as an integral part of the institution of **private property**; not as enforcement of a monopoly granted by the state but, rather, as a prevention of theft.

The first French patent (1791) was clearly inspired by the ideas emerging from the Revolution and the resulting Declaration of the Rights of Man and the Citizen. Property

was now thought to be a projection of the personality of the owner. In the same direction of thought the new principle was established, that every invention is the inventor's personal property, and, that the law guarantees its complete and unlimited enjoyment by its owner.

However, the text of the law needs a closer examination that **reveals the motives behind it and also reveals inconsistencies in some features of the law and contradictions to the theory of property.** The law indicates though that the underlying motives were far removed from the sole concern of the inventor. First, the law **required the patentee to exploit his invention**, another feature was, that the law included so-called importation patents, so that the "importer" of foreign inventions was granted a patent. This provision clearly reveals the **dominant interest behind the law.** De Bouffler who was the author of the French patent law, besides his philosophical arguments in favor of the property theory, also advanced materially-oriented reasons. Thus, the French patent law was, as was the case with American one, based not on the promotion of the position of inventors *per se* but on the promotion of the **economic and industrial performance of the State.** This is why the Bouffler's natural property theory was being questioned. De Bouffler knew "that there was no hope of saving the institution of patent privileges except under an acceptable theory"<sup>10</sup>.

In the debate over French patent law, the British patent system, as it had evolved from the Statue of Monopolies, was referred to as a model case. It also became a model for British colonies in North America. Massachusetts passed a similar law in 1641. South Carolina (1691) was the first to speak of patents not as sovereign grants, but as a fulfillment of the rights of the inventor. In 1790 the first US, federal patent law was promulgated. Like its predecessor in South Carolina, it rested in the premise that the inventor had a right to claim a patent on what he had invented.

B. Kaplan has suggested that **publishers rather than authors were the intended beneficiaries** of England's first copyright statue. In England and on the Continent, governments sometimes did grant "exclusive rights" over printing and manufacture for unsavory ends, such as censorship.<sup>11</sup>

By the middle of the last century the whole individualist doctrine began to decline. A development the concept of legal equality had a strong influence on the patent doctrine, supporting the theory that the patent institution is primarily based on its expected utility **to society.** The practical result was that it put more obligations on patent holders. A previous view of patents as a grant of royal privilege was replaced by a justification rooted in the rights of the citizen.

In other parts of Europe, the history of monopoly privileges was various. In Austria and Prussia monopoly privileges were widely disliked as misuses of royal prerogative. It is also

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<sup>10</sup> See Anderfelt, U. (1971). International Patent-Legislation and Developing Countries, Martinus Nijhoff, Hague pp. 15-17

<sup>11</sup> In: *Unhurried View of Copyright*, 1969 p.6-9 and 74-75

interesting that at the beginning of XIX c. in Prussia (when the government was pushing for free trade among the German territories) - patents were seen as a barrier to free trade. By 1862, all the tariffs had been abolished inside Germany. The Prussian government argued that all patent laws in the German territories should be abolished. A similarly strong anti-patent movement led to the repeal of the Dutch patent law in 1869. Also a Swedish parliament rejected four petitions to introduce a patent law.

On the other hand by the end of XIX c. there were a number of counterforces to defeat patents like for example introduction to national laws by the patent congress at the 1873 exhibition strict compulsory licensing principles. Also due to worldwide depression, a movement away from free trade toward protectionism occurred. **Tariffs and patents appeared to be important protective instrument.** With these changes in Britain as well as in Germany the patent system has been approved.<sup>12</sup>

**The history of patents seems to be rather a history of interests being protected behind patents than patents *per se*. It is a history of trade privilege rather than invention privilege, taking the Venice terminology.**

#### **4. The Chinese Culture versus Intellectual Property Rights. Whose Interest had been Protected here?**

Intellectual property law did not exist at all in China before it arose in the West. Virtually all known examples of efforts by the state to provide protection for what we now term intellectual property in China *prior* to the twentieth century seem to have been directed overwhelmingly **toward sustaining imperial power.**<sup>13</sup> It is also evident in the fact that although the Tang and later dynasties went to considerable lengths to restrict the unauthorized reproduction of government materials and to ensure the accuracy of those it licensed, they seem to have been unconcerned about the pirating or improper editing of other works<sup>14</sup>. Only efforts of printers, booksellers, and other guilds or merchants to establish particular monopolies seem to presage the notion that persons or entities other than state might enjoy an interest in intangible property<sup>15</sup>. Even this limited interest appears to have been tolerated by the state and its representatives chiefly because it advanced other objectives.

The Chinese were obviously not alone in linking **state interest with the protection of what we term intellectual property**<sup>16</sup>. In both the common and civil law worlds, the idea

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<sup>12</sup> See Kaufer, E. (1989) The Economics of the Patent System, Harwood Academic Publishers, Switzerland

<sup>13</sup> See Alford, W.P. (1995) To Steal a Book Is an Elegant Offense. Intellectual Property Law in Chinese Civilization, Stanford University Press, Stanford, California

<sup>14</sup> Alford W.P. Ibid, p 13

<sup>15</sup> Indeed it is more accurate to think of prepublication and the other restrictions on reprinting, together with the absolute ban on heterodox materials, as part of a larger framework for controlling the dissemination of ideas, rather than as the building a system of intellectual property rights.

<sup>16</sup> See Alford, W.P. Ibid. p. 17

of limiting the unauthorized copying of books was originally occurring not by belief that writings were the property of their authors, but **by desire to give printers an incentive not to publish heterodox materials.**

Similarly, the early history of patent law in the West shows the state's desire to strengthen itself rather than to acknowledge of any inherent property interest of the inventor. See for example the mentioned above example of the French law of 1791. Thus, in England foreigners were granted patents for introducing new products or processes to the British isles, even of those persons were not themselves responsible for the given innovation (importers).

The contribution of patents to industrialization in Britain has been discussed by economic historians. For example Ashton<sup>17</sup> concludes that discovery might have developed equally rapidly without the patent system. Other economists like P. Deane and P. Mathias think, that there are so many unknown values to analyze the access that it is impossible to quantify the patent system's effect on British industrialization.

Generally speaking the development of an approach toward intellectual property in Europe had no counterpart in imperial history of China. At some point in Europe intellectual property started to be understood that the property interest in the creation could be defended against the state. China, by contrast, continued to regulate this area predominantly in terms of **how best to maintain the state's authority.**

Also the Confucian vision of relationships based on responsibility of the seniors for the nurturing of their juniors as well as the whole nature of these relationships were **made impossible thinking about the results of intellectual work as private property**<sup>18</sup>.

We can conclude here, that however much European and Chinese cultures vary, still it is possible to make a comparison in regard to the approach to intellectual property rights. In both Western and Chinese cultures the main focus in granting or not granting exclusive rights for intellectual work was highly associated with the state interest rather than inventor's interest unless both of them had become one. The "good" that was protected or not can be termed: **a state's control over the dissemination of new knowledge.**

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<sup>17</sup> Ashton, T.S. (1948) The Industrial Revolution 1760-1830, Oxford University Press, pp. 10-11, 63-65

<sup>18</sup> The legal system displayed the same concern with deriving legitimacy through association with the past. The Confucian morality and wisdom of the ages that officials were assumed to have cultivated in taking the imperial examination was seen a more valid historically guide for making decisions than any set of rules formulated or cases resolved in offices. Here is no room for detailed study on development of intellectual property law in Chinese civilization. See very detailed and rich in documentation book by William P. Alford (1995) To Steal a Book Is an Elegant Offense. Intellectual Property Law in Chinese Civilization, Stanford University Press, Stanford, California.

## 5. State as a "Granter" of Intellectual Property Rights and a Firm (Corporation) as a "Receiver" . Can the State and the Firm Interests be One?

### a. a Receiver

At the time when the American and French patent laws were introduced and during most of the last century when national patent laws were passed in the Western world, the position of the inventor and the organization of inventive activity were in a way more clear than today. With some generalization it can be said, that the inventor at that time was an individual, self-taught, working on his own projects, generally financed by his own resources, and exploiting the results himself. Who is doing research today? Who is supplying the financial means? Who is exploiting the results?

The research is obviously still done by the inventor (more often a team), however his individual position has largely disappeared. First of all, inventive activity is increasingly being carried out by inventors employed by firms in an industry or, to a smaller extent, by special research organizations. Secondly, as was mentioned above, few inventions today can be exclusively attributed to the work of a single individual. Modern technologies are developing within gradually enlarging teams of inventors. The formerly self-employed inventor has to a large extent become an employee of industry, a member of the innovative staff department, and as a consequence the individual, inventing and exploiting his invention by himself has largely been replaced in both capacities by corporations. In addition to the large portion of patents obtained by big corporations, the self supported by government subsidies, and the exploitation of the technology, is relatively greater than that of their smaller competitors due to uneven distribution of the government subsidies.<sup>19</sup> In addition **the competitive market structure has largely been replaced by conditions known as imperfect or monopolistic competition**, and to the sole competitive weapon of earlier days i.e. - price - several new devices had been added such as trade marks and advertisements.

It is also to be said that a patent system is likely to be most useful in inducing innovation in those situations where imitation lags are short, innovative rivalry is not present, or where potential profits from innovations are relatively small to the costs of innovation. Turning to the cost side of the patent process, one of the major costs to society is the **ability of patent owners (corporations) to extract monopoly rents**. This is particularly true when the invention or innovation is conceptually new and there are no substitutes.

The place of the patent system in market economies has always been controversial and ambiguous. **Patents are, after all an institutionalized —if temporary—monopoly in an economic system where monopoly is said to restrict production, raise prices and reduce welfare**. "Monopoly" as prohibited by section 2 of the Sherman Antitrust Act, has two elements: possession of monopoly power in relevant market and willful acquisition or

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<sup>19</sup> See Anderfelt, U. Ibid.

maintenance of that power, as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident<sup>20</sup>. Monopoly means the sole power, right of privilege to sale, just exactly what we understand as an exclusive right. The power to carry on a particular business or trade, manufacture a particular article.<sup>21</sup>

The means of achieving technical progress and of retaining control of its diffusion have become recently increasingly concentrated in the hands of firms making large investments in science and technology, of which **multinational companies are one form, thus leading to a bias in favor of inventors and against the public.**

If a large proportion of technology has been available *de facto*, advanced technology has increasingly become the business of expensive and highly concentrated research, in which critical size is great, available resources are rare and delays between invention and commercialization are long. Countries with limited resources are likely to be excluded.<sup>22</sup>.

The intellectual property system is also trapped in a certain contradiction: tries to promote new knowledge by restricting its use. There are even opinions expressed that since technology is information that is costly to produce but virtually costless to use, it has the characteristic of a public good, and therefore, should be made freely available to all potential users<sup>23</sup>.

#### **b. a Granter**

One of the key feature of intellectual property rights is that this form of property is issued by a special authority. Firstly it was a monarch, then all types of patent offices and similar authorities. It is obvious that the inventor could not give the exclusive rights to himself.<sup>24</sup>

The intellectual property rights model rooted in civil law has yet a "touch" of administrative method of regulation as the official authority grants exclusive rights. At the same time this enables the official authority to exercise a certain type of policy: granting a certain type of patents. **Granting or not granting a patent almost always illustrates all the tendencies in a state's policy towards the new knowledge dissemination.**

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<sup>20</sup> U.S. v. Grinnell Corp., 384 U.S. 563, 86 S.Ct. 1698, 1704, 16 L.Ed2d 778

<sup>21</sup> The old Latin (Roman law) definition of monopoly says: Monopolia dicitur, cum unus solus aliquod genus mercaturae universum emit, pretium ad suum libitum statuet. (It is said to be a monopoly when one person alone buys up the whole of one kind of commodity, fixing a price of his own pleasure.)

<sup>22</sup> See Bertin G.Y. and Wyatt S. (1988). Multinationals and Industrial Property. The Control of the World's Technology, Humanities Press International, Inc. Atlantic Highlands, NJ.

<sup>23</sup> See Arrow, K. and Nelson, R. (1962), "Economic Welfare and Allocation of Resources for Invention" in: The Rate and Direction of Inventive Activity, Princeton University Press.

<sup>24</sup> See for example an extreme patent procedure in medieval England. It was very costly, time-consuming, involving ten major stages and over thirty separate operations. See Coulter, M. (1991) Property in Ideas: The Patent Question in Mid-Victorian Britain, T. Jefferson University Press, Northeast Missouri State University, p. 16

It will be good to mention here that the modern American court theory on patents is to follow the theory of contract. Thus in the case of *Krupp v. Midvale* (191F.588), the Court said that: **"A patent is a written contract between an inventor and the government /../ The consideration on the part of government given to patentee for such disclosure is a monopoly./../"**.

Historically we face a sort of continuity, as the first patents were granted to the producer introducing technology. However also to the inventor. Contemporary, as it was mentioned above that only firm usually has enough financial assets to invest in innovations, therefore finally becomes a holder of exclusive rights. Inventor, being an employee has a right to his salary based on the employment contract, in some legal systems also the creator's (author's) certificate.

Taking into consideration all the mentioned above remarks it is becoming more and more clear that so-called intellectual property rights in fact are nothing else than a certain type of monopoly. **Through the ages of its historical development we can easily see how much the state, together with institutions financing an inventor's work and production of innovation, dictated the whole character of the rights. The state-created monopolies are in addition intentionally scale-biased in favor to the large and powerful against the small and vulnerable.**

The question then arises. Can we think about arrangements other than granting exclusive rights method of encouraging, subsidizing, or financing inventive activity? May it will be more efficient or less costly?

## II. Creation in Agriculture

### 1. Creation on the Farm and in Laboratories.

The culture of using land was one of the first human artifacts. To run a farm we need: land, capital, means of production, labor and organization. The innovative work in agriculture combines three of these factors: work and its organization and means of production.

From the fifth millennium BC until the second half of 19 century, selective breeding was practiced by the farmers themselves, with some attempt at specialization. Until the turn of the century, plant breeding was primarily the business of farmers. At the beginning of the 20th century, plant breeding was still carried on by some farmers, however on a diminishing scale, having been extensively taken over by public authorities. Since the Second World War, variety creation in Western countries has been concentrated in public research agencies and private undertakings, which are beginning to predominate, at least with respect to species of major world -wide economic importance.

Still some of innovations are introduced by the farmers. For example, farmers in Africa are developing new intercropping methods in response to changing conditions<sup>25</sup>. The Mende farmers of Sierra Leone, independent of foreign experts, conduct field trials, test new seeds against different soil types, and compare results.<sup>26</sup> From cassava cultivators in the Dominican Republic to potato growers in the Andes and rice farmers in the Philippines, genuine inventiveness can be found. What we have often called "wild" species may be properly called "associated" species as they are often an integrated part of farming systems and be considered to form part of the intellectual achievements and contributions of rural societies.

However the majority of inventions are brought from outside, mainly from agriculture and research laboratories. Often it is said, that farmers' varieties are much more genetically variable than breeders' varieties. Environmentally speaking this is a strength, not a weakness. In Third World the fields of agriculture, irrigation, forestry, animal husbandry and fisheries are in immediate danger of being wiped out under the impact of policies favoring modern Western practices in all these areas. These practices often adversely affect the productivity of land and are destabilizing the ecological balance. **In the same time they are increasing the dependence of the Third World on the industrialized countries for knowledge and new techniques**<sup>27</sup>.

This phenomena in some cases also concerns the East European countries. For example in present day Poland agriculture is under a pressure from Western financial interests to transform the countryside into large, specialized farm. Polish peasants managed to resist collectivization in the Communist era, but agribusiness interests now threaten to wrest their land from them<sup>28</sup>. It is said very precisely in World Bank Agricultural Strategy for Poland: "Agricultural land and tax policy must be directed to action which leads to amalgamation of holdings, consolidation of plots, effective custom operation and other measures which provide economies of scale in farming"<sup>29</sup>. It seems that the agribusiness manipulation of structural factors may become a more effective means of control than totalitarian coercion<sup>30</sup>.

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<sup>25</sup> Richards, P. (1985). Indigenous African Revolution, London. Hutchison.

<sup>26</sup> Davies, A.G. and Richards, P. (1991). Rain Forest in Mende Life: Resources and Subsistence Strategies in Rural Communities Around the Gola North Forest Reserve (Sierra Leone). A report to the Economic and Social Committee on Overseas Research (ESCOR). Overseas Development Administration, London, UK.

<sup>27</sup> See for instance a General Declaration of the conference "Crisis in Modern Science": "Rice scientists in the Third World should shoulder the responsibility of producing high yielding on their own environment with the application of genetic knowledge and improved agronomic practices in relation to their environment", Third World Network Consumers' Association of Penang, 1988.

<sup>28</sup> See Nagiecki, J. (1996) "Bread and Freedom, Agriculture in Poland", *The Ecologist*, Vol. 26, No 1 p. 13

<sup>29</sup> World Bank, *An Agricultural Strategy for Poland: Report of the Polish European Community*, World Bank Task Force, World Bank, Washington DC, 1990, p. 261.

<sup>30</sup> See Nagiecki, J. *Ibidem*, p. 18

## 2. Looking at Biotechnology Sceptically

The main new technique, highly promoted and publicized in Western countries: **biotechnology** should to be studied especially carefully.

There is convincing opinion expressed by professionals in biology (biotechnology) that biotechnology is being brought to us by the same interests, and using the same logic of progress and development as the Green Revolution. However, it is said to be kinder and gentler<sup>31</sup>. Crouch thinks also that biotechnology is another weapon in the war to destroy all remaining enclaves of self-reliance, **so that everyone in the world will be dependent on transitional corporations and their allies for food, one of the necessities of life.** Biotechnology increases the extent of commercialization of food production. By definition biotechnology is the **manipulation of organisms for the more efficient use by industry.** This inclusive definition would allow techniques like traditional plant breeding as a form of biotechnology. However, in common usage biotechnology refers to new products such as tissue culture, monoclonal antibody production, *in vitro* reproductive techniques and genetic engineering, which result in rapid gains in specificity and control.

To the extent that biotechnology enhances the competitiveness of the market, the ability of most people in the world to have food security will decrease. Biotechnology fits into an industrial agriculture better than into home production. Biotechnology through patents turns something that is not a commodity, and therefore protected by invisibility, **into something of monetary value to be fought over.**<sup>32</sup>

Of the various techniques, genetic engineering is particularly powerful because, unlike traditional breeding, genes can be moved between any species, not just species that are related closely enough to mate. Because the changes in genetically engineered organisms have been designed by specified humans rather than by mother nature or unknown local farmers, the organisms become products that can be **patented or otherwise claimed as private property. If this were not the case, biotechnology would be of little interest to those who fund it. As it is, biotechnology is of tremendous interest to the largest companies in the world: petrochemical and pharmaceutical transnational corporations,**<sup>33</sup>

One example is the proposed introduction of drought tolerance into crops *via* genetic engineering. This is being presented as an example of how biotechnology can be used to improve the lives of poor farmers. The problem is defined as poor people being limited in the amount of food they can grow by the lack of water on their land. The solution is to

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<sup>31</sup> Crouch M. L., (1995). " Biotechnology Is Not Compatible with Sustainable Agriculture", Journal of Agricultural and Environmental Ethics, Vol. 8 No. 2, p.99. There also a rich literature of this approach to the biotechnology issue.

<sup>32</sup> See Crouch, M. L. Ibidem

<sup>33</sup> The United States government funds basic research into molecular biology with the goal of providing a springboard for innovation to keep American agricultural and medical industries competitive. The hundreds of small biotechnology companies have arisen within the last couple of years.

develop plants that can grow better in conditions of water stress. Scientists will take genes from desert plants and put them into corn and beans, and make them available to peasants for free, thus improving their lives. Unfortunately, the history of providing more productive organisms to poor areas from industrial laboratories does not necessarily mean that conditions of the hungry are bettered. Instead, the newly productive endeavor becomes attractive to the commercial sector, and **land that was worthless to the market becomes valuable**. This happened in Central America when more productive cattle were introduced, and although exports of beef boomed, local consumption decreased. "Marginal" forested lands were converted to pastures<sup>34</sup>.

It is said that biotechnology is a commodity being researched and paid for by profit-oriented corporations. Yet even among those who are opposed to corporate control of biotechnology, there are many who argue that genetic engineering has a role to play in developing sustainable agriculture. Biotechnology, however, is a technology that has been shaped by a narrow range of private interests- interests that may be incompatible with demands of an ecologically-sound and socially-just agriculture.<sup>35</sup>

In agriculture, biotechnicians have altered plants and animals for improved nutritional value. They have produced potatoes with more starch and pigs with an increased protein-to-fat ratio. Researches are also attempting to produce larger, faster growing, and more productive agricultural animals that require less feed. Biotechnicians are already altering plants to withstand pests and disease, and they hope to be able to produce plants that fix their own nitrogen and resist drought and cold.<sup>36</sup> These developments apparently raise hopes for an increase in the world's food supply and a decrease in the use of chemicals in agriculture. Is it true?

There are opinions expressed by professionals, that the race to commercialize products of biotechnology has pushed studies of the effects of genetically engineered organisms off the agenda of mainstream science, thus an international moratorium on open-air releases of engineered life forms needs to be enforced until meaningful safety measures can be put in effect. Mechanistic assumption inherent in the very concept of "genetic engineering" reduce the complexity and self-organizing ability of living eco-systems to a belief that life can be "redesigned from the outside". The dominant view not only ignores the uncertainties inherent in genetic experimentation and the overwhelming proportion of instances in which genetically altered organisms do not behave as predicted, but it systematically denigrates more traditional forms of knowledge, upon which genetic engineers increasingly depend for clues about where to look in nature for promising genes to study<sup>37</sup>.

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<sup>34</sup> See Williams, R. G. (1986). Export Agriculture and the Crisis in Central America, Chapel Hill, NC: University of North Carolina Press.

<sup>35</sup> Kloppenburg J, Jr. and Burrows, B. (1996) "Biotechnology to the Rescue? Twelve Reasons Why Biotechnology is Incompatible with Sustainable Agriculture", *The Ecologist*, Vol. 26, No. 2.

<sup>36</sup> See for example Hart, K. (1990) Masking Mythical Monsters, *The Progressive*, March p.22, also Stevens, K.W. (1990), "Bioengineering Points to Better Rice Plant", *N.Y. Times*, Feb.6, at C 1.

<sup>37</sup> See Tokar, B.(1995) " Biotechnology: The Debate Heats up", *Third World Resurgence*, Issue No. 63, pp.4-8

**Knowledge and technologies are social creations.** Nature presents certain constraints. How nature is interpreted is determined largely by those who have the **power to fund research.** The results of research can be unexpected; new knowledge can open up multiple possibilities for future application. A variety of studies have shown that genetically engineered organisms may **act in unexpected ways.** Danish researches recently confirmed that genes inserted into oilseed rape are capable not only of moving to related weeds but of doing so very rapidly.<sup>38</sup>

It is interesting to admit that for the last three years, the United States Department of Agriculture has been awarding grants to university scientists **to evaluate the risks associated with agricultural biotechnology products.**<sup>39</sup>

It is possible also to think of an alternative way, asking: does the existence of possibly useful applications of genetic engineering in agriculture alter this critique of biotechnology?

Claims of imminent danger are symmetrical with claims of imminent benefit, and people do respond to obvious or apparently obvious threats. However, why add to the chemical and biological burden our bodies are already bearing?

Concluding here we may say that with the mentioned above prevailing approach to biotechnology unfortunately all species come to be viewed as little more than sets of genetic codes. The United Nation Convention on Biological Diversity(1992) comes to **be little more than a means to legitimate a market for genes.** It is quite obvious that biotechnology will continue to be dominated by and respond principally to the needs of industry.

### III. Expansion of Intellectual Property Rights.

#### 1. GATT: "Universal Monopoly" Imposed on Sovereign States?

We observe a specific "expansion" of intellectual property rights. In general and especially in this chapter I am not happy with a term: intellectual property rights. A better term is: commercial intellectual property rights as the main aim of obtaining these rights is to sell and take profit. So even more adequately: **commercial rights to intellectual property.** R.M. Sherwood is even saying that intellectual property sometimes is only a little bit more than information with commercial value and can be characterized as a composite of

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<sup>38</sup> See Hill,R.(1994) "OSU Study Finds Genetic Altering of Bacterium Upsets the Natural Order", The Oregonian, 8 August. Leary, W. (1996), "Gene Inserted in a Crop Plant Quickly Spreads to Weeds, a Study Shows", The New York Times, 7 March, p . A8

<sup>39</sup> See Union of Concerned Scientists, USD A Risk Assessment Grants Awarded, The Gene Exchange,, Aug. 1994, p. 4.

"creative expression" plus the states willingness to bestow the status of property<sup>40</sup> and I would add: and also extend to some an exclusive right to monopoly power.

Intellectual property rights are territorial in character, that is, they are created by national laws. Accordingly, there is need for accommodation among nations as their residents seek protection for their works abroad. Attempts to address this problem have generated numerous international treaties .

In the Uruguay Round, intellectual property rights became major topic for negotiation. The resulting "Agreement on Trade Related Aspects of Intellectual Property Rights, including Trade in Counterfeit Goods"(TRIPS) finally adopted in Geneva in December 1993 and signed in Marrakech in April 1994<sup>41</sup> is the most comprehensive international agreement on intellectual property rights ever negotiated. Most developing economies, in turn, initially opposed these negotiations. The TRIPS negotiations, in particular, became a symbol of the North-South divide, even though it was characterized by many points of disagreements among industrialized nations.<sup>42</sup>

The new global rules were established for the protection of intellectual property rights in the Final Act of the Uruguay Round. The Agreement on Trade-Related Aspects of Intellectual Property Rights. It covers the treatment of copyrights, recorded material and patents. For the first time in GATT, intellectual property rights are seen as a **trade topic**. The General Agreement on Tariffs and Trade **obliges signatory states to adopt either a patent or some form of *sui generis* intellectual property rights for plant varieties.**

In some of the economic studies we can find information that intellectual property rights are indeed "trade-related"<sup>43</sup> They indicate, however, that the implementation of TRIPS will have a net trade creating impact.

While the Final Act does establish new procedures for the protection of intellectual property, it does not regulate patents on genetic material. Article 27(2) of the TRIPS states that "Members may exclude from patentability inventions, the prevention within their territory of the commercial exploitation of which is necessary to protect public order or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment".

TRIPS establishes **minimum standards** of protection and guidelines for enforcement, while leaving to the member countries the decision on how to implement these standards. The pursuit of minimum standards of protection requires that governments take positive

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<sup>40</sup> Sherwood, R.M. (1990), Intellectual Property and Economic Development, Boulder, CO: Westview Press, p. 11

<sup>41</sup> Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations.

<sup>42</sup> See Braga, Primo. C.A. (1995) "Trade-Related Intellectual Property Issues: The Uruguay Round Agreement and its Economic Implications" in: The Uruguay Round and the Developing Economies, World Bank Discussion (Martin, W. and Winters, L. A. eds), Washington D.C.

<sup>43</sup> Maskus, K.E. and Penubarti, M. (1994) How Trade Related Are Intellectual Property Rights, Boulder: University of Colorado, p. 22

action with respect to intellectual property rights in contrast with the discipline-based approach followed for trade in goods or trade in services that does not require governments to pursue specific policies. The most significant here is the regulation on standards. The Agreement establishes **minimum standards concerning the availability, scope, and use of intellectual property rights**. Article 27 defines patentable subject matter in a broad way, determining that patents "shall be available for any inventions, whether products or processes, in all fields of technology".

With respect to the term of protection of patents, the Agreement will have a strong harmonizing impact by requiring that it should not be inferior to "a period of twenty years counted from the filing date" Numerous countries will have to change their laws to extend the existing term of protection. The tendency of **gradually lengthening a duration of intellectual property rights** is noteworthy<sup>44</sup>.

This will require many developing countries to revise their patent laws in covering, for example, food, pharmaceutical and chemical products or processes. Exclusions from patentability to protect public order or morality, serious prejudice to the environment, as well as to protect human, animal or plant life, are allowed. However it seems, that these broad exceptions are constrained by the requirement that the nonpatentable invention be also barred from commercial exploitation in the member country. The exemption established in Article 27.3(b) reflects the challenges posed to the patent system by developments in the field of biotechnology. The Agreement allows nonpatentability of plants and animals, in contrast with the U.S. position that favored broad patent coverage. This exclusion, however, does not apply to micro-organisms, microbiological processes, and plant varieties. This outcome implies that countries are required to provide protection for biotechnological inventions - both "frontier" innovations (cell and gene manipulations)

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<sup>44</sup> The United States patent rights had been attacked under the cover of the recent additions to the GATT. Congress passes implementing legislation (Uruguay Round Agreements Act. Pub.L.No 103-435, 1994 U.S.C.C.A.N. 108 Stat. 4809) to ensure that the laws of the United States conformed to these new requirements.

In the implementing legislation was a provision that changed the patent term from seventeen years from the granting of patent to a maximum of twenty years from the filling of the application. The provision was not well publicized until My 1994. The draft of this legislation resulted public and congressional furor over this provision which forced the Senate and House Subcommittees in Intellectual Property to hold hearings on this issue. The result was a "Rube Goldberg" fix to stop the term clock for up to five years for delays caused by specific administrative or court appeals. Unlike other pieces of the GATT implementing legislation, the intellectual property provisions never had a full and public markup. The GATT bill was submitted on "Fast Track" and no amendments were allowed (H.R.Res. 564, 103d Cong., 2d Sess.(1994). **Therefore, those who opposed this one specific provision had to vote against the entire trade bill. Most were not willing to defeat GATT because of this single provision** (bold- M K-I) Patent harmonization has become a Trojan horse that is being used to whittle down America's strong patent system so it conforms to the weaker Japanese and European systems. See: Rohrabacher D. and Crilly, P. (1995) "The Case for Strong Patent System", Harvard Journal of Law and Technology, Vol. 8 No 2..

and more conventional ones (for example fermentation processes) - but may be excluded from patentability traditional breeding methods and higher life organisms.<sup>45</sup>

## 2. "Harmonizing" Intellectual Property Legal Systems.

With respect to plant varieties GATT members are required to provide protection "either by patents or by an effective *sui generis* system or by any combination thereof. Governments can adopt patent laws for plant varieties or they can take on either one of two forms of Plant Breeders' Rights (the 1978 or the 1991 Conventions under the UPOV<sup>46</sup>). Alternatively, they can devise some other form of *sui generis* legislation, such as the United Nations Educational, Scientific and Cultural Organization (UNESCO-WIPO) Model Provisions on Folklore or Inventors' Certificates. Another option, is to take advantage of the coming 4-5 years of monitoring intellectual property rights developments and make a policy decisions sometime before the GATT provisions come under review. Accordingly, many developing countries will either to expand the coverage of their patent systems or to introduce *sui generis* protection (for example plant breeders rights) for plant varieties. UPOV like GATT is an organization developing countries are joining mainly because they do not want to face exclusion from international trade related to plant varieties.

The several-year period available before legislation is required should be used to publicize the inequities of the systems. The UPOV Act of 1978 is more flexible than Act of 1991. Governments had only until the end of 1995 to join under the 1978 rules. It is often said that the foreign firms avoid investing in countries with weak intellectual property rights regimes<sup>47</sup>.

The South and other developing countries cannot realistically reject GATT Agreement as it is almost impossible for these countries to face an economical isolation.<sup>48</sup> The only

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<sup>45</sup> See Braga, Primo C. A. (1995) "Trade-Related Intellectual Property Issues: The Uruguay Round Agreement and Its Economic Implications" in: The Uruguay Round and the Developing Economies, World Bank Discussion, (Martin, W. and Winters, L.A. Eds), Washington D.C.

<sup>46</sup> The acronym UPOV is derived from the French name of the organization, which is: "L'union Internationale pour la Protection des Obtentions Vegetales". The UPOV Convention on protection of new varieties of plants was signed in Paris in 1961, revised in Geneva in 1972, 1978 and 1991. 30 states have joined the UPOV (January 1996). The new 8 countries have initiated with the Council of UPOV the procedure for becoming members of the Union. The UPOV was created to develop and refine a system to recognize and protect the legal rights of plant breeders. It has played a major role in promoting a **standardized level of intellectual property rights in plants in developed countries.**

<sup>47</sup> OECD, (1989) "Economic Arguments for Protecting Intellectual Property Rights Effectively", TC/WP (88) 70, Paris.

<sup>48</sup> It can be observed that the loss of national economic control has been accompanied by a growing concentration of "unaccountable power in international institutions like the IMF, the World Bank, and the GATT. For poor countries, foreign control has been formalized in the World Bank's "structural Adjustment Plans", but IMF decisions and GATT rules affect the economic growth rates of all countries. The decisions of these institutions also have an enormous impact on the global ecology" (Brecher, J. "Global Village or Global Pillage?; Resistance to Top-Down Globalization", in (1994) Global Village/Global Pillage, South End Press book.

feasible means of protecting national sovereignty, at this time, is to consider *sui generis* systems that do not require exclusive monopoly while broadening the intergovernmental challenge to intellectual property over life forms.

Governments can try also to introduce a *sui generis* intellectual property system that varies the years of protection depending upon the species involved (as UPOV does), or excludes certain species (for example, some or all basic food crops). *Sui generis* national laws could vary the scope of protection for different biomaterial categories such as medicinal plants and food crops<sup>49</sup>. The application criteria could also be adjustable depending upon the purpose of the invention or even its origin. Countries can work also on establishing unique rules covering national treatment, licensing provisions (compulsory or automatic licenses), or a system that discriminates in its structure on the basis of nation of origin.

Let me quote Douglas North here: "...many of the property rights laws of successful Western countries have been adopted by the Third World countries. The results, however, are not similar to those in either the United States or other successful Western countries. Although the rules are the same, the enforcement mechanisms, the way enforcement occurs, the norms of behavior, and the subjective models of the actors are not."<sup>50</sup>

It is also interesting to quote the opinion made by the World Bank expert: "From a static perspective, the Agreement **is an exercise in rent transfer from the South to the North** ( bold- M K-I). Its negative welfare implications for developing countries are, however, significantly diluted by the long transitional periods adopted. It is important to recognize, however, that the achievements of the Agreement fall short of the expectations of knowledge-intensive industries in developed countries"<sup>51</sup>.

Many developing countries and developed countries exclude plant varieties from patent protection. In this case of developed countries, however, plant breeders' rights are often available since most of these countries are members of the UPOV Convention. In the case of developing countries, however, membership in UPOV is limited and only few countries provide for their own *sui generis* protection (for example Argentina, Chile, Kenya, Korea, and Zimbabwe).

The changes in UPOV 1991 in comparison to UPOV 1978 are showing a tendency that might lead **to the stage of being indistinguishable from the most monopolistic elements of the utility patent system.** See Table No. 1

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<sup>49</sup> Intellectual property for plants means that medicinal plants that protect 80% of poor people and crop plants that feed us all open to the exclusive monopoly control of companies with largest legal departments.

<sup>50</sup> North, D.C. (1990) *Institutions, Institutional Change and Economic Performance*. Cambridge University Press: Cambridge, p. 101

<sup>51</sup> Braga,Primo.C.A. (1995)" Trade-Related Intellectual Property Issues: The Uruguay Round Agreement and Its Economic Implications" in: The Uruguay Round and the Developing Economies, World Bank Discussion, (Martin, W. and Winters, L.A. eds), Washington D.C. p. 405

**Table 1. Comparison Between Protection by Patent and Protection by Plant Variety Protection<sup>52</sup>**

	<b>Patent Protection</b>	<b>Plant Variety Protection</b>
I. Object of protection	(industrial) invention	plant variety
II. Requirements for protection		
1. documentary examination	required	required
2. field examination	not required	required
3. plant material for testing	not required (may be deposited, however)	required
4. conditions for protection	a. novelty b. industrial applicability c. unobviousness (inventive step) d. an enabling disclosure	a. commercial novelty b. distinctness c. uniformity d. stability e. an appropriate denomination
III. Scope of Protection		
1. determination of scope of protection	determined by the claims of the patent	fixed by the national legislation (or by the UPOV Convention in the case of UPOV member States)
2. use of a protected variety for breeding further varieties	may require the authority of the patentee	does not require authorization of the right holder (research exemption)
3. use of propagating material of the protected variety grown by a farmer for subsequent planting on the same farm	may require the authority of the patentee	does not generally require authorization of the right holder
IV. Variety Denomination	not required	required
V. Term of Protection	20 years from date of application	18 years for trees and vines, 15 years for other species, from date of grant (increased respectively to 25 years and 20 years in the 1991 Act)

Some observers note a regulatory progression, since the forming of UPOV that continuously strengthens the interests of commercial breeders and that can undermine the interests of farmers. The other issue are Farmer's Rights. Farmers' Rights were incorporated into an annex to the FAO Undertaking Resolution (originally established in 1983). Now the FAO Resolution recognizes both: Plant Breeders' Rights and Farmers' Rights. The Earth Summit in Rio (1992) also recognizes Farmers' Rights' and the concept

<sup>52</sup> UPOV/BIK/96/1

appears in Agenda 21<sup>53</sup>. Just the fact that here is a question of making a balance between Farmer's Rights and Breeder's Rights is in the same time a proof that potential conflicts of interest exist.

Intellectual property enhances incentives for commercial breeding, shifting efforts toward the development of varieties with the largest market potential. It seems that crops with less commercial potential that are adapted to specific environmental niches, or that which are better suited to the needs of smaller scale farmers are neglected and they are not profitable in comparison to the ones supported by intellectual property rights. Intellectual property rights provide a stimulus to private-sector breeding or forces public sector research (which is increasingly lacking the funds) to focus its attention on commercial agriculture.

The same corporations that want regulation for intellectual property rights, also want deregulation for biosafety. They want organisms treated as "novel" when it comes to claiming property rights and as "natural" when it comes to taking responsibility<sup>54</sup>.

Intellectual property rights means also that seed companies **obtain a higher return on protected varieties than on unprotectable traditional varieties**. There is strong tendency to make only minor changes in the market leader and rely on marketing to sell the variety as something really new. Intellectual property rights establishes a commercial bias on favor of the newest varieties and, to meet the criteria for plant breeders' rights emphasizes physical distinctiveness and uniformity at the expense of significant genetic variability. This is probably why **intellectual property rights result in increased genetic uniformity** and, where diversity still exists, **more genetic erosion**<sup>55</sup>.

### 3. "Farmer's Privilege" Case

In the 1970s, the seed industry acknowledged the farmers' right to save and sell company-bred seed. In the 1980s, the farmers "right" became a "privilege" as companies failed to hybridize cereals. Corporations complained that, because seeds are biological "photocopiers", farmers could hijack the resale market for their varieties. Today, the revised UPOV convention argues that it should be illegal for farmers to save seed of protected varieties at all (UPOV Act of 1991).

Under the provisions of UPOV 1991, the rights to replant protected cultivars are removed unless individual governments reinstate them (art. 14 of UPOV Act of 1991). In such instances, governments are expected to continue to respect the breeder's interests as far as

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<sup>53</sup> Agenda 21 is a comprehensive set of world governments programs of action to promote sustainable development into the 21 st century.

<sup>54</sup> See Shiva, Vandana (1996) "New Delhi Conference on Global Food Security", International Forum on Globalization, Issue 1, Fall p. 7

<sup>55</sup> See: (1994) People, Plants and Patents. The Impact of Intellectual Property on Biodiversity, Conservation, Trade, and Rural Society, The Crucible Group, International Development Research Centre, Ottawa

possible. Instead there are states, like Poland, (the new law on seed industry, 1995) which are trying to save the farmers privilege to the most possible state introducing the new UPOV approach in the most "delicate" way. However the manifested by UPOV trend can reach a point that would not allow any flexibility in this scope.

In the USA in 1994 the Senate passed a bill (s 1406) that would amend the Plant Variety Protection Act to conform to 1991 revisions of the UPOV Convention. This new amendment require that a farmer's sale of saved seed be subject to the breeder's authorization. It should be noted that the Rural Advancement Foundation International (RAFI) opposed the PVPA amendments, arguing that to restrict the farmer's exemption under the PVPA opens the door to its eventual elimination<sup>35</sup>

As to the European Union law it has been proposed to derogate the scope of the protection conferred by a patent concerning the sale of patented plants: under this derogation, known as the "farmers privilege", farmers are authorized to use the product of their harvests for propagating purposes on their own farms, even if the product in question was patented. The new proposal contains a second derogation from the scope of the protection conferred by a patent, namely in respect of patented breeding stock. Farmers would be authorized to use the protected livestock for breeding purposes on their own farms; in order to replenish their numbers. The new proposals (presented in December 1995) has just started its legislative tour in the European Parliament.

#### **4. "Species" Patents**

The "expansion" of intellectual property rights can be seen very clearly in so called "species" patents. A patent has been granted (USA, 1992), for genetically engineered cotton<sup>57</sup>.

In the patent description we read that " an object of the present invention to genetically engineer whole intact cotton plants and lines" and that "the present invention is thus useful for the general genetic engineering of cotton plants and lines through insertion into the germ line of such plants selected foreign genes".

The patent gives the patent holder a monopoly over all forms of genetically engineered cotton, regardless of germplasm or technique<sup>38</sup>. The patent was granted in the USA,

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<sup>56</sup>. "RAFI believes that the newly revised UPOV treaty substantially strengthens the rights of plant breeders at the expense of farmers /.../ we urge members of Congress to consider the broader social and economic impacts of plant intellectual property rights on farmers, the future of U.S. agriculture and world food security"(Shand, Hope, director of research at RAFI, Hearing on S 1406, September 1993 by the Senate Subcommittee on Agriculture, Research, Conservation and Forestry

<sup>57</sup> Patent No 5159135, filed Aug. 1990, inventor: Umbeck, Paul F., Madison, Wisconsin. The invention relates to the general technology of plant genetic engineering, and is related in particular, to a strategy for the transformation and regeneration of cotton plants (*Gossypium hirsutum* L.) using the Agrobacterium method of plant genetic transformation so as to create novel genetically transformed cotton plants and lines.

<sup>58</sup> See the scope of the claims: (1-7).

although the claim is pending approval in Central America, China, Europe, and other countries and regions. Also had been accepted in India. In Europe the first species patent has been approved by the European Patent Office for a soybean species (in 1994), so the first food crop patent. It may be possible for the applicant to bar transgenic cotton imports into any country recognizing its claim. In 1994 the Indian government took an unusual step for rescinding the cotton patent claim on the grounds that **it was against the best interests of its people.**

We have to remember that in this case the successive generations and further invention related to a species might be subject to the original patent. This is a qualitatively different issue than mere property ownership. The cotton and soybean patents are so broad that an entire research area (genetically engineered cotton and soybean) can be monopolized by one "inventor" (firm) -patent holder. **The question then arises whether the cotton claim has overreached the bounds of acceptable patent law?**

The species patents seem to violate the basic values associated with the law of patentability and commerce and therefore such legal systems remedies like the law of abuse and equity principles rooted in an old concept of natural law are becoming critical to implement.

## **5 How to "Behave" under the GATT Agreement?**

It is quite clear that under the pressure of possible exclusion from encompassing global trade agreement, many countries feel pressed to adopt some form of intellectual property rights protection for plant varieties. There are even some opinions (especially expressed after the Rio Earth Summit of 1992), **that intellectual property rights is the main tool of a new technological colonialism.**

How to approach then the problem of national sovereignty in respect to intellectual property rights? A danger of a kind of international, **universal monopoly** arises. National policies must survive within a regional and global political framework not often of their own choosing and in addition in the absence of reliable global morality.

In accord with the GATT approach it will be also appropriate to quote the European Union objectives of the EU action in intellectual property.: "European Union action in the sphere of Intellectual Property always tries to reach several objectives. When the Union is legislating in this area, it **wants to achieve** (bolded by M K-I)not only a high level of protection of intellectual property, but also other fundamental objectives of the European Union such as the establishment of the Internal Market without frontiers and free competition within this market".<sup>59</sup> Free competition may not be compatible with claims to intellectual property rights.

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<sup>59</sup> Waterschoot, P. "An Overview of Recent Developments in Intellectual Property in the European Union", Director , Directorate General XV\E, EC Commission, at the Fourth Annual Conference on International Intellectual Property Law and Policy, Fordham University School of Law, April 1996.

Talking about the expansion of intellectual property rights we have to be aware that there are societies, countries and **cultures to whom the concept of intellectual property rights itself is foreign**. The Western concept of private property as an universal fact do not exist.

"The absence of legal institutions to protect innovations is evidence of specific feature of indigenous cultures. Their social practices around innovations are likely to be cooperative in orientation, and resemble public goods in their characteristics. The vesting of exclusive rights to indigenous knowledge resources in legally recognized actors destroys the incentives to maintain a collective orientation in the production of indigenous knowledges. This type of knowledge cannot survive as long as interest in them endures on the part of powerful economic and political actors"<sup>50</sup>.

Here we do not discuss the patenting of human living materials, but it should be just mentioned that these extremes are causing alarm. There are additional danger signs of an uncontrolled expansion of intellectual property rights. This also bias the thinking about intellectual property rights like about a **special legal instrument of limited goals**.

## CONCLUSIONS

There are several new constraints concerning the old structure of intellectual property rights. It seems that intellectual property rights from its beginning is an instrument serving to specific interests, **mainly to state and industry interests**. An implementation of intellectual property rights as a tool of profit-oriented industry goals opens a question on genuine inventiveness and genuine human development.

Can we think that human development is based on sell-buy and profit-oriented relationships? Isn't a genuine goal of human societies associated rather with well-being of all members of the society? A decent well-being requires then moral and ethical development which is not necessarily linked to legal and economical powers. "Presumably, economic orders turn on moral contingencies. A proper order presumably would be a moral economy"<sup>61</sup> Transnationals have become the world's most powerful economic actors, yet there are no international equivalents to the national antitrust, consumer protection and other laws that provide a degree of corporate accountability<sup>62</sup>.

Individuals have always been creating in the process of doing work that they see as productive. V. Ostrom says that human beings are always drawing on prior experiences but they need not to be slaves of precedents. New knowledge or discoveries can be

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<sup>60</sup> Agrawal, Arun, (1996)"Not Having One's Cake, Nor Eating It: Intellectual Property and "Indigenous Knowledges", Paper prepared for the Colloquium Series of the Program in Agrarian Studies, Yale University, New Haven, CT, April.

<sup>61</sup> Ostrom V. (1997) The Meaning of Democracy and Vulnerability of Democracies (forthcoming), Ann Arbor University of Michigan Press.

<sup>52</sup>See Brecher, J. Ibid.

acquired by these who have access to a common language without being required to make each discovery anew from individual experience<sup>63</sup>..

Incentives for creativity exist despite the legal system, whether the system is harmonized or not with human desires. **Creative and innovative processes are not necessarily constituted in the same way that an economic order is constituted. It may be scientific and professional circles that are the source of intellectual stimulation not the world economic ordered relationships. Also enforcement of private property depend on communities of shared understanding and preoccupation with private intellectual property rights poorly conceived would be destructive of work in intellectual communities<sup>64</sup>. Exclusive rights does not assure proportionate sharing of contributors to the benefit achieved**

G. Priest<sup>65</sup> wrote that "In the current state of knowledge, economists know almost nothing about the effect on social welfare of the patent system or of other systems of intellectual property".

**The expansion of intellectual property rights concerning agriculture is recognizable in many aspects** First of all governments intervene in the market place to **create private monopolies**. Through the last decades the monopoly privileges of industry have strengthened and the rights of society have weakened. The **tendency of gradually lengthening a duration of intellectual property rights is noteworthy**. There are examples of claims overreaching the bounds of acceptable patent law (for example so-called "species" patents). We have then also the issue of **violation the basic values associated with the law of patentability and commerce**.

In addition we have a tough question concerning international law enacted by powerful international organizations. Formally this type of law, i.e. international treaties (like GATT, UPOV), agreements, conventions spreads out among the member-countries and in addition apparently aims a harmonization of the national laws. Formally it is true. The "other truth" however reveals that very often the law promulgated by the strong international organizations is not based on autonomy of the parties. In some extreme cases it is not only imposing a certain legal solutions but forcing (using the economical measures) introduction to national legal systems of concepts which are odd to their culture and does not fit to the given social and cultural relationships.

Autonomy of parties is a crucial feature of law dealing with persons (natural and legal) on the dialog basis. The eroded international law will not built up a partnership relationships when violating an equality of the parties (states) and their "dignity". The states are becoming an objects rather than subjects to the imposed law.

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<sup>63</sup> Ostrom, V. (1997) Ibid.

<sup>64</sup> Ostrom, V. (1997) Ibid.

<sup>65</sup> (1986) In: Economics of Patents and Copyrights, What Economists Can Tell Lawyers About Intellectual Property. (Palmer, I. and Zerbe, R. eds).

Can we consider the imposed law as being a law in terms of universal good? J.H. Berman is writing about "world law" having in view a very interesting concept of world law based on "common features of the various legal systems of the civilized world, previously characterized as natural law, and mercantile and maritime law, which were examples of the customary law of transnational communities whose members were typically citizens of more than one state"<sup>66</sup> Berman addressing world economy thinks primarily on economic enterprises rather than international or even transnational economy. An accent in Berman's concept is put on integration of communities. However we have to remember that lack of a certain values within law of international agreements can cause a basic question on law attributes. For example: can sovereign states be required to adopt systems of intellectual property rights in areas that risk the well-being of their peoples or that jeopardize the biological diversity within their borders?

We have then a fundamental issue of understanding the law essence or at least the main legal attributes. We should openly think about sacred values present in normative systems, having normative force.<sup>67</sup> J.H. Berman says that we "often speak of what law requires of religion and only rarely of what religion requires of law" and he concludes that "only a shared faith in the common destiny of mankind gradually to form a world community will provide the vision and the emotional support necessary to the continued creation of a world order governed by law".<sup>68</sup> Here I will repeat again what I said in the introduction. Only a presence of the values which are not man-made but God's -made will be a proof that we are going a right direction.

The term law can easily lose its meaning and become a "nonrejectable offer" in favor of the offerent when the equal position of parties in legal relationships does not exist. In international relationships the law shaped in order to submit the economically and politically weaker parties is becoming a law of tyranny, wrapped in "harmonization" paper.

The role and "calling" of law (civil law) is creating such a framework so that a human being would not be lost among the masses and pursuing the higher aims would enrich rather than impoverish his or her personality<sup>69</sup>. The contemporary intellectual property rights development is becoming rather a source of injustice, conflicts and various traps than a source of enrichment of people relationships.

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<sup>66</sup> Berman, H. J.(1995) "World Law", Fordham International Law Journal, Vol. 18, No 5 p.1622

<sup>67</sup> See Kozłowski, T. (1995), "Discovering the Authority Lost", *Stadia Iuridica*, Vol. 30, Warsaw University Press, p. 34

<sup>68</sup> Berman, J. H. (1994), "Law and Logos", *DePaul Law Review*, Vol. 44, No 1, p.164

<sup>69</sup> Stelmachowski, A. (1984), *Wstęp do Teorii Prawa Cywilnego*. Warszawa, p.483

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