

Indigenous Knowledge: A Moral Reflection on Current Legal Concepts of Intellectual Property

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Indigenous knowledge of underdeveloped countries or of underdeveloped peoples within developed or developing nations is a sought after commodity in today's marketplace. These commercialisation pressures will increase in the globalised climate of the new-world economic order. Since knowledge is intangible, legal protection of intangible knowledge is minimal. However, when the knowledge is expressed in a tangible form, societies have seen fit to offer protection under the rubric of intellectual property laws. In addition, these developments have emerged from a 'Western' or 'developed' legal tradition and are often inadequate to deal with the scenarios in which indigenous knowledge often resides. Several examples from patent, trademark, and copyright present these shortcomings. In addition, the cultural differences between concepts of developed versus in-

digenous property further highlight the problem of achieving a harmonised and universal set of legal protections. The result is a disparity of access to existing intellectual property of others by indigenous and developing peoples. More critical for the purpose of the present discussion is a second disparity in the inadequacy of existing intellectual property regimes to protect indigenous culture and knowledge from development, and often exploitation. In response to this, a discussion of ethical implications of the disparity is undertaken in an attempt to provide a moral basis upon which past practices and future protection mechanisms can be evaluated. In conclusion, a list of principles are forwarded identifying the moral-legal rights indigenous peoples have in their own knowledge and in their right to access the intellectual knowledge of others.

Introduction: Emerging perspectives

The world has become a smaller place. The global marketplace offers an economic connectedness unparalleled in world commerce. Unfortunately, there is a negative aspect to the new economic order. The impact of economic globalisation and the legal harmonisation created to support it "cannot be expected to provide the public goods required to secure the *acquis communautaire* of human rights worldwide, let alone extend it to all

those peoples which have hitherto been deprived of virtually all of their benefits" (De Waart & Weiss 1998). Harmonisation operates to align various legal attitudes arising from diverse economic, political and social regimes. This paper assesses the problem of harmonisation upon regimes that may be quite distinct from Western viewpoints. Nowhere is this more evident than in the attempts to establish a world intellectual property order. In fact, some scholars like Geller would argue that the establishment of such an order is

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imperative if the global economy is to advance (Geller 1996). The task appears simple, harmonise intellectual property laws worldwide so that investment is no longer hindered by the risk of piracy. But what of the existing property systems, for example indigenous knowledge systems, that are not in alignment; or of knowledge storage and transfer systems that may not be based on concepts of a western individual property ownership model? The complications for a truly harmonised world intellectual property order should be obvious from the incongruent attitudes and perspectives of First World versus Third World or indigenous cultures.

Some cultures do not perceive intellectual property rights on the same plane. In fact there may be some cultures to which ownership, akin to Western traditions, is antithetical. This raises an important question: Is a philosophical perspective of intellectual property rights culturally dependent and relative to the culture in which it operates, or is it culturally dominated, and if subject to dominance, whose view should be supreme? If one rule must serve many cultures, should a western view dominate and in the process dismiss alternative cultural perspectives? If the ethical standards are subject to cultural relativism, then what hope is there for global harmonisation? Finally, what is the impact upon cultural identity if a Western view of property ownership dominates in the coming century?

The application of Western-oriented intellectual property regimes vis-à-vis harmonisation and exploitation of 'indigenous intellectual property' through market globalisation raises two concerns. First, the legal mechanism of harmonisation may be at odds with indigenous perceptions of ownership. This leads to another concern: the underlying indigenous ownership system, for example, communal rights as well as the format or expression of the knowledge in artefacts or oral tradition that flow from the particular indigenous "ownership rights", often do not translate well into existing intellectual property regimes (Kuruk 1999). As a result, the Western view of property rights that is extended through harmonisation may be inadequate to deal with the exploitation that globalisation brings to indigenous peoples and their knowledge base (Greaves 1994; Torres 1991). This paper focuses on the former problem and attempts to investigate some of the conflicts

that may arise when Western property norms are introduced into indigenous rights systems, and the artefacts and expressions of that indigenous knowledge.

Obviously indigenous knowledge might encompass a wide range of knowledge, but since indigenous knowledge is discussed in the context of globalisation, this article focuses upon the cultural expressions of that culture or community that come to exist either as a result of its creation by the indigenous or as a result of its discovery by the indigenous, and then is incorporated into the fabric of that culture, through for example its daily use or ritualistic use or as historical precedent to the practice or beliefs of the culture. The concern expressed herein is that which arises when, through the impact of globalisation, indigenous knowledge is appropriated or perhaps misappropriated into the commercial context. The concerns regarding the individual use and personal rights pertaining to indigenous knowledge are therefore not part of the scope of this article.

Two examples can serve as case studies for review: the commercial ownership and control of Native American products (trademark), and the medicinal knowledge base of tribal cultures in the Central and South American rain forests (patent).

A concept of information justice is introduced. It provides an ethical framework for the evaluation of the present harmonising/globalising case studies. It is hoped that this analysis might demonstrate how both traditional (private and exclusive) and alternative (public or communal) perspectives on knowledge (intellectual property) ownership might be incorporated into any international harmonising legislation or rights statement forthcoming in the new millennium. A list of guiding principles is introduced to facilitate the construction of more equitable international guidelines for recognising and protecting indigenous knowledge. These principles could then be used to evaluate existing normative proposals.

Models of knowledge control and ownership

In the emerging world economic order, the concept of property ownership is omnipresent. It is a model of ownership derived from European concepts of the individual. Thus communal rights

are seldom articulated within its design. These concepts are being extended through various harmonisation efforts. As a result, the emergence of a global marketplace pressures the overlying jurisdictional nation state, and often the indigenous system within it, to compete and attract foreign investment. This is being done by amongst others, the commodification of culture through the manufacturing and sale of souvenirs, entertainment of tourists through bastardised rituals, and use of cultural icons in commercial endeavours. This commodification has in some cases resulted in the loss of indigenous rights and culture (Long 1998).

It is therefore imperative that mechanisms, such as international intellectual property agreements should ameliorate, instead of worsen the condition of developing new member countries. This would be consistent with a system of social justice, but is also consistent with a Pareto system as well (Lipinski & Britz 2000). The citizens of developing countries are harmed when traditional, communal or aboriginal concepts of property are ignored or subjugated. The concept of amelioration is introduced to describe an alternative world information order that accounts for original and unique systems of property, in all societies, instead of letting an economic model dominate. Amelioration implies that the infusion of external or Western influences (be it economic, political, social, legal) should be designed to improve or enhance the status of indigenous peoples, and not exploit or otherwise act to their detriment. In an earlier work, Lipinski (2000) introduced and articulated this concept and distinguished it from both harmonisation and globalisation.

What is not suggested here is the breakdown or even the restructuring of existing systems of property ownership, for there is value in ownership rights and the 'fences' such rights create. This is especially true in new information environments such as the Internet. What is proposed instead is that existing international information property systems recognise the legitimacy of alternative property systems, often inherent in Third World or native systems, and incorporate the same into emerging and future international systems. The two case studies are discussed to demonstrate that existing property systems are inadequate to deal with alternative concepts of 'ownership'.

Commercial ownership and control (trademark) of Native American heritage in commercial designs and Blue Corn products

Trademarks have a long history in commerce and were developed to serve both a "social consequence and economic importance" (Miller & Davis 2000). The use of an identifying mark or symbol, the trademark, was a way to indicate the origin of the product or service. In this way the public was protected and insured of the quality or integrity of the item. Sellers also grew to value the designation of a trademark, as its use became a way to exert industry (guild) control. In today's competitive consumer marketplace, product or service identification is often critical to commercial viability. Thus manufacturers and sellers invest greatly in the development and marketing of their trademarks to their customers. Marks may take the form of a logo (Nike swoosh), jingle (NBC three note chime), company name (word, words, letters or numbers), product or service "packaging" (pinch bottle shape for scotch liquor) or "delivery" – a genus of trademark known as trade dress (*Taco Cabana International, Inc v. Two Pesos, Inc 1992*). The desire to link a unique (distinctiveness in trademark speak) sign or symbol with a product or service ensures product or service identification and serves to determine the relative strength of the mark for purposes of infringement claims. It is not surprising that the search for appealing (from a marketing and consuming perspective) as well as distinctive (from a legal perspective) trademark should have lead sellers to the expressions and artefacts of indigenous cultures.

Manifestations of indigenous peoples are often made part of the consumer marketplace. Not only is the manifestation itself, such as artwork, bought and sold but the essence of the culture is also commodified (Whitt 1995). This section traces several instances of this cultural commodification, specifically the use of Native American symbols in the marketing of consumer products and services. What is more troubling is that the information base may be derived without compensation or in contravention of indigenous (Native American) cultural mores. In spite of the intuitive suspect of this process, the intellectual property laws as structured fail to offer a viable protection mechanism (Dougherty 1998). In fact,

Newton reports that 94 registered trademarks use the name Cherokee, 35 use the name Navajo and 208 refer to the Sioux (Newton 1995). The use may be more concrete. For example, Native American designs may be used as the basis for a product design itself. Jabbour has hypothesised the use of indigenous designs from the Southwest tribes, without permission, in rug patterns (Jabbour 1983). A practical problem is how could one logically argue that a simple design like the Greek key or the Celtic knot be protected subject to some sort of property right or other protection mechanism vis-à-vis a communal or group right or a moral rights concept such as integrity or attribution. Arguably the use of an indigenous design from a primal culture still in existence, still struggling to maintain its own sense of identity is quite different from an attempt to use a historical design taken from the Acropolis of Athens, Mount Olympus, the Lindesfarne Cross or the Book of Kells.

Working within the trademark law, Dougherty proposes granting limited ownership rights vesting in the tribe so it could “regulate confusing uses” (Dougherty 1995). This would attempt to remedy those situations where the non-indigenous product is often marketed either as an original or in such a way as to lead consumers to believe that some sort of association, endorsement or consent of the indigenous group, from which the product derives, was sought and granted. Such is often not the case. However, the implication of association, endorsement or consent often falls short of the technical legal requirements for a false advertising claim under the fair trade laws (15 U.S.C. sec. 1125(a) 1998; 16 C.F.R. sec.225.1). Under current trademark law, if a merchant uses a geographic term as part of the actual mark and that use is actually inaccurate, then the mark is deemed “geographically deceptively misdescriptive”, for example, The mark ITALIAN MAIDE for canned vegetables from the United States is geographically deceptively misdescriptive (Re Amerise 1969, 160 U.S.P.Q. 687, T.T.A.B.). The mark is protected only if it has become distinctive (15 U.S.C. sec. 1052(e) and (f) 1998). In most cases however, there is only the implication of attribution or endorsement as the indigenous word or symbol is not actually part of the mark, but used in the product itself or used to otherwise identify or market the product or service.

Moreover, it is not a geographic association that is implied but a cultural one, and those uses are apparently not a concern of the trademark or other trade laws. For example Heath Valley Organic Blue Corn Flakes (back of package contains the following statement:” For over 300 years, blue corn has been a staple food of the Native Americans of the Southwest, including the Hopi, Navajo and Zuni tribes. Legend tells us that blue corn was especially important to the Hopi of Arizona because it was not only the backbone of their diet, but also an essential part of their culture.”) as well as the Garden of Eatin’ Red Hot Blues Spicy All Natural Tortilla Chips (back of package contains the following statement: “At Garden of Eatin’, we’re the originators of blue corn tortilla chips. They’re actually blue in color because many years ago founder Al Jacobson bought an entire crop of blue corn (an ancient tradition of the Hopi and Zuni tribes-people who really knew their corn) and thought it would make a great tortilla chip.”

A general concept of attribution or paternity does exist with respect to certain works of visual arts, but it is rather limited in application (17 U.S.C. 106A 1998). Further, this right of attribution or paternity is not a property right, rather it is a moral right. Thus, there may be some difficulty in translating the concepts to the commercial or entertainment settings. There is a reluctance to further expand ownership into the proper of the public domain, no matter how altruistic the cause. When the resources of the public domain are available to all, others may draw upon the richness of the public domain knowledge base, create new knowledge (new works) and further endow the information richness of society. Offering indigenous creators or holders some sort of royalty fee for the use of cultural symbols, images, and so on, would suggest either an expanded property right or some range of control beyond that of a basic property right. It suggests rather a moral right in the commercial of use of indigenous designs or cultural iconography. What may be needed is a mechanism that satisfies two apparent competing interests. The rights of users to develop new works based upon a core of accessible material in the public domain should be preserved. Yet a moral/ethical imperative to respect the cultural inheritance of indigenous peoples, whose works are often exploited for the

commercial benefit of others, needs to be asserted. A sliding scale might be created whereby the rights of the indigenous peoples would increase as the commercial or entertainment use of the indigenous knowledge or expression likewise increases. The more indigenous artefacts or representations are used in commercial or entertainment settings, the more danger there is that exploitation or harm, through commodification or misrepresentation, will occur. In addition, the more use is made of indigenous artefacts or representations, the more value that use gathers (as in the case of a trademark) for others.

Monopoly rights (patent) in South and Central America and tribal medical knowledge

A patent is a complex legal document, containing a statement of claims about the 'thing' patented. Under United States' patent laws the thing may be a utility ("issued for new, useful and non-obvious inventions"), a design ("aesthetic features of an invention and is not intended to protect the utility of the invention"), or a plant (Stuckey 1991). Therefore a patent is a legally protected property interest. The patent right is but the right to exclude others and gives the public what it did not have earlier (*Schenk v. Norton Corp. 1983*). This is so, because the thing to be protected must not only be something new according to the statutory requirements, but also be described in sufficient detail to allow someone else to re-create the product or process. In turn, members of the public may build upon the existing knowledge base (the patent) and create yet another new product or process. In return for this disclosure, the owner of the patent is given a legal monopoly with the right to profit economically from its use (Lipinski & Britz 2000). Similar to copyright (the constitutional origins of both the patent and copyright derive from the same clause) the purpose of patent is to create an incentive for knowledge creation for the benefit society (*Bonito Boats, Inc. v. Thunder Craft Boats, Inc. 1989*). A property right (a monopoly right) is granted to the creator/inventor/assignee in return for complete divulgence of the information (in the patent application) regarding the item 'invented'. "This is not to suggest that [there] are no limits or that it embraces every discovery. The laws of nature, physical phenomena, and abstract ideas have been held not patentable" (*Diamond,*

Commissioner of Patents and Trademarks v. Chakrabarty 1979). Furthermore, the monopoly right does not extend to basic information, it must be new or novel and non-obvious (*Aronson v. Quick Point Pencil Co. 1979*). Thus a balance is achieved between inventors and their assignees and the public who must ultimately 'pay' for the use of their invention.

This trade-off of monopoly rights in exchange for full disclosure is an attempt to balance the competing interests of owners and users (Nimmer 1992). The patent then, is a monopoly right to control the exploitation of either a product or a process, including any new and useful improvements on an existing product or service. There are also patents for living plants and ornamental design. However, ideas are not patentable (*Gottschalk v. Benson 1972; Parker v. Flook 1978*).

Like the trademark, the patent industry has been drawn to indigenous sources of knowledge. A chemical or pharmaceutical patent derived from a plant or the patent of a crop plant derived from 'newly discovered' indigenous stores of flora knowledge can contribute greatly to the health and well being of many beyond the confines of the indigenous culture (and to the profit margins of developers). Again, the Western concept of property embodied within the patent law does not mesh well with the environs in which the indigenous knowledge is used (Jacoby & Weiss 1997). The particulars of discovery or development of the plant into a commercially viable patent (it may be a naturally occurring plant that is only patentable after mutation/alteration or processing) often do not coincide with the ownership rights the patent laws offer (Plotkin 1993). As a result there is inadequate recognition of ownership rights due the indigenous contact or referral and thus compensation to the sources originator, the indigenous people, is seldom forthcoming by legal right.

Consider the vast and medically important indigenous knowledge base of native healers, especially that which is derived from the rich biodiversity of South and Central American rain forests. Western interests are often responsible for the development and marketing of a viable commercial version of aboriginal plant therapy (Plotkin 1988). The drugs are often highly valuable both medicinally and commercially. For example, the Guajajara of Brazil have used a plant, Latin

name *Pilocarpus jaborandi*, for centuries. A derivative of this plant is used to treat glaucoma. Yet the Guajajara are no longer able to use the plant as native populations have been depleted. Yet Brazil exports it commercially generating 25 million dollars annually (Posey & Dutfield 1996). The rosy periwinkle (*catharanthus roseus*) provides the principle source for drugs used against childhood leukaemia. Taxol, used to treat ovarian cancer, is derived from the bark of the Pacific Yew (*Taxus brevifolia*) (Huft 1995). Here the problem is not communal knowledge versus ownership rights. On the contrary the shaman's knowledge is often secret, unwritten (undocumented) and often dates into pre-history. The question is rather what rights if any should reside in the indigenous peoples that have served as caretaker and developer of the knowledge, often accumulating expertise in the use of the fauna and flora of their environment over centuries? Second, how should these rights be balanced against the harvesters and developers of that knowledge without whose effort and contribution the knowledge would not be widely available or commercially viable or even medically palpable to the general population? Finally, should the indigenous peoples be able to control the use or release of their knowledge in the first instance?

This knowledge is harvested in several ways: field research; published literature often in other contexts (anthropological); specific cultural study; collection of biochemical and genetic resources from communally-held lands and indigenous reserves; academic ethnobotanical surveys; and commercial collections of material and knowledge by middleman or industry representatives (Roht-Ariaza 1996; Huft 1995; Laird 1994). This is "fundamentally a problem of recognition of ownership of natural resources and the proper compensation to be paid for the exploitation of those resources" (Huft 1995; Hannig 1996). Unfortunately Western patent law does not easily support the shared contribution of the shaman (Huft 1995). The main problem is not the patentability of the drug therapy, but who is entitled to the ownership rights. For example, many of the drug therapies are described first, not in the medical or pharmaceutical literature, but in the anthropological literature as indigenous case studies, the medicinal use of plants being merely one part of a larger study. American patent law con-

tains publication rules that operate to deny patentability if the process has been described elsewhere in a prior publication (35 U.S.C. sec. 102(b) 1998; 35 U.S.C. sec. 102(a) 1998).

Another problem arises when considering the sharing of a patent between the original holder (tribal shaman or indigenous group) and the manufacturer. As articulated in the patent law, joint inventors require contribution to the inventive conception. One question is whether the transfer of knowledge to the shaman while essential may not be the sort of scientific detail required. Two elements are required. First, there must be contribution as to conception. This is subjective but requires a definite and permanent state of mind of the complete invention. Does the shaman or the indigenous group truly know how and the extent to which their use of the drug will actually be applied in a mass-market product? Second, there must be contribution in the reduction to practice. This is objective, that is, the idea as defined must be put into practice (Huft 1995). Arguably the shaman or indigenous group may not be involved in this translation at any stage. Once the harvesters have returned to the United States, development may proceed without any further input from the originating indigenous sources. According to Huft, merely supplying useful background information about the benefits of a useful medicinal plant is not enough for the patent requirement of co-contributor or joint inventor (Huft 1995). Whether the contribution of indigenous knowledge is an essential part of the conception, depends on details of collaboration, the method of development and type of patent sought.

The publication rules may be less a problem where the specific goal of plant development is involved. This is true because the publication must be more than a mere passing mention (for purposes of novelty). Furthermore, a drug company would be careful by its own act to not trigger the activation of publication rules (the statutory bar) with respect to medicinal fauna and flora that it intended to develop. "Simply naming a plant used in indigenous medical systems, or even describing its particular uses, activities, and effects, will not provide a drug developer of ordinary skill with the means for developing a drug from that plant without additional inventive contribution by the developer" (Huft 1995). While patent protection might be shared with the

indigenous knowledge holder, it seems unlikely. Legislative amendment could of course make it so, but this would skew the existing concept of 'inventor' under existing patent laws. However, some other ownership right in the indigenous peoples could be granted. This could involve two elements: first, a claim to share in the economic interest, either in terms of initial monetary compensation or a right to share in the subsequent revenue stream if developed successfully; and second, a general right of control over the development or exploitation. This would include not so much an ability to prevent development by others in the first instance, but in the ability of the indigenous peoples to preserve their traditional access to the source of the knowledge, be it fauna or flora. Others argue that allowing this process to occur, even if compensated, is itself problematic as the development of the indigenous medical knowledge in and of itself is exploitative (Long 1998).

This, as well as the previous case studies, raises many questions. The discussion also has identified the shortcomings of the present legal mechanisms to protect indigenous property rights. The unanswered questions raise the issue of whether or not the indigenous peoples have a right to claim that changes in the law should be made to accommodate their circumstances. The remaining portions of the paper address the moral basis or justification upon which those accommodations could be made and offer several distinct principles around which to build legal reform.

Justice, information and the protection of indigenous property

In most traditional societies information is seen as a primary good. As such it plays a major role in the economic, political and cultural processes in which societal members are engaged. Likewise are the economic, political and social institutions within a society commonly concerned with the proper allocation or distribution of resources among societal members. Considering the importance of information in the world today, one of the main issues is therefore the fair and equal distribution of information. It has, however, been argued that the development and implementation of a primarily Western concept of intellectual property has had a major impact on the way in

which information is being distributed, not only within nation states, but globally as well. As with all designations of things as 'property', of which information and its expression are parts, notions of property are based on exclusiveness. This may lead to a paradox between the reality of the commodification (of information) processes and the goal of information and knowledge dissemination in society (as a renewable resource). The purpose of this article is not to argue from an economic perspective that information is a product, but to make that argument from a moral perspective based on social justice.

The economic perspective on information has created artificial conditions of scarcity for information that was by its nature not seen as scarce. This uneven and even imperfect distribution of information can have serious economic, political and social implications. In addition, this impact is most profound upon the indigenous peoples residing within that developing country. The purpose is therefore to find a theory of justice that can be used to evaluate unequal distributions in an attempt to gauge socially acceptable levels of disparity, or alternatively, succeed in achieving justice. The application of this theory can then be used to assess the role of information control and access mechanisms, for example, the intellectual property laws, in affecting that distribution. Because of the fact that it is information that is the object of distribution, it might be said that it is informational justice that is the focus of the pending discussion.

Typology of information justice and the protection of indigenous property

Social justice can be used as a normative tool to construct a framework for evaluating and realigning the assignment of ownership rights. The following four categories of social justice are distinguished: commutative, distributive, contributive and retributive justice. This typology was first used by the National Conference of Catholic Bishops (National Conference of Catholic Bishops, Economic Justice for All 1986). These can then be used to assess existing normative societal structures and provide a framework for new structures of intellectual property regimes.

Commutative justice, as the first category of justice, calls for fundamental fairness in all agree-

ments and exchanges between individuals or social groups (National Conference of Catholic Bishops, Economic Justice for all 1986). In its economic application, it calls for equality in transactions and is applicable in cases where information is treated as a commodity. In terms of access to information, commutative justice underscores the importance of a fair relationship between buyers and sellers of information, between developers and creators of information. This includes, in the application of copyright laws for example, transactions that secure the economic interests of authors and publishers. This exchange relationship must be guided by fairness, especially in matters of payments (including royalties and other forms of compensation) and the quality of the information products and services that are rendered. On the other hand, it requires that the result of the exchange not place onerous burdens on those who would attempt to purchase, access or otherwise use the information. The economic gain must not be at the expense of the least advantaged in society, those attempting to move from a state of illiteracy to literacy, from underdeveloped to developed. A similar construct can be applied to patent. The contribution of indigenous knowledge in the discovery and patent process must be recognised. This is a form of 'but for' reasoning, that without the input or instigation of the indigenous peoples the benefit derived from the fauna or flora might never have been known. The developer gains tremendous economic value from the indigenous knowledge. It is only 'fair' that the indigenous be compensated for that contribution. In the case of trademark, this would apply to those who do not have a legitimate interest in the expression of the indigenous culture in their product or service. However, this interest (use of indigenous knowledge or artefact or symbol or expression) is nonetheless portrayed. As a result those persons or entities are not dealing equally with others (their customers and competitors) and are gaining an unfair advantage in their transactions as a result.

The second category of social justice is distributive justice. In its broad sense, distributive justice is concerned with the fair allocation of the benefits of a particular society (for instance, income, wealth, power and status) to its members. It applies to situations where information is treated as a primary good. Distributive justice pertains to

the fair distribution of information to people and the accessibility thereof, in order to satisfy basic needs. According to this form of justice, it can be argued that governments (cross-national) have a responsibility to ensure the fair distribution of essential information that is needed for development.

Because developing countries often use knowledge produced in developed countries, it can be argued that these countries have a responsibility to disseminate certain categories of information to developing countries. In the case of copyright, the international compulsory licensing or other subsidisation schemes that foster access to information by indigenous peoples would be one example of a mechanism justified, under the concept of distributive justice. It also implies that indigenous knowledge should also be shared with others outside the originating culture. As a result, indigenous knowledge must not only be promoted, it must also be protected. Moreover, the concept of commutative justice requires that this wider distribution be neither at the economic or other expense of the indigenous peoples nor under the concept of contributive justice (discussed below) if it insults or otherwise interferes with the continued use of the knowledge by the indigenous peoples. This might imply the finding of new innovative ways of maintaining incentives owed to developers in creating new knowledge while at the same time ensuring its broad diffusion among the indigenous. Distributive justice also requires that the developer (those that add value to the existing indigenous knowledge or information) of indigenous knowledge must never exclude the indigenous from continued use of the underlying information, as this would not be a fair distribution of information. In fact, the argument for the preservation or maintenance of continued indigenous access is stronger in the case of indigenous knowledge. This is so because the indigenous knowledge tends to be more essential (thus of greater value or benefit) to daily existence and survival or to the expression of their life experiences, in the practices of their culture, than it is to the people of the world at large.

A third type of social justice is contributive justice. It is applicable when information is treated both as a primary good and as a commodity. Contributive justice implies that an individual has an obligation to be active in the society (in-

dividual responsibility), and that society itself has a duty to facilitate participation and productivity (commodity) without impairing individual freedom and dignity (primary good). One of these duties would therefore be the creation of equal opportunities through equal access to information and knowledge. Regarding the flow and access of information, contributive justice can serve to maximise the use of information for productivity. Based on this viewpoint it can be argued that society also has a responsibility to create a legal and moral environment that will stimulate creativity and productivity – for example, the encouragement of knowledge creation both by First World developers and by indigenous peoples. In South Africa there are initiatives to integrate traditional medical knowledge into the existing allopathic medical research projects. This is not only done to promote indigenous knowledge, but also to learn from it. The South African Medical Research Council test plants, which were provided by traditional healers of elders of communities, for the cure of malaria. It was agreed that, if any outcomes were to be positive, the royalties will be shared equally (Mowszowski 1998). This can be seen as a positive application of contributive justice.

This form of justice further suggests the effective enforcement of protective measures to ensure the fair protection of economic interests of those who create and disseminate knowledge. However, this is only one side of a concomitant concept. Society also has a duty to encourage and foster this participation and productivity in a climate that does not interfere with the individual freedom and dignity of the subject. In the case of patent development of indigenous information stores or commodification of indigenous cultural artefacts in trademarked goods or services, this means that the production by others cannot somehow interfere with the practice of the indigenous culture or otherwise insult or disparage that culture. The patenting or other development of indigenous fauna and flora that results in the inability of the indigenous peoples to engage in the use of the fauna and flora, through exclusivity or depletion or alteration, interferes with the basic freedom of the indigenous to participate in their culture.

A final category of justice is retributive justice. This category of justice is also known as punish-

able justice. It refers to the fair and just punishment of the guilty (Lotter 2000). With regard to access and use of information, this form of justice acts as an important guideline for the protection of indigenous knowledge. This may not mean that criminal sanctions must be used to ensure information justice, but it does imply that a system of retribution for inflicted harms be in place. This is different from a concept of just compensation in transactions (commutative justice) which is prescriptive. Retributive justice is used to punish, correct or retribute past behaviour, thus it is post-scriptive. It is also the strongest use of normative mechanisms society can impose. In the case of the intellectual property laws, punishment for the theft of that property is supported by this application of social justice. However, other 'takings' short of actual theft could also be subject to retribution. Perhaps it is a matter of degree or definition of the interest lost by the taking. But this debate underlies issues of whether to consider indigenous knowledge as property and whether use by First World developers is then a taking of that property. However, the present discussion has determined that the indigenous knowledge is a primary good subject to the three other justice topologies. Thus its use, if inconsistent with those typologies, should be the subject of retribution; the purpose of which is to compensate for past harms and by the threat of its imposition limit future acts of appropriation of indigenous knowledge to those that are justified. Any normative mechanism would be hollow without an enforcement/punishment component.

Combining Tenets of an Ameliorating Intellectual Property System

Numerous authors have assessed the application of existing intellectual property systems to protect indigenous cultural property (Long 1998; Farley 1997). These systems include copyright, trademark and trade secret. Farley believes copyright, and to a lesser extent, trademark and the related unfair competition laws (deceptive advertising) are best (Farley 1997); while Greaves and Stephenson both consider a contract or license scheme to provide the best option (Greaves 1994; Stephenson 1994). McGowan and Udeinya forward a more complex system of contract-based royalty rights for commercially viable indigenous

knowledge (McGowan & Udeinya 1994). Instead of an expansion of patent rights Hanellin forwards a *sui generis* approach (a specific statute) to offer *de novo* protection for plant-derived drugs (Hanellin 1991). King argues for a more general concept of compensation. Another option would be to maintain the traditional intellectual property systems but rely on public sector intervention when exploitation of it occurs (King 1994). Ruppert applies this to physical property, religious, sacred or historical sites, but not to intangible property (Ruppert 1994). One problem with these responses is that protection is based on the recognition of rights only if the information has economic value. As observed earlier, the adoption of Western property concepts may also be antithetical to the indigenous culture itself. These solutions tend to ignore other cultural values that may subsist in the information with respect to the indigenous people.

Another problem is that the focus of traditional intellectual property is the development of normative mechanisms that control the economic distribution of the work. It also encourages others to build upon the success of others. This is often antithetical to indigenous systems where, "innovation is simply not what is valued in indigenous art. Rather, faithful reproduction is prized" (Farley 1997). The implications for Western property systems of alternative property systems that encourage faithful copies in the subsequent generation should be obvious. Art creates a sort of visual literacy in many indigenous cultures. This is also problematic when trying to design protection mechanisms for the indigenous artefact as well because the successive generation has exhibited very little innovation, for example, the originality requirement is not satisfied under a copyright regime. Since no new creative expression is rendered the work fails to meet the most basic novelty or originality requirements. In fact, an indigenous artisan or healer that reproduced a cultural artefact might actually be infringing now on someone else's copyright, trademark or patent. The new global law would have to expand the borders of copyright law, to include communal rights. It would also need to expand the concept of limited duration, to subsequent generations. An expanded fair use concept might also be drafted that would not allow others (outsiders) to profit from indigenous work but would allow

other to build upon existing and unprotected ideas or public domain designs (Farley 1997).

What is proposed is a system by which these aboriginal mechanisms may be preserved. The system should allow for communal rights to co-exist with individual rights. This will of course entail a realignment of Western harmonisation, as the Western model of property ownership tends to prioritise individual rights over communal or group rights (Dougherty 1998). A Western intellectual property regime is inadequate, monopolistic and exclusionary by its nature. Just as the communal nature of indigenous rights is part of its historical development, so too is the ascension of the Western tradition. Indigenous knowledge may be inclusive, thus its attractiveness to Western developers. Brush observes that "intellectual property rights were invented in the early development of European capitalism and are clearly linked to the rise of both industrial capitalism and the nation state" (Brush 1994). Dougherty makes a similar comment: "Intellectual property law still protects an outdated mode of individual autonomy that is grounded in nineteenth century Romantic notions of the individual" (Dougherty 1998). According to Greaves what is needed is a "new legal instrument" that would recognise "ownership and control of indigenous culture on those who practice it; an ownership and control that is society-wide rather than individual; that applies to what is already in the public domain; that, like ownership of property, confers an unending, monopoly ownership; and which is intended not to ensure progress, but to better enable indigenous societies to preserve and benefit from what is theirs" (Greaves 1994). The problem is whether such a regime can fit within present Western dominated intellectual property norms. According to David "[e]ven though a new intellectual property regime could be Pareto improving in some situations, the need to align domestic and international laws adds further constraints that tend to render such solutions impractical" (David 1992). This is another reason why the model proposed is feasible. Rawls is not Pareto improving or optimising (making no one less worse off), rather 'least disadvantaged' optimising. Rawls will allow or demand changes in control and access to knowledge (intellectual property regimes, for example) only if the least disadvantaged (the indigenous or developing

country) is made better off.[1] Frischtak suggests that a developing or indigenous based “country should follow whatever system minimizes conflict and the probability of retaliation” [sic] (Frischtak 1992). In other words, an indigenous culture could follow its own system until the pressures of globalisation render it incompatible with its own survival. This does not appear to be moral. It is neither harmonising nor ameliorating, but eliminating, that is, the cessation of the indigenous system and the implementation of a globalised (read imposed) replacement ownership or knowledge system. What is proposed then is the following.

- *Recognition of Ownership Rights:* Indigenous peoples have an ownership right in the indigenous knowledge associated with their culture. This right may extend beyond present intellectual property regimes. (Distributive Justice)
- *Recognition of Moral Rights:* Indigenous knowledge should be used in a way that preserves the culture from which it was derived. The use of the knowledge should maintain the integrity of the indigenous knowledge, not disparage the indigenous culture from which it was derived, and allow for the proper identification or attribution of the indigenous peoples as a source of the knowledge. (Contributive Justice: freedom and integrity)
- *Recognition of Economic Interests:* Indigenous people must have recognised rights over the use and dissemination of their own indigenous knowledge in the commercial market place. If economic benefit is derived from the use of the indigenous knowledge, the indigenous people should have the right to share in the commercial exploitation of the knowledge, and possibly control the initial economic use of the knowledge. (Commutative Justice)
- *Recognition of Problems with Current Laws:* Oral traditions must be protected under international and national intellectual property and other laws, in addition, current problems with the intangibility of knowledge or free accession of artefacts from indigenous peoples must also be confronted and resolved. (Distributive Justice and Contributive Justice: participation and production)
- *Consideration:* Place a moratorium on any further commercialisation of indigenous knowledge until international, national, and local indigenous communities have developed appropriate protection mechanisms. This insulation will allow indigenous cultures to at least survive, perhaps prosper (increasing the diversity for all), instead of wither. (Commutative Justice and Retributive Justice)
- *Consideration:* Ethical deliberation should recommend and result in the expansion of legal mechanisms that

protect alternate indigenous interests in their knowledge. (Distributive Justice)

- *Consideration:* Indigenous people should have the right to use the intellectual property of others in an expanded application of the general law as it would apply to non-indigenous users if conditions of moral justification warrant, e.g., use of another’s intellectual property in a commercial setting would not be allowed. This practical expression might take the form of a shortened period of copyright duration protection or adoption of the compulsory license schemes for developing nations discussed earlier and is consistent with the analysis of social justice as proposed and interpreted herein. (Commutative Justice, Distributive Justice, Contributive Justice and Retributive Justice)

Conclusion

Information and communication technologies do bring a new level of connectedness between diverse and distinct societies in the world. Various attempts have been made to minimise the differences to establish common ground on which relationships can be developed. One of these attempts is to globalise the intellectual property legal structure by means of harmonisation of laws. It has however been argued that there is still a disparity between the countries that benefit from the control of knowledge (Western-based intellectual property regimes) and countries (developing) that are limited by these regimes. This disparity is caused by cultural and economic reasons and has an effect on the development of these countries.

It has also been indicated that the current process of harmonisation is inadequate because of the emphasis on commercialisation. The concept of amelioration, consistent with the moral principle of justice articulated in the present discussion, is introduced as an alternative model both for globalisation and harmonisation. This model takes into account the unique systems of property in all societies and provides the moral foundation upon information and knowledge that may be used and shared by all members in society.

Note

- [1] Pareto optimisation allows for new rules (globalisation) as long as no one is in a worse position than previous to the new rule and some party gains. If some party can still be placed in a better position

without detriment to another, then the Pareto optimisation has not been achieved and societal benefits have not been maximised. Unfortunately, most attempts at harmonisation do not even meet this test. As the indigenous or developing party is made worse off, thus violating the Pareto optimisation rule.

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