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In search of Common Goals among Opponents: The Example of Intellectual Property Rights

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If we do not change our direction, we are likely to end up where we are headed. *Chinese Proverb.*

Whether we are believers or non-believers, perhaps the time has come to focus more on Inner Space. *Prince Sadruddin Aga Khan¹.*

The Concepts of Property and of Intellectual Property (IP)

Property rights come in two forms: intellectual and tangible (or material). Whereas the tangible property (TP) rights appear in natural ecosystems where certain species defend their property against others (both tangible property and spatial), intellectual property (IP) rights are philosophical and social constructs, closely associated to “western” history and thought. In the case of IP, it is a negative right granted for a limited period of time by a nation-state to the owner (a person or an institution) to keep others from appropriating the invention. In the case of TP, the right is similar but generally not limited in time.

In essence, both rights are nothing but distinctions between **mine** and **yours**, a distinction that has been around since time immemorial and that has always characterized social and political organization (IP and TP in human societies and TP in natural ecosystems). As is the case for just about any important concept, Plato and Aristotle in one way or another laid the groundwork for subsequent analyses; this is no different for the nature of property and its relation to “private” and “public”. In Plato’s **Republic** and Aristotle’s **Politics**, both philosophers discuss the nature of justice and its relation to **ideal** politics but they advance opposing views. For Plato, private property is an impediment to the virtue of his perfect **polity**, whereas for Aristotle private property is a necessary requisite to achieve excellence. The arguments of both are compelling; Plato’s main argument is based on the notion that the ruling class seeks within itself total commonality to gain unity and eradicate the corruption of wealth. Presenting his argument backwards in a highly simplified manner, Plato argues that to have virtue in a city, it must have unity; to have unity it must have total community; to have this community, all things private must be abolished. Aristotle, however, takes an opposing view and approach on virtue and property, severely criticizing his own teacher’s proposals. Quite logically, he first questions whether unity of a polity is a worthwhile goal; but most importantly, he argues that even if such a unity was desirable, Plato’s perfect polity would render it impracticable, partly because the roots of evil are in men’s (**sic**) inherent wickedness (rather than generated through private property). According to Aristotle, people gain great pleasure from being able to call something their own. And most importantly, he argues that “that which is common to the greatest number has the least care bestowed upon it” (**Politics II**, 1261b33). If all property can be called both **mine** and **not mine** at the same time, it will usually tend to become neither!

¹ *Closing Statement at a Conference on Globalization. Aga Khan, S. (Editor). 1998. Policing the Global Economy: Why, How and for Whom? Proceedings of the International Conference organized by the Bellerive Foundation and GLOBE International, Co-Sponsored by the W. Alton Jones Foundation, Inc. Geneva, March 1998. Cameron May Ltd. London.*



Aristotle's analysis of private property—of what it should be and how it should be administered—has not been radically improved upon and is still very relevant today. It provides a critical foundation for understanding the **Tragedy of the Commons** 2 (a term given currency by Garrett Hardin,³ who builds upon Aristotle's claim that what is common to all has the least care bestowed upon it by individuals) and of the **Tragedy of the Anti-Commons** (i.e. the sub-optimal use of resources when too much is in private hands)⁴. In many respects, the discourse of Plato and Aristotle was last resuscitated fundamentally by theologians with property being regarded as the source of evil, capable of corrupting the soul and leading to sin. St. Augustine of Hippo (354-430 AD) "solved" the riddle by stipulating that a property-less society could only exist in Paradise because it required perfection to succeed.

The "modern" IP system that prevails today evolved during the medieval period in Europe, became legalized through the establishment of a patent system in the late eighteenth-century, and was formalized by the 1883 Paris Convention. The terms of the Paris Convention are still in effect today. Its aim was the "protection of industrial property" which has as its object "patents, utility models, industrial designs, trademarks, service marks, trade names, indications of source or appellations of origin, and the repression of unfair competition."

But at the same time that private property rights were being firmly established, Karl Marx and others offered an alternative (which was considered revolutionary at the time though Plato would perhaps have disagreed) by postulating that "private property is theft". Our experience with communism, however, suggests that Aristotle's claim about the relationship of private property to prosperity has been vindicated. Communal property systems do not generate as much wealth as private property systems. There are many examples of this, even in the USA. Tom Bethell⁵, for example, who had set his mind on finding an explanation for the wealth of nations, discovers that those nations through the ages who protected and defended private property were those that generated most prosperity. Bethell's book should be required reading for anyone who believes that governments (or more properly public ownership) is always or even often the best solution to today's problems. His conclusions are somewhat extreme at times (for example, he seems somewhat paranoid about threats to property rights today in the USA), but he makes many valid points. Then and now many local and indigenous societies still have different property regimes,

2 *"Even supposing that it were best for the community to have the greatest degree of unity, this unity is by no means proved to follow from the fact of all men saying 'mine' and 'not mine' at the same instant of time, which, according to Socrates, is the sign of perfect unity in a state... That which is common to the greatest number has the least care bestowed upon it. Every one thinks chiefly of his own, hardly at all of the common interest... Everybody is more inclined to neglect the duty which he expects another to fulfill..." (Aristotle, Politics II).*

3 Hardin, G. 1968. *Tragedy of the Commons*. *Science* 162:1243-1248.

4 *When the common (interdependent or complementary) aspects of knowledge is divided into multiple competing, overlapping, or mutually blocking private property claims, the value of the public economic benefits that would otherwise have arisen from the common accessibility of these resources are diminished. Then, furthermore, if the resulting patent rights cannot be traded, the inventor-owners of these piecemealed resources are not able even to negotiate or purchase access to the other matching pieces that they need simply to make use of their own, in which case the power of the private incentives to innovate is sapped. The cumulative result is a crisis in research and innovation productivity that has been quite aptly dubbed 'the tragedy of the anti-commons' by Michael Heller and Rebecca Eisenberg. 1998. Can Patents Deter Innovation? The Anticommons in Biomedical Research. *Science*, 1 May 1998.*



such as for example, those based on communal property. Many modern societies in the developing world, on the other hand, whereas they have private property rights, too many are not official which, according to Hernando de Soto ⁶, is the real reason why capitalism in the developing world failed.

Bethell describes the experience of settlers in what was then the British colonies in the New World. In Jamestown, Virginia, for example, settlers were mostly servants who were required to deposit all their production in a common store which would then be distributed in equal parts to all. As a consequence, nobody worked very hard and famine and death followed. A new governor changed the policy and allowed colonists to work their own land, paying only a portion to the store (a form of flat tax). Production soared. Noteworthy is that the communal system had not been implemented for ideological reasons, but imposed by the business men who had financed their voyage to the USA. Traditionally, it is not the business establishment that calls for the abolishment of private property, but the proletariat or working class.

Today the existence of property rights **per se** is no longer really debated in any serious fashion. We see demonstrators, activists, and pressure groups, but fundamentally there is no serious debate about private property. Two things, however, are being called for. First, critics of the existing system seek ways to bridge the gap between the concepts of property rights in the west and the property systems of indigenous people. Studying their systems provides unique insights into how different groups consider property. Rather than debate aspects from a purely ideological perspective, more studies are needed to better understand indigenous groups and perhaps, through such studies, new thinking may ensue. What is needed are new ideas and solutions on how to **bridge** different systems of ownership so that these societies can benefit from the western system rather than be exploited by it.

It must be emphasized that intellectual property rights (IPRs) are really a “modern” invention. Besides the western statutory tools ⁷ of IP protection, no society really has such systems with the exception of trade secrets. For example, the knowledge of medicine men were only passed on to specially selected individuals but that knowledge was closely guarded. With new technologies, particularly biotechnology, much of that knowledge could be appropriated; a process much enforced with globalization.

Globalization: A New Rigged Democracy?

Globalization is not a policy anymore, but a fact. Nor can it be denied that globalization has exacerbated inequality. Some would argue that this is simply because some countries are not globalizing. The disagreements on this issue, however, have generated much heat and little light because what is meant by “globalization” is never clearly defined.

5 Bethell, T. 1999. *The Noblest Triumph: Property and Prosperity through the Ages*. St. Martin's Press: New York, NY.

6 de Soto, H. 2000. *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else*. Bantam Press. London.

7 Copyrights, trademarks, patents, trade secrets/know-how, and plant variety protection/plant breeders' rights.



The first level of globalization is the **economic** dimension caused by revolutions in capital and information flows, international business regimes, and trade. The subsequent specialization and integration of companies makes possible a tremendous increase in aggregate wealth integration. What the efficiency gain of the “new corporation” achieves is an accelerated pace of innovation and scientific development. It is noteworthy that during the 1990s the economies of the developing world that were integrating themselves into the world economy grew more than twice as much as developed countries which were already integrated to a large extent. The non-globalizers, however, grew only half as much as developed countries. But this economic process has occurred partly at the expense of social justice. The “new corporation” is more isolated than ever before from the society in which it operates. This disconnect has been created by easier access to markets and trade and by stronger pressures to become more profitable—not least because companies are now run (or are responsible to) financiers as opposed to “industrialists”. Henry Ford was arguably much more integrated into the local economy; his now famous dictum, “I pay my workers so they can buy my cars” represents an integration of his production and market approach with the local workforce that contemporary companies no longer possess.

Economic globalization also exacerbated inequalities because it occurred so quickly. The liberalization of trade should have been much more gradual, for how can it benefit a country that does not export much? In fact, for a number of economies in Central Asia, Latin America, the Middle East, and across Africa, trade is actually decreasing in relation to national incomes. This is particularly true in Muslim countries, from Bangladesh to Morocco, and poses a special problem for global stability.

The globalization of **science and technology** accompanied economic globalization, both of which mutually reinforce each other. This is particularly the case with IP because it leads to an appropriation of science, including—or especially—publicly funded science. Hence many argue that the “modern” IP system has gone too far, as epitomized in the huge sums of moneys companies spend to obtain freedom-to-operate (i.e. transaction costs) or in litigation, which excludes smaller companies from the market and results in a sub-optimal use of innovation. An alternative view that could be advanced is not that IP regimes are at fault, but the way public science is being appropriated.

Somewhat surprisingly from an economic perspective, technological innovations have not spread to those who most need them even though they could be obtained in theory by many more countries at low marginal cost. Companies, in fact, would benefit from significantly increased market shares. Differential pricing would be a prerequisite but could be managed ⁸. It is increasingly being argued ⁹ that the inclusion of the nearly 4 billion people with purchasing power of less than \$2,000 and of the nearly 2 billion people with \$2,000-\$20,000 purchasing power would increase the global marketplace by 10 to 15 times. (Today, only around 200 million people have purchasing power of over \$20,000).

⁸ *Without wanting to go into any details, for differential pricing to work in pharmaceuticals, at least, developed countries' pricing policies would need to change and effective measures against parallel imports would also need to be implemented.*

⁹ *E.g. Prahalad, C.K and A. Hammond. 2002. Serving the World's Poor, Profitably. Harvard Business Review. September 2002.*



A third dimension of globalization is **political**. Until the end of the cold war, global policy formulation was considered to be the sole prerogative of nation-states, expressed in part through foreign policy and in part through multilateral institutions. The end of the cold war, however, which coincided with the rise of the internet, mass communication, and arguably the biggest and most powerful wave of liberal economic fundamentalism in history (the “Chicago School” of economists whose most prominent flag carriers were Margaret Thatcher and Ronald Reagan), made possible the current wave of globalization. Today people have much easier access to information and can more easily influence global affairs through “soft” power. Interestingly, the increased power of civil and non-governmental organizations (NGOs) is even less accountable to democratic institutions than many governments. Indeed, civil society is not immune to the political problems that beset globalization. The structural connections that link NGOs to the people are informal, with the result that they are able to abuse their privileged place in civil society as much as corporations and governments. It is naive to believe that the self-interest of individuals and institutions plays no role in their decisions. After all, few can afford to operate altruistically if they want to survive, let alone grow.

To illustrate the point, until the late 1980s, agriculture in the developing world had primarily been handled by nation-states and multilateral organizations. Arguably, no other area has changed more dramatically than agriculture in the last decades. As economic and scientific globalization have radically reshaped agricultural research and production, the established political and institutional boundaries of institutions created a generation or more ago no longer fit well with current realities. A case in point would be the Consultative Group for International Agricultural Research (CGIAR), a loose amalgamation of 16 agricultural institutes that work for the benefit of developing country agriculture. Institutes of the CGIAR were responsible for the Green Revolution ¹⁰ of the 1960s and 1970s in wheat and rice. But today the CGIAR system is in financial dire straits, leaderless, and unable to institute overdue reforms due to its multi-stakeholder system of governance. The opening of markets is increasing the effects on the rural poor, but there are no effective institutions able to mitigate the social costs of liberalization. Not only are investments to generate technology inadequate, those used to transfer existing technologies, such as the ones the CGIAR undertakes, have been quite abysmal. This is particularly devastating because the work of these centers is conceivably more important than ever from a strategic point of view.

Stanley Hoffman ¹¹ argues that there is yet another dimension of globalization, namely a **cultural** one, resulting from the increased flow of cultural goods, and resulting in uniformization. This cultural globalization is leading to a cultural “disenchantment of the world” (a phrase borrowed from Max Weber). Cultural globalization appears most prominently in the area related to property rights because of the clash between the “public good” and the “private good”. Its impact in agriculture was profoundly felt in the debate over access to genetic resources, epitomized in the 1980s during the so-called “seed war”. This is also an area where we have a painful reminder of “why governments can’t make policy” ¹².

¹⁰ For which Norman E Borlaug received the Nobel Prize for Peace in 1971 for his work at the International Wheat and Maize Improvement Center in Mexico, better known through its Spanish acronym, CIMMYT, which led to India doubling its wheat production in the 1960s and averting a Malthusian famine.

¹¹ Hoffman, S. 2002. *Clash of Globalizations*, *Foreign Affairs* 81(4).

¹² Petit, M., C. Fowler, W. Collins, C. Correa, and C-G Thornström. 2001. *Why Governments Can't Make Policy: The case of plant genetic resources in the international arena*. CIP: Peru.



Finally, the combined effects of the economic, political, scientific/technological, and cultural globalization have led to the slow emergence of yet another dimension to globalization: a universal consciousness which might conceivably be termed a **spiritual** globalization. Never in history have there been so many people so conscious of humanity's inter-dependence, of the fragility of our interchanges, of the vulnerability—and value—of our shared environment. The pictures of planet Earth beamed back to us in the 1960s from the first voyages to the moon led us to realize that we shared a small planet, and it led to the creation of Greenpeace and other movements to protect our global village. The mayhem in the financial markets of the 1990s, with the shock-waves that almost instantaneously traveled the world and made hundred of millions of people poor overnight, forced us to open our eyes to the defenselessness and unfairness of the new global economic order; it led to the demonstrations at the World Trade Organization's meeting in Seattle in 1999 by those disenchanted with the New World Order, though their alternative visions of the future could hardly be called well formulated. The pandemonium created on September 11 by embittered would-be martyrs generated the latest wave of soul searching and longing for new values. But not even these events have led to fundamentally new ideas about how to "manage" or structure the global economy, with an appropriate control and equitable distribution of the benefits of the "Commanding Heights" 13. Perhaps idealistic leadership is too idealistic in a totally materialistic world!

Whereas arguably culture should be protected from globalization in order to protect identity, we also want to benefit from the cultural heritage of others, such as ethnic foods, folkloric dresses, movies, native music, poetry and prose, and much more. How much have our lives been enriched by easier access to other cultural expressions and heritages? The problem is that this cultural export is being dominated by the economic might of one country that above all arguably lacks its own culture: the USA (or the "McDonaldization and Disneyfication" phenomenon). The dilemma is that cultural export from a myriad of countries and cultures cannot happen without economic globalization. Whether or not economic globalization should therefore be strengthened is a difficult question. On the one hand, it has the potential to reduce global inequality and engender a stronger sense of world citizenship, since individuals in different parts of the world would have an equal stake in economic growth, environmental stewardship, and social stability. On the other hand, unless this economic globalization includes and involves the poor, policies that encourage such globalization will lead to increased inequity, instability, and social mayhem rather than peace. In either case, however, economic globalization leads to cultural globalization.

The problems are closely relate to those made in the preceding paragraph and are perhaps best summarized by Michel Petit's Foreword: "The paralysis resulting from the inability of governments to compromise and reach agreement is a very real threat to the continuation of the current international activities aimed at conserving and utilizing genetic resources for agricultural purposes. As the international stalemate continues, and indeed deteriorates, more restrictions to access are being contemplated, mainly in developing countries, as direct responses to the increasing number of patents being granted with wider and wider scope of protection in developed countries. Admittedly, conflicts over the ownership and use of plants are ancient, dating back at least several thousand years. [...] The tragedy is that unless the international community becomes much more aware than it is now that the current drift is caused by the pursuit of narrow, often obscure and questionable national interests, and threatens a collective undertaking which has been very successful..."



As Jim Hoagland ¹⁴ recently observed, it used to be said that war was too important to be left to the generals. Today, peace is too fragile to be left to the politicians and diplomats. Issues concerning cultural globalization are driving us toward the least beneficial form of economic globalization, as can be seen in the debate about IP. So far we have had only a clash of concepts that has resolved nothing. And this on a topic that is absolutely central. Resistance to unjust forms of globalization relies on the principle that we must respect each other's property, including IP, and yet the cultural definitions of "property" have not carefully worked through. An example is discussed below.

¹³ The "Commanding Heights" are the key industries of an economy, a term coined by Lenin but popularized by the Pulitzer Prize winning book of Daniel Yergin and Joseph Stanislaw. 2001. *The Commanding Heights: The Battle for the World Economy*.

¹⁴ *International Herald Tribune*, 4 October 2002.



Protecting Indigenous Knowledge: A Case Study of “Landraces”

As a case study, the situation of “landraces” is discussed in more detail to demonstrate the difficulty in bridging the “western” system of IP with indigenous “concepts”. The case is also intended to highlight the often confused notions of IP and tangible/material property.

Since the eras of conquest, conversion, and colonization, the indigenous peoples of the world have been striving to regain what was initially theirs. Much of that struggle has focused on the right to use and control land, both for subsistence and for spiritual reasons. During the periods of “Manifest Destiny” and similar doctrines in the 19th Century, these efforts had limited broad sympathy but little success. In the 20th Century, this began to change slightly, not least with the reversion in 1971 of portions of the state of Alaska in the USA to the control of its indigenous peoples.

With the Rio conference ¹⁵, the situation of indigenous peoples has again received world-wide attention, albeit still from limited quarters. This attention is connected with the growing perception that indigenous peoples represent diversity in an increasingly interconnected world that increasingly operates on models of western economics and cultural precepts. In this context, the parity of cultural contributions is becoming appreciated. At the same time indigenous peoples are taking more opportunities to express their expectations in world forums. For example, the United Nations Working Group on Indigenous Populations, a subsidiary of the Sub-Commission on Prevention of Discrimination and Protection of Minorities, was established in 1982. It has contributed to the United Nations in several ways, declaring 1993 as the International Year of Indigenous People, and the decade of 1995-2004 as the International Decade for the World’s Indigenous Peoples. Additionally, indigenous peoples are specifically identified in several modern treaties, such as the Convention on Biological Diversity (e.g. Article 8(j) for respecting, preserving and maintaining their knowledge).

That Convention also recognizes the vital knowledge that indigenous peoples possess and that could benefit present and future generations. This adds a further dimension to the protection of the rights of indigenous peoples. There is no question about the invaluable contribution of indigenous peoples and their knowledge to the richness of cultural practices and the understanding and preservation of ecological systems. What has been difficult and sometimes contentious is recognizing and accrediting this knowledge, as well as enforcing such rights. This has been particularly true for the use of genetic materials, notably for medicinal purposes, and expressions of cultural practices in music and dress. These are both the commercially more valuable expressions of indigenous knowledge and the culturally most sensitive, making a broadly agreeable resolution both difficult and important. Various efforts are being put forth to encourage wider identification of the sources of such knowledge, and to protect the cultures that uphold this knowledge.

Because indigenous knowledge is by and large already known, the use of the term IPR is inappropriate and certainly confusing. In western terminology, only new inventions are protectable; what is already known is not. Other terms and other forms of protection are needed. The

¹⁵ UNCED 1992, or the United Nations Conference on the Environment and Development.



mechanism of protection could be contracts, but these have the downside of not binding non-signatories or third parties. Secrecy could become a critical control mechanism, but even secrecy is not generally possible since the knowledge is communal and spread within a community at least. Secrecy may also be undesirable to indigenous peoples because it conflicts with many notions of fairness.

A case in point is the situation with genetic resources. Within genetic resources in general are the more delineated “landraces” of local agricultural importance. Landraces are plants of agricultural value which have been used over decades in traditional farming systems, but which do not conform to the accepted definition of a protectable “variety” (which are “distinctness”, “uniformity” and “stability”). Often heterogenous, they are highly unlikely to satisfy the uniformity criteria. The on-going nature of the farmer’s own selection activities, moreover, will usually affect the stability criteria as well. However, it is worthwhile remembering that all cultivated plants were landraces prior to the emergence of modern plant breeding, when such things as stability and uniformity became important in a more commercial farming environment. Furthermore, the suggestion that such landraces are little more than “wild plants” ignores the input of many generations of farmers in deliberately selecting improved plants to be planted as seed. Yet the price of modern varieties does not include the “background” material, or the value of all the genes; farmers are only paying for the “value added” of one variety compared to public material available to all. This is very important and rarely understood. It erroneously led the Food and Agriculture Organization (FAO) to estimate that the recently enacted International Treaty on Plant Genetic Resources for Food and Agriculture would leverage \$800 million per annum. Such outrageous estimates create expectations that will never be fulfilled, which is not completely surprising given that the FAO Treaty is merely a political exercise.

It must be stated, however, that the gene-pool that landraces contain is becoming recognised for its “potential” value in the future, while at the same time, the very success of modern plant breeding is threatening their continued *in situ* use. Clearly, farmers and local communities who still maintain landraces deserve a return on their contributions, particularly if and when their materials are used by others. How this is to be achieved remains elusive, not least because the language in this field is filled with paradoxes, inconsistencies, and double standards.

Many institutions and individuals who believe that they are representing the interests of local communities have adopted a strong stance against IPRs and ownership of life forms. Yet, at the same time, many call for systems to protect landraces and indigenous communities’ germplasm¹⁶, supported by the Convention on Biological Diversity with its specification of the use of genetic resources as the “sovereign right” of national governments. This double standard is neither logical nor constructive and has fallen short of rewarding local communities for past contributions. Nor has it encouraged local farmers to conserve landraces.

It should be noted that one reason for the lack of a formal protection system of landraces is that the marginal economic value of using a landrace in a breeding program is extremely low. As a consequence, the revenue that could be generated from protecting landraces is low and would

¹⁶ E.g. Nijar, GS. 1999. *Sui generis law for plant varieties: preserving the knowledge and creativity of traditional breeders—A Third World view.*

<http://www.twinside.org.sg/title/sui-cn.htm>



be unlikely to cover the cost of a formal landrace protection system. The fact that there might be value in the future makes an economic valuation of present value uncertain or even impossible.

Landraces and related genetic materials do not fit into the modern IP systems for reasons already described above: in addition to the uniformity and stability criteria mentioned above, a new variety must be novel and not previously sold. Landraces, by definition, are known and have been used for many years by local communities. One can therefore ask whether the existing IP system for plant varieties should be modified to include landraces. A modified system, however, is unlikely to meet the needs of both modern varieties and landraces. The established systems were simply not designed to encompass the characteristics of landraces and doing so would destroy the advantages of the current plant variety protection systems. Whereas many modifications have been proposed, none meets both requirements. This has led many to conclude that perhaps the best option is to implement a parallel system. But designing such a parallel system, although desirable in principle, has so far eluded the international community, not least because of the costs associated in administering it and the unique requirements for a landrace system. An attempt to list only three criteria any new system or modification would need to satisfy is discussed below.

One criteria would be “equity”. Issues of fairness are strongly personally, culturally and religiously based. At present there is no system world-wide, and even nationally, for weighing different perspectives on “morality”. But at the very least, achieving equity implies a balancing of interests. Clearly, developers and maintainers of landraces are owed something for their efforts. But many have benefited in part from the use of the improved varieties incorporating that traditional genetic material. How is that benefit to be weighed against the debt? Resolving the matter of what is owed to whom and for what will be extremely difficult to reach. And until the equity objectives are identified the IPR system for implementing them cannot be crafted effectively.

Another criteria is “incentives”. The need for incentives to maintain even current levels of diversity are quite clear. Market forces increasingly are causing farmers to replace traditional landraces with improved varieties. Hence the maintenance of landrace use would seem to depend on some form of incentive. Clearly, compelling groups to maintain certain agricultural practices is repugnant, likely unworkable, and inequitable, since these groups are often poor. The issue then is what kind of incentives would be effective. Direct compensation is of questionable utility, not least because of the difficulty of implementing and monitoring it in multiple, small, and often remote villages. An unfortunate outcome would be compensating local farmers and losing the landraces anyway, a likely result of incentives with no oversight.

“Access” would be yet another criterion. From a global perspective, the most significant aspect of a new IPR system is the implication for access to protected materials. Access, if that point really needs to be made again, is essential to maintaining a vital agricultural sector serving the dual needs of a growing population and a diminished natural environment. Such access need not be free in the sense of without charge, but it must be open for research and for development. There are numerous other aspects to this issue, particularly the degree to which owners can effectively restrict access to seeds marketed anywhere in the world and the access to deposits of non marketed seeds under UPOV, but these exceed the scope of this paper. The point to be made is that the absence of an IPR system can be as, if not more, detrimental to research access than



can existing IPR systems. In that respect, an IPR system for landraces could be preferable to its current absence if it contained a research exemption similar to that in existing IPR.

It is apparent that a true satisfaction of any of the three criteria discussed here must await a clearer delineation of the specific objectives. It is easy to support equity; far more difficult to determine what it in fact consists of. Until such a clarification is made - a demanding task in its own right - a simple collection of funds will have to serve, as imperfect as that may be for reconciling a complex matter.

The matter is made more complex for technical reasons. Landraces are groups of plants, making it difficult to describe what exactly they are and where they originated. Both characteristics are an integral part of the modern system of plant variety protection (or IP in plants). The fact that the materials are identified in the wild rather than developed through formal breeding is itself not a hindrance to a formal patenting procedure. Precedence has been established with the patenting of microorganisms identified in the wild so long as the application is in a “culturally pure” form to reflect human intervention and a reference sample is deposited in place of a written description. However, the heterogenous nature of landraces seems to preclude this. Petty patents (requiring a lower level of description and providing shorter terms of protection) also have their limitations in that they are usually designed for and specifically limited to manufacturing products, although Kenya has an example of an extension of petty patents to protect traditional medical knowledge, an example which should be studied for effectiveness and applicability elsewhere.

There is another option which can be considered, at least in the interim. Whereas the Convention on Biological Diversity and other forums often talk about “equity” and “benefit sharing”, terminology such as “licensing” and “contracts” is rarely used. Yet these are the typical instruments industry is familiar with and uses extensively. Contracts are being employed in many instances to transfer genetic materials, such as the material transfer agreements used by the centres of the CGIAR for access to gene-bank materials. With such a documented system of access, it is possible to add appropriate royalty conditions in the event of subsequent commercialisation. The same enforcement limitations seen for plant protection systems also exist and there are other drawbacks with this approach (contracts are binding only on the signatories—anyone else who gains access of the materials is free to use them, subject to trade secret laws). But as with all partnership agreements, some goodwill is needed. In addition, if collaboration leads to mutual dependency, then contracts provide a simple and rather inexpensive approach. Notwithstanding this, as mentioned above, little near-term economic value is embedded in the landraces and hence whatever access/protection regime is designed will have little impact on a more humane world.

Partly as a result of having recognized this fact, the international development community has, at least since Rio 1992, been calling for preferential access to and increased efforts for the transfer of developed country technologies. But technology transfer has so far not been the silver bullet that will solve the effects of poverty and inequality. In fact, technology transfer has become a much more complex endeavour (paradoxically, partly due to globalization) that is also grossly underfunded.



Transferring IPRs and Technology: A Process to Lessen Inequity?

For a very long time technology transfer has been linear: international technology transfer is said to take place when an existing technique of production is moved from one location to another. The movement may be from a research institute to another entity in another country, or from one production entity to another. It involves discovery, development, evaluation, acquisition, adaptation, and implementation. In practice, much is transferred based on relationships, but few such relationships exist. The main reason why technologies are not transferred to the poorest is not the lack of needs, but the lack of capacity, regulations, and diffusion mechanisms.

This linear model of technology transfer has radically changed with the advent of globalization and with the emergence of the life sciences (*viz.* biotechnology). It is now interactive between downstream and upstream actors and interwoven between public and private actors, adding several additional layers of constraints and challenges. In biotechnology in particular, transfers happen in both ways, within and between public/private networks. Those who are outside the network have difficulties getting in, not least because of the high transaction costs associated with IP management. At a time when the country with the biggest economy (USA) spends \$90 billion in public institutions on basic science, applied research, and development (which is approx. ten times what the developing world spends combined), most of the research outputs are protected by IPRs and licensed to companies. Hence most of this research output is entangled in a web of IP and can no longer readily be transferred. Part of this systemic change has been brought about by the complexity and cost of the technology and related regulations, by the ubiquity of IPRs, by the evolving roles of the public and private sectors, and by a new mindset that has resulted from the early stage of the latest phase of globalization.

In international development, technology transfer is further obscured by a series of forces unleashed by globalization. The liberal economic fundamentalism of the 1980s and early 1990s, although no longer in fashion, has caused a series of new actors to emerge and to force established actors to assume new roles. For example, the private sector has become an important pillar in development policy ¹⁷ with NGOs and civic society taking on an increasingly complex series of responsibilities, not least that of technology diffusion. Most significantly, however, existing institutions that cushioned the negative effects of change in the past have been weakened.

Concurrent with this change, perhaps itself being driven by a new emerging globalized “consciousness”, economic policy formulation is becoming more reactive rather than proactive. Bilateral policy in many ways is still based on the linear model with policy makers/advisers strongly discipline oriented. More importantly, however, bilateral development strategy is inappropriately influenced by geopolitical interests and historical national or personal relationships; a strong entrenchment in the way things have always been done. Policies are often patronising to developing countries and can be summed up in the motto “Do as I say, not as I do”. Multilateral institutions suffer from this same and an even wider range of problems, not least being profoundly under-funded, which make their effects accordingly half-baked. Equally importantly, their policy formulation processes are quite often in shambles. The major multilateral financial institutions

¹⁷ Witness for example the call in Johannesburg (World Summit on Sustainable Development) for more public-private partnerships in the energy sector.



(World Bank, International Monetary Fund, European Bank for Reconstruction and Development, etc.) promote economic reform, which is in itself fine. The programs, however, are rarely if ever accompanied with the necessary resources to meet basic human needs in the critical areas of health, agriculture, and energy, especially in the poorest countries,.

Technological change is the product of a complex system of private, public, and academic institutions, and the financing comes from markets, government, and foundations. But what of technological development in the poorest countries to meet the specific needs of those countries? For example, for malaria or for enhanced crops that can withstand salinization, heat and drought stress, or better nutritional composition? Jeffrey Sachs ¹⁸ estimates that all grants and loans for science and technology for all of the poor countries of the world at the end of the 1990s was less than 3% of the public science and R&D expenditures of the USA alone. No wonder progress is slow. The foreign assistance by the USA is around \$8 billion, or 0.12% of GNP. And of this contemptible amount, only around one-sixth goes to the least developed countries (or \$5.50 per American is spent on the world's least developed countries; and this in a country with \$30,000 average income and where investors have enjoyed more than \$1 trillion in capital gains over the last five years (or \$200 billion per year)! There were approximately 600 million people in the least developed countries. Aid from the USA to these amounts to \$2.50 per American. Moreover, the response by the government of the USA to the atrocities of September 11, 2001, has been mind-boggling and paradoxical. The number of children under the age of five that die each year from malnutrition related causes that could be prevented with the moneys spent by the USA in response to September 11 is "10,000 times" higher than the number of victims of the atrocities of September 11 last year. These deaths and the related misery—and the negative effect on peace, stability and economic growth—could be prevented in this modern age with technologies already used in developed countries. It is surprising that these "atrocities" that have been with us for decades—at least partially brought about by the political economy of modern times (and perhaps a lack of humanitarian impulse)—have not engendered a passion to bring solutions to those suffering. Our actions—or lack thereof—compares very badly with the huge response in the USA and elsewhere to the fight against terrorism, which is ironic given that it is precisely poverty and inequality that breed discontent, social unrest, and terrorism.

A Question of Balance—Or Could Nature Teach Us Somethin?

Intellectual discussions around the justification for/against private property have been more or less centered around four principal themes for the last 3,000 years (Table 1 ¹⁹). All other arguments are basically variants. What is evident from the table is that any excess in one realm leads to abuses and inequity. Because different actors have different realms of influence, actions aimed at redress are often exerted in realms where no excesses may have occurred. This leads to an unfruitful dialogue with parties talking past each other rather than addressing the restoration of balance in the realm where excesses occurred. That struggle to install balance or to bring

¹⁸ Sachs, J.D. 2000. *A New Global Consensus on Helping the Poorest of the Poor. Keynote Address to the Annual Conference on Development Economics, The World Bank, Washington, DC. April 19, 2000.*

¹⁹ Modified from Pipes. R. 1999. *The Idea of Property. Random House: New York.*



about a certain equilibrium, however, is becoming even more elusive as globalization progresses, partly because any institution's influence on the process is more and more diluted.

Looking at nature herself, we see that nature herself is far from being equitable; inequity is embedded in nature herself; inequity leads to competition; competition leads to strive for improvements; improvements lead to evolution. Further, the extinction of species is the norm rather than the exception; yet few public institutions are closed down when they served their purpose²⁰. Businesses at least get extinct by going bankrupt. What is not apparent, however, is that nature is an "essential partnership"; essential, in the sense of critical, necessary and indispensable because each species has a particular space and role for a given period of time, and performs a function essential to the whole. It is a "partnership", because the living components of nature—the species—can only thrive and survive together, because together they create a "dynamic equilibrium". Nature is a dynamic entity that is never the same, that changes, that adapts, that evolves; an equilibrium that remains, in essence, unchanged, because it always accommodates evolution and diversity. Nowhere in nature do we see the preservation of old ecosystems or species over long periods of time (recognizing of course that "time" in the evolution of our planet is quite different from any time line familiar to modern society). Never in the history of the planet has one species dominated a certain habitat for long without demise.

The distribution of wealth, and, by extension, of property (intellectual and material), can also be seen as a dynamic "goal" that emerges out of an essential partnership; a partnership among and between states, institutions, and individuals; a partnership of ideas, concerns, apprehensions, hopes and aspirations. The stakes are high and this is an opportune moment—now that the global consciousness about inequity is growing—to reflect on the new issues inequity raises, to develop challenging solutions, and to embark upon ways of implementing them. Clearly, for resolving many of the central issues that our global society faces today, we need the emergence of new partnerships, partnerships that stretch across all segments of society, partnerships that help us understand the new global responsibilities bestowed upon us, and partnerships that build on an appreciation of cultural diversity. Perhaps the world is not unequal enough to find the strength for a new impetus for collective and responsible action.

An "essential partnership" is needed not least because each participant, stakeholder, and segment of the global society needs to be included to create a dynamic equilibrium. This requires a dynamic process that evolves and that will continue to evolve. For too long we humans have dreamed of building institutions that will last generations, especially at a time when the pace of "evolution" is much higher than ever before. We have forgotten to build into institutions the creative destruction that is always part of evolution and diversity.

If there is one major benefit brought about by the "materialization" of everything from life to science since Charles Darwin, then it must be the exploration of the material world in which we live and the emergence of 'technology'. Only the abandonment of the spiritual and religious and a clear separation of such establishments from scientific inquiry over the past two plus centuries

²⁰ *One of the "career" objectives of the author had once been to become Director General of the UN Food and Agriculture Organization (FAO); if offered, he would have accepted the job under the condition to be given two years to close FAO down by privatizing one quarter, devolving one quarter to other UN agencies, and closing down the remaining half. (No wonder the job offer has never been made)!*



allowed such tremendous material progress, unparalleled in the history of humankind. But it has not gone unchallenged. In his 1976 book, James Webb *21* uses the fitting phrase “rejected knowledge” for the ideas that, at a given point in history, prevailed, then were opposed by science, and finally were rejected as false, only to be revised at a later date. Though vitalism (the belief in some form of “energy” or “lifeforce” at work in all things) has been rejected by the mainstream of science over the last two centuries, this “rejected knowledge” has become central to systems of organic agriculture and alternative medicine. This thinking is now part of the contemporary critique of modernity and science.

Or is it a longing for a return to the incorporation of “spiritual” values into the mechanistic and materialistic world order? At the moment, those who find themselves alienated from society identify established knowledge with the established social and economic order; they criticize excessive wealth as it epitomizes materialistic values. They turn to “rejected knowledge” as a basis of their rejection of the mainstream.

From an economic perspective, Adam Smith perhaps unwittingly described the paradox between the spiritual and the material when he wrote that “things which have the greatest value in use have frequently little or no value in exchange; and, on the contrary, those which have the greatest value in exchange have frequently little or no value in use. Nothing is more useful than water: but it will purchase scarce anything; scarce anything can be had in exchange for it. A diamond, on the contrary, has scarce any value in use; but a very great quantity of other goods may frequently be had in exchange for it.” *22*

Yet this valueless dimension, if taken as moral strength and spiritual striving, is perhaps the most valuable in today’s “valueless” society. We expect moral leadership but rarely display it ourselves as we struggle to meet our daily obligations and approach our aspirations. The accepted conceptions of what we want are unusually simplistic, and often wrong; wrong not in the sense of dishonest, but wrong in the sense that our own **wants**, when more deeply probed, are often different than what we say. In other words, our actions are often different, if not opposed, to what we think we may want. There is a wide disparity between what humankind **thinks it wants** and what, judging by its actions, **what it really prefers**.

We can really only discover what we want, and what we prefer, by knowing ourselves and by taking the time to carefully think things through and reflect on things. Practical mock exercises whereby we are assuming roles we would not normally play are good tools to enable us to discover new facets of our own thinking that we did not know before.

Points of Unity—Points of Action

The purpose of having repeated some rather too familiar situations, particularly as they pertain to indigenous knowledge and landraces, is to emphasize two interrelated points. First, the issues involved are complex scientifically, institutionally, economically, and emotionally. This means

21 Webb. J. 1976. The Occult Establishment. Open Court Publishing Company: La Salle, Illinois.

22 Adam Smith, Wealth of Nations, I, 4.



that no solution is likely to satisfy everyone, and so it is important to identify carefully the criteria for evaluating any changes in the current systems. Second, the motivations for a modified/new IPR system are a mixture of control, restitution, equity of treatment, and certainly economic compensation. As with plant breeding, where the more traits selected for the slower and less certain the breeding process, so with IPR laws, where the more mixed the objectives the more cumbersome and uncertain the drafting process.

One of the unresolved concrete challenges facing us is the creation of an interface between these more traditional systems and the system of “modern” property that dominates global science, technology, and trade today. What we need are new ideas and solutions for **bridging** different systems of ownership. It must be born in mind, as stated earlier, that the purpose of the two systems of protection (i.e. the “modern”/“western” and the “traditional”/“social” property) are fundamentally different. Under the “western” system, only new knowledge can be protected, that which is already known is not subject to any form of legal protection. This differs radically from the notion of protecting communal knowledge and other forms of traditional knowledge.

Indeed, some objectives may be mutually contradictory. We must focus on an attempt to evaluate existing and possible systems from these perspectives, but it remains incumbent on those making serious calls for substantive reforms to be clear about the priorities of their reform objectives.

Building a more humane world rests on many pillars, not just the one of trade and economic reform nor of technology transfer, and certainly not on the mere protection of indigenous knowledge which, at this stage, has arguably little economic value. Perhaps the most critical pillar in the developing world is having a population that is sufficiently healthy and educated, so that it can participate in local, national, and global economies. Many of the poorest places in the world are too sick and too lacking in education to make it. Life expectancy is now plummeting in much of Africa, not least because of the AIDS epidemic. Crushed by indecent foreign debt servicing, the poorest countries completely lack the resources to get out of their inextricable situation on their own. With an income of \$600 per capita, even budget outlays of five percent of GDP for public health—more than these countries can afford— is only \$30 per person per year, a sum that is clearly insufficient to meet basic health needs. These are areas where the new development agenda should focus its attention. A large portion of the health issue can be tackled through agriculture because good nutrition and nutritionally enhanced crops—utterly lacking in the poorest countries—are also the basis for health that no later treatments in life can remedy.

In regard to technology transfer in this brave new global world, it must be mentioned that merely increasing foreign aid through traditional channels is unlikely to attack the root causes of poverty and inequity. What we need is better access to technologies, stronger public institutions that deliver added-value, and access to markets for the sale of surplus production. With the imbalance in R&D expenditures discussed above, and with inadequate funds going into technology transfer, not surprisingly, few technologies have been and are being developed—and even fewer find their ways to where they are needed most. The societal cost of underutilizing existing technologies is huge (viz. the tragedy of the anti-commons). Again, this is perhaps most true with biotechnology.



This situation is unlikely to be re-dressed without a new vision and strong leadership because where a vision is limited, action is equally circumscribed. Linked to new leadership must be a new development policy formulation process and better ways to “manage” global development. What is indicative of a failure in the economic systems of today is epitomized by coffee: whereas 25 million coffee farmers have over the last decade seen their living standards decline to below what anyone would consider decent, Nestlé only a few months ago touted to shareholders that its “net profit margin” from coffee was a fat 40% and rising! How can the processing of coffee become the most lucrative business component of a global company when 25 million producers saw their living standards decline at a time when coffee became such a lucrative business? This is no longer a question of supply and demand but an unequal exercise of economic might. Before the globalization of the late 20th century, it was the survival of the fittest. Now it is survival of the biggest, arguably in many unjust ways.

The bottom line of many of the demonstrators in Seattle and elsewhere was right: the current situation condemns hundreds of millions of people to unnecessary suffering and millions to premature death, and current global institutions are parties to the disaster. The solutions to this imbalance in global power, however, cannot be found in the streets of protestors, but through more dialogue with and involvement of the institutions that command international development. This means we must include the private sector. Ultimately, responsibility falls squarely upon the leading shareholders of these institutions. As a result, what needs to be strengthened are national and global civil societies to demand policies that will deliver on the International Development Targets set by the rich nations. Progress is greatest when ordinary people are demanding political, economic, and social change. And that change should focus on developing countries: governments in developing countries are more likely to prioritise the needs of the society if it is insisting that they do. Governments will act when they feel the heat from their people, from trade unions, human rights organisations, women’s groups, religious groups, the professions, and academia.

If technology transfer is an objective, then we also need a sharper focus on public goods generation and the leveraging of private technologies for the public good. In the past, technology was being transferred to developing countries in two principal ways: direct transfer through private investments and indirect transfers through public intermediaries, especially those in the public sector. These actors strengthened the R&D capacity in developing countries, developed the regulatory environment, and let the national public sector and the international private sector take care of the rest. Today, existing institutions are attempting to serve both objectives, namely those of public good generation and of increased private sector participation. There is ample room to involve the private sector much more heavily in the generation of public goods through technology donations. Finally, we must rely less on existing institutions and concurrently do more through new ones that are designed for current geopolitical and technological realities.

The concrete obstacles that block an equitable use of the “ownership” privilege—recognizing that IP rights are really instruments of public policy which confers economic **privileges** on individuals or institutions solely for the purposes of contributing to the greater public good—are complex at best and constantly evolving. The **privilege** was intended as a means to an end, not an end in itself. This seems to have changed fundamentally in the way the system is being used and abused. But even the most authoritative study ever on IP and development policy, although



presenting a most comprehensive and commanding study, fell short of outlining a clear and feasible path forward 23.

Finally, one may have to ask the question whether bringing about “value” change at different levels is not more in order than spreading and popularizing even more the globalization of the new economic order.

Epilogue

This presentation has not been lacking in bold proposals in an attempt to challenge the **status quo**. All will need refinement and perhaps adjustment to take into consideration political realities. In the meantime, we must take advantage of outside pressures to direct change in beneficial ways. Take agricultural subsidies for example: prospects for some change are finally emerging because global awareness has led to the global call for action: the pressure from developing countries to developed ones to reduce and eventually abolish their agricultural subsidies is mounting and will only increase with Europe’s recent intransigence in changing the Common Agricultural Policy. Witness for example the CAP’s defenders assertion that developing countries “should really stick to subsistence farming” 24.

Indeed, the prospects for any of the changes outlined in this paper to take place are, frankly, not very good. Perhaps the plight of the world’s poor has to become even worse—and global mayhem even more dangerous—to draw the attention of the developed world and motivate it for action. History, however, has repeatedly shown that if people are given sufficient emotional drive and motivation, they have the capacity to make remarkable change. The question is where will that emotional drive come from? What further bad choices does the global society have to make to find the strength for redress?

Three thousand years ago Plato argued against property because it corrupts the personality by infecting it with greed. He had an important point. Aristotle disagreed: according to him, property enhances an individual’s sense of identity and self-esteem, provides satisfaction, and allows for the optimal economic use of “the commons”. He too had an important point. Both claims appear true in today’s unequal world, where neither extreme will be beneficial. But a property-less society, as St. Augustine of Hippo (354-430 AD) asserted, can only exist in Paradise. But can the world wait for Paradise?

We must act today. Everyone likes progress but nobody wants change. In the end, everything comes down to the choices we make. To make sound and consistent **choices**, we need to understand the **potential** of our property (intellectual or material), the **options** available, the **implications** of each option, and the **risks** of each course of action we may want to undertake. Such assessments can be guided by a sense of “balance”, namely a better balance between the public and private, and between the developed and developing world. Regardless of the length of

23 Barton, J, D Alexander, C Correa, R Mashelkar, G Samuels and S Thomas. 2002. *Integrating Intellectual Property Rights and Development Policy. Report of the Commission on Intellectual Property Rights* published on 14 September 2002. www.iprcommission.org

24 See “Farm Policy—Scandalous”. *The Economist*, October 5th, 2002, page 13.



our discussions here, and regardless of the number and scope of our policy initiatives, a balance will have to come from “within”, a balance within and between institutions certainly, but more fundamentally a balance within the people who make up these institutions; a balance within each of us, a balance from “within” humanity.

As Prince Sadruddin Aga Khan, President of the Bellerive Foundation in Geneva, Switzerland, aptly noted in his closing statement at a conference on globalization (**op cit.**): **“Whether we are believers or non-believers, perhaps the time has come to focus more on Inner Space”.**

Table 1: Principles Themes of the Discussions on Property 25

Realm	Argument/Claim in Favor	Argument/Claim Against
Relation to Politics	Unless property is distributed in a grossly unfair manner, it promotes stability and constrains the power of government.	Inequality which necessarily accompanies property distribution generates social unrest.
Ethical Considerations	Property is legitimate because everyone is entitled to the fruits of Her/His labor.	Many owners exert no effort to acquire what they won and that the same logic requires everyone to have an equal opportunity to acquire property.
Economic Imperatives	Property is the most efficient means of producing wealth.	Economic activity driven by the pursuit of private gain leads to wasteful competition.
Psychological Aspects	Property enhances the individual’s sense of identity and self-esteem, and provides satisfaction.	Property corrupts the personality by infecting it with greed.

25 Modified from Pipes. R. 1999. *The Idea of Property*. Random House: New York.