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INTERNATIONAL LAW, PLANT BIODIVERSITY AND THE PROTECTION OF
INDIGENOUS KNOWLEDGE: AN EXAMINATION OF INTELLECTUAL
PROPERTY RIGHTS IN RELATION TO TRADITIONAL MEDICINE

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ABSTRACT

This thesis explores the attempts by international law to recognize and protect the knowledge of indigenous and local communities. In conducting this inquiry, the thesis focuses on traditional medicine and the central role played by plant biodiversity in this aspect of local knowledge. It observes that the ongoing debate over the protection of indigenous knowledge is dominated by the question of suitability or otherwise of mainstream intellectual property rights to indigenous knowledge. It argues that despite major efforts to reconcile the Western concept of intellectual property rights with indigenous knowledge forms, such attempts have undermined the epistemic schism at the root of indigenous and non-indigenous knowledge systems.

Intellectual property rights, particularly the patent regime, are designed to legitimize or validate a Western scientific approach to phenomena. Indeed, the patent process does not recognize the socio-cultural character of science. Seeking to protect indigenous knowledge by means of mainstream intellectual property rights, even in their suggested *sui generis* forms without accommodating the idea of epistemic pluralism may be counterproductive to the goal of protecting indigenous knowledge. In the context of traditional medicine, intellectual property privileges Western biomedicine because of the former's appeal to a narrow view of science. Consequently, the psychosocial foundation of traditional therapeutic culture is not accounted for by mainstream intellectual property. In traditional medicine, the therapeutic and the pharmaceutical are fused within an indigenous holistic worldview. However, Western biomedicine does not recognize such a fusion. Rather its fragmentary or organismic approach both in theory and practice is one that readily fits within the mould recognized by the dominant concept of intellectual property.

To protect indigenous knowledge, particularly traditional medicine and consequently advance the movement toward medical pluralism, this thesis makes a case for a cross-cultural approach to intellectual property rights. Modalities for the protection of knowledge that recognize the importance of cultural integrity and the contexts in which knowledge systems are generated have become an imperative. Perhaps the most

appealing starting point for this approach is the prevailing customary norms and knowledge protection protocols within indigenous communities.

Knowledge protective mechanisms do not necessarily have to imitate mainstream intellectual property rights. A cross-cultural approach to the protection of knowledge, unlike the mainstream intellectual property rights framework, is an inclusive and not an exclusive enterprise. Such an approach endorses the notion that intellectual property could advance a balanced as opposed to a narrow cultural vision. The cross-cultural approach advanced in this thesis is a framework concept to be championed primarily by national governments at the base community levels. It is proposed as a viable direction for the ongoing international efforts aimed at developing an appropriate protective mechanism for indigenous knowledge, a mechanism that does not compromise indigenous cultural integrity and the inherent benefits of epistemic pluralism.

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SELECT ABBREVIATIONS

ACT	African Centre for Technology
AMREF	African Medical Research Foundation
ASEAN	Association of South East Asian Nations
ASIL	American Society of International Law
CAM	Complimentary Alternative Medicine
CBD	Convention on Biological Diversity
COICA	Co-ordinating Body of the Indigenous Peoples of the Amazon Basin
COP	Conference of Parties
CSI	Cultural Survival International
ECJ	The European Court of Justice
ECOSOC	Economic and Social Council
EIA	Environmental Impact Assessment
ETC	Action Group on Erosion Technology and Concentration
FAO	Food and Agricultural Organization
FCTC	Framework Convention for Tobacco Control
FDC	Four Directions Council
FFM	Fact-Finding Missions
FRLHT	Foundation for the Revitalization of Local Health Traditions
GA Res.	General Assembly Resolution
GEF	Global Environmental Facility
GIPI	Global Intellectual Property Issues
GRAIN	Genetic Resources Action International

HMOs	Health Management Organizations
I.LM	International Legal Materials
ICBG	International Cooperative Biodiversity Group
ICC	Inuit Circumlocupolar Conference
ICCPR	International Covenant on Civil and Political Rights
ICIP	Indigenous Cultural and Intellectual Property Rights
ICJ	International Court of Justice
IDCRA	International Conference for Drug Regulatory Authorities
IDRC	International Development Research Center
IGC	Inter-Governmental Committee
IHR	International Health Regulations
IITC	International Indian Treaty Council
IK	Indigenous Knowledge
ILM	International Legal Materials
ILO	International Labour Organization
IPBN	Indigenous Peoples Biodiversity Network
IPGRI	International Plant Genetic Resources Institute
IPRs	Intellectual Property Rights
IUCN	International Union for Conservation of Nature
IUPGR	International Undertaking on Plant Genetic Resources
IWGIA	International Working Group on Indigenous Affairs
NAFTA	North American Free Trade Agreement
NCI	National Cancer Institute

NGOs	Non-Governmental Organizations
NRC	National Research Council
OAS	Organization of American States
OAU	Organization of African Unity
OECD	Organization for Economic Cooperation and Development
PBRs	Plant Breeders' Rights
PFII	Permanent Forum on Indigenous Issues
PGFR	Plant Genetic Resource for Food and Agriculture
PRHETIH	Primary Health Training for Indigenous Healers
RAFI	Rural Advancement Foundation International
RGTM	Research Group on Traditional Medicine
TBA	Traditional Birth Attendants
TEK	Traditional Ecological/Environmental Knowledge
TKDL	Traditional Knowledge Digital Library
TKTP	Traditional Knowledge of Plant-Based Therapy
TK	Traditional Knowledge
TM	Traditional Medicine
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
TRR	Traditional Resources Right
TWN	Third World Network
UDHR	Universal Declaration of Human Rights
UN GAOR	United Nations General Assembly Official Record
UNCTAD	United Nations Conference on Trade and Development

UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
UNESCO	United Nations Educational Scientific and Cultural Organization
UNGA	United Nations General Assembly
UNGIP	United Nations Working Group on Indigenous Peoples
UNHRC	United Nations Human Rights Commission
UNTS	United Nations Treaty Series
UN	United Nations
UPOV	International Union for the Protection of New Plant Varieties
USPTO	United States Patent and Trademark Office
US	United States
WB	World Bank
WCIP	World Council on Indigenous Peoples
WCMC	World Conservation Monitoring Centre
WHA	World Health Assembly
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WRI	World Resources International
WTO	World Trade Organization
WWF	World Wildlife Fund

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DEDICATION

To my father:

Chief John E. Oguamanam, my very best friend and my hero, with eternal gratitude

and to the memory of my uncle:

Nwanna Titus Nwosu, Ph.D. (Chem. Bradford)

CHAPTER ONE

1.0 The Conceptual Framework of the Study

1.1 Introduction and Overview

Indigenous Question in International Law

In the post/neocolonial era, the indigenous question remains entrenched on top of the international agenda.¹ The near uniformity of the experiences of all colonized peoples is perhaps their most important rallying point. It is the basis of their confrontation or engagement with the dominant culture in a postcolonial dialogue. The dialogue of postcolonialism is an exercise in the critical exploration of the West's relation to its "other",² conveniently depicted as the non-Western and/or indigenous peoples.

Epistemic Quandary in the Postcolonial Era

Looking back to the times when indigenous peoples (of both the *enclave territories*³ and those in far-flung colonies) were regarded as mere creatures within the fringe of humanity, some progress has been made. Varying degrees of political independence have been granted to virtually all colonial outposts in Africa, Asia and the Americas. Even in the enclave territories, recent judicial victories and policy reversals including the granting of semi-autonomous government status are all signposts of change.⁴ In the postcolonial era, however, attention has been increasingly focused on the

¹ See Siefried Wiessner, "Rights and Status of Indigenous Peoples: A Global Perspective and International Legal Analysis" (1999) 2 Harvard Human Rights Journal 57 at 58 [hereinafter Wiessner].

² See Peter Fitzpatrick & Eve Darian-Smith, eds., *Laws of the Postcolonial* (Ann Arbor: The University of Michigan Press, 1999) at 1.

³ Those territories where there was no settler withdrawal such as the United States, Canada, Australia, New Zealand and most of South America.

⁴ For instance, in the last decision of the so-called Marshall's trilogy, (i.e. *Johnson v M'Intosh* 2 US 8 (Wheat) 453 (1823), *Cherokee Nation v. Georgia* 30 US (5 Pet) (1831) and *Worcester v. Georgia* 31 US (6 Pet) 515 (1832), the US Supreme Court foreshadowed subsequent trend in judicial decisions in Canada and Australia concerning the status of indigenous nations and colonial treaties which they entered. In that 19th century case, *Worcester v. Georgia*, *ibid.* the court held that the laws of the state of Georgia was excluded

more specific level of “knowledge”. Indigenous knowledge is part of the “seeming promiscuity of concerns”⁵ that jostle within the postcolonial umbrella. Even though the framework of human rights and self-determination does not exclude the epistemic question, historically, the political emphasis of that framework would appear not to prioritize it. Rather, efforts were directed at indigenous self-government.

Traditional knowledge of the indigenous or local peoples is an integral part of their being and identity. Self-determination or human rights are more relevant to indigenous cause where they incorporate the questions about the cultural identity of the people. Indeed self-determination or human rights transcend political contexts. Separating the political context of those rights from the cultural and epistemic milieu of local people may not be helpful to their interests in the long run. Enduring indigenous political empowerment is best rooted in cultural identity. Many indigenous or non-Western epistemic worldviews are based on the ecological and spiritual imperatives sustained through the complex machinery of traditional or indigenous knowledge systems. The political emphasis of the indigenous question has not accorded adequate attention to indigenous worldviews until recently especially since the 1980s.⁶ These

from operating on Cherokee territories pursuant to Cherokee Nation’s treaty with the United States. In 1982, Canada concluded a major constitutional reform and installed a new Bill of Rights regime called the Charter of Rights and Freedoms. The Charter entrenched crucial indigenous rights in a constitutional seal. In 1992, in the famous Australian case, *Mabo v. Queensland* (1992) 175 CLR 1, the court rejected the application of the common law doctrine of *terra nullius* by the Crown to preclude aboriginal rights over land. The court described the practice as discriminatory, unjust, and unacceptable in the present times. In 1997, the Supreme Court of Canada in a landmark decision, *Delgamuukw v. British Columbia*, [1997] 3 S.C.R. 1010 affirmed aboriginal land tenure as *sui generis* tenure protected under section 35 of the Constitutional Act (UK), 1982, c. 11 (Schedule B). See James Y. Henderson, Aboriginal Tenure in the Constitution of Canada (Ontario: Carswell, 2000). In April 1, 1999 Canada set up a semi-autonomous government for the almost exclusive First Nations Territory of Nunavut (meaning, “this is our land”). Nunavut was carved out from the Northwest Territories. The Inuit make up to 85% of Nunavut population. Wiessner observes that “Nunavut constitutes the farthest-ranging Canadian recognition yet of claims to aboriginal self-government”. See Wiessner, *supra* note 1 at 69. Also at the regional level, the Organization of American States has finalized the draft of a regional instrument for the protection of indigenous peoples within its member states.

⁵ Fitzpatrick & Darian-Smith, *supra* note 2 at 1.

⁶ For instance, indigenous peoples have actively participated in most treaties or conventions in which their interests are directly or indirectly involved. Notable among those are environmental treaties. This is so because of the centrality of ecology to indigenous worldviews. Indigenous concerns reasonably influenced the text of the 1992 Earth Summit: United Nations Conference on Environment and Development held in Rio de Janeiro, Brazil. That summit birthed the Convention on Biological Diversity, which is arguably the

developments are exemplified in the context of efforts to address global biodiversity crisis.

Global Biodiversity Crisis

The 1980s marked a highpoint of concern about the loss of global biodiversity. Numerous reasons are given for the decline in global biodiversity. One of them is the problematization of the so-called stress on biodiversity by indigenous and local people in some accounts.⁷ However, other accounts of the global environmental predicament, including biodiversity loss, implicate pressures from industrialization among others.⁸ As regards biodiversity, the concern has been exacerbated in part by the growth in life science industries. An incidence of that growth is the renewed interest of pharmaceutical, agricultural, and biotechnology industries on plant-based genetic materials originating in gene-rich countries. A critical focus of public attention is the declining medicinal riches of mainly tropical plants in most of those countries. The Convention on Biological Diversity (CBD) seeks to set an agenda for addressing key aspects of the concerns.⁹

most authoritative global legal instrument that accords recognition to the ecological knowledge of indigenous and local communities.

⁷ See, for example, Michael R. Dove, "Theories of Swidden Agriculture and Political Economy of Ignorance" (1983) 1:3 *Agro Forestry Systems* 85-89; see also Roy Ellen & Holly Harris, "Introduction" in Roy Ellen, *et al.*, eds., Indigenous Environmental Knowledge and Its Transformations: Critical Anthropological Perspectives (The Netherlands: Harwood Academic Publishers, 2000) at 12 [hereinafter "Critical Perspectives"]. The tendency is to blame local peoples for what is perceived as wasteful or even delinquent patterns of resource use. The undercurrents of poverty and other external political and economic pressures have indirect impact on local peoples' use of resources. In such situations their traditional and often inherently sustainable resource use practices may be compromised in the struggle for survival. It is arguable that in the absence of external pressures, local or indigenous peoples have a conservation-friendly approach to the use of natural resources. However, the idea of *romanticisation* of local peoples' resource use as flawless is not a balanced depiction. According to Johannes, "[t]he romantic and uncritical espousal of traditional environmental knowledge and natural resource management is an extreme almost as unfortunate as that of dismissing it". See Robert E. Johannes, ed., Traditional Ecological Knowledge: A Collection of Essays (Gland, Switzerland: IUCN, 1989) at 7. While this view itself may not be acquitted of the "extreme" charge, it however puts into perspective the imperative for a balanced narrative of the biodiversity crisis.

⁸ In the last one and half decades or so, more balanced accounts of the causes of biodiversity crisis have emerged. For an example, see Alexander Wood *et al.*, eds., The Root Causes of Biodiversity Loss (London: Earthscan, 2000).

⁹ A watershed in the resolve to check what has been termed "global biodiversity crisis" was attained in 1992 through the United Nations' *framework* Convention on Biological Diversity (CBD), 31 I.L.M. 818 (1992). The CBD is a global regime dealing with access to genetic resources and sharing of benefits from

The Convention On Biological Diversity (CBD)

The CBD is a global regime governing access to genetic resources and sharing of benefits from their use. It outlines a certain form of compromise between gene-rich developing countries and technologically endowed collectors from the North in what has been described as a “grand bargain”.¹⁰ Apart from the debate over the status of the CBD¹¹, the Convention is critiqued in some other respects. As a regime aimed at conservation of biodiversity, it is also one facilitating its exploitation and even commercialization.¹² Despite, its shortcomings, the CBD represents perhaps the most authoritative international instrument yet that recognizes traditional knowledge of *indigenous and local communities*. The Convention’s principal objectives include “the fair and equitable sharing of benefits arising from the utilization of genetic resources”.¹³ To attain its objectives, the Convention encourages parties to institute access and benefit sharing schemes in respect to biological resources.¹⁴ Perhaps more important to this thesis is CBD's proactive disposition toward indigenous knowledge. It requires parties to, among others things:

Respect, preserve, and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles...[a]nd to promote their wider application with the approval and involvement of holders of such knowledge...¹⁵

In sum, the CBD underscores the importance of traditional knowledge. It acknowledges the role of intellectual property, and technology transfer mechanisms in advancing that

their use. It provides a framework for the evolution of national and regional regimes in that regard. The Convention has the status of a binding international instrument. However, doubt about its effectiveness arises in part from its framework model. The CBD is in some respects hortatory. It is not detailed in a number of essential provisions.

¹⁰ See Kerry ten Kate & Sarah A. Laird, The Commercial Use of Biodiversity: Access to Genetic Resources and Benefit-Sharing (London: Earthscan, 1999) at 4 [hereinafter “Commercial Use of Biodiversity”].

¹¹ See *supra* note 9.

¹² See Vandana Shiva, Monocultures of the Mind: Perspective on Biodiversity and Biotechnology (Penang, Malaysia: Third World Network, 1993) at 153 [hereinafter “Monocultures”].

¹³ See article 1 of the CBD, *supra* note 9.

¹⁴ See article 15 *ibid.*

¹⁵ Article 8 (j).

knowledge. Perhaps CBD's essence lies in recognizing the importance of indigenous or local knowledge in a way that no instrument before it attempted to do.

Traditional Knowledge: Beyond Local Epistemic Confines

Of more concern to this thesis is the entrenchment of various realms of traditional knowledge especially traditional therapeutic knowledge (or traditional medicine) and the desire for their protection as an aspect of peoples' cultural identity. The value of traditional knowledge is now appreciated outside its epistemic and geographic confines. So-called scientific breakthroughs in agriculture, pharmacology, biomedicine, genetic and conservation sciences, to mention a few, have been linked either directly to indigenous or traditional knowledge, or indirectly to insights therefrom.¹⁶ Apart from

¹⁶ Horton writes that using traditional knowledge, the possibility of developing at least one marketable pharmaceutical from 1000 plant samples rose from 22% to 78% or three and half times. See C.M. Horton, "Preserving Biological Diversity and Cultural Diversity Under Intellectual Property Law" (1995) 10 *Journal of Environmental Law & Litigation* 1 at 5. Michael Balick finds that using traditional knowledge, the efficacy of screening plants for medicinal properties increased by more than 400%. See Michael Balick, "Ethnobotany and Identification of Therapeutic Agents from the Rainforests" in P.J. Chadwick & J. Marsh, eds., *Bioactive Compounds From Plants* (New York: John Wiley & Sons, 1990) at 22-39. The annual market value of pharmaceutical products derived from tropical rainforest plant-based medicinal knowledge of indigenous peoples exceeds US\$ 43b. See Darrel Posey & Graham Dutfield, *Beyond Intellectual Property: Toward Traditional Resource Rights for Indigenous Peoples and Local Communities* (Ottawa: International Development Research Centre, 1996) at 95. Traditional healers have employed most of the 7000 natural compounds used in modern medicine today for centuries. Twenty five percent of American prescription drugs contain active ingredients derived from indigenous knowledge of plants. See Erica-Irene Daes, "Study on the Protection of Cultural and Intellectual Property Rights of Indigenous Peoples" U.N. Doc.: E/CN.4/sub21/1991/28 (Sub-Commission on Prevention of Discrimination Against Minorities—Commission on Human Rights); see also Marie Battiste & James Y. Henderson, *Protecting Indigenous Knowledge and Heritage: A Global Challenge* (Saskatoon: Purich Publications, 2000) [hereinafter Battiste & Henderson] at 125-126; William McKinley Klein, "The Role of Botanical Gardens and Arboreta in Traditional Medicine: A Personal Reflection and Case Study" in Timothy R. Thomlinson & Olayinwola Akerele, *Medicinal Plants: Their Role in Health and Biodiversity* (Philadelphia: University of Pennsylvania Press, 1998) at 128 [hereinafter "Medicinal Plants"]. The same percentage of all prescription drugs come from the rainforest plants, and 75% of these have been gathered from information provided by indigenous peoples. See Rural Advancement Foundation International Law (RAFI, now ETC Group), *Biotechnology and Medicinal Plants* (Ottawa: RAFI, 1989) at 5; Andrew Gray, "The Impact of Biodiversity on Indigenous People" in Vandana Shiva *et al.*, *Biodiversity: Social and Ecological Perspectives* (Penang; Malaysia: World Rainforest Management, 1991) 60 at 67. The sales of pharmaceuticals based on traditional medicines alone amount by some estimates to at least US\$32b. See John Mugabe *et al.*, "Managing Access to Genetic Resources" in Mugabe *et al.*, eds., *Access to Genetic Resources: Strategies for Benefit Sharing* (Nairobi, Kenya: ACTS Press, 1997) at 6. All over the world, especially in the United States, a number of pharmaceutical companies are dedicated to searching for drug discovery based exclusively on indigenous

reflecting the interpenetration of knowledge systems, the flipside of such a situation is that it makes local knowledge forms vulnerable to appropriation. Therefore, the need for the protection of indigenous knowledge is as persuasive as the desire to protect all knowledge owners. There is a clear link based on a relation of dependence between indigenous peoples and their knowledge. For instance, over 80% of local people are said to rely on traditional medicinal practices for their healthcare.¹⁷

1.2 The Research Problematique

Intellectual Property and the Search for Equity

The argument is that “once the value of indigenous knowledge becomes obvious, efforts to channel greater resources and power to indigenous populations will begin to take place”.¹⁸ In part, this is the premise upon which intellectual property (IP) enjoys so much prominence as an instrument capable of accomplishing the objective of protection of indigenous knowledge and empowering its practitioners. Intellectual property rights (IPRs) are the West’s primary mechanism for allocation of rights over knowledge. Because intellectual property rights, especially patents, reify Western “scientific” tradition, their fitness to indigenous knowledge forms is somewhat problematic. It is quite possible that the IP initiative could produce a result capable of eroding local knowledge, even if the proponents do not envisage such a consequence.

or so called “shamanic” knowledge. See L.A. Conte, “Shaman's Pharmaceutical's Approach to Drug Development” in Michael J. Balick, Elaine Elizabetsky & Sarah A. Laird, eds., Medicinal Resources of the Tropical Rainforest: Biodiversity and Its Importance to Human Health (New York: Columbia University, 1996) at 94-100; Compare Edgar J. Asebey & J.D Kempanaar, “Biodiversity Prospecting: Fulfilling the Mandate of Biodiversity Convention” (1995) 28 Vanderbilt Journal of Transnational Law 703 at 730-736 (highlighting the difficulties of the Shaman’s initiative). Thus, the importance of traditional knowledge to Western science is not open to any serious doubt.

¹⁷ See Norman R. Farnsworth, “How Can the Well Be Dry When It is Filled With Water?” (1984) 38:1 Economics & Botany 4 at 6; see also Collins O. Airhihenbuwa, Health and Culture: Beyond the Western Paradigm (California; London; New Delhi: Sage Publications, 1995) at 56 [hereinafter Airhihenbuwa].

¹⁸ See Arun Agrawal, “On Power and Indigenous Knowledge” in Darrel Possery, eds., Cultural and Spiritual Values of Biodiversity: A Complementary Contribution to Global Biodiversity Assessment (London; Nairobi: Intermediate Technology Publications & UNEP, 1999) 177 at 179 [hereinafter Agrawal].

Most of the agreements on access to genetic resources inspired by the CBD framework aim at mitigating the acknowledged inequity in the global appropriation of the benefits of genetic resources. This inequity is in favour of the industrialized North against the less industrialized South¹⁹ and other indigenous communities within the Western Hemisphere. The South, especially its rural populations and other indigenous communities are recognized as a crucial force in biodiversity conservation. Collectively, indigenous and local peoples in the South and elsewhere insist upon being given appropriate rights as stakeholders in the biodiversity *enterprise*.

The search for equity is seen as crucial for the empowerment of local knowledge holders and the preservation of biodiversity. As part of that endeavour, intellectual property rights have been promoted as a device capable of mitigating the inequity in bioresource exploitation. Part of the argument goes:

If those who control a habitat hold proprietary rights to develop its biological resources, then they have a means for obtaining economic benefits from those resources and consequently, an incentive to conserve rather than destroy them...this market-based approach may also promote equity because it allows local people to share benefits deriving from conservation and knowledge of genetic resources.²⁰

¹⁹ For the purpose of this thesis, the term “North” is used in loose reference to *developed* countries of the Northern Hemisphere, but it also includes Japan, Australia and New Zealand. The term is also deployed as a general reference to “Western”, “Industrialized” and “Developed” countries. Conversely, the term “South” refers to countries of the Southern Hemisphere including African, Asian, Latin American countries falling within the questionable category of “Less Developed”, “Developing”, “Underdeveloped” or “Third World” countries. As recurring terms of descriptive and analytical expression, there is a tendency to use the terms North and South among scholars in a way that is convenient to a favoured analytical perspective. However, there is an emerging critical scholarship tending toward a more appropriate and general use of the terms. See generally Karin Mickelson, “Rhetoric and Rage: Third World Voices in International Legal Discourse (1998) 19 Wisconsin International Law Journal 353, David Hurlbut, “Fixing Biodiversity: Toward a Special Protocol for Related Intellectual Property” (1994) 34 Natural Resources Journal 379, Ruth L. Gana, “Prospect for Developing Countries Under the TRIPs Agreement” (1996) 29 Vanderbilt Journal of Transnational Law 735 at 740, Sell and Oddi *infra* note 21.

²⁰ See Michael A. Gollin, “An Intellectual Property Rights Framework for Biodiversity Prospecting” in Walter V. Reid *et al*, eds., Biodiversity Prospecting: Using Genetic Resources for Sustainable Development (New York: World Resources Institute, 1993) at 160; see also J. Robertson, & D. Calhoun, “Treaty on Biological Diversity: Ownership Issues and Access to Genetic Resources in New Zealand” (1995) 5 European Intellectual Property Review 219; see generally Jeffrey McNeely, Economics and Biodiversity: Developing and Using Economic Incentives to Conserve Biological Resources (Gland, Switzerland: IUCN, 1988). It may not be however correct to suggest that without external incentives, traditional methods undermine the conservation of biological diversity. See African Biodiversity: Foundation for the Future (a Biodiversity Support Program (BSP) Report) (Maryland: BSP Consortium, 1993); see generally David

Some Qualms About Intellectual Property

For a number of reasons IPRs' ability to deliver the promise of equity and other claims made on their behalf is a highly debated question. First, IPRs are a traditional subject of North-South disagreement.²¹ There is a mutual suspicion between the two geopolitical groupings on the IP subject specifically with regard to its nature and the extent to which it serves their various interests.²² The two perspectives can be put in a nutshell. The North prescribes its own intellectual property forms to the South as an instrument of technology transfer and as capable of enhancing the latter's economic development. On the other hand, the South sees such IP forms as an impediment to technology access and a design to appropriate local knowledge.²³

Second, the sophistication and aggression which modern genetic science has brought to biodiversity prospecting is seen as posing a threat to genuine biodiversity conservation. Intellectual property rights protect this industrial model of exploitation. Compared to informal and less intense modes of bioresource exploitation prevalent in the South (which enjoys virtually no protection in the nature of Western intellectual property), the South is placed at an apparent disadvantage. Biodiversity conservation is also disabled in the same breath. Therefore, formal IPRs stand to risk sidelining the traditional custodians of *wild* habitat or the world's indigenous and local peoples.

Third, the recent global harmonization of IPRs recognizes the Western *formal approach* in the application and use of biodiversity components at the expense of the non-Western or *informal methods*. For instance, there is no mention of the informal traditional or ecological knowledge of local people in the most authoritative regime yet on IPRs—the Trade Related Aspects of Intellectual Property Rights (TRIPs) Agreement.

Anderson & Richard Grove, eds., Conservation in Africa: People, Policies and Practice (New York: Cambridge University Press, 1987).

²¹ For perspectives on this disagreement, see A.S. Oddi, "The International Patent System and Third World Development: Myth or Reality" (1987) 63 *Duke Law Journal* 831; see also Susan K Sell, Powers and Ideas: North-South Politics of Intellectual Property and Antitrust (Albany: State University of New York Press, 1998).

²² Oddi, *supra* note 21 at 837-855; see generally Gana, *supra* note 19.

²³ *Ibid.* However, the irony is that intellectual property is said to facilitate technology transfer and preservation of knowledge. The truth is that it can serve conflicting objectives.

However, the controversial article 27 of the TRIPs agreement makes reference to alternative forms for the protection of knowledge.²⁴ Nonetheless, industrialized countries insist that such an alternative(s) take the likeness of Western intellectual property rights.²⁵

Fourth, as an instrument of market economy, IPR's suitability to traditional knowledge is largely faulted. Traditional knowledge thrives in a socio-cultural context different from a market economy paradigm. For these reasons, the suitability of IPRs for traditional knowledge is a debate that will for a long time remain inconclusive.

***Sui Generis* IPR Regimes**

The search for how IPRs would accommodate traditional knowledge is an important part of the desire for equitable distribution of the benefits of biodiversity. In this regard, proposals have been made for the emergence of unique, hybrid, or alternative (*sui generis*) regimes of IPRs. Such regimes aim at accommodating traditional knowledge. The quest for *sui generis* IPRs is pursued alongside the insistence in some quarters that historical malleability of the orthodox IPRs regime is enough reason for that regime to accommodate traditional knowledge.²⁶ It does not seem however that the two approaches are mutually exclusive. It can safely be argued that the *sui generis* idea derives from the malleable character of IPRs. Nonetheless, a *sui generis* construct based on the elements of mainstream intellectual property rights largely subjects traditional

²⁴ This is in relation to the *sui generis* protective option. For the text of the TRIPs agreement, see Annex IC of the WTO agreement, 33 I.L.M. 1197 (1994). The preceding WTO agreement is at 1144. Discussions on article 27 is reserved to chapter five.

²⁵ Member countries of the Union for the Protection of New Varieties of Plants (UPOV), who hitherto were mainly industrialized countries led by the United States have insisted that the *sui generis* system proposed under article 27 of the TRIPs agreement must conform to the UPOV standard. This argument is rejected by developing countries since those standards under the 1991 revised UPOV practically appropriates to patent standard. Recently, through an aggressive campaign by the US, UPOV membership is fast spreading to unwary third world countries. For further discussions see, Susan K. Sell, "Post-TRIPs Development: The Tension Between Commercial and Social Agendas in the Context of Intellectual Property" (2002) 14 Florida Journal of International Law 193 at 203-208.

²⁶ Ikechi Mgbeoji, "Patents and Traditional Knowledge of Uses of Plants: Is a Communal Patent Regime Part of the Solution to the Scourge of Bio-Piracy?" (2001) 9:1 Indiana Journal of Global Legal Studies 163 at 174-175, online: Indiana Journal of Global Legal Studies <<http://ijgls.indiana.edu/archive/09/01/Mgbeoji.shtml>> (date accessed: 29 January 2002).

knowledge to Western epistemic hegemony. This thesis argues that the integrity of traditional knowledge and peoples are better served by an imaginative *sui generis* regime, which does not necessarily have to be an imitation of the mainstream.

Parochialism of Western IPR Mechanism

Conceptualizing local knowledge as an information resource for the regime of “extractivism”²⁷ misses the point. It is part of the problem identified in this study. Representing a Western cultural perspective, that conceptualization does not best describe traditional knowledge, especially traditional therapeutic practices. No knowledge is exercised in a cultural vacuum. For instance, traditional healing practices happen within a complex psychosocial paradigm. Health systems have broad ranging ties with people’s cosmology.²⁸

The orthodox IP approach takes a fragmentary view of local knowledge. Perhaps nowhere is this more apparent than in the area of traditional knowledge of plant-based therapy (TKPT)²⁹ or traditional medicine. The local context and complex nature of indigenous and traditional communities’ relation to the ecosystem in general, and their medical or healing *practices* in particular, are undermined when it is investigated (for instance, as the patent regime does) only for active compounds to be extracted. Similarly undervalued are the increasing needs for pluralism in medical knowledge for which TKPT holds a great potential. The imperative for medical pluralism—more than one epistemic approach to therapeutic intervention—stems from the fact that no health system

²⁷ See Elaine Elizabetsky, “Ethnopharmacological Surveys in Brazilian Extractive Reserves” in *Medicinal Plants*, *supra* note 16 at 149.

²⁸ See Charles M. Good, *Ethnomedical Systems in Africa: Patterns of Traditional Medicine in Rural and Urban Kenya* (New York: The Guilford Press, 1987) 13-24 [hereinafter Good]; see also P. A. Twumasi, “Aging, Illness and Traditional Medicine in Ghana” in Wilbur H. Watson, ed., *Black Folk Medicine: The Therapeutic Significance of Faith and Trust* (New Brunswick, New Jersey: Transaction Books, 1984) 17 at 22 and T. Akhtar, “Exploitation of Medicinal Plants” in *Medicinal Plants* *ibid.* at 82. See generally Airhihenbuwa, *supra* note 17.

²⁹ In this thesis, I use the acronym, TKPT, for convenience. Knowledge of uses may by implication include associated practices, but that is not inherently so. However, that presumption will be made in this thesis for

provides self-sufficient solutions to all medical conditions. Moreover, there is no end yet (and none appears in sight) in the search for the cures of the diseases that afflict humanity. New diseases continue to be discovered leaving open every option in the search for therapeutic panacea. Thus, an examination of TKPT from its holistic perspective will assist in determining the viability (or otherwise) of IPRs to that body of knowledge.

The culture of extractivism endorsed by IPRs, especially patents, and the CBD fosters a biomedical cultural hegemony³⁰ at the expense of medical pluralism or desired *cooperation* amongst medical systems. Extractivism thrives in a Western scientific paradigm. That approach depicts a gap in cross-cultural understanding of phenomena. Such an approach, in the words of Nathan Sivin, goes “back to the days when empire and colony were good words in Europe... As they apply to our topic, they assume that plant exploration involves different kinds of resources that different kinds of people hold. One resource is know-how and the other is raw material”.³¹ The implication of this on over 80% of the world’s politically disempowered poor who rely on TKPT for their health needs³² is evident. For instance, the bulk of them cannot afford the high cost of Western medicinal services. More important than that, they have faith in the efficacy of the traditional therapeutic approach, which is a complementary aspect of most indigenous or local peoples’ cultures.

More telling is that extractivism may after all not be sustainable. Indeed new technologies in the fields of synthetic and combinatorial chemistry, genomics, bioinformatics and recently, nano/atomtech threaten reliance on natural products and

reasons of brevity of expression only. Another presumption made here is that TKPT whenever used in this project refers to associated practices. Lastly, TKPT is used as a synonym of Traditional Medicine (TM).

³⁰ Airhihenbuwa, *supra* note 17 at 48 calls it “allopathic hegemony”. For a discussion on the subject of medical cultural hegemony, see R.H. Elling, “The Capitalist World-System and International Health System” (1981) 11 *International Journal of Health Services* 21-51.

³¹ See Nathan Sivin, “Exploiting Medicinal Plants: Why Do It the Hard Way?” in *Medicinal Plants*, *supra* note 16 at 19.

³² See *supra* note 16.

biological diversity.³³ For instance, chemical structures derived from plants or animals are models for artificial or synthetic alternatives. They are often procured at low costs. Again, extractivism promotes the twin practice of biotrade and bioprospecting.³⁴ Both practices have exclusive economic appeal. Therefore, they undermine non-economic and other cultural values inherent in the relationship which the indigenous and local communities have with the natural world. Those values are an integral part of a people's cultural identity.

Evidently, the need for a legal framework to address the inequities in the exchange and use of genetic resources is very strong. So is the imperative for the protection of traditional knowledge. Nonetheless, what must be weighed and factored into the mediating policy initiatives is the price at which the desired changes are attained. This raises fundamental problems which I highlight by posing two questions. One, is it possible that in pursuing the supposed attraction of Western IPRs, we compromise the survival and critical elements of the lifestyle of indigenous and local communities? This is more so since indigenous life style is a comprehensive package. It has a developed independent culture of health care although it is still subject to penetration. Often such a culture represents an alternative to non-indigenous approaches to health care. Two, are Western or formal IPRs able to protect fully all aspects of traditional knowledge? If not, how may we ensure that IP does not undermine such aspect, if any, that it is incapable of protecting? In this thesis, I argue that it is only when we survey the nature of TKPT that the appropriateness of mainstream IPRs to that form of traditional knowledge can be

³³ See Commercial Use of Biodiversity, *supra* note 10 at 4 & 316. Although developments in Western science and technology may be attractive alternatives to natural products, those technologies would not, however, dispense completely with the primary utility of natural products. Chemical structures derived from plant substances provide models for new synthetic products. Thus, scientifically generated alternatives derive first and foremost from patterns observable in nature although they usually turn out to be economically attractive as viable substitutes. Therefore, even though chemists can synthetically modify and improve a molecule none can fathom nature's own bioactive molecules; see also Olayiwola Akerele, "An Expanded Program for Medicinal Plants" in Medicinal Plants, *supra* note 16 at 11; Asebey & Kempenaar, *supra* note 16 at 707. For perspectives on nano/atomtech, see Action Group on Erosion, Technology and Concentration (ETC Group, formerly RAFI), Atomtech: Technologies Converging at the Nano Scale (Monograph, January 2003).

³⁴ Biotrade simply refers to international trade in genetic resources, whereas bioprospecting is the search for genetic resources of economic value.

evaluated. Such scrutiny is critical if IP is to be evaluated in the light of the objectives that have been claimed on its behalf.

Beyond Intellectual Property

The nature of an appropriate reward including the form of protection for traditional knowledge has become an enigmatic question. It constitutes part of the problematique of this study. The concept of IPRs, despite its shortcomings, enjoys considerable mention in the search for an appropriate mechanism for rewarding traditional knowledge. As a potential mechanism to *incentivize* and recognize the various contributions of indigenous people and their traditional knowledge in pharmacology, medicine, food and biodiversity conservation, among others, IPRs are still subject to a continued discourse on those scores. I do not intend in this study to go outside that template. The debate as to whether IP as a concept can be effectively applied to traditional knowledge is an ongoing one.

As already indicated, the emerging international legal regime on the converging subjects of biological diversity, IPRs and traditional knowledge are articulated at a framework level only. National and regional legal regimes on the implementation of article 15 of the CBD on access and benefit sharing are emerging. Those regimes largely focus on the economic and reward aspects of genetic resources transfer.

A more problematic question, not completely separate from article 15 is how to implement article 8(j) and other related provisions of the CBD. The Conference of Parties (COP)—the governing body of the Convention—has devoted attention to how article 8(j) could be implemented. Working with the World Intellectual Property Organization (WIPO) (through the new Inter-governmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC)), the COP via its Working Group on article 8(j) has launched an inquiry on how best to protect the cultural integrity of indigenous and local peoples and their knowledge.³⁵ Although both organs (CBD and

³⁵ I do not claim that all is well with WIPO's programs for the protection and exploitation of traditional knowledge. I am aware of the criticisms in literature that assail WIPO's traditional knowledge initiatives.

WIPO) encourage a broad-based inquiry, there is a discernible trend in their efforts. They have both endorsed the need to investigate the customary regimes and protocols for the protection of knowledge in indigenous and local communities. This is a step in the right direction. Within indigenous communities there are customary regimes and protocols for the protection of knowledge, yet to be explored. Rooted in indigenous norms, such regimes are less likely to present the problems associated with mainstream intellectual property.

In this thesis, I argue that national governments should seize the opportunity provided by the framework nature of international access regimes like the CBD. They are in a position to promote and accord legal or official cover to protective schemes that are rooted in local or indigenous traditions and cultures. In virtually all cultures, there are customary regimes for the protection of knowledge.³⁶ Those have not been adequately harnessed in the post CBD access regimes. Instead, the regimes are inclined to foster a Western intellectual property hegemony that is ill suited to the protection and rewarding of local knowledge.

Suggesting a more persuasive alternative to IPRs is a desirable but *not* a *necessary* hurdle to scale in order to refocus attention towards reevaluating the IP option. It is not necessary because in principle I do not reject the idea of applying IP to local knowledge. After all, indigenous people have knowledge protection mechanisms even if not called IP. Efforts in the direction of proffering alternatives to IP are not completely detached from the general conceptual paradigm of conventional IPRs. For instance, the

See, for example, the critique of the traditional Knowledge Digital Library Project, see chapter five note 38 at 275; see also Brian Noble, "Circumventing Customary Transactions: Blackfoot Tipi Transfers and WIPO's Search for Facts of Traditional Knowledge Exchange" in T. Crook & A. Holding, eds., Innovations Around Property-thinking: Dialogues Between Law, Policy and Ethnography (Oxford: Berghahn Books) [forthcoming in 2003]; see also B. Noble, "Rites of Trading Rights: Blackfoot Tipi Designs, WIPO and the Pitfalls of Compartmentalism", (paper presented at the Annual Meeting of the American Ethnological Society and Canadian Anthropology Society, Montreal, 2001) [unpublished]. My interest for the present purpose, however, is in the inward looking approach by which WIPO appears to have turned the searchlight for the protection of local knowledge in the direction of pre-existing customary norms and protocols for the protection of knowledge in indigenous communities. This is discussed at some length in chapter six.

³⁶ This is quite evident in the Report of the WIPO's *Fact Finding Missions on Intellectual Property Needs and Expectations of Traditional Knowledge Holders*. See *infra* note 97.

concept of traditional resources rights (TRR) does not discountenance the existing IP regime in the quest for the juridification of traditional knowledge. There are *sui generis* elements for instance, indications of origin which can serve indigenous interests albeit in the limited realm of commercialization of indigenous artistic works.

Because the idea of applying IP to traditional knowledge enjoys much prominence, the attempt to underscore its inadequacies is not an attractive undertaking. Nevertheless, it is by focusing on aspects of such lapses that this project aspires to distinguish itself. If IPRs purport to accommodate the interests of traditional knowledge and its practitioners, then it should not be perverted so as to have effects antithetical to that objective. With specific regard to TKPT by indigenous peoples, and members of the local community, this project examines the impediment associated with IPRs, especially patents, for which reasons IPRs may not fulfill their promises.

TKPT and Socio-Cultural Imperative

In pursuing this task, it is necessary to recognize the context and essential detail of TKPT. That would include understanding the cultural conceptions of health, healing and associated belief systems among traditional people. The IP debate has ignored, or less charitably, downplayed those considerations. In this study, special attention is drawn to such considerations. I contend that national/local governments are better placed to recognize and project the socio-cultural imperative of traditional knowledge systems. According to Mohammed Khalil, “developing countries should recognise the rights of indigenous communities before commensurate recognition flows from industrialized countries [and] one way of doing this is to extend legal cover to domestic knowledge”.³⁷

Extending legal cover to domestic knowledge within developing countries in the post/neo colonial, or globalization era will be difficult to achieve. That proposition becomes more challenging now in the wake of the ongoing project of incorporating

³⁷ See Mohammed Khalil, “Biodiversity and the Conservation of Medicinal Plants: Issues from the Perspective the Developing World” in Timothy Swanson, ed., Intellectual Property and Biological

resources into one global economic system.³⁸ An evidence of this is the WTO/TRIPs agreement which has established a global benchmark of intellectual property protection. Under that regime, the ability of national governments to determine appropriate protection for local knowledge may be curtailed to some degree. Yet the TRIPs agreement does not obliterate the territorial nature of intellectual property rights, or the right of nations to recognize and integrate local regimes for the protection of knowledge in their national law. The difficulty inherent in the bid to provide cover for local knowledge may not be insurmountable. This thesis argues that domestic or regional legal and policy regimes should be at the forefront in championing the imperative for extending legal cover to traditional knowledge. Such initiative has to precede similar ones at the international level in order to avoid the *development from above syndrome*. Needless to add, a legal cover will build upon indigenous knowledge protection regimes. In many instances, such regimes have the likeness of IPRs and have been less appropriately called indigenous versions of IP.³⁹

Caveats

At this point it is important to reiterate some caveats as to the scope of this study and conceptual delineation of the terms it employs.

First, this thesis is neither about indigenous people *per se*, nor is it a treatise on *knowledge*. Further, it is not a dedicated study about biological diversity conservation and IPRs in their entire gamut. In this project, I do not explore those concepts in isolation. Relying on the literature on the intersections of these disciplines in a convergent analysis, this project is only concerned with how TKPT is implicated within that intersection.

Diversity Conservation: An Interdisciplinary Analysis of the Values of Medicinal Plants (New York: Cambridge University Press, 1995) at 233.

³⁸ In addition, the increased interpenetration of peoples, cultures, and societies around the world and the reverberation of ideas from diverse knowledge forms make it difficult to draw a line of demarcation across knowledge systems.

³⁹ It is less appropriately so because such concepts are often perceived in the shadow of conventional intellectual property regimes which emphasize economic/commercial aspects of knowledge.

Second, in conducting this study I am cognizant of the tendency to lump all indigenous and Western cultures and knowledge systems into a uniform but separate category. Similarly, I am also conscious of the fact that the give-and-take in knowledge *traffic*⁴⁰ including “the curious reverberations of ideas around the world” does not support an isolated or “purist knowledge”, which such qualifiers as “traditional” “indigenous” or “local”, “Western” and so on suggest. However, even though no such purist assumption is made here, what is acknowledged is the existence of plurality in ways of knowing be they Western or non-Western. In the same manner, what is emphasized is that “the rest” is not the same as the West yet; and may never be.⁴¹

1.3 Literature Review:

Delineation of Terms

So far in this overview a number of pivotal concepts employed in this thesis have been drawn in. They include “traditional/indigenous knowledge”, “traditional knowledge of plant-based therapy”, [of] “indigenous people/local communities” or traditional medicine and “intellectual property rights debate” as well as (conservation of) “biological diversity”. None of these concepts is free of ambiguity. Therefore some clarification is necessary at the on-set. In the following pages I assess the current state of knowledge,

⁴⁰ On the difficulty of setting knowledge boundaries and the fluidity thereof, see Ladislaus M. Semali & Joe L. Kincheloe, eds., *What is Indigenous Knowledge? Voices From the Academy* (London: Falmer Press, 1999) at 6. Writing in similar vein, Brush comments that the “give and take among cultures has long been recognized by anthropologists (eg. Radfield, 1962), but the urge persists to reify knowledge systems and set artificial boundaries around culture where none exists in everyday life.” see “Valuing Local Knowledge”, *infra* note 78 at 6. It is ironic that the title of the book edited by the commentator in which he contributed substantial articles is titled “Valuing *Local* Knowledge” (emphasis added). Notice here that knowledge is prefixed in a manner that suggests a reification of, or distinction between knowledge systems. As much as the interaction of knowledge systems is axiomatic, that does not completely undermine the obvious distinctions from which differing knowledge systems derive their uniqueness as the basis of their comparison with others.

⁴¹ Echoing the subject of the West and the rest, the renowned African writer, Professor Chinua Achebe counsels: “To those who believe that Europe and North America have already invented universal civilization, and all the rest of us have to hurry up and enroll, what I am proposing will appear unnecessary if not downright foolish. But for others who may believe with me that universal civilization is no where yet

understanding and application of these concepts, clarifying the understanding of those concepts as they are developed in this study.

Traditional and Western Scientific⁴² Knowledge Systems

Apart from the fact of interpenetration, ordinarily, delineating knowledge systems is a contentious exercise. It is more so when the focus is on the broad and amorphous matrixes of “Western” and “non-Western”; not to mention, “scientific” and “non-scientific”. However, such an attempt will serve a limited but functional purpose of isolating the competing ideological and conceptual references in which *knowledge* is deployed in the present context.

The notion of knowledge is a contested one, whether investigated in sociological, philosophical, jurisprudential or historical terms. For instance, the term “scientific knowledge” is ambiguous for the simple reason amongst others that the word “science” is

in sight, the task will be how to enter the preliminary conversations”. See Home and Exile (New York: Oxford University Press, 2000) at 104; see also Fitzpatrick & Darian-Smith, *supra* note 2 at 1-4.

⁴² The distinction between traditional and Western scientific knowledge does not in any way suggest that the West has no indigenous or “folk” knowledge of its own. It is indeed erroneous to assume that science and technology is the indigenous knowledge of the West. That flies at the face of historical and contemporary fact. This is not a place to examine the details of the historical evolution of modern science from European folk culture. Some observations are important however. A number of codified pharmacopoeias in use today are replacement of oral traditions of Europe and the Mediterranean. Western non-professional folk knowledge, often associated with peasants of “Europe’s own inner and indigenous other” were the foundation of the modern day formalized scientific practices. Among European folk knowledge practices are bee-keeping, gardening, dog-breeding, truffle-hunting, geese-rearing which helped in the evolution of modern scientific knowledge as it is known today. Darwin is well known to have relied extensively on the folk knowledge of pigeon fanciers for advancing his natural selection project. Mediaeval and early modern Europe developed taxonomic data from folk knowledge of plant and animals. Cross-cultural contact between Europe, Asia and the Americas from the 16th century helped in the evolution of modern scientific practice in the field of medicine and phytomedicine in particular. Like indigenous knowledge, anthropologists, Ellen & Harris observe that, “European folk traditions have in the last forty years or so been reified, reinvented, celebrated and commoditized, as demonstrated in the contemporary cultural significance of living folk museums, craft fairs and such like”. Thus, “what we now recognize as scientific knowledge of the natural world was, therefore, constituted during the eighteenth and nineteenth centuries in a way which absorbed such pre-existing local folk knowledge as was absorbable and ultimately confined what was not to oblivion”. See *Critical Perspectives*, *supra* note 7 at 6-11, see also Darrel A. Posey, “Introduction: Culture and Nature—The Inextricable Link” in *Cultural and Spiritual Values of Biodiversity*, *supra* note 18 at 5, J.F.M. Clark, “Mirrors of Humanity: Historical Reflections on Culture and Social Insects” *ibid* at 242-246.

often used as a synonym of knowledge.⁴³ Science is generally considered, as a way of knowing. Thus, every knowledge system with systematic and formulated form is arguably scientific.

Evaluating indigenous or traditional knowledge on a comparative pedestal with Western science *tends* to presuppose an overarching comparator in the form of “universal reason” or “science”, which is always ontologically privileged.⁴⁴ In the same vein, such comparison immediately places Western science at an advantage as a point of reference. In the observation of some scholars such a tendency ignores:

The fact that all systems are culture-bound and thereby excluding western knowledge from analysis...By examining local knowledge in relation to scientific disciplinary distinctions [‘minor set of ethno-disciplines’] they are pointing out how this can lead to the construction of certain aspects of local knowledge as important, while excluding or ignoring other areas and possibilities of knowledge which do not fall within the selective criteria... In this depleted vision, IK [indigenous knowledge] becomes a major concept within development discourse, a convenient abstraction, consisting of bite-sized chunks of information that can be slotted into western paradigms, fragmented and decontextualized, a kind of quick fix if not a panacea.⁴⁵

Understandably, a number of indigenous scholars insist that there is no satisfactory definition of indigenous knowledge.⁴⁶ The idea of definition, they argue, is a Western epistemological approach which tends to abstract and fragment concepts, even those it cannot explain. Ironically, like its non-Western counterpart, the character of Western scientific knowledge is not completely articulated. For instance, deShield

⁴³ See Gregory Cajete, Native Science: Natural Law of Interdependence (Santa Fe, New Mexico: Clear Light Publishers, 1999) at 14. “Science” is said to derive from the Greek word for knowledge. See *The Oxford Modern English Dictionary* 2nd ed. (Thompson, D. ed., 1996) “science” at 911. It defines science as “a branch of knowledge involving the systematized observation of and experiment with phenomena, a systematic and formulated knowledge esp. of a specialized type or on a specified subject”.

⁴⁴ See Critical Perspectives, *supra* note 7 at 25.

⁴⁵ *Ibid.* at 14-15; see also Arun Agrawal, “Indigenous and Scientific Knowledge: Some Comments” (1995) 3:3 *Indigenous Knowledge & Development Monitor* 5; “Dismantling the Divide Between Indigenous and Scientific Knowledge” (1995a) 26 *Development & Change* 413-439.

⁴⁶ See Battiste & Henderson, *supra* note 16 at 35-41; see also Ian Scoones & John Thompson, eds., Beyond Farmer First (London: Intermediate Technology Publications, 1994) at 19. Despite their inadequacies, definitions may be indispensable at least as a preliminary means of cross-cultural conversation.

observes that “despite the common term “scientific method”, no universal scientific method exists which distinguishes science from non-science”.⁴⁷

Again, for reasons of interchange in cross-cultural movement of peoples and flow of information and knowledge, talking about knowledge in purist or qualified terms may not be quite appropriate. On the other hand, Roy Ellen and his colleagues reject as extreme post-modern, cultural and sociology of science’s claims that indigenous knowledge and Western science are epistemologically equivalent and equal. In their view, we inhabit a world of “trans-cultural discourse”,⁴⁸ where a baseline of universal reason prevails in all traditions. Such baseline “is driven by shared human economic needs and cognitive processes, ... [however] they are activated and expressed in different cultural contexts”.⁴⁹

The comparative differences in approach that is discernible in the two categories of knowledge appear to be what gives them a distinct identity of a kind, albeit for the limited purpose of characterization. But those differences do not justify the exclusive appropriation of the “scientific” label by one knowledge system only. The differences are founded upon philosophical demarcations between Western and non-Western socio-cultural paradigms and worldviews. Symbolically, they are indicative of pluralism in the ways of knowing.

Stepping back from the wealth of writings that characterize or theorize on the nature of traditional knowledge and Western science, Martha Johnson identifies eleven correlative features of indigenous and Western scientific *knowledges*.⁵⁰ However, I set

⁴⁷ See Carrol Ginger deShield, Using Indigenous Knowledge in Resource Management: Knowledge of Salmon in the Upper St’at’imc (Lillooet, B.C.) (MSc. Thesis, University of British Columbia, 1995) [unpublished] at 28 [hereinafter deShield].

⁴⁸ Critical Perspectives, *supra* note 7 at 28 quoting Kay Milton, Environmentalism and Anthropology: Exploring the Role of Anthropology in Environmental Discourse (London: Routledge, 1996) at 170.

⁴⁹ deShield, *supra* note 47 *ibid*. That knowledge is expressed in different cultural contexts does not, however, undermine the reality of interpenetration of knowledge forms.

⁵⁰ See Martha Johnson, ed., Lore: Capturing Traditional Ecological Knowledge (Ottawa: Dene Cultural Institute & IDRC, 1990) at 6-10 [hereinafter Johnson]. Johnson’s categorization since it was published appears to have become a major reference in most writings on the subject. For instance, Johnson’s framework was adopted with minimum modification by deShield in 1995, and by Graham Dutfield in his recent work in 2001 (see *infra* note 53), and indeed in so many other works.

out below twelve⁵¹ correlative features improving modestly on Johnson's synthesis with some modifications and clarifications. In doing this, I have incorporated some insights from Carol Ginger deShield, Gregory Cajete, Marie Battiste, James Sakej Henderson,⁵² and the recent works of Graham Dutfield⁵³ and anthropologists Ellen, Harris, Parkes and Bicker.⁵⁴ While the latter use the term “indigenous knowledge”, Johnson uses the term “traditional environmental knowledge” (TEK).⁵⁵ It is, however, arguable that there are more or less heads of differences depending on the adopted framework. The following represent, in a *nutshell*, some features of traditional knowledge in comparison to Western science:

- ◆ Traditional knowledge is in many respects orally transmitted e.g. through stories and legends; and/or by imitation and demonstration; writing is the dominant means employed by Western science.
- ◆ Traditional knowledge is learned through observation, practical engagement, or hands-on experience gained by trial and error; Western science is taught and learned often but not always in an abstracted context.
- ◆ Traditional knowledge sustains an understanding that all parts of the natural world including elements of matter like earth, air, fire, water and other inanimate things have life force, and are infused with spirit. Western science maintains a complete distinction between animate and inanimate objects.
- ◆ Traditional knowledge does not necessarily subordinate all other life forms to humankind. Thus, all life forms including humans have kinship relations and are

⁵¹ This number is not absolute

⁵² DeShield, *supra* note 47; Cajete, *supra* note 43; Battiste & Henderson, *supra* note 16.

⁵³ See Graham Dutfield, “TRIPS-Related Aspects of Traditional Knowledge” (2001) 33:2 Case Western Reserve Journal of International Law 233 at 241.

⁵⁴ Critical Perspectives, *supra* note 7.

⁵⁵ Other terms used interchangeably with TEK include indigenous knowledge (IK), indigenous technical knowledge (ITK), local/folk knowledge, peoples’ science, native science, rural people’s knowledge *et cetera*. Each of the usage reflects the user’s perspective and assumptions. Ellen & Harris argue that “[t]here is arguably enough overlap between their meanings [i.e. the terms] to recognize the existence of a shared inter-subjective understanding, some “epistemic community” which permits a sufficient degree of common-sense engagement to allow that they refer to the same focal semantic space”. See Critical Perspectives, *supra* note 7 at 2.

interdependent. Modern Western science supports a cultural context in which mankind can control and legitimately exploit other life forms.

- ◆ Traditional knowledge is holistic and integrative in character. It is based upon a philosophy of a broad cultural tradition which perceives the inter-relatedness of all phenomena in the natural and supernatural world. Western science is characteristically reductionist and fragmentary, deliberately breaking “data” into little elements in order to gain insight into complex phenomena.
- ◆ Traditional knowledge is intuitive. It emphasizes emotional involvement and subjective certainty of understanding. Western science is abstract, and adopts a more analytical approach in which the observer is separated from the observed. It also emphasizes replication of measurements for determination of result.
- ◆ Traditional knowledge is qualitative and is based on sustained contact with, and observations of the natural environment and phenomena. Western science is quantitative, and emphasizes mathematical representations.
- ◆ Traditional knowledge is a “performance knowledge”.⁵⁶ Resource users generate data that reflect their response to the needs of the moment. Thus, such data are more inclusive. Western science generates data through a limited category of specialized persons or researchers, the scientists. Western scientists are inclined to be selective, and deliberate in data collection. They are often preemptive of their research outcome.
- ◆ Traditional knowledge information is generated from long and rigorous observations emanating from a specific locality (i.e. diachronic data). For Western science, information arises from limited observation and claims or conclusions are made of a universal nature (i.e. synchronic data).
- ◆ Traditional knowledge systems are founded upon a social-cultural milieu that sustains a belief in complex spiritual and social relations among all life forms. Here, “[r]elations are based on reciprocity and obligations toward both community members and other life-forms and communal resource-management institutions are based on shared knowledge and meaning”.⁵⁷ Western science is formally institutionalized, hierarchically organized and vertically compartmentalized. Here, the environment is fragmented into discrete components and separately managed.

⁵⁶ The writers of *Critical Perspectives*, *supra* note 7 at 17 referring to Richard Paul, “Cultivation: Knowledge or Performance?” In Mark Hobart, ed., *An Anthropological Critique of Development* (London: Routledge, 1993) at 62. *Performance knowledge* refers to the ability of local knowledge holders (exemplified by Hausa farmers of Northern Nigeria’s device of inter-cropping system) to improvise or adapt their farming techniques in response to prevailing ecological exigency.

⁵⁷ Johnson, *supra* note 50 at 8.

- ◆ Traditional knowledge explains natural phenomena on the premises of cumulative and collective experiences often with spiritual undertones. Phenomena are checked, validated and revised on regular or seasonal basis. Thus, in addition to the aspects of trial and error, traditional knowledge “tends to be empirical and empirico-hypothetical knowledge”⁵⁸ as opposed to strictly theoretical. Western science resorts to a methodology that creates, tests and verifies hypothesis by which theories and general laws are formulated as justifications for phenomena.

- ◆ Traditional knowledge is created in the context of everyday production and informally shared to a much greater degree than other forms of knowledge including Western science. Its distribution is segmentary or socially differentiated within population by kinship, gender, age, experience, possession of ritual power, and political authority.⁵⁹ Western science process and products tend to be readily privatised and may not be as accessible and is not readily shared as traditional knowledge.

Johnson’s depiction of indigenous and Western knowledge alludes to the ideological differences and to the “complementary” features in indigenous and Western *knowledges*.⁶⁰ Her effort reflects a synthesis of conventional anthropological studies of indigenous knowledge systems.⁶¹ Part of its attraction is the emphasis on traditional ecological knowledge in which biodiversity is central. On the downward side, however, it does not provide sufficient insight into the spiritual, religio-cultural and beliefs systems implicated in traditional knowledge. Nevertheless, because of the often specific and

⁵⁸ Critical Perspectives, *supra* note 7 at 4.

⁵⁹ This is not a strong point of distinction. At best it shows the critical overlaps inherent in these characterizations. Western science from evolution to the present time has been bedeviled by questions of gender and class bias in a number of respects. Traditional knowledge is not completely immune. See Sandra Harding, *Whose Science? Whose Knowledge? Thinking From Women’s Perspectives* (Ithaca, New York: Cornell University, 1991); see also Sandra Harding, ed., *Racial Economy of Science: Toward A Democratic Future* (Bloomington: Indiana University Press, 1993) [hereinafter “Racial Economy of Science”], Ikechi Mgbeoji, *Patents and Plants: Rethinking the Role of International Law in Relation to the Appropriation of Traditional Knowledge of Uses of Plants* (J.S.D. Thesis, Dalhousie University, 2001) at 50-51 [unpublished] [hereinafter “Patents and Plants”].

⁶⁰ See deShield, *supra* note 47 at 34.

⁶¹ See for example, the following: B.R. Dewalt, “Using Indigenous Knowledge to Improve Agriculture and Natural Resource Management” (1994) 53:2 *Human Organisation* 123; E. Hunn, “What is Traditional Knowledge?” in N. Williams, & G. Barnes, eds., *Traditional Ecological Knowledge: Wisdom for Sustainable Development* (Canberra: Centre for Resource and Environmental Studies, Australian National University, 1993) 13; H. Zuckerman, “The Sociology of Science” in Niel J. Smelser, ed., *The Handbook of Sociology* (Newbury Park: Sage Publications, 1988) 511; Critical Perspectives, *supra* note 7 at 4-5.

highly localized nature of the latter, it may not serve the purpose of broad comparison, which Johnson seems concerned about. Johnson's, or indeed any similar, efforts for that matter, can only be generalizations or at best a loose or "crude checklist of characteristics".⁶² In her words, "[t]he different modes of thinking, transmitting, and expressing knowledge are not mutually exclusive".⁶³ And,

Neither TEK [traditional ecological knowledge] nor western science should be judged for its worth according to a rigid set of generalizations or a static image of the past...The knowledge system of any culture is constantly changing through assimilation of "outside" knowledge and synthesis and hybridization with existing knowledge.⁶⁴

In the observations of Arun Agrawal,

[M]ost scholars have now come to accept that there is no simple or universal criterion that can be deployed to separate indigenous knowledge from Western scientific knowledge. Attempts to draw a line between scientific and indigenous knowledge on the basis of method, epistemology, context-dependence or content are intellectually barren and have produced little that is persuasive.⁶⁵

'Science' as a Site of Contest

Despite the above conceptual delineation, virtually all the fundamental attributes or claims of Western "science" such as its perception of "truth", logic, universality, rationality, objectivity, application of criteria to mention the few have been challenged by studies in the history, sociology, and philosophy of science. In sum, the neutrality of science is contested, just as most other bases upon which the so-called bad science are isolated. In the observations of deShield,

⁶² *Ibid.* at 5. The checklist's "crude" status is so because the fact of interpenetration of peoples, cultures, societies and their knowledge systems does not make for rigid demarcation of knowledge systems along rigorously sustainable paradigms. On a different note, some of the distinctions may stem from the Western myth about traditional knowledge rather than historical reality, or even on the romanticized "state of nature" notion of traditional societies which may not be always accurate.

⁶³ Johnson, *supra* note 50 at 6.

⁶⁴ *Ibid.* at 9-10. This reinforces the fact of interpenetration of knowledge forms.

⁶⁵ See Agrawal, *supra* note 18 at 177. Although the foregoing observation may be somewhat an exaggeration, the point about the fluidity of knowledge categories should not be lost.

The definition of science and the distinction of good science from bad science is not a matter of application of objective criteria. These activities occur in social settings, such as conferences, [including peer reviews] editorial boards, universities, etc.... At times, other criteria come into use in judging scientific work such as the reputation of the researcher, size of their laboratory, university of origin, etc... Directions of scientific inquiry are not necessarily guided by utility or scientific interest, but may be shaped by whether the scientific question is likely to be easily answered...or even whether it might be considered part of a trend... The process whereby the legitimacy of science in general is determined is also a social process...⁶⁶

Furthermore, Western science serves as an instrument for policy formulation. This is otherwise referred to as “mandated science”. Mandated science erodes the notion of science as “value-neutral” or devoid of political considerations. Within the rubric of mandated science, scientists are often called upon “to translate science into recommendations for policy, and are thus often required to deal with moral [and legal] questions” of “significant socio-political impact”.⁶⁷

As a synonym of knowledge, “science”⁶⁸ can be conceptualised in different subjective ways. Its cultural relativity is no longer at issue. Thus, “[i]n other words, what is considered science is dependent on the culture/worldview/paradigm of the definer”.⁶⁹ Kant categorized knowledge into a triple construct of appearances, reality and theory. For him, “appearances of the world are deeply conditioned by human [or individual] sensory and intellectual apparatus”.⁷⁰ Vandana Shiva describes the “Western” as a local tradition,

⁶⁶ *Supra*, note 47 at 30. Continuing, deShield, *ibid.* refers to a remark by a scientist reported by R.G.A. Dolby in “The Transmission of Science” (1977) 15 *History of Science* 1 at 17 to the following effect:

Fashions appear in physics.... Very often ‘big shots’ endorse a theory. Two or more of them will do so at a conference. Then an impression is generated that something has been achieved. Even at the conference, speakers begin to defer to this. Then they return and report on the new idea. And a huge number of papers appear on this. Then it lives for a while until a new fad begins and the old one dies out.

See also H.M. Collin, “The Replication of Experiments in Physics” in B. Barnes & D. Edge, eds., Science in Context: Readings in the Sociology of Science (Cambridge, Massachusetts: MIT Press, 1982).

⁶⁷ deShield, *supra* note 47 at 32. For further insight on the concept of mandated science, see Liora Salter, Mandated Science: Science and Scientists in the Making of Standards (Boston, Massachusetts: Kluwer Academic Publishers, 1993).

⁶⁸ See Cajete, *supra* note 43 at 14.

⁶⁹ Leroy Little Bear, “Foreword”, *Native Science*, *supra* note 43 at ix.

⁷⁰ *Ibid.*

which has been spread world wide through intellectual colonisation.⁷¹ Because we can no longer take the objectivity of science for granted, so also its claim to universality. That is not to argue, however, that those attributes of science should be dismissed either.

The famous historian and philosopher of science, Thomas Kuhn in his early seminal work,⁷² argues that Western science is not as objective or open as has been claimed. Science, Kuhn canvases, is built on shifting paradigms, or even more appropriately, shifting goal posts that could not be completely devoid of social and economic mediations as well as the available “knowledge”/information at a given point in time. For Kuhn, “paradigm is the whole way of working, thinking, communicating and perceiving with the mind...[including] tacit infrastructures, which are mostly unconscious, pervading the work and thoughts of a community”.⁷³ For Peter Drahos, “[t]he fate of scientific theories is heavily affected by cultural and social factors”.⁷⁴ Sandra Harding’s summation of the result of social study of the sciences is that “[a]ll scientific knowledge is always, in every respect, socially situated”.⁷⁵ Thus, a proper understanding of science is one that sees it as a social and cultural process.⁷⁶

Contributing further, Vandana Shiva opines that it is wrong to limit the tag of “scientists” to the sociological category of those formally trained in Western science and technology or their imitating institutions. She describes science as ways of knowing, and technology, ways of doing. Properly understood, science and technology should be seen

⁷¹ Monocultures, *supra* note 12 at 10.

⁷² See Thomas S. Kuhn, The Structure of Scientific Revolutions (Chicago: University of Chicago Press, 1970).

⁷³ Little Bear, *supra* note 69 at x articulates aspects of Native American paradigm as including “ideas of constant motion and flux, existence consisting of energy waves, interrelationships, all things being animate, space/place, renewal and all things being imbued with spirit”.

⁷⁴ See Peter Drahos, The Philosophy of Intellectual Property Rights (Aldershot: Dartmouth Publishing Co., 1996) at 63.

⁷⁵ See Sandra Harding, in *Whose Science?*, *supra* note 59 at 11 & n. 10.

⁷⁶ Harding makes the observation that it is “virtually impossible to locate thoughtful observers of science who will even try to defend the view that there is such a thing as “pure science” that can usefully be distinguished from its social origins, meanings, institutions, practices, technologies, and uses”. See *Racial Economy of Science*, *supra* note 59 at 14-15.

as constituting a plurality associated with various cultures.⁷⁷ Therefore, what qualifies a body of knowledge as science may not exclusively be the knowledge content anymore than its orthodox or procedural character. Such factors as the variegated cultural, social, legal, economic and political factors of the knowledge holders and their local environments are material.

Western science and epistemology has consciously or unconsciously been in the business of devaluation and delegitimization of non-Western forms of knowing. It does this within a monocultural framework at the expense of diversity associated with world's indigenous and local cultures. Described historically in negative terms such as “primitive”, “backward”, “savage”, “rural” “unscientific” and so on, non-Western knowledge is said to lack the universality ascribed to Western science. For instance, a notable anthropologist, Stephen Brush comments: “indigenous knowledge is *culture-specific*, whereas formal [Western scientific] knowledge is *decultured*”!⁷⁸ The former claim is true insofar as it acknowledges that: (a) traditional knowledge usually originates from specific cultural context(s), and more importantly, (b) that notwithstanding its unique cultural origin, its validity is not necessarily encumbered. It is doubtful if Brush would be inclined to support point (b). However, his claim that Western scientific knowledge is decultured does not derive support from studies on sociology of science.

Traditional or indigenous knowledge of members of the local community is central to the (postmodern) retrieval or salvage mission of “exotic peoples” and their ways of life. After an era of denial and devaluation, an awakening is now evidenced in the direction of local knowledge. However, the tendency to use the so-called Western scientific or formal knowledge as a yardstick to validate local knowledge has its drawbacks. Such an approach is inclined to sideline non-Western ways of knowing. Using the patent regime in relation to TKPT, this thesis highlights how Western science

⁷⁷ See *Monocultures*, *supra* note 12 at 135. It is now commonly accepted, writes Vandana Shiva, that even in the most rigorous scientific disciplines, such as physics, there is no neutral observational term. Indisputably, all terms are theory laden *ibid.* at 39.

⁷⁸ (Emphasis added) Stephen Brush, & Doreen Stabinsky, eds., Valuing Local Knowledge: Indigenous Peoples and Intellectual Property Rights (Washington, D.C., Island Press, 1966) at 4 [hereinafter “Valuing Local Knowledge”].

under the supervision of intellectual property regimes discriminates against indigenous knowledge forms.

Indigenous/Traditional Knowledge

For purposes of this thesis, the distinction between traditional and indigenous knowledge will not be made. My survey of trans-disciplinary literature on the subject of this study shows that such a distinction, where it is made, is superficial. Therefore, I use the terms interchangeably, even though preference is made of traditional knowledge for reasons that will be clearer shortly.

Most politico-historical, general social science and legal literature has a limited conception of indigeneity. For instance, under international law, indigenous people are narrowly defined. International law has yet to arrive at a precise characterization of indigenous peoples that fits all parts of the world. It has been rightly observed that “measuring indigenesness is not an exact science”.⁷⁹ Thus, a definition, which encapsulates the relevant historical experiences of the peoples where the subject of indigeneity is implicated, remains elusive.

However, two definitions of indigenous people help to situate the often narrow and broad swings between which international law vacillates. James Anaya refers to indigenous people as: “the living descendants of pre-invasion inhabitants of lands now dominated by others...[they] are cultural distinct groups that find themselves engulfed by other settler societies born of forces of empire and conquest”.⁸⁰ There are two problems with Anaya’s approach. His definition does not seem to account for where “living descendants of pre-invasion inhabitants” are in the majority like indigenous Fijians, Bolivians, Mexicans,⁸¹ *et cetera*. It does not shed light on what is meant by “domination”.

⁷⁹ See *Critical Perspectives*, *supra* note 7 at 3.

⁸⁰ See James Anaya, *Indigenous Peoples in International Law* (New York: Oxford University Press, 1996) at 3.

⁸¹ All of these countries have indigenous majority. Similarly a whole population may be indigenous like Iceland, Tonga and Papua New-Guinea.

For instance, numerical advantage does not necessarily translate to political or economic domination.

The second one is the acclaimed work of Martinez Cobo, the first United Nations Special Rapporteur on the Issue of Discrimination Against Indigenous Peoples. For Cobo:

Indigenous *communities, peoples and nations* are those which having a historical continuity with pre-invasion, and pre-colonial societies that developed in their territories, consider themselves distinct from other sectors of the societies now prevailing in those territories, or parts of them. They form at present non-dominant sections of society and are determined to preserve, develop and transmit to future generations their ancestral territories, as the basis of their colonial experience as peoples in accordance with their own cultural patterns, social institutions and legal systems.⁸²

Again, like Anaya's attempt, Cobo's definition is not completely satisfactory.⁸³ It does not seem to include indigenous peoples in colonial outposts where settler withdrawal or retreat was expressed as political independence as was the case in most of Africa and Asia. From the definitions above, it would appear that when a people presently constitute the "dominant" section of their society (whatever that means), irrespective of their link with pre-invasion and pre-colonial societies, they could not be considered indigenous. It is not in every case that indigenous peoples are minorities, *dominated* by others. Also, European colonization and invasion may not necessarily be the exclusive criteria for indigeneity.

In the view of Erica-Irene Daes, an inclusive and precise definition capable of accommodating the peculiarity of indigenous people and their experiences globally is not practical. In her contribution, De Koning observes that attempts to define the term indigenous people often results in essentializing and marginalizing them, and threatens to limit the scope of international treaties dealing with their interests.⁸⁴

⁸² (Emphasis added). See U.N. Sub-Commission on Prevention of Discrimination and Protection of Minorities, "Study of the Problem of Discrimination Against Indigenous Populations" U.N. Doc. E/CN.4 sub.2/1986/7/Add.4 para. 379.

⁸³ For a critique of some definitions of indigenous peoples including Cobo's, see Wiessner, *supra* note 1 at 110-115.

⁸⁴ See Martine de Koning, "Biodiversity Prospecting and Equitable Remuneration of Ethnobiological Knowledge: Reconciling Industry and Indigenous Interests" in Michael Blakeney, ed., Intellectual Property

Under international law the concept of indigenous people is narrowly construed within the discourse about aboriginal peoples of the American continents, and other culturally distinctive groups.⁸⁵ Most countries of Africa and Asia deny the existence of indigenous people within their territories. At best, they are ambiguous about it. In seeming support, Stephen Brush comments: “[i]ndigenous people’ is a term that is best used in regions with a colonial history and that has left a predominant national culture and autochthonous cultures that coexist and compete for limited resources especially land”. He avers further, that the term is limited to the New World, and “is not suited to large parts of Asia and Africa where a single hybrid or creole culture (e.g. European-Native) is not dominant”.⁸⁶ This view is shared partially by Surrendra Patel. The latter observes that the term has “been used to refer to original primitive and aboriginal autochthonous people (usually but wrongly called American Indians)—a use restricted to the Western Hemisphere and Australia—to refer to the original people who inhabited the continents before the arrival of Europeans”.⁸⁷

What emerges from the foregoing is that the term “indigenous people” is construed narrowly across several disciplines and particularly under international law, even though it still lacks some form of precision. In the observations of Kingsbury, “the imprecision of the category and expanding array of groups involved in the “indigenous peoples movement” could eventually threaten this perception [of imprecision] and provoke more sustained demands for precision, such a transformation has not occurred”.⁸⁸ I argue that as narrowly construed, the term, "indigenous people" is not

Aspects of Ethnobiology (London: Sweet and Maxwell, 1999) 25 at 27. However, definition has the advantage of enhancing legal and human rights protection and archiving certainty and predictability in the legal process.

⁸⁵ See Lakshman D. Guruswamy, & Jeffery A. McNeely, Protection of Global Biodiversity: Converging Strategies (Durham: Duke University Press, 1998) at 204.

⁸⁶ See Stephen Brush, “Whose Knowledge, Whose Genes, Whose Rights?” in Valuing Local Knowledge, *supra* note 78 at 5.

⁸⁷ See Surrendra Patel, “Can IPRs System Serve the Interest of Indigenous Knowledge” in Valuing Local Knowledge *ibid.* 305 at 307.

⁸⁸ See B. Kingsbury, “Self-Determination and ‘Indigenous Peoples’” (Proceedings of the 86th Annual Meeting Of the American Society of International Law (ASIL)), Washington, D.C., 1-4 April 1992, 383 at 389; see also Robert H. Barnes, Andrew Gray & Benedict Kingsbury, Indigenous Peoples of Asia (Ann Arbor: Association of Asian Studies (monograph), 1995).

suitable to capture all the purveyors of “indigenous knowledge” of biological resources. “Indigenous knowledge” applies loosely to a category broader than “indigenous” peoples.⁸⁹

More than three-quarters of global bioresources are located in the gene-rich countries mainly of the South, which form about 75% of world population.⁹⁰ On the other hand, indigenous peoples (as narrowly construed) number between 200-300m people. They are estimated to be about 4% of the global population.⁹¹ The use of the term indigenous knowledge may present the risk of interpretation as an exclusive body of knowledge applicable to members of the “enclave territories” or those whom Franke Wilmer prefers to call the “Fourth World”.⁹² In this study, I adopt a wider interpretation of “indigenous knowledge”. Such construal makes it applicable to both the indigenous peoples of the “enclave territories”, but more importantly, to members of the so-called “local communities”⁹³ or non-Western cultures, be they “indigenous” in the strict sense

⁸⁹ Compare: “Those to whom we attribute indigenous knowledge must be indigenous people, and yet the terminological difficulties we confront in saying as much uncover a veritable semantic and legal, political and cultural minefield”. See Critical Perspectives, *supra* note 7 at 3. Naomi Roht-Ariaza argues that “[o]ne possible explanation of the introduction of the term “local” [people] into official international discourse is simply that it avoids the endless debate over which people qualify as “indigenous” or “tribal””. See Naomi Roht-Ariaza, “Of Seeds and Shamans: The Appropriation of Scientific and Technical Knowledge of Indigenous and Local Communities” (1996) 17:4 Michigan Journal of International Law 919 at 964.

⁹⁰ Valuing Local Knowledge, *supra* note 78 at 310.

⁹¹ See Andrew Gray, *supra* note 16, 60 at 61. United Nations estimates that there are approximately 300 million indigenous peoples worldwide. See Lydia van de Fliert, ed., Indigenous Peoples and International Organizations (Nottingham: Spokesman, 1994) at 3; see also Alex Ewen, ed., Voices of Indigenous People: A Plea to the World (Santa Fe, New Mexico: Clear Light Publishers, 1994) at 9.

⁹² See Franke Wilmer, The Indigenous Voice In World Politics: Since Time Immemorial (Newbury Park, California: Sage Publications Inc., 1993) at 177-8. Wilmer describes the Fourth World as “[t]he world of indigenous nations or undecolonized nations whose political, social, economic and cultural ways of life were subjected to the brutalities of conquest in the name of progress or, its more recent incarnation, development”. Wilmer contrasts this definition with the concepts of First, Second, and Third world. What is of importance here is the reference to the latter as “the formerly colonized states that were, as of the middle of the twentieth century, neither politically independent nor industrialized” (after World War II, Third World States became politically independent or sovereign within the international community). See Leon Sheleff, The Future of Tradition: Customary Law, Common Law and Legal Pluralism (London: Frank Cass Publishers, 1999) at 33.

⁹³ This phrase “indigenous and local communities” is used consistently in the CBD perhaps to indicate that the Convention’s conception of knowledge is not restricted only to the knowledge of “indigenous peoples”. This is important because of the narrow (or at best unsettled) scope the term “indigenous peoples” is construed in international law. I reiterate that understanding here.

or not. That ambit includes all the natural custodians of most of the earth's biodiversity treasure. But in order to escape the interpretational difficulty, I prefer the use of the term, "traditional knowledge"⁹⁴ even though I use it interchangeably with "indigenous knowledge".

In lending his support to the futility of the distinction between traditional and indigenous knowledge, Michael Blakeney notes that in the debate over the protection of traditional knowledge, the implied beneficiaries are traditional peoples, who are invariably referred to as "indigenous people". In his view, the definitional issue related to the delineation of the content of traditional knowledge is defining the groups of communities who are entitled to make claims for those rights accruing to that knowledge.⁹⁵

Backing the inclusive conceptualization for indigenous knowledge, Surendra Patel argues:

But the word indigenous is also used in its broader connotation, meaning native, or original; this covers much wider canvas, including all those people who were native to the lands where indigenous knowledge as contrasted to modern technological knowledge

⁹⁴ Writers, Ellen & Harris in their introduction to *Critical Perspectives*, *supra* note 7 at 3 make a good case for the comparative advantage of the term traditional knowledge over other competing terms. They argue that:

Given its conflicting, ambiguous and strong moral load, "indigenous" might seem the least useful way to describe a particular kind of knowledge. "Native" and "aboriginal" have similar connotations; "tribal" is too restricted and confuses a political condition with a distinct kind of knowledge; "folk" and tradition are less morally loaded, though "folk" still has rather quaint associations in some quarters. "Local" has the merit of sounding more neutral but fails adequately to indicate key qualitative differences in the character of knowledge usually alluded to, while being in danger of becoming coyly euphemistic. Of them all, despite its implications of anachronism and long-term cultural stasis, "traditional" seems to have more credibility and is among the most common ways of describing a particular kind of anthropological order. Like the other terms, it derives its meanings from variations on the modernity-traditional dualism, which we have quite rightly learned to treat with suspicion.

While, I agree with the arguments against other rival terms, I do not anchor my preference for "traditional" on the basis of its anthropological significance nor on the basis of the modernity-dualism dichotomy that it connotes. My preference is based on its depiction or characterization of the "other" in contradistinction to the dominant culture. It is not as if "traditional" conveys fully all the nuances inherent in that distinction, it is a reluctant candidate in the absence of better qualified others. Thus, unburdened of the cultural stasis, it serves the purpose for which I deploy it in this study.

⁹⁵ Michael Blakeney, "The Protection of Traditional Knowledge Under Intellectual Property Law" (2000) 20:6 *European Intellectual Property Review* 251 at 252.

originated. In this sense the reference should no longer be simply to the narrow groups of aboriginal tribes. I feel that if we are to consider the IPRs as also applying to indigenous knowledge, we must use the term in its broader connotation. Moreover, the broader meaning also covers aboriginal tribes, and therefore should preferably be used in discussions that center upon contrasting earlier knowledge with modern knowledge for which alone the system of IPR is applicable.⁹⁶

I prefer the use of the term, "traditional knowledge" in this study mainly because of its non-limiting nature. In that regard, the WIPO maps out the relationship between indigenous knowledge and traditional knowledge. In the draft of its *Fact-Finding Missions on Intellectual Property and Traditional knowledge (1998-1999)*, the WIPO comments that indigenous knowledge fits into the traditional category, "but traditional knowledge is not necessarily indigenous. That is to say, indigenous knowledge is traditional knowledge, but not all traditional knowledge is indigenous".⁹⁷ The WIPO's final Report on the Fact-Finding Missions under its Global Intellectual Property Issues (GIPI) program published in April 2001 comments in part that, "[i]ndigenous knowledge' being the traditional knowledge of indigenous peoples is also a subset of traditional knowledge".⁹⁸

While using the term, "traditional knowledge", I disavow the notion that traditional knowledge is antiquated, static and inferior to Western science. On the contrary, traditional knowledge is an aspect of the cultural dynamic of its practitioners. It is an innovative and responsive living body of knowledge. Furthermore, the subjectivity associated with epistemic realms does not warrant a comparison based in the inferior/superior dichotomy. The efficacy of traditional knowledge is borne out in part by its appropriation by modern biomedical and pharmacological practices. Few disclaimers could be as 'to the point' as those of the Four Direction's Council, a Canadian First

⁹⁶ See *supra* note 87 at 308. It is interesting that Patel would seem to locate the demarcation between the two epistemic realms in time through the use of terms such as "modern" and "earlier" knowledge. The trouble with this approach is that it seems to suggest that traditional or earlier knowledge is antiquated and static and that modern technological knowledge does not have historical roots in antiquity. None of these views could be correct; see also *supra* note 42.

⁹⁷ See the final WIPO Report on the *Fact-Finding Mission on Intellectual Property and Traditional Knowledge (1998-1999)* (Geneva, Switzerland: April 2001)[incorporating comments from the public and interested persons] at 23 [hereinafter "FFM"].

⁹⁸ *Ibid.* at 26.

Nations body when it observed in its brief to the Convention on Biological Diversity Secretariat that:

What is “traditional” about traditional knowledge is not its antiquity but the way it is acquired and used. In other words, the social process of learning and acquiring what is unique to each indigenous group lies at the heart of its “traditionality”. Much of this knowledge is actually quite new, but it has a social meaning and legal character, entirely unlike the knowledge indigenous people acquire from settlers and industrialized societies.⁹⁹

For ideological reasons there is characteristic reluctance especially among indigenous scholars¹⁰⁰ to define traditional or indigenous knowledge. Yet definitions of the concept abound.¹⁰¹ Howard Mann has proffered a more attractive definition of indigenous knowledge.¹⁰² Not only does Mann’s definition escape the unnecessary dichotomy between indigenous and traditional knowledge; it maintains a certain degree of neutrality in relation to that putative divide. Again, it eschews the problem of trying to enumerate the elements of traditional knowledge. Furthermore, it appreciates the dynamic character of indigenous knowledge. Hear Mann:

Indigenous knowledge as a concept concerns information, understanding, and knowledge that reflect symbiotic relationships between individuals, communities, generations, the physical environment, and other living creatures, and the spiritual relationships of a people. Indigenous knowledge evolves as ecosystems and other factors change but remains grounded in the more enduring aspects of identity, culture, generations and spirituality.¹⁰³

⁹⁹ See Four Directions Council, “Forests, Indigenous Peoples and Biodiversity” (contribution of Four Directions Council to the Secretariat of the Convention on Biological Diversity) (Letherbridge: FDC, 1996), also quoted in Graham Dutfield, “The Public and Private Domains: Intellectual Property Rights in Traditional Ecological Knowledge”, online: Oxford Electronic Journal of Intellectual Property Rights <<http://users.ox.ac.uk/~mast>.> (date accessed: 26 April 2002).

¹⁰⁰ See Battiste & Henderson, *supra* note 16. The authors argue that there is no definition that fully captures traditional knowledge. Definition is a feature of Western epistemic and pedagogic tradition which often seeks to explain or define concepts, even those it does not understand.

¹⁰¹ See, for example, Stephen Brush, *supra* note 78 at 4-5; Johnson, *supra* note 50 at 4; deShield, *supra* note 47 at 1-2.

¹⁰² Also Johnson’s definition is equally persuasive. However, it would seem, going by her definition, that traditional knowledge is necessarily communal—a view not subscribed to by the present author. Mann’s definition is not open to such interpretation. See Johnson, *supra* note 50 at 4.

¹⁰³ See Howard Mann, “Intellectual Property Rights, Biodiversity and Indigenous Knowledge: A Critical Analysis In the Canadian Context”, Prepared for the Canadian Working Group on Articles 8(j) of the Convention On Biological Diversity, November 1997 at 1 (cited in Rosemary J. Coombe, “Intellectual

Traditional Knowledge of Plant-based Therapy (TKPT)

Generally, two types of plant resources and related indigenous or traditional knowledge are distinguished in the discourse about IPRs. They are (a) crop germplasm/farmers' knowledge of plants, and (b) products derived from plants and knowledge about plants and products.¹⁰⁷ Traditional knowledge of plant-based therapy falls under the second category. It is directed toward the use of genetic resources for medicinal or curative purposes as opposed to agriculture or food. However, there is a faint border between food and medicine in virtually all cultures. In the observations of a Native American scholar, "[t]he food upon which indigenous people around the world depended for life was also their medicine...many foods were components of medical systems based on natural properties of plants and animals".¹⁰⁸ Indeed many shamans are plant breeders in their own right.¹⁰⁹ Therefore, the distinction between the use of genetic resources for medicinal or curative purposes as opposed to agriculture or food is perhaps artificial. It is made here superficially, not on any orthodox basis.

Farming and traditional medicine are closely allied in the life of indigenous peoples. This is evident in the renewed practice of cultivation of medicinal plants, to supplement supply from the "wild" flora. In contemporary times, a number of factors have combined to force a return to the ancient practice of cultivation and domestication of medicinal plants by local communities.¹¹⁰ These factors include astronomical decline in global biodiversity, aided in part by the culture of consumerism, population pressure on land and the dwindling populations of practitioners of traditional knowledge. In addition, the increasing popularity of traditional medicine and the non-affordability of

¹⁰⁷ This categorization modifies Brush's approach in Valuing Local Knowledge, *supra* note 78 at 7.

¹⁰⁸ Cajete, *supra* note 43 at 115.

¹⁰⁹ See Mark J. Plotkin, ed., Tales of a Shaman's Apprentice:--An Ethnobotanist Search for New Medicines in the Amazon Rain Forest (New York: Viking, 1993).

¹¹⁰ But see Cajete's treatment of the concept of "permaculture", which he defines "as a system based on ecological principles of creating a sustainable Earth". Permaculture technique, maintains Cajete, is a feature of indigenous science, which "ensured that plants needed and used for food, medicine, art production, and trade would be perpetuated". He, however, agrees that the practice has been in decline hence, he observes, "rediscovered" permaculture techniques are being adapted to feed populations around the world". See *supra* note 43 at 140-41 (emphasis added).

Western biomedical alternatives result in the need for domestication of medicinal plants. In Rwanda, and Indonesia respectively, the practice of what has been described as “backyard cultivation” of two popular herbs, *Tetradenia riparia*¹¹¹ and *Kayu putih*¹¹² illustrates this point. The practice of local or industrial cultivation of medicinal plants is a positive step in plant biodiversity conservation.

The essential fact promoted by the Crucible Group that “farmer’s field and forests are laboratories, farmers and healers are researchers, every season is an experiment”¹¹³ underscores the interwoven and sometimes overlapping nature of traditional medicinal and farmer knowledge of plant/plant germplasm. Steven King, and his colleagues, Thomas Carlson and Karty Moran describe home gardens as “‘research and development’ laboratories where different plants are experimented with and adapted for food, fodder, fiber, medicines, religion, ceremonial and other subsistent uses”.¹¹⁴

Nonetheless, as construed, TKPT emphasizes healing *practices* including belief systems that are usually associated with medicinal knowledge in the use of plant resources. Therapeutic or medicinal knowledge is therefore employed in this project in the limited milieu of plant resources.¹¹⁵ In a sense, following Good’s definition TKPT is:

The total body of knowledge, techniques, for the preparation and use of substances, measures and practices [including belief systems] in use whether explicable [to Western science]¹¹⁶ or not that are based on personal [or communal] experience...and observation

¹¹¹ This is a popular herb the extract of which is used in treating a wide array of diseases such as malaria, coughs, diarrhea, fevers, muscle aches and headaches. See Khalil, *supra* note 37 at 238. Only less than 10% of plants have been tested for their medicinal properties. The rest are still “wild” and are waiting to be “discovered”.

¹¹² *Ibid.* at 240; see also D. Hargone, “Indonesia: The Utilization of Medicinal Plants for Primary Health Care” in Medicinal Plants, *supra* note 16 at 144-148.

¹¹³ See The Crucible Group, People Plants and Patents: The Impact of Intellectual Property on Trade, Plant Biodiversity and Rural Society (Ottawa: IDRC, 1994) at xviii.

¹¹⁴ See Steven King *et al.*, “Biological Diversity, Indigenous Knowledge, Drug Discovery and Intellectual Property Rights” in Valuing Local Knowledge, *supra* note 78, 167 at 179.

¹¹⁵ A point worth making is that although most traditional medicines are prepared from either single plants or parts and/or combinations thereof, animal organs as well as other non-plant resources like blood, mineral, rock, oil, ash and so on may be also involved. Because of centrality of plants in indigenous therapy, TKPT as conceived here includes phytomedicine. However, it encompasses the concept of phytomedicine to include psychosocial and other practices associated with plant therapy in non-Western cultures.

¹¹⁶ Dr. John Gilbert of the UBC Faculty of Health Sciences and University Examiner, comments with reference to traditional medicine in relation to Western biomedicine that: “there some things that we

handed down [or evolving] from generation to generation either verbally or in writing, and are used for diagnosis, prevention, or elimination of imbalances in physical or social well being.¹¹⁷

The notion of TKPT emphasizes associated practices, not merely the knowledge of therapeutic properties. Often times, what is construed and appropriated by law and modern biomedicine and pharmacology is the knowledge and aspects of the healing properties of plant resources. Those are customarily expressed in the scientific jargon as “active agents”, “bioactive compounds” and so on. Generally, no regard is given to the cultural practices or social contexts in which the knowledge and/or processes are employed. Interestingly, the knowledge systems derive their essence in indigenous cosmology from those contexts.

Applicability of IPRs to Traditional Knowledge

Much effort has been concentrated on how indigenous and local peoples could jump into the moving train of IP and get incorporated into a global economy. But concerns about how traditional practices of peoples which are filtered away from an

[Western biomedical practitioners] would never know because they belong to [indigenous] culture”. Those things lie within culture’s secretive characteristic and protectionism. (oral comment at Doctoral Thesis Defence of Obijiofor Aginam’s thesis titled: “Salvaging Global Neighbourhood: Multilateralism and Public Health Challenges in a Divided World” held at UBC Faculty of Graduate Studies, Room 200 on Monday 21 January 2002)).

¹¹⁷ Qualifiers added. See Good, *supra* note 28 at 2. Good’s definition is with specific reference to African Traditional Medicine. Although traditional medicine originates in a cultural context in which its material details are found, however its essential characteristics may be outlined with caution. Subject to the qualifications made here, Good’s definition is endorsed as a working definition. Compare WHO’s definition of traditional medicine: “the sum total of the knowledge, skills and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health, as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness”. See WHO Doc., WHO/EDM/TRM/2000; see also Ong Chui Koon, “Intellectual Property Protection of Traditional Medicine and Treatments in Malaysia” in Blakeney, *supra* note 82, 155 at 157 (Koon’s adapted definition incorporates the idea that traditional medicine also is concerned with the elimination of physical, mental or social imbalance and relies exclusively on practical experience and observation handed down from generation to generation, whether verbally or in writing); see also, World Health Organization, Traditional Medicine Strategy 2002-2005 (Geneva: WHO, 2002) at 7 (defining traditional medicine “as including diverse health practices, approaches, knowledge and beliefs incorporating plant, animal and/or mineral based medicines, spiritual therapies, manual techniques and exercises applied singularly or in combination to maintain well-being, as well as to treat, diagnose or prevent illness”).

epistemic regime based largely on commoditization of knowledge for the servicing of the market economy is yet to attract serious consideration.

For convenience, two broad categories of literature are identified in relation to the suitability of IPRs to traditional knowledge or *vice versa*. One argues that for a number of reasons, the dominant forms of IP are simply not suitable to traditional knowledge. The other goes beyond the suitability question and makes a case for application of IPRs to traditional knowledge. The latter view acknowledges the constraints of Western IPRs to traditional knowledge. However, it avers that the historical malleability and instrumentalism of the IPR system would make it able to accommodate traditional knowledge. This argument appears to be largely concerned about economic reward attaching to intellectual property rights. It gives little consideration to the epistemological conflicts in the application of elements of mainstream intellectual property rights to indigenous knowledge.¹¹⁸

Traditional Resources Right (TRR)

In addition to these two opposed positions, Darrel Posey and Graham Dutfield have called for a new regime of “traditional resources rights” (TRR). TRR, they argue would encompass:

Bundle of rights” that can be used for protection, compensation, conservation. The change in terminology from IPR to TRR reflects an attempt to build on the concept of IPR protection and compensation, while recognizing that traditional resources—both tangible and intangible—are covered under a significant number of international agreements that can be used to form the basis of a *sui generis* system.¹¹⁹

It is arguable that the idea of TRR and the case for malleability of the IP system both give support to the *sui generis* option even though the TRR concept is essentially a

¹¹⁸ See, for example, Robert K. Paterson & Dennis S. Karjala, “Looking Beyond Intellectual Property in Resolving Protection of the Intangible Cultural Heritage of Indigenous Peoples” *Cardozo Journal of International Law and Dispute Resolution* [hereinafter Paterson & Karjala, forthcoming in 2003] (rejecting the patent and copyright regimes regarding the protection of intangible heritage while endorsing the modification of trademark, trade secret and “traditional concepts of Western law” such as contract and privacy).

juridification scheme. It is, however, possible that both concepts can each crystallize in a form that can be described as *sui generis*. The *sui generis* option is an open-ended notion that can be expressed in different arrangements or formulations. International legal regimes on the subject of biodiversity, traditional knowledge and IPRs now endorse the idea of a hybrid or *sui generis* IP regime.¹²⁰ In this thesis, I argue that a *sui generis* regime does not necessarily have to be patterned after the mainstream IP framework. To insist otherwise would be to subject traditional knowledge to the apron strings of the dominant epistemology behind that framework.

On the fringe of the divide are those who argue for a better understanding of traditional knowledge in its broader epistemological framework. A greater readiness to understand IPRs from indigenous viewpoint assures faster progress in advancing the IP debate to its desired objective.¹²¹ In the search for an acceptable *sui generis*, I align with the idea of exploring knowledge protection formulas based on indigenous customary protocols.

Walter V. Reid,¹²² and the duo of Stephen Brush and Doreen Stabinsky argue that Western IPRs are ill suited to the protection of traditional knowledge. Specifically, Brush and Stabinsky posit that as a “tool of capitalism”, IP is unsuited to cultural and indigenous knowledge. In their view:

Intellectual property’s positive benefits, however must be weighed against the possibility that it is unsuited for cultural knowledge... Placing the knowledge and biological resources of farmers and herbalists behind a screen of IP contradicts their historic status as common heritage¹²³ held in trust for public good...There is, therefore, a pressing need

¹¹⁹ See Posey & Dutfield, *supra* note 16 at 95.

¹²⁰ See for instance, articles 16 and 27 of the CBD and the TRIPs Agreement respectively.

¹²¹ See Thomas Greaves, “Tribal Rights: Independent Protection Mechanism for Indigenous Peoples” in *Valuing Local Knowledge*, *supra* note 78 at 36.

¹²² See Walter V. Reid, “Genetic Resources and Sustainable Agriculture: Creating Incentives for Local Innovation and Adaptation” Biopolicy Series #2 (Nairobi: African Centre for Technology, 1992).

¹²³ There is no basis for this argument that traditional knowledge or genetic resources are common heritage as understood under international law. The concept of common heritage, which emerged less than forty years ago, is a controversial subject in international law. Traditional knowledge is perfectly outside the template in which the discourse of common heritage is conducted in international law.

to weigh the allure of the tools of capitalism against the potential harm in the arena that involves indigenous peoples, peasants...¹²⁴

Michael Dove,¹²⁵ Rosemary Coombe,¹²⁶ Mohammed Khalil¹²⁷ and Timothy Swanson,¹²⁸ extend the argument beyond the suitability of IPRs to the traditional knowledge. They prefer to problematize the act of intervention and the relationship between power elites and indigenous communities in the gene-rich countries. Consequently, they argue that unequal power relations ensure that members of indigenous and local communities are unlikely to benefit from the promise of IPRs. Lack of a necessary identity of purpose between national agencies or governments and indigenous peoples in those countries is the principal basis of their skepticism.¹²⁹ Let Dove speak for this group: “the history of prejudice and discrimination against indigenous people and ethnic minorities around the world suggests that the benefits from intellectual property protection for biological resources and indigenous knowledge will not reach indigenous people”.¹³⁰

One other major feature of traditional knowledge, which some believe renders it unsuited to IP, relates to its presumed status as a communal or collective knowledge. Traditional knowledge is usually associated with family, clan, kinship, and communal or other social units. This reservation is quite apart from other concerns. Among them, the epistemological and holistic complexity of traditional knowledge and the problem of unequal power relations. Another major one is the question of the doubtful legal status of indigenous and local communities because of their putative lack of legal personality. The familiar argument is that the community or segments thereof hold traditional knowledge collectively. In addition, the view is rife that biological resource is within the domain of the “commons”. Since IPRs essentially involve turning public goods into private

¹²⁴ See Valuing Local Knowledge, *supra* note 78 at 3. It is obvious that Brush’s comment relates to Western intellectual property rights and is not concerned with indigenous versions of that concept.

¹²⁵ See Michael Dove, “Center, Periphery, and Biodiversity: A Paradox of Governance and Developmental Challenge” in Valuing Local Knowledge *ibid.* at 41.

¹²⁶ See Coombe, *supra* note 103 at 114.

¹²⁷ See Khalil, *supra* note 37.

¹²⁸ See Swanson, *supra* note 37.

¹²⁹ See Dove, *supra* note 125 at 57. This observation is, however, equally true of any legal regime.

property, the argument goes, that this is a high-risk method for societies and cultures that have long been subordinated.¹³¹

It would seem that most of the arguments against the suitability of traditional knowledge for IP are now less persuasive than when they were originally presented. For instance, the tendency in many of the arguments to lump all indigenous cultures as one exposes some of the questionable claims attributed to traditional knowledge. Thus, it may not be true to say that all indigenous knowledge is communally or collectively held. A better view is that indigenous or traditional knowledge is a concept riddled with cultural dynamics and complexities. Khalil calls attention to the not-too-obvious truth that regime structures of traditional communities in developing countries are hardly uniform. Even though the distinctions and variations that exist between different regime structures in traditional communities are neglected, their importance cannot be overstressed.¹³²

Similarly, Anil Gupta, for example, rejects the notion that traditional knowledge should be treated as community property in isolation. His view is that entitlements are not equal to all community members, as they do not make equal contribution in innovation and conservation. Gupta does not support the view that denies that IPRs are suitable to traditional knowledge simply because they are considered a communal/collective type of knowledge.¹³³

Ikechi Mgbeoji deconstructs the key reasons employed by opponents of IPRs for traditional knowledge. After a systematic refutation of the arguments by the opponents, he makes a strong case for community intellectual property rights.¹³⁴ Mgbeoji sees no

¹³⁰ *Ibid.* at 49.

¹³¹ See Brush in Valuing Local Knowledge, *supra* note 78 at 18; see also Ruth L. Gana, “Has Creativity Died in the Third World? Some Implications of the Internationalization of Intellectual Property” (1995) 24:1 Denver Journal of International Law and Policy 109 at 143 (arguing in the context of the TRIPs agreement, Gana warns that TRIPs’ imposition of Western intellectual property on indigenous societies incurs dangerous social costs on such societies, “costs which are destructive to the accepted values and principles of their social and political organization”).

¹³² Khalil, *supra* note 37 at 240.

¹³³ See Anil K. Gupta, “Getting Creative Individuals and Communities their Due: Framework for Operationalizing Article 8(j) and Article 10(c)” (submission to the CBD Secretariat, 1996). For a summary of Gupta’s views, see Graham Dutfield Intellectual Property Rights, Trade and Biodiversity: Seeds and Plant Varieties (London: Earthscan, 2000) at 120-1.

¹³⁴ See generally Patent and Plants, *supra* notes 59 & 26; see also note 38 chapter five at 275.

merit in the claim that indigenous knowledge does not pass the tests of patentability. Further, in his opinion, the product-of-nature criterion, and the idea that indigenous knowledge is a common property in the public domain, are no longer persuasive bases to deny it status and protection as IP. For Mgbeoji, the historical malleability of the patent regime is one reason that “we must mould and expand the existing [IP] regime to the needs of indigenous peoples”.¹³⁵ Gupta, Dutfield,¹³⁶ Mgbeoji and their school of thought support the position that there is much to gain for traditional knowledge by working from within the existing IP regime. Scholars such as these argue that the prevailing global economic structure demands pragmatism. This would take the form of working from the existing IP framework instead of creating entirely new rights regime.¹³⁷ Such arguments are based on the opinion that indigenous peoples and members of the local community lack the requisite economic or political clout necessary to effect the legal and policy changes (at national and global levels) that would accommodate their interests.

Suitable or not, IP has become pivotal in the search for a reward scheme and protective shield against appropriation of traditional knowledge. Rightly or wrongly, the fate of traditional knowledge, and by logical extension, its practitioners is staked, in part, at the level of our conception of IPRs. Even if IPRs are seemingly wholly unsuitable for the preservation of local knowledge the inquiry has shifted to how IPRs could be (re-) conceptualised to accommodate that body of knowledge. This inquiry has crystallized into the ongoing debate at different national, regional, inter-governmental and non-governmental forums championed by the CBD and the WIPO among others for a *sui generis* model for the protection of the integrity of indigenous knowledge forms. In this

¹³⁵ Quoting Mark Hannig in “An Examination of the Possibility to Secure Intellectual Property Rights for Plant Genetic Resources Developed by Indigenous People’s of the NAFTA States: Domestic Legislation Under the International Convention for New Plant Variety” (1996) 13 *Arizona Journal of International and Comparative Law* 175 at 197.

¹³⁶ See Dutfield, *supra* note 132 at 62, 66. Dutfield posits that: “a strong argument can be made that IPR systems should be available to protect holders of all useful knowledge whose dissemination is beneficial to the wider public. To the extent they cannot do this, they are inherently flawed. But on the other hand, some defects could be corrected without necessarily having to make radical changes. To make one example, the novelty requirement in patent law is sometimes defined in a way that could legalize the misappropriation of traditional knowledge”. *Ibid.* at 66; see also Paterson & Karjala, *supra* note 118.

¹³⁷ See Paterson & Karjala, *supra* note 118.

thesis, I argue that a viable *sui generis* framework that will respect the integrity of indigenous knowledge and its peculiarity is not necessarily one based on the mainstream IP regime.

1.4 Research Questions

The substantive questions which I raise, and attempt to provide answers for in this thesis include the following:

- (a) Is there an international legal regime on indigenous peoples? If so, how far or to what extent does such a regime on the one hand, and the increasing recognition of traditional knowledge on the other, provide for TKPT or traditional medicine?
- (b) What is the nature of the socio-cultural context for the administration of TKPT? Does that context particularize or focus on knowledge of therapeutic properties of plants; and if not, how does the lack of any such particularization relate to the IPRs argument?
- (d) Is the idea of IPRs, particularly the patent regime, capable of having adverse impact on the development and propagation of TKPT and consequently, for medical pluralism?
- (e) In the context of the IPRs debate, what legal and policy options can best preserve TKPT, the cultural integrity of indigenous peoples and their knowledge and the global desire for medical pluralism?

1.5 The Methodology of the Study

It is clear from the literature review that this project draws from a wide range of fields. It benefits from the production of knowledge in a number of disciplines including, but not limited to, the social sciences, "native science", social medicine, and the life sciences. Drawing from those disciplinary convergences is informed by the need to

situate the analytical context in which the research is conducted. Nonetheless, the fundamental template for this study is the legal *doctrinal* method.

As part of its social science component, this project relies mostly upon data, and opinions derived from authoritative literature of most widely recognized scholars in the fields. For its international legal component, it uses established methods of international law inquiries to analyze and interrogate the mainstream intellectual property, especially patents, the international law on indigenous peoples, traditional/indigenous knowledge, and biodiversity. In doing that, I am enabled to investigate the status of TKPT within those convergences. The study also harnesses and analyzes relevant provisions and information from appropriate international treaties, pertinent cases, proceedings and policies of appropriate international, regional and non-governmental institutions, actors and pressure groups. Where apposite, I analyze relevant information from studies that have examined the interface between traditional medical practices and Western-style medicine. Adopting a critical analytical method, and using reported cases of appropriation of traditional knowledge, or biopiracy especially in biomedical and pharmacological fields through the use of intellectual property, especially patents, I explore how the latter undermines the cause of local knowledge.

In order to tease out the underlying features of TKPT, I tap into insights from widespread and documented examples of therapeutic uses of plants in different cultures. In keeping with the thesis' analytical thrust, I have built upon, and developed my arguments from a wealth of studies and documented narratives. The methodology of drawing from various established accounts and examples provides a balanced and richer perspective beyond the specificity and limitations of an orthodox case study approach.

To some extent the analytical flavour of this thesis savors of the postcolonial. Western appreciation of the role and contributions of traditional therapy systems in African and other non-Western societies is largely a postcolonial development.¹³⁸ The

¹³⁸ See Good, *supra* note 28 at 8.

postcolonial also fits other issues that the project explores.¹³⁹ For instance, indigenous discourse highlights the near uniformity of the experiences of all colonized peoples in the context of colonial ideology which celebrates the values of the dominant cultures as it devalues other cultures and strands of knowledge.¹⁴⁰ In this regard, the postcolonial analytical approach¹⁴¹ is echoed in the project's legal bias.

Nonetheless, the postcolonial framework which resonates in this thesis is not an uncritical or unqualified one. This thesis is postcolonial when I seek in the analyses to question colonialist and developmentalist devaluation of *alterity*, and exclusive appropriation of "knowledge" and the universal. Again, it is postcolonial when it alludes to the poverty of Western science, modernization and *developmental* conceptions as a prescriptive model for non-Western cultures. Further still, it is postcolonial in the sense of seeking a creative space in the dominant paradigm for the accommodation of pluralism of knowledge. Last, but not all, it is postcolonial by advocating the pursuit of plural worldviews.

¹³⁹ I am not unmindful of the controversy that surrounds the use of the term postcolonial, and the different levels of meanings that it represents. Some have questioned the term postcolonial as premature. For people who share this view, globalisation and its reinforcement of international division of labour only lends credence to the theory of neocolonialism, as a subtle continuation of colonialism. Indeed the use of the term postcolonial literally suggests an end to colonialism, a thesis that neocolonialists would not agree with. To talk about postcolonialism is as misleading as talking about "postracism". Colonialism like racism only made a strategic retreat at the official level. But the subtle manifestations of both phenomena are more dangerous than when they were endorsed as official policy. It would, however, appear that postcolonial is not to be understood from limited literal meanings or its time-oriented bias. It may be better understood as the way in which the West's engagement with the rest is being evaluated. Under that broad canvas it accommodates the fact that the experiences of colonized peoples are generally similar, but more importantly, it means that postcolonial is not a time referential theme, or geographically limiting concept. See Fitzpatrick and Darian-Smith, *supra* note 2. *Contra* Linda Tihuwai Smith, Decolonization Methodologies: Research and Indigenous Peoples (New York: Zed Books, 1999) at 24 [hereinafter "Decolonization Methodologies"].

¹⁴⁰ See Semali and Kincheloe, *supra*, note 40 at xiv.

¹⁴¹ Pue, even though acknowledges that what he calls "diversity politics" is "too large to make sense at all in any rigorous taxonomy of thought we might seek to develop", classifies post-colonialism as aspect of diversity politics. Whether diversity politics is a category of post-colonialism or *vice versa*, what is important is that both are mutually implicated in each other. See W. Wesley Pue, "Globalisation and Legal Education: Views from the Outside-in" (2001) 8:1 International Journal of the Legal Profession 87 at 88; compare Fitzgerald and Darian-Smith, who identify the following as part of the expansive range of references covered by the postcolonial tag: "questions of alterity and identity...community, globalism...racism's new protean forms, and in a way above all the role of law in all this". See *supra* note 2 at 1.

However, this thesis is not postcolonial in the sense of echoing an existing reality.¹⁴² Neither is it so in the sense of depicting the history of the present; nor in the sense of seeking a form of essentialism or purism of identity, knowledge and worldviews in an irredeemably cosmopolitan world.¹⁴³ It does not adopt an understanding of the postcolonial that is insensitive to indigenous anxiety. Nor does it subscribe to the concept of postcolonial that implies that colonialism is a finished business. One major danger of those conceptions of postcolonialism is that they stir indigenous resistance, and suspicion. In this regard Linda Smith comments:

There is also, amongst indigenous academics, the sneaking suspicion that the fashion of post-colonialism has become a strategy for reinscribing or reauthorizing the privileges of non-indigenous academics because the field of "post-colonial" discourse had been defined in ways which still leave indigenous ways of knowing and current concerns.¹⁴⁴

I also adopt the critical approach in interrogating the orthodox legal and epistemological traditions implicated in the study's postcolonial analytical flavor. But my effort is not limited to mere criticisms. In demonstrating how the "dominant paradigm" of the IPRs, shortchanges traditional knowledge, I identify a direction in response to the ongoing search for a "new common sense"¹⁴⁵ of an acceptable *sui generis* knowledge protection scheme. In short, I opt for a cross-cultural conversation on the subject of intellectual property rights. On that basis, I make a case for knowledge protection schemes rooted in customary laws, norms or practices prevailing in indigenous and local

¹⁴² See Marie Battiste, ed., Reclaiming Indigenous Voices and Vision (Vancouver: University of British Columbia Press, 2000) at xix.

¹⁴³ Cosmopolitanism here is not in the sense of Jeremy Waldron's thesis of "cosmopolitan alternative" which appears to undermine the fact that the people of the minority cultures have deep and inalienable bond to their own language and cultural community. What is recognized is that in the postmodern epoch the cultural environment is kaleidoscopic. According to Will Kymlicka, "each person's life incorporates a melange of some cultural fragments" even as minority cultures resist the pressure to abandon their group life and assimilate into the larger society. See Will Kymlicka, ed., The Rights of Minority Cultures (Oxford; New York: Oxford University Press, 1995) at 7. For Waldron's treatise on cosmopolitanism, see "Minority Cultures and the Cosmopolitan Alternative" (1992) 25 *University of Michigan Journal of Law Reform* 751-93; the same article under the same title was reprinted with minor modification in "The Rights of Minority Cultures" *ibid.* at 93-114.

¹⁴⁴ See Decolonization Methodologies, *supra* note 139 at 24.

¹⁴⁵ See Boaventura de Sousa Santos, "Three Metaphors for a New Conception of Law: The Frontier, the Baroque and the South" (1995) 29 *Law & Society Review* 569 at 572.

communities. Thus, I argue that such an introspective initiative by national governments can address the idea of a culturally sensitive scheme vide a "legal cover" or other options that will not compromise the essence of traditional knowledge.

In conclusion, it serves a good purpose to emphasize that this project does not qualify as "empirical" in the orthodox understanding of that term in non-legal social sciences. Although it draws from existing social science information, particularly on the subjects of traditional/indigenous people/knowledge especially TKPT, this study is primarily conducted within an interrelated legal analytical framework.

1.6 Chapter Synopsis

In attempting to provide answers to the questions posed above, this thesis is divided into six chapters. The present chapter outlines and clarifies the conceptual framework of the project. The second chapter explores the philosophical and ideological concepts of biological diversity, traditional knowledge and Western intellectual property rights. It examines the convergence of those concepts in the analytical framework of the thesis.

Chapter three begins with a historical examination of the indigenous question in international law up to the present epoch. It addresses the issue of the status of international law relating to indigenous peoples, discussing extensively its multiple juridical nature. That chapter stresses unequivocally that there is today a body of international law on indigenous peoples. Protection of the knowledge of indigenous and local communities including TKPT or traditional medicine is a significant aspect of that regime. Further, chapter three acknowledges the historical and contextual dichotomy between indigenous peoples of the enclave territories and their counterpart in far-flung places of the Third World. Nonetheless, in the context of the discourse about knowledge I note that the dichotomy loses its political significance to the extent that indigenous or traditional knowledge is not limited to the narrow category of peoples recognized as indigenous under international law.

In chapter four, I examine the concept of TKPT or traditional medicine within the constitutive body of legal and quasi-legal and policy developments relating to international law on indigenous peoples. That chapter investigates in an elaborate form the socio-cultural, religious and epistemic contexts of plant-based traditional therapy *vis a vis* the biomedical paradigm. It concludes that traditional medicinal practices constitute a full complement of indigenous culture, knowledge and worldview. In keeping with the holistic worldview of most indigenous and so-called local communities, traditional medical heritage generally constitutes a fusion of the therapeutic and the pharmaceutical. Although traditional medicinal practices represent an alternative or independent therapeutic tradition, conventional biomedical and intellectual property regimes foist upon indigenous therapy an alien standard of validation which is based on a narrow epistemic genre—Western science. That scientific or biomedical standard does not recognize the holistic or fused nature of indigenous therapeutic culture as well as its psychosocial foundation. Thus in order to recognize, legitimize and therefore validate indigenous knowledge, on the Western scientific and intellectual property template, such knowledge must be rid of its cultural essence and *legitimacy* in indigenous life world as demonstrated in chapter five.

Chapter five revisits the debate over the use of intellectual property rights for the protection of traditional knowledge focusing on the patent regime and TKPT. Taking the socio-cultural milieu in which TKPT is practised into account, as explored in the preceding chapter, it posits that the contemporary arguments for the application of IPRs to traditional knowledge glosses over the epistemic gulf between TKPT and the patent regime which is based on Western scientific and technological tradition. In support of this contention, I have undertaken an analytical excursion of the ideological foundation of the patent regime as it applies to TKPT in a manner akin to a case study. The aim is to demonstrate that Western intellectual property systems, especially the patent regime has the potential to erode the cultural integrity of the knowledge of indigenous and local communities because it is designed to legitimize and validate Western biomedical, pharmaceutical and general scientific traditions.

The sixth and last chapter explores the search for an adequate mechanism for the protection of local knowledge. It identifies with the imperative for such a mechanism to adopt a culturally oriented and sensitive approach toward the protection of local knowledge. It argues that a *sui generis* regime for the protection of indigenous knowledge does not necessarily have to be cast on the Western or conventional intellectual property mold. Chapter six maintains that to preserve the integrity of indigenous and local communities, conserve biological diversity and promote medical pluralism there is a need to pay close attention to pre-existing customary norms or protocols within indigenous and local communities for the protection of knowledge. That chapter surveys the recent trends in the international momentum for the protection of local knowledge especially in the WIPO and CBD arenas. It concludes that in the search for a *sui generis* framework for the protection of indigenous knowledge, national governments should be encouraged to provide legal cover to such customary protocols for the protection of knowledge that exist in indigenous and local communities. Such a cross-cultural approach is proposed as a framework device, requiring further elaboration in terms of details, operability and ultimate application internationally.

CHAPTER TWO

BIODIVERSITY, TRADITIONAL KNOWLEDGE AND INTELLECTUAL PROPERTY RIGHTS: THE CONVERGENCE

2.1 BIODIVERSITY

2.1.1 Understanding the Concept

“Biodiversity” (or biological diversity) is a novel term that was invented by American scientist(s)¹ probably as recently as 1987. The “father of biodiversity”, Harvard biologist Edward O. Wilson, specifically credits Walter G. Rosen for introducing the term.² Despite its attraction to scientists, international lawyers, environmental policy makers and others, there is no accepted definition for the term.³ Perlman and Adelson believe that the term represents a complex concept that is in need of explanation, not definition⁴. According to the duo, current definitions of biodiversity fail both in theory and practice for undermining the conceptual difficulties inherent in the term.⁵ Definition, Perlman and Adelson argue, is perhaps helpful only as a starting point of discussion.⁶ They make a case for a practical definition, even if narrow, which focuses on human

¹ See Calestous Juma, (former Executive Secretary to the CBD), “Foreword” (1997) 6:3 Review of European Community Intellectual Property Law at iii.

² Dr. Rosen, the initiator of the U.S. National Forum on BioDiversity served in the Commission on Life Sciences of the National Research Council/National Academy of Science of the US. See Edward O Wilson, ed., Biodiversity (Washington, D.C.: National Academy Press, 1988) at vi. See Fiona McConnell, The Biodiversity Convention: A Negotiation History (The Hague; London; Boston: Kluwer Law International, 1996) at 5 (indicating that the term is introduced by Americans). Specifically, Dan L. Perlman and Glenn Adelson write: “The term Biodiversity was probably first used by Walter G. Rosen while organizing the conference that came to be known as the National Forum on BioDiversity, held in Washington, D.C., during September 1987”. Selected papers from the forum were eventually published in the volume, “Biodiversity”. See Biodiversity: Exploring Values and Priorities in Conservation (Malden, Massachusetts: Blackwell Science, 1997) at 19.

³ See the following: Timothy Swanson *et al*, “Biodiversity and Economics” in Brian Groombridge, ed., Global Biodiversity: Status of the Earth’s Living Resources—A Report Compiled by the World Conservation Monitoring Centre. (London: Chapman and Hall, 1992) at 207, H. Salwasser, “Managing Ecosystems for Variable Population of Vertebrates: A Focus for Biodiversity” in James K. Agee & Daryll R. Johnson, eds., Ecosystem Management for Park and Wilderness (Seattle: University of Washington Press, 1988) at 87; Perlman & Adelson, *supra* note 2 at 7.

⁴ *Ibid.* at 11.

⁵ *Ibid.* at 9.

⁶ *Ibid.* at 20.

conceptions of biodiversity for the purpose of solving specific conservation problems.⁷ Paul Wood advises that in understanding biodiversity we should distinguish the concept from *biological resources* so as not to obscure the former.⁸ Wood posits that “biodiversity is the *source* of bioresources, and therein lies its value to humanity”.⁹ He sees biodiversity as a concept on a higher plane of abstraction than biological resources.¹⁰

Seen from a higher plane of abstraction, biodiversity, as distinct from bioresources, has no recognized owner. Biodiversity or the natural environment for that matter knows no national or political boundaries.¹¹ Ownership is not an idea suited to biodiversity, even though the same cannot completely be true of bioresources. For this reason, international law on biodiversity recognizes the sovereign right of nations over their biological resources.¹² However, dealings with biological resources have an impact on biodiversity. Consequently, international law adopts an overtly collectivist approach toward the preservation of global biodiversity.¹³ Therefore, instead of the principle of “common heritage of mankind”, issues of environmental protection, specifically, biodiversity fall within the amorphous concept of “common concern of mankind”.¹⁴

Biodiversity can then be understood as an abstraction, whose *real* connection to humanity crystallizes partly in the ubiquitous necessities called biological resources.¹⁵ To that extent, biodiversity albeit theoretically abstracted has an empirical imperative.

⁷ *Ibid.* at 10, elaborating further, they argue: “a definition of biodiversity that is equivalent to “life on Earth”, or all genes, species, and ecosystems is not helpful. We must work with more restricted practical definitions...when conservation decision makers use the term biodiversity, they are not referring to all of life on Earth, rather they are referring to a specific subset for specific purpose”.

⁸ See Paul M. Wood, Biodiversity and Democracy: Rethinking Society and Nature (Vancouver: University of British Columbia Press, 2000) at 39 [hereinafter Wood] (arguing on the need to demarcate the two concepts).

⁹ *Ibid.* at 37 (emphasis in the original).

¹⁰ *Ibid.* Compare Perlman & Adelson’s emphasis on practical conceptual approach to biodiversity.

¹¹ See Michael Bowman, & Catherine Redgewell, eds., International Law and the Conservation of Biological Diversity (London; The Hague; Boston: Kluwer Law International, 1996) at 12 [hereinafter Bowman & Redgewell].

¹² See paragraph 4 of the preamble, articles 3 and 15(1) of the Convention on Biological Diversity, 31 I.L.M. 818 (1992).

¹³ See *supra* note 11 *ibid.*

¹⁴ For instance, preamble 3 of the CBD reads: “Contracting Parties affirming that the conservation of biological diversity is a common concern of humankind had agreed as follows...” Here, the common test is not ownership approach but a duty or responsibility approach to protect and not to harm, abuse or destroy.

¹⁵ I do not, however, take the view that exploitation of bioresources is the exclusive link between humanity and biodiversity. I am of the view that there are intrinsic values of biodiversity which do not derive from exploitation of bioresources. For instance, humanity itself is a component of biodiversity. Humanity would

Biodiversity is the philosophical touchstone for the discourse of bioresources. That rubric provides a better perspective to evaluate the definitions of biological diversity in scientific and legal literature.

Although it has been suggested that biodiversity defies definition,¹⁶ attempts to define biodiversity are not lacking. Jeffrey McNeely provides by far perhaps the most cited definition of the term. For him:

Biological diversity encompasses all species of plants, animals and microorganisms and the ecosystems and ecological processes of which they are parts. It is an umbrella term for the degree of nature's variety...It is usually considered at three different levels: genetic diversity, species diversity and ecosystem diversity.¹⁷

As an umbrella term, biodiversity includes every interaction that obtains within and between life forms. Those interactions could be abstracted and/or empirical. In endorsing McNeely's definition, Wood observes it does not claim that biodiversity merely "consists of species, ecosystems and processes", rather "it *encompasses* them".¹⁸ In similar vein, Cyrille de Klemm and Claire Shine describe biodiversity as that "which *encompasses* diversity of ecosystems, species and genes still found on the planet".¹⁹

not survive without other biodiversity components. This fact does not necessarily derive from physical exploitation of bioresources.

¹⁶ See *supra* note 3.

¹⁷ See Jeffrey A. McNeely *et al*, Conserving the World's Biological Diversity (Gland; Washington D.C.: IUCN/WRI/CI/WWF/World Bank, 1990) at 17; also Michael Bowman, "The Nature, Development and Philosophical Foundations of the Biodiversity Concept in International Law" in Bowman & Redgewell, *supra* note 11 at 5 & n. 1.

¹⁸ Wood, *supra* note 8 at 38.

¹⁹ See Biological Diversity Conservation and the Law: Legal Mechanisms for Conserving Species and Ecosystems [International Environmental Law and Policy Paper # 29] (Gland, Switzerland: IUCN, 1993) at 3 (emphasis added). Other definitions of biodiversity do not depart substantially from the above conceptual framework, which emphasizes its multidimensional character. For instance, Michael Bowman reiterates the three-fold concept of appraising biodiversity. See Bowman & Regwell, *supra* note 11 at 5. Susan Biggs defines it as describing, "all living organisms, their genetic makeup and the communities they form". See Susan Biggs, "The Biodiversity Convention and Global Sustainable Development" in Ray Kiely & P. Marfleet, eds., Globalization and (Post-)Modernity and the Third World (London: Routledge, 1998) 113 at 116. See Karen Baer's rather simple definition which characterizes biodiversity as "all species of animals, plants, genetic materials and ecosystems of the world". See Karen W. Baer, "A Theory of Intellectual Property and Biodiversity Treaty" (1995) 21 Syracuse Journal of International Law & Commerce 259 at 271. Yet a slightly different perspective sees biodiversity in a more elastic form. It defines biodiversity as "a portfolio of diverse life-forms including all species whose survival is currently threatened". Vague as this definition may appear, the use of "portfolio" is hailed because it takes biodiversity beyond collection of specimen and links it to investment in the future. Linked with the future, biodiversity captures the concept of intergenerational equity, which is described as among the principles best suited for the discussion of biodiversity conservation. See Lakshman D. Guruswamy & Jeffery A. McNeely, eds., Protection of Global Diversity: Converging Strategies (Durham; London: Duke University Press, 1998) at 1 see also R.C. Gardiner, "Diverse Opinions on Biodiversity" (1999) 6:2 Tulsa Journal of Comparative & International

As the most authoritative international legal instrument on global biodiversity, the CBD defines biodiversity as:

The variability among living organisms from *all sources* including, inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexities of which they are part; this includes diversity within species, between species and of ecosystems.²⁰

A number of points are striking from the above definitions of biodiversity.²¹ For my present purpose the idea that the ecosystem is central to the concept of biodiversity is remarkable. This latter point is important because of the epistemological significance of the ecology in non-Western cosmology. Related to the last point, since biodiversity is acknowledged as a synonym of “Life on Earth”,²² definitions may undermine the different socio-cultural and philosophical strands in which life and its complex relationships are perceived.

Most definitions of biodiversity identify two principal sources of life forms. These are terrestrial, and marine (including other aquatic) ecosystems. Within the two principal sources many forms of life exist. For instance, animals may range from microscopic creatures, tiny worms, insects, to elephants, horses, whales, lions and even humanity. Similarly, plants range from weedy grasses or the “lilies of the valley” to the giant oak

Law 303; Daniel M. Bodnasky, “International Law and Protection of Biological Diversity” (1995) 28 *Vanderbilt Journal of Transnational Law* 623 at 627-8. The National Research Council of the United States offers an open-ended definition of biodiversity. According to the NRC, “[b]iodiversity includes not only the world’s species with their unique evolutionary histories, but also genetic variability within and among populations of species and distribution of species across local habitats, ecosystems, landscapes, and whole continents or oceans”. See National Research Council of the United States, *Perspectives on Biodiversity: Valuing Its Role in Everchanging World* (Washington D.C.: National Academy Press, 1999) at 20.

²⁰ Emphasis added. See article 2 of the CBD, *supra* note 12. The CBD, in the same article defines “biological resources” as “genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity”. Other terms defined include “genetic resources”, “ecosystem” and “genetic material”.

²¹ For example, we can deduce that biodiversity is conceptualized at every conceivable source of life forms. From the depths of oceans to the tops of the mountains, and from arid deserts to tropical rainforests, the sources of life are yet to be exhaustively determined. The search for the existence of life in the outer space remains the preoccupation of contemporary science. Furthermore, major habitats that remain poorly explored by scientists include coral reefs, the floor of the deep seas, the soil of tropical forests and savannas. See Wilson in Biodiversity, *supra* note 2 at 5.

²² “The term “biodiversity” is indeed commonly used to describe the number, variety and variability of living organisms. This very broad usage, embracing many different parameters, is essentially a synonym of “Life on Earth”. See Perlman & Adelson, *supra* note 2 at 7-8 & n. 11; see also Global Biodiversity *infra* note 23. The authors (Perlman & Adelson) argue that because biodiversity represents underlying entities

trees. Many animals and plants exist in the terrestrial or the marine ecosystems. Some plants and animals however exist in both. This configuration indicates the ecological complexity associated with life forms that constitute biological diversity.

2.1.2 The Essence of Plant Biodiversity

All the components of biodiversity cannot exist in isolation of one another. Nonetheless, isolation is often a practical necessity when focusing on a specific component of biodiversity i.e. a bioresource. Therefore, in this thesis my focus is on plants both as a component of biodiversity as well as a crucial bioresource. Traditional knowledge and Western science generally make uses of plants, animals and other materials.²³ Prior to the advent of modern biomedicine, all biologically active elements were obtained from natural materials,²⁴ especially plants. Modern pharmacology is an offshoot of traditional herbal practices. The sub-discipline of phytomedicine owes its existence to plant biodiversity. Plant-based therapeutic practices remain arguably the most significant aspect of traditional knowledge, which is now the subject of Western pharmaceutical interests.

Renowned professor of pharmacognosy, Norman Farnsworth, finds that about 85% of traditional medicine involves the use of plant extracts. In his estimation between 3.5 and 4 billion people in the world rely on plant biodiversity as sources of drugs.²⁵ An equal number depend on plant agro-biodiversity for subsistence. In their study, Kerry ten Kate and Sarah A. Laird estimate that the combined annual global markets of genetic resources-derived products from pharmaceuticals, botanical medicines, major crops,

that are for ever changing, and because its meaning depend on the values of people who use it, biodiversity is a concept that needs to be explained instead of defined. *Ibid.*

²³ However, from time immemorial, plants (more than animals) have been the major source of material for drugs and galenic preparations. Compare: “[a]mongst the top 150 most prescribed drugs in USA, 56% contain compounds which are attributable to some point in manufacture or design to animals (23%), plants (18%), bacteria (4%), fungi (11%)”. However, some 70-90% of herbal medicines of “wild” origin are imported into Europe for trade, even as 80% of global population in developing countries relies on herbal/traditional medicine for primary health care. See Brian Groombridge & Martin D. Jenkins, Global Biodiversity: Earth’s Living Resources in the 21st Century (Cambridge, U.K: World Conservation Monitoring Press, 2000) at 68-9 [hereinafter “Global Biodiversity”].

²⁴ *Ibid.* at 69.

²⁵ See Norman R. Farnsworth, “Screening Plants For New Medicines” in Biodiversity, *supra* note 3 at 91; Norman Farnsworth, “Safety, Efficacy and the Use of Medicinal Plants” in Timothy R. Tomlinson, & Olayiwola O. Akerele, eds., Medicinal Plants: Their Role in Health and Biodiversity (Philadelphia:

horticulture, crop protection products and applications of biotechnology thereof to be between US\$500 and US\$800 billion.²⁶ Compared with the annual global sales of petrochemicals and world computer/soft/hardware/IT services market at US\$500 and US\$800 billion²⁷ the significance of plant biodiversity cannot be overstressed.²⁸

2.1.3 Bioresources: Global “Assets” in Southern Borders

Among the ecosystems that are critical to life forms are: tropical coral reefs, ancient lakes, Mediterranean climatic regions, Island ecosystems, the savannas, coastal wetlands, tidal zones and, most importantly, the tropical rain forests.²⁹ The latter are the oldest land ecosystems; and they are characterized by sophisticated interactions of life forms. There are five to ten times as many species in the tropical rainforest as can be found anywhere else.³⁰ Similarly, no other place on Earth competes with the Amazonia’s rich wild life as a unit area and as a subcontinental region.³¹ Described variously as “Vavilov centres of genetic diversity”³², “power houses of evolution”, “the womb of life”³³, “gene bank,”³⁴ *et cetera*, tropical rainforests represent the highest rate of evolutionary diversification. Studies indicate that even though the tropical rainforests harbour between 50%-90% of all species; they cover only 7% of the Earth’s land

University of Pennsylvania, 1998) at 29 [hereinafter “Medicinal Plants”]; see also Norman R. Farnsworth *et al*, “Medicinal Plants in Therapy”, *WHO Bulletin* # 63 (1985) at 965-981.

²⁶ In this study Kate and Laird exclude applications of biotechnology in healthcare, cosmetics and personal care products. See The Commercial Use of Biodiversity: Access to Genetic Resources and Benefit-Sharing (London: Earthscan, 1999) at 1.

²⁷ *Ibid.* at 1 and 2. Figures used here by the authors are for 1997.

²⁸ For an overview of the importance of herbal drugs in Hong Kong, Japan and China, see Farnsworth in Biodiversity, *supra* note 3 at 91-2.

²⁹ See Vandana Shiva, Biodiversity Conservation: Social and Ecological Perspectives (London, Penang; Malaysia: World Rainforest Movement/Zed Books, 1991) at 60 [hereinafter “Social and Ecological Perspectives”]; see also Global Biodiversity, *supra* note 23, Kevin J. Gaston & John I. Spicer, Biodiversity: An Introduction (Oxford; Malden, MA, USA: Blackwell Science, 1998).

³⁰ See Social and Ecological Perspectives, *supra* note 29 at 23.

³¹ See Vandana Shiva, Monocultures of the Mind: Perspective on Biodiversity and Biotechnology (Penang, Malaysia: Third World Network, 1993) at 69 [hereinafter “Monocultures”]. Despite its smallness in size, New Guinea is said to be probably the most bio-diverse place on Earth.

³² See Social and Ecological Perspectives, *supra* note 29 at 60.

³³ *Ibid.* at 16.

³⁴ *Ibid.* at 24.

surface.³⁵ Thus, the tropical rainforests serves as an ideal paradigm for a global biodiversity outlook.

The richness of biodiversity in the tropical South can be captured from few samplers. A single leguminous tree in Peru harbours 43 species of ants, almost the same as the entire ant population in the whole of Great Britain.³⁶ The Central American country of Costa Rica has an estimated 1500-2000 butterfly species. Britain has about 60, even though Costa Rica constitutes less than one sixth of British land area.³⁷ To physical/zoological geographers and conservation biologists, the whole of Europe is but a small fragment of Asia in terms of diversity of animal life.³⁸ All the tree species in the entirety of North America are equal to just 700 species of trees in 10 selected one-hectre plots in Borneo. The Cape Florist Peninsula in South Africa, which is only 470 square kilometers in area, is home to over 2000 indigenous species amounting to more than the entire flora of Eastern North America.³⁹ Just a stretch of a square kilometer of forests in Central or South America contains a legendary deposit running into hundreds of assorted species.

Based on some ecological factors,⁴⁰ areas of great importance to biodiversity include tropical Africa, Oceania and tropical Asia.⁴¹ Despite the practice of funneling global biodresources to *ex situ* gene banks in the North, those regions still remain the global biodiversity hot spots.⁴² Experience has shown that technology is constrained to some degree in transferring the natural biodiversity deposits from the South to the North. But this is not to say that the continued effort in this direction does not impact on the

³⁵ McNeely *et al*, *supra* note 17 at 22-23; see also Jeffrey McNeely, Economics and Biological Diversity: Developing and Using Economic Incentives to Conserve Biological Resources (Gland, Switzerland: IUCN, 1988) at 97.

³⁶ See Social and Ecological Perspectives, *supra* note 29 at 22-23.

³⁷ See Gaston & Spicer, *supra* note 29 at 46.

³⁸ *Ibid.* at 43.

³⁹ See B. Huntley, "Conserving and Monitoring Biotic Diversity: Some African Examples" in Biodiversity, *supra* note 2, 248 at 251.

⁴⁰ Some areas are considered more important than others. This is due to a number of complex ecological features including the complexity of soils and other geological factors, altitudinal variation and history. See Jeffery McNeely, *supra* note 35 at 4.

⁴¹ *Ibid.*

⁴² Among the biodiversity hot spots are: Northern Brazilian Amazon, the interiors of the Guyanas, the Central Zaire (Congo) basin, Mexico, the Andean Region, Costa Rica, Madagascar and many others classified as *developing* or Third World countries. The World Wildlife Fund identifies the following as megadiversity countries: Mexico, Colombia, Brazil, Zaire, Madagascar and Indonesia. See Russell A.

natural repositories of bioresources. In all, despite the political economy of bioresource appropriations and transfers, the South remains the natural custodian of biodiversity treasure, which is of significant global interest.⁴³ For reasons of the uneven concentration of life forms in one geographical and geopolitical region as well as for the abstracted nature of biodiversity, its protection is pursued collectively as a common concern.

2.1.4 Biodiversity in Crisis

The alarming loss of global biodiversity remains the most common motivation for addressing the biodiversity crisis. From the evolution of Earth life four million years ago,⁴⁴ loss of diversity has been a fact of life. Before man or *Homo sapiens* joined other life forms, mass extinction and speciation remained a natural occurrence. The last record of those phenomena was 65 million years ago. By that time, almost all marine plankton, as well as major groups of marine invertebrates and all dinosaurs, were affected.⁴⁵ Scientists are in agreement that in an ideal situation nature or biodiversity has a capacity for self-sustenance and regeneration.⁴⁶ However, that does not mean sustaining a static

Mittermeier, "Primate Diversity and the Tropical Forest: Case Studies from Brazil and Madagascar and the Importance of the Megadiversity Countries" in Biodiversity, *supra* note 2, 145 at 153.

⁴³ Aware of the non-feasibility of exploration of the world's estimated 5-30 million species, in the near future, scientists have settled for the investigation of indicator groups for a glimpse of overall diversity. One of the most investigated indicator groups are vascular plants. Vascular plants comprise an approximated 300,000 species. Resulting from this study is the first world map of the species numbers of vascular plants. The six diversity maxima in the study are located in the humid tropics and subtropics. Additional centres are located in the Mediterranean-type areas, particularly South Africa. Using the indicator group approach, examples have shown a credible correlation of the diversity of vascular plants with overall diversity. See Wilhelm Barthlott and Jens Mutke (of the Botanic Institute Gardens of University of Bonn, Germany), "Biomap—Biodiversity Mapping for Protection and Sustainable Use of Natural Resources", online: Bonn University <<http://www.botanic.uni-bonn.de/system/biomaps.htm>> (date accessed: 3 April 2002); See also Global Biodiversity, *supra* note 23 at 41-2, 51-2. "The world map of the species numbers of vascular plants demonstrates the species richness of vascular plants plotted as world density surface. It is based on some 1400 literature records from different geographic units, with richness values as mapped calculated on standard area of 10, 000 Sq. km using a single species area curve". Although the prospects of producing a complete set of maps detailing the pattern of occurrence of life on earth is a remote one (Gaston & Spicer, *supra* note 29 at 43), Barthlott and Mutke's mapping of vascular plants represents a glimpse of global biodiversity.

⁴⁴ There is no consensus as to the precise point of evolution of our species on the planet Earth. For instance, Groombridge and Jenkins of the World Conservation Monitoring Centre (WCMC) write that "[t]he earliest recorded hominid, *Ardipithecus ramidus* dates from 4.4 million years ago", whereas the genus *Homo* is thought to have evolved 2.5-1.8 million years ago, see Global Biodiversity, *supra* note 23 at 49. Peter Raven and Jeffrey McNeely claim that "[o]ur species first appeared perhaps 500,000 years ago, at the last instant of the 4.5-billion-year history of the planet earth". See "Biological Extinction: Its Scope and Meaning for Us" in Guruswamy & McNeely, *supra* note 19 at 13.

⁴⁵ See Social and Ecological Perspectives, *supra* note 29 at 16; see also Raven & McNeely, *supra* note 44 *ibid.*

balance because the ecosystem is a dynamic phenomenon. Nevertheless, the current global biodiversity crisis appears to undermine nature's regenerative capacity.

From the appearance of *Homo sapiens*, the on-set of agriculture some 10-13,000 years ago,⁴⁷ through to 19th and 20th century colonialist encroachment into the centers of biodiversity, pressures on the natural environment have increased. The result is a major imbalance in biodiversity equilibrium. Although not blamed as the exclusive culprit, humanity's complicity in upsetting global ecological balance remains the most devastating. Hence it has provoked international concern. By the 1980s it had become clear that the extinction rate of species in the rainforests and other major habitats was far greater than it had been prior to 1800.

Edward Wilson provides a chilling biodiversity audit of the tropical rain forests. Wilson's audit indicates that overall, less than 4% of tropical rain forests are protected within parks or reserves. These include 5% in Africa, 2% in Latin America and 6% in Asia.⁴⁸ Raven warns that by 2010, the only large blocks of undamaged forests will be those in the western and northern Brazilian Amazon, the interior of the Guyanas and the central Zaire (Congo) basin in Africa. According to Raven, all the rest will have been devastated by that time.⁴⁹ The Current extinction rate is estimated to be as much as 10,000 to 40,000 species per year. Translated, this amounts to 100 species per day and four per hour.⁵⁰ There is a common understanding that the present rate of biodiversity loss is "one of the greatest threats of human tenure on Earth".⁵¹ According to Jeffrey McNeely and Peter Raven, "[w]e are confronting an episode of species extinction [more] than anything the world has experienced in the past 65 million years".⁵²

Concern about biodiversity loss is primarily motivated by its implication for human life. The link between human survival and biological diversity is a logical

⁴⁶ Even though "the earth, our planetary home is infinite...and everything on it is limited". *Ibid.*

⁴⁷ For a brief history of the evolution of agriculture see Global Biodiversity, *supra* note 23 at 54.

⁴⁸ See Edward Wilson, "Current State of Biodiversity" in Biodiversity, *supra* note 2 at 14.

⁴⁹ This would include "all forests in other parts of the tropics and subtropics (those in Mexico, Central America, the West Indies, Andean, South America, the Eastern and Southern portions of Amazon), all the forests of Africa outside the Central Zaire basin, and the forests of tropical and subtropical Asia". See Peter H. Raven, "Our Diminishing Tropical Forests" in Biodiversity, *supra* note 2, 119 at 120.

⁵⁰ See Wood, *supra* note 8 at ix.

⁵¹ *Ibid.*; see also McNeely *et al*, *supra* note 17 at 37.

⁵² See *supra* note 44 at 13.

inference.⁵³ *Lack of biodiversity* implies the extinction of all life forms including mankind, characterized as “a creature in a state of obligate dependency upon many critical products and processes of nature”.⁵⁴ The increase in the global rate of extinction correlates to an increase in man’s vulnerability.⁵⁵ Although the foregoing observations are couched in anthropocentric terms, anthropocentric rationale is not necessarily a universal consensus. Nevertheless, the observations conform to the notion of self-preservation as a supreme imperative.

An obvious motivation for protection of biodiversity is its alarming rate of extinction. Absent this, no consensus exists as to what end or objective biodiversity protection should serve. Arguments for the protection of biodiversity are presented on two principal planks: its economic/instrumentalist appeal and its intrinsic/*value-oriented* significance. The economic argument is basically anthropocentric. It is one most inclined to demarcate bioresources from biodiversity. It thrives within a market economy framework in which the worth of biological resources is determined by economic criteria of value. On the other hand, a *value-laden* approach to biodiversity protection does not discount economic aspects, but that is not its primary motivation. It is premised on the conviction that each species is unique and intrinsically invaluable. A value-laden or intrinsic approach does not accord with humanity’s assumption of a paternalistic role over other life forms within the ecosystem.⁵⁶ Based on utilitarianism, the economic instrumental arguments enjoy greater prominence in the West.⁵⁷ On the other hand, the intrinsic or value-laden approach finds more prominence with non-Western or so-called alternative orientations.⁵⁸

⁵³ Wood, *supra* note 8 at 35.

⁵⁴ See W.E. Rees & Wackernagel, “Ecological Footprints and Appropriate Carrying Capacity: Measuring the Natural Capital Requirements of the Human Economy” in Ann-Marri Jansson *et al*, eds., Investing in Natural Capital: Ecological Economists Approach to Sustainability (Washington D.C.: Island Press, 1994) 362 at 364 (also cited by Wood, *supra* note 8 at 35).

⁵⁵ See Bryan G. Norton, Why Preserve Natural Variety? (Princeton, N.J.: Princeton University Press, 1987) at 6; Wood *ibid.* at 36.

⁵⁶ See David Ehrenfeld, The Arrogance of Humanism (New York: Oxford University Press, 1981).

⁵⁷ This approach is translated into practice through cost-benefit criterion. Part of its weaknesses is that since cost-benefit criterion is driven by market consideration, the latter “fails to reflect the full value of public goods”. See National Research Council, *supra* note 19 at 74.

⁵⁸ *Ibid.* at 73. However, the two competing approaches do not correlate to the two (Western and non-Western) epistemological paradigms. For instance, the often disputed ideology of *deep ecology* is often promoted as a Western agenda, even though that may not be necessarily true. Deep Ecology is an environmental movement whose basic tenet is that “all living things have a right to exist—that human

A strictly commercial approach to biodiversity conservation is subject to the fluidity and malleability of economic criteria of value. For example, for showing characteristics of a kind that can have some galenic significance, research can be commissioned over a plant. If the research on the plant is not completed before a rival alternative satisfies the aim of the research, in most cases, interest in the plant would fade away. On a more empirical tone, the story of the Pacific yew tree (*Taxus brevifolia*) is instructive. For tens of thousands of years, the yew had no significant economic value. But in the 1980s things took a different turn. The chemical, taxol was discovered to be an important agent in the treatment of ovarian cancer. Taxol was known to be present in commercial quantities in the bark of the yew. The bark of 12 full-grown yew trees (of over 100 years of age) would treat only a single patient!⁵⁹ Consequently, the demand for yew heightened to a point that required strong intervention to avert its extinction.⁶⁰ Pacific yew is presently endangered.

Other constraints of the economic approach are the unsettled questions about its legitimacy,⁶¹ ethical concerns, and the appropriate valuation of biodiversity, externalities and so on. A non-economic rationale for biodiversity conservation hinges on a value

beings have no right to bring creatures to extinction or play God by deciding which species serve us and should therefore be allowed to live". Despite the controversy that trails the concept of deep ecology, its basic doctrine is that it opposes anthropocentric conceptions of the environment, where mankind is the center of all things. See Arne Naess, *Ecology, Community and Lifestyle: Outline of an Ecosophy* (Cambridge; New York: Cambridge University Press, 1989); see also J.D. Nations, "Deep Ecology Meets the Developing World" in Biodiversity, *supra* note 3 at 79. "Deep Ecology" as a concept has *deep* roots in the United States even though it was pioneered by Scandinavian scholar, Arne Naess; see Michael Tobias, ed., *Deep Ecology* (San Diego, Calif: Avant Books, 1985). It is promoted as a strand of Western environmental ideology purportedly opposed by developing countries. What the deep ecology movement usually undermines is that a majority of indigenous cultures have an ecological orientation that is not necessarily anthropocentric. Further, even Paul Wood's *priority-of-biodiversity principle* is based on a Western liberal democratic framework. Wood's thesis is that based on liberal democracy's theory of justice, prioritizing biodiversity for the future generation can prevail over arguments that justify it on utility maximization, economic efficiency and consensus among stakeholders. Land-use decisions that satisfy the public interest, Wood argues, can be constrained by an overarching imperative to conserve biodiversity for posterity using the principle of liberal democracy. For Wood's priority of biodiversity principle, see *supra* note 8 at 130-176. For further insight on deep ecology movement, see the website of Sausalit, California based Foundation for Deep Ecology, <http://www.deepecology.org/mission.html> and <http://www.deepecology.org/deepecologyplatform.html> (date of last access: 12 January 2003).

⁵⁹ See C. Joyce, "Taxol: Search for a Cancer Drug" (1993) 43 *BioScience* at 133.

⁶⁰ See Perlman & Adelson, *supra* note 2 at 50-5.

⁶¹ For some insight into the question of legitimacy, see Ehrenfeld's *Arrogance of Humanism*, *supra* note 56. In that vein, Michael W. Hanemann observes that "it is critical to distinguish the legitimacy of homocentric, instrumentalist, and utilitarian and ethical framework from the degree of success with which economists measure human values". See "Economics and the Preservation of Biodiversity" in Biodiversity, *supra* note 2 193 at 198.

system propelled by ever-changing economic indicators. Compared to the economic approach, such intrinsic outlook represents perhaps a more enduring system in which conserving biological diversity is not readily compromised by ever changing economic indices.

Whatever the limits of economic rationale are, such considerations seem to be the overarching imperative in biodiversity conservation. On a broader level, this reinforces the interface between economics and environmental policy dynamics. The inevitability of economic considerations is reinforced by the centralization of bioresources in the now monolithic global market place. In this global market place, practices aimed at the protection of local and cultural sensitivities regarding dealings with biodiversity, which bear no direct economic connotations are perceived as barriers to free trade.

Indeed, the utilitarian framework is presented as a preferred ethical system for biodiversity conservation. In support of that framework, Wood points out that it is erroneous to assume that utilitarianism centers on human-values only. He argues that utilitarianism is an ethical doctrine characterized by utility maximization.⁶² Similarly, the US National Research Council argues that “[i]t is a misconception to claim that utilitarianism counts only the satisfaction of instrumental needs...and the selfish desires of individuals”.⁶³ Seen from that perspective there is no reason why utilitarianism cannot accommodate non-human interests.⁶⁴

Nevertheless, utility indicators should not be premised on “universal or global values” as no such values exist in the strict sense. Utility is often a matter of value because it aims at preference satisfaction. There are no universal criteria for the measure of value, not even market outcomes upon which utilitarianism relies. And therein lies the failure of the economic approach.⁶⁵ A utilitarian quest for a common ethical framework

⁶² See Wood, *supra* note 8 at 85-106.

⁶³ *Supra* note 19 at 73.

⁶⁴ Utilitarianism has been used both as the basis for animal liberation arguments as well as in support of the interests of all life forms. See Peter Singer Animal Liberation (New York: Avon Books, 1975), Peter Singer, “A Utilitarian Population Principle” in Michael D. Bayles, eds., Ethics and Population (Cambridge Massachusetts: Schenkman, 1976); Robin Attfield, The Ethics of Environmental Concern (New York: Columbia University, 1983). National Research Council argues that utilitarianism is concerned with “public good” and “community values”. See NRC, *supra* note 19.

⁶⁵ Utilitarianism judges the effectiveness of action on the basis of how it satisfies people’s preferences. It is the substantive framework for economic analyses of value. The economic value approach “does not tell us everything we need to know about biodiversity”. See the following: National Research Council, *supra* note 19 at 4, Hanemann, *supra* note 61, Bryan Norton, “Commodity, Amenity and Morality: The Limits of

for the society is elusive. Not all cultures subject all values to economic auction, even though theoretically, such analysis seems possible. Therefore, biodiversity or ecology is a site of conflicted encounters.

2.1.5 The Diversity of Biodiversity *Benefits*⁶⁶

Notwithstanding the ideological debates regarding the rationale for conservation of biodiversity, the latter remains one of the most important environmental issues of our time. No matter what side of the divide one is located, humanity *appreciates* biodiversity at different levels. A cursory look at the immense benefits of biodiversity and its components readily explains why that is so. A noteworthy point is that the benefits of biological diversity and its components cannot be exhaustively articulated. Biodiversity consists of the natural environment in all its manifestations. The scale of its exploitation is enormous and multifaceted.⁶⁷ The benefits of biodiversity that may be emphasized will depend upon the particular competing rationale to which one is predisposed. Thus, biodiversity (as an abstract term) and/or bioresources have economic and non-economic appeals. The two correspond to the idea of “use and non-use values” of biodiversity in specialist literature.⁶⁸

2.1.5.1 Direct Benefits

Arguably, the most obvious benefit of biodiversity lies in the direct use of bioresources in consumption and production. Biodiversity provides food for humans in nearly as much variety as there are bioresources. Gaston and Spicer write that: of the least 250, 000 or so species of flowering plants, about 3000 have been regarded as a food

Quantification in Valuing Biodiversity” in Biodiversity, *supra* note 2 at 200, Richard B. Norgaard, “The Rise of the Global Exchange Economy and the Loss of Biodiversity” *ibid.* at 206; David Ehrenfeld, “Why Put Value on Biodiversity?” *ibid.* at 212 (all of these articles highlight the limits of economic approach to the biodiversity question). Compare A. Randall, “What Mainstream Economists Have to Say About the Value of Biodiversity” in Biodiversity *ibid.* at 217-223 (arguing that all major economic approaches to biodiversity are based on balancing conflicting interests and trade-offs in which case, except those whose views brooks no compromises, economic approaches is most suited to policy decision regarding biodiversity conservation).

⁶⁶ See *infra* 2.1.6 at 68-69 for clarification of the concept of “benefits” in the context of biodiversity.

⁶⁷ Gaston & Spicer, *supra* note 29 at 77.

⁶⁸ *Ibid.* Compare, *supra* note 35 at 24. McNeely outlines two principal approaches for determining the values of biodiversity. These are (a) Direct Value consisting of consumptive use value and productive use value and, (b) Indirect Value consisting of non-consumptive use value, option value and existence value.

source and around 200 have been domesticated for food. However, at present more than 80% of the food supply of the human population is obtained directly or indirectly, from just 20 kinds of plants.⁶⁹ In all cultures, and at all times, bioresources have been the major food source for humankind. Out of the so many available plants and others awaiting “discovery” very few are used for food.⁷⁰ Plant biodiversity is not the only source of food for humanity. Animal (including fish or aquatic) resources⁷¹ are also exploited for food in various ways.

Biological resources, especially plants, are a significant source of drugs both at traditional and non-traditional levels. From the WHO estimates, Farnsworth summarizes the importance of plant biodiversity for drug and health care. He writes, “[t]he World Health Organization estimates that 80% of the people in developing countries rely on traditional medicine for their primary health care needs, and about 85% of traditional medicine involves the use of plant extracts. This means that about 3.5 to 4 billion people in the world rely on plants as sources of drugs”.⁷² Hong Kong, the largest herbal market in the world, imports over US\$190m worth of herbal medicine yearly. Japan and China have a rich tradition of health based on plant diversity.⁷³ With its quarter of the world’s population, China’s reliance on herbal medicine has global significance. In the United States, more than one-quarter of all medicinal prescriptions are formulations of plants or microbial products, and often their derivatives or synthetic versions.⁷⁴ Both traditional

⁶⁹ See Gaston & Spicer, *supra* note 29 at 76.

⁷⁰ Wilson writes that “people have utilized about 7000 kinds of plants for food, predominant among these are wheat, rye, maize and about a dozen highly domesticated species. Yet there are at least 75,000 edible plants in existence, and many of these are superior to crop plants in the widest use”. See Biodiversity, *supra* note 2 at 15. The NRC writes that “[o]nly about 150 species of plants have entered world commerce, and 3 species account for 90% of the supply of food plants by weight, calories, protein, and fat for most of the world’s countries...Just three crops—wheat, rice, and maize—account for roughly 60% of the calories and 56% of the protein consumed directly from plants...”. See *supra* note 19 at 44-5; In his own observation, Robert Thomas notes that “[d]espite the extensive exploration of natural products throughout the past century, only a minority of plants, microbes or other organisms have received more than superficial screening”. See Stephen K. Wrigley *et al.*, eds., Biodiversity: New Leads for Pharmaceutical and Agrochemical Industries (Cambridge, U.K.: The Royal Society of Chemistry, 2000) at iii.

⁷¹ The World Conservation Monitoring Centre reports that landings of aquatic resources totaled 99.5 Mt. in 1989, of which 70% were used for human consumption. See Gaston & Spicer, *supra* note 29 at 77.

⁷² Norman R. Farnsworth, “Screening Plants for New Medicines” in Biodiversity, *supra* note 2, 83 at 91.

⁷³ Farnsworth observes that the value of Chinese medicine is based on its use of placebo, yet the majority of the plants have constituents of therapeutic significance.

⁷⁴ See T. Eisner, “Prospecting for Nature’s Chemical Riches” # 6 *Issues in Science and Technology* (1989) 31-36; see also Gaston & Spicer, *supra* note 29 at 77.

remedies and orthodox medicine also make extensive use of animals and other organisms apart from plants.

At industrial levels, bioresources are deployed as natural enemies for the control of unwanted species. Few herbicides or insecticides are biological molecules. However, some are chemically synthesized analogues. Biocontrol of so-called weeds and pests is growing to be a fashionable industrial possibility of our time. In this regard, records show that about 30% of weed control and 40% of insect biocontrol programs are experimentally successful.⁷⁵ Directly, and/or indirectly, biological resources remain the source of a wide range of industrial materials. For instance, wood alone is the source of fuel, timber, and pulp, including their industrial offshoots. Biodiversity of plants and animals provides industrial fiber, gums, spices, dyes, resins, rubber, oils, cellulose, agricultural chemicals and perfumes, among others.⁷⁶ The biotechnology industrial sector alone makes use of biological resources for agriculture, food processing, industrial chemical and pollution control, among others. The scope of the exploitation of nature's "bank of organisms" for industrial purpose is immensely broad.⁷⁷ Beyond industrial exploitation, biodiversity is central to other recreational endeavours with significant economic implications. Notable in this regard are the concepts of recreational harvesting and ecotourism as well as associated activities.⁷⁸

⁷⁵ *Ibid.* at 78; see also W.E. Kunin, & J.H. Lawton, "Does Biodiversity Matter? Evaluating the Case for Conserving Species" in Kevin J. Gaston, ed., Biodiversity: A Biology of Numbers and Difference (Oxford: Blackwell Science, 1996) at 283.

⁷⁶ See James D. Nations in Biodiversity, *supra* note 3 at 81; see also Gaston & Spicer, *supra* note 29 at 77.

⁷⁷ In those limited sectors, the annual sales in biotechnology industry in the United States alone in 1993 were US\$ 10-12 billion. Expected estimate in 2035 is US\$100 billion. See R. R. Colewell, "Biodiversity and Biotechnology" in Majorie L. Reaka-Kudla, Don E. Wilson & Edward O. Wilson, eds., Biodiversity II: Understanding and Protecting Our Biological Resources (Washington, D.C: Joseph Henry Press 1992) 279-287.

⁷⁸ Recreational harvesting and ecotourism are other areas of biological resource benefit. Recreational harvesting is a multifarious concept. It refers to harvesting and/or using of exotic plants or hunting of wild animals for personal/public gardens or as pets for personal uses or exhibition respectively. Commercial or botanical gardening are aspects of exploitation of biodiversity. For instance, most plant species grown in botanic gardens are commercially available as garden plants. Simply defined, ecotourism refers to environmentally-friendly tourism undertaken for *appreciation* of nature's biodiversity sanctuaries with a deliberate commitment toward minimum interference thereof. Compare the IUCN's definition: "Ecotourism is environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features - both past and present that promotes conservation, has low negative visitor impact, and provides for beneficially active socio-economic involvement of local populations)". See Ceballos-Lascurain, Tourism, Ecotourism and Protected Areas (Gland, Switzerland, IUCN, 1996), online: <http://www.pubplan.nau.edu/~alew/p376/Readings/ecotourismdef.html> (date accessed: 12 March 2002),

2.1.5.2 Indirect/Existence Benefits

Biodiversity and biological resources have uncountable benefits that are not often as obvious as those with economic significance. These aspects are not usually factored into economic calculations. They are not subjects of trade, and can be described as “free” in simplistic terms. These constitute indirect benefits. A few examples may suffice. Apart from the direct use of tropical rain forests, for example, as sources of timber, they also have a larger significance for ecological harmony, such as harbouring complex life forms. Their use values include conservation, erosion control, soil productivity, watershed protection and so on.⁷⁹

Lastly, the idea of non-use values of bioresources suggests their values are not limited to their direct and indirect exploitation. Bioresources must be preserved whether exploited (i.e. put to any use) or not. Even though not exploited, they have three categories of values. These are option value, bequest value and intrinsic value.⁸⁰ The underlying idea is that by preserving species, not necessarily for immediate exploitation,

International Ecotourism Society <http://www.eco-tour.org/info/w_10176_de.html> (date accessed 1 April 2002)

The use value of recreational harvesting and ecotourism are of great economic significance. Recreational applications of biodiversity through fishing, hunting, bird/wildlife-watching make significant contributions to the economy. In the US such activities involved 77 million people with an expenditure of \$101.2 billion in 1996, out of which wildlife watchers were 62.9 million participants. See National Research Council, *supra* note 19 at 47. Global trade in wild pets, ornamental plants and global ecotourism receipts attest to the importance of recreational harvesting and ecotourism. For insights, see F.L. Fillion *et al*, “The Economics of Global Ecotourism in M. Munasinghe & J. McNeely, Protected Area Economics and Policy: Linking Conservation and Sustainable Development (Washington, D.C.: The World Bank, 1994).

⁷⁹ Gaston & Spicer, *supra* note 29 at 80. Similarly, commercially insignificant species are often direct food sources for economically important life forms. Chickens, for instance, feed on termites, worms, and other perceived economically insignificant organisms. The Estimates of pollination services provided by insects to the global economy is in billions of dollars. See M. Gleich *et al*, Life Counts: A Global Balance of Biodiversity—(‘popular account of the status of global biodiversity at the beginning of the 21st century’)—a complimentary publication of the World Conservation Monitoring Centre (WCMC)’s Global Biodiversity Project previewed in Global Biodiversity, *supra* note 23, at vii. Given the complex and often non-recognizable and unexplainable interactions that exist in the ecosystem, it would require an extremely rare justification to dismiss life forms as “weeds”, pests” or “wild”—the latter term has been rejected as unacceptable by indigenous peoples both as a reference to their territories but also to natural resources found in their regions. Among other reasons it is said to exclude indigenous history and meaning. See text of the resolution at Ecopolitics IX Conference, Darwin, Australia, 1995, excerpted in Darrel A. Posey, “Introduction: Culture and Nature—The Inextricable Link” in Darrel A. Posey, ed., Cultural and Spiritual Values of Biodiversity: Complementary Contribution of the Global Biodiversity Assessment (Nairobi; London: UNEP & Intermediate Technology, 1999) at 8.

⁸⁰ Option and bequest values are interrelated. Biodiversity can be preserved for the simple reason that the option to use it or not to use it lies in the future. In that way, if biodiversity is not exploited, it is left as a bequest to the future generation who then would have to exercise or decline to exercise the option to exploit

future generations will have the option to place value on what may not be valued in the present.⁸¹ Responsibility to future generations, as an environmental ethic is embodied in the principle of sustainable development.

All the benefits of biodiversity discussed above whether arising from direct or indirect use, or even from its non-use value, are evaluated from the perspective of humanity's welfare. They highlight biodiversity's economic/market and non-economic (e.g. non-use value) significance. In all of those the welfare of humanity is assumed to be central. To that extent, the majority of the justifications for biodiversity protection have instrumental appeal. One qualifier here is that the assumptions that the concept of value are declarations of human self-interest is not always true. As Wood indicates above, utilitarianism for instance serves non-human objectives as well.

Contrary to human-centred values of biodiversity, intrinsic value is concerned with everything about biodiversity but humanity. The tenet of the intrinsic value argument is that living organisms have values in their own right.⁸² It reinforces non-anthropocentric ecological principle, which supports the right of all living things to exist and denies humanity the claim to determine the value of "lower" life forms. Humanity itself is an unconscious beneficiary of the intrinsic value argument. For instance, mere knowledge that wild animals exist (existence value) even without any dealing with them represents a facet of value to the "knower" which is not easily explained.⁸³ In a converse analogy, there is some feeling provoked, for instance, by mass loss of wild lives or ancient forests to bush fire or arson. This may well be so even if we do not have any desire to become ecotourists in the region involved. Therefore, it is arguable that the intrinsic values of biodiversity may not be devoid of some instrumental consideration.⁸⁴

it. Maintaining genetic diversity is a way to guarantee the gene pool from which sought-after genetic character can be derived in the future.

⁸¹ As long as nature's treasure remains inexhaustible and as long as there is yet no closure to human curiosity, today's weed may be a wonder drug in years to come.

⁸² See Norton, *supra* note 55 at 135-182; see also Perlman & Adelson, *supra* note 2 at 43; David Ehrenfeld, "Why Put Value on Biodiversity?" in Biodiversity, *supra* note 2, 212 at 214. Ehrenfeld argues that value is intrinsic part of biodiversity, and it is not based on the properties of species in question or on their role in the ecosystem. For him, "[t]he very existence of diversity is its own warrant for survival". *Ibid.* at 215

⁸³ Norton argues that using intrinsic value as a justification for biodiversity conservation is a highly problematic exercise.

⁸⁴ Norton has an additional category of value which he calls "transformative value" of biodiversity, which is such values of biodiversity that provoke "an examining and altering a felt presence rather than simply satisfying it". See Norton, *supra* 55 at 10. The US National Research Council articulates the transformative

Compared to contemporary emphasis on the economic benefits of biodiversity to mankind, the intrinsic value argument appears idealistic. However, strands of the intrinsic value argument are present in most ecological worldviews.⁸⁵ Nonetheless, a strictly intrinsic notion of biodiversity in which humanity would not deploy biological resources may be unfeasible. Even other life forms prey on one another for their subsistence. It is common knowledge that “the belief that biodiversity has intrinsic and as well as use value is deeply rooted...in many societies, cultures and faiths”.⁸⁶ What seems conflicted, however, is the role and degree of humanity’s involvement with the natural environment. Humankind’s relationship with the ecosystem is differently accounted for in many cultures. Between indigenous or non-Western and Western categories, accounts of that relationship are highly conflicted. The tension in those accounts translates into a cross-cultural debate between Western and non-Western (traditional) knowledge systems.

2.1.6 Biodiversity: Two Concepts of Values

The use of the term “benefit” above in relation to biodiversity requires clarification. Literature on the subject deploy “value(s)”, “worth” or “uses” of biodiversity in very slippery terms.⁸⁷ Clarification in the present context is, however, necessary because of its significance in subsequent analysis. In this regard, the distinctions Perlman and Adelson made between two kinds of values in relation to biodiversity are helpful.⁸⁸

Perlman and Adelson argue that values have two different but related levels of conceptualisation. They refer to the first concept of value, as *values* simply. It means “the

value of biodiversity “in the sense that experiences with knowledge of biodiversity provide opportunities for self-knowledge—knowledge of our own values, attitudes, and beliefs and our place within life as a whole”. See *supra* note 19 at 62.

⁸⁵ In this regard, the following observation is instructive: “to varying degree the ethic of the intrinsic worth of the natural world is rooted in most religions. This is particularly so in many of the Asian religions such as Buddhism, Hinduism, and in Judaism where humans are considered to be an integral part of the natural world. It has been claimed that major religions that that set humankind apart from, and “above” the natural world, namely Christianity, Islam and Judaism have so long promoted a worldview that places little value on biodiversity except as a resource to be exploited... [however,] the basis for respect for biodiversity itself can be found in the *scriptures*”. See Gaston & Spicer, *supra* note 29 at 83.

⁸⁶ *Ibid.*

⁸⁷ See, for instance, the following: Gaston & Spicer, *supra* note 29; McNeely, *supra* note 35, Wood Alexander *et al*, eds., The Root Causes of Biodiversity Loss (London: Earthscan Publications Ltd., 2000) [hereinafter “Root Causes”].

preferences, motivations, and [underlying] belief systems that human beings use in assessing the world”⁸⁹ or “in undertaking an activity, investigating a matter, or protecting an object”.⁹⁰ The phrase “value-laden” applies to this category. It is a category of value influenced by internalized perspectives, attitudes and goals of a person. Internalized belief system, and worldview arise from the process of human development including influences by a number of internal and external experiences that mold the person. Being highly subjective, this value category is usually contrasted with the notion of objectivity.

Their second concept of values refers to “the worth of a particular object or activity”.⁹¹ When questions about the value of biodiversity are posed in this paradigm, the answer usually lists “different types of value (or worth) that humans find in various elements of biodiversity”.⁹² These types of values are variously described in literature as direct/indirect use value, option/bequest value, non-use value, and existence value (outlined above) among others. The authors adopt the term “worth” to designate and distinguish this category of value. That category corresponds with those that I have outlined above as *benefits*⁹³ of biodiversity. I use “benefits” above as Perlman and Adelson use “worth” to depict “the merit and importance”⁹⁴ humans attach to biodiversity including its specific elements.

In all cultures, biodiversity has values that fall within the two major value categories. Because of its holistic ecological worldview that links all aspects of life, indigenous or non-Western peoples’ ecological orientation identifies with some, but it also encompasses the different elements implicated under the two broad value categories. It does not draw a sharp distinction between the two broad value categories. In order of balance, indigenous ecological worldview tilts more toward value types of the first class than the second.⁹⁵ For a number of reasons, this is so. First, values are not interpreted on

⁸⁸ Perlman & Adelson, *supra* note 2 at 39-51.

⁸⁹ *Ibid.* at 39.

⁹⁰ *Ibid.*

⁹¹ *Supra* note 2 at 39.

⁹² *Ibid.*

⁹³ I consider the term benefit more precise to the economic/instrumental and utilitarian paradigm under which that category of value is conceptualized.

⁹⁴ *Ibid.*

⁹⁵ For instance, Gray writes that:

Holistic clusters of connections link aspects of life in indigenous cosmologies which western thought separates: this is why indigenous peoples have distinct value systems

the basis of economic exchange. Second, an indigenous worldview is riddled with strong internalized belief systems, and hence it fits into that value category. On the contrary, a Western perspective is more likely to view biodiversity from its second value paradigm. This is so because it operates within a capitalist and market-oriented worldview that emphasizes economic determination of values. Like the controversy over the role of man within the ecosystem, the dichotomy of emphasis between Western and non-Western on the values of biodiversity is supervised by equally conflicted epistemological regimes.

2.2 TRADITIONAL/INDIGENOUS KNOWLEDGE

2.2.1 Colonialism and Epistemic Conflict

From section 2.1.3, it is clear that major biogeographic and phytogeographic regions of the world are located outside the developed countries. The majority of these “megadiversity” hotspots or gene-rich countries is in the *global* South. That geo-political block represents about 75% of global population, and is home to indigenous peoples and cultures. There are about 5000 different cultures in the world.⁹⁶ Andrew Gray writes that “if we compare this figure with the number of national state cultures in the world, we see that indigenous peoples constitute 90-95 percent of cultural diversity of the world”.⁹⁷ The remaining 25% of the global population (now described as developed countries)

conceptualizing and acting on the world. Values are given to phenomena according to their perceived context within a system: Thus for Western economies values is given to a commodity on the basis of exchange potential in a system...While moral values are distinct because they are ideas of activities placed within the context of an ethical or religious systems. When one talks about spiritual and cultural values in Western contexts these are contrasted from economic values.

See A. Gray, “Indigenous Peoples, their Environments and Territories” in *Cultural and Spiritual Values of Biodiversity*, *supra* note 79 at 64.

⁹⁶ Gray, “The Impact of Biodiversity Conservation on Indigenous Peoples” in *Social and Ecological Imperative*, *supra* note 29 at 62.

⁹⁷ See Gray *ibid.* at 61. Notice that Gray’s use of the word *indigenous* here is in a very loose sense. He traces global cultural diversities to the rainforest areas of Central and South America, Africa, Southeast Asia and New Guinea. Four-five thousand of the six thousand languages in the world are spoken by indigenous peoples. Thus, the latter constitute by far greater percentage of the world’s cultural diversity at least in linguistic terms; see also Posey, *supra* note 79 at 3.

historically colonized most areas of highest biodiversity and the homeland of many indigenous peoples.

Colonialism is an imperial project.⁹⁸ When a people are colonised their forests and natural resources are not excluded.⁹⁹ One of the principal motivations for colonialism is control of natural resources. This is manifest in the so-called international division of labour in which one region (the South) is the supplier of raw (industrial) materials for the rest. Generally, colonialism brought with it the ideas of nature and culture based on, commerce, market economy and eventually—industrialization. The knowledge system drove the colonial framework, is associated with a set of values based on power and consolidated by industrial capitalism at the onset of industrial revolution. The knowledge and power nexus, according to Shiva “[g]enerates inequities and domination by the way such knowledge is generated and structured, the way it is legitimized and alternatives are delegitimised, and the way in which such knowledge transforms nature and society”.¹⁰⁰

Indigenous conceptions of the natural environment are sites of epistemological conflict between the colonizer and the colonized, the Western and non-Western. Indigenous or local peoples have from time immemorial developed bodies of knowledge under a holistic paradigm that are non-Western in the practical sense. This epistemological framework which is based on ecological and spiritual imperatives, is an alternative cosmological space. For what of an apt description such episteme is characterized as traditional/indigenous knowledge.

2.2.2 The Nature of Indigenous Knowledge

In reference to the more limiting term “indigenous knowledge”, Native American scholars, Marie Battiste and James Henderson insist that there is no satisfactory definition of the term.¹⁰¹ In addition, indigenous knowledge is not a uniform concept. It is a diverse knowledge that is spread throughout different peoples in many layers.¹⁰² Unlike Western

⁹⁸ See Linda Tihuwai Smith, Decolonizing Methodologies: Research and Indigenous Peoples (London: Zed Books, 1999).

⁹⁹ See Monocultures, *supra* note 31 at 17.

¹⁰⁰ *Ibid.* at 9.

¹⁰¹ “Indigenous” or “traditional” qualifiers to knowledge imply a comparative knowledge.

¹⁰² Marie Battiste & James Henderson, Protecting Indigenous Knowledge and Heritage: A Global Challenge (Saskatoon: Purich Publishing Ltd., 2000) at 35.

knowledge systems, it defies fragmentation into categories.¹⁰³ Again, as opposed to knowledge framework that universalizes concepts, indigenous scholars have no common usage for the term.¹⁰⁴

Ecological order rooted in unique configurations of a people's belief or religious systems and spiritual outlook is the central plank of indigenous knowledge and worldview. To a large extent, the essence of indigenous regimes is the creative adaptation to ecological order based on empirical observations. Because of existing ecological diversity in indigenous enclaves, "a corresponding diversity of indigenous languages, knowledge and heritages exists".¹⁰⁵ For this reason, any research that aspires to provide "a comprehensive definition of indigenous knowledge and heritage in any language system.... would probably be misleading".¹⁰⁶ Thus, the closest to definition indigenous knowledge can get is to describe it as a "complete knowledge system with its own concepts of epistemology, philosophy, and scientific and logical validity".¹⁰⁷

Humanity's position within an indigenous worldview is different from the Western account. Strikingly, humanity plays a humbler role than in the Western Judeo-Christian and colonial tradition. Humanity operates within an ecological and spiritual harmony and was never expelled or separated from the environment. We are not licensed to "conquer" the earth. On the contrary, in the majority of non-Western indigenous cultures the sanctity of all life forms is emphasized. All lives are connected in an ecological and spiritual order. Humanity is but one strand in life's complex web. In the words of James Henderson, "humans are neither above nor below others in the circle of life. Every thing that exists in the circle is one unity, of one heart".¹⁰⁸ Life is a holistic order in a state of flux in which all life forms spin. The following lines further capture the

¹⁰³ Attempts to present indigenous views of science from within a deliberately indigenous perspective have not been able to avoid Eurocentric categories as both the framework or reference point hence the prevalence of cultural sciences with the 'ethno' prefix, e.g. ethno/botany/biology/pharmacology/zoology/medicine *et cetera*. *Ibid.* at 38.

¹⁰⁴ *Ibid.* at 36.

¹⁰⁵ *Ibid.* at 41.

¹⁰⁶ *Ibid.*

¹⁰⁷ *Ibid.*

¹⁰⁸ James Henderson, "Ayukpachi: Empowering Aboriginal Thought" in Marie Battiste, ed., Reclaiming Indigenous Voices and Vision (Vancouver: University of British Columbia, 2000) 248 at 259. It could be argued that the fuss about the sanctity of life in indigenous cultures is a romanticized Western view because there are prevalent warlike and hunter-gatherer indigenous cultures past and present. But the point must not

sanctity of life in indigenous worldview: “[l]ife and its forces are seen as a gift to be humbly accepted, not as something to be taken for granted or used to manipulate other life forms. Life is revered, acknowledged, and reaffirmed through prayer, ceremony, dance and ritual”.¹⁰⁹

The above indicates the importance of religion and belief systems in indigenous worldview. Writing along these lines, Battiste and Henderson observe that:

Knowing the complex natures of natural forces and their interrelationships is an important context for indigenous knowledge and heritage. No separation of science, art, religion, philosophy or aesthetics exists in indigenous thought; such categories do not exist. Thus, Eurocentric researchers may know the name of a herbal cure and understand how it is used, but without the ceremony and ritual songs, chants, prayers and relationships, they cannot achieve the same effect.¹¹⁰

Through the recognition of mutual relationships among forces and forms in the natural order, indigenous peoples are able to influence natural phenomena and are influenced by them. This is fostered by the application of practical and ritualistic knowledge. Since no cultural paradigm is completely based on objective rationality or devoid of subjectivism the belief system is often the source of community consensus.¹¹¹ Social, cultural and ecological conditioning among others thus provide the context for the evolution of knowledge. Founded upon “enlightenment” and “scientific rationality”, the Western knowledge system, however, does not yet appear to respond wholly to evidence of subjectivity inherent in all knowledge forms. To do that will be to strike at the very heart of its putative superiority as *the* knowledge above all knowledge systems. In essence, that amounts to questioning the basis for its delegitimation of alternative ways of knowing, and strikes at the heart of its claims to universalism and legitimacy.

be lost that even within such cultures the relationship (including hunting) and interaction between all life forces is sacred and often *negotiated* and regulated within a religio-philosophical and cultural ethic.

¹⁰⁹ *Ibid.* at 258.

¹¹⁰ Battiste & Henderson, *supra* note 102 at 43.

¹¹¹ See Gregory Cajete, Science: A Native American Perspective: A Culturally Based Science Education Curriculum (Ph.D Thesis, International College Los Angeles, 1986) [unpublished] at 123 (cited also in Battiste & Henderson, *supra* note 102 at 37).

2.2.3 Therapeutic Uses of Plants: A Glimpse of Indigenous Epistemic Holism

Traditional or indigenous knowledge is a multi-layered knowledge system evolving from a socio-cultural conception of a worldview in which ecological and spiritual harmony is central. The Use of plants for therapeutic purposes is but one layer of the complex indigenous knowledge system. I isolate that layer of indigenous knowledge not with a view to foisting a Eurocentric epistemological culture of fragmentation on indigenous knowledge. Such an approach, I have noted, provokes anxiety in indigenous scholarship. Interestingly, discussions on the use of plants provide a paradigm for understanding the holism associated with indigenous knowledge systems.

Indigenous use of plants for therapeutic purposes involves complex religio-cultural, social and metaphysical experience. It brings to the fore different conceptions of health, illness and sickness as well as the role of associated belief systems. Detailed discussion is reserved to chapter four. Suffice to say that indigenous and non-Western peoples have similar epistemological dispositions toward plant life as they have with the rest of the ecosystem. Unlike the Western framework, plants have religious and cultural significance in many indigenous cultures. Deployment of plants for therapeutic purposes is not an isolated practice. Usually embedded in rituals, sacrifices in the context of social-cultural belief systems, the sanctity accorded to plants in some indigenous cultures reflects to some extent the norm of inviolability of natural and ecological order not easily glimpsed from Western conceptions.

Conceptions of plant life forms in the West emphasize their economic utility. However, economic utility alone hardly captures the significance of plants in non-Western cultures. Religio-philosophical practices in the Orient and among the indigenous nations of the Americas reflect a holistic view of all life forms (including plants) in a harmonious interrelationship. Thus, among these non-Western cultures, “[t]he ideology of nature as an organic entity and humanity as a part of integral whole, is perhaps a

unified theory of life”.¹¹² Unity in the diversity of life forms in a synthesis of materialism and deep spiritualism:¹¹³

[L]argely forms the creedal essence of most religious conceptions of nature, particularly in the Oriental, Native American and African religious contexts. Thus, under this philosophical paradigm plants are not capable of being legitimate subjects of private ownership, domination and control, let alone commoditization. On the other hand in the Western Judeo-Christian context plants and other manifestations of sub-human life forms are considered as raw materials...It thus follows that plants can be owned as property and conveyed into the marketplace as objects of trade and one of the mechanisms for the acquisition and accumulation of surplus capital.¹¹⁴

The account of that encounter for environmental management, particularly conservation of biological diversity, is a site of a conflicted narrative. At issue is which of the two models, industrial and non-industrial, is more sensitive to the acknowledged imperative to conserve biological resources.

2.2.4 Indigenous Knowledge As Marginalized Knowledge

Most of the uses of biological resources discussed under section 2.1.5 are accentuated through industrial exploitation. For instance, the use of wood for paper, pulp and fiber is a highly industrial and technological enterprise. Biotechnology, genetic engineering and virtually all life sciences deploy biological resources at a massive scale for the satisfaction of human consumption. For instance, mass cropping through agricultural monoculturism serves as a catalyst for over consumption.¹¹⁵ The Western scientific approach to nature represents only one epistemic genre. It is far short of the variety needed for sustaining the diversities that exist in nature. Given its predominance over other views of nature, on a broader scale it amounts to the substitution of diversity for uniformity. One reminder of the limitation of that approach is the failed Green

¹¹² Ikechi Mgbeoji, Patents and Plants: Rethinking the Role of International Law in Relation to the Appropriation of Traditional Knowledge and Uses of Plants (TKUP) (S.J.D. Thesis, Dalhousie University, 2001) [unpublished] at 132 [hereinafter “Patents and Plants”].

¹¹³ See I. Krishan, “Wounded Nature versus Human Future” (1995) 19 *Cochin University Law Review* 1 at 2.

¹¹⁴ *Patents and Plants*, *supra* note 112 at 132-133.

¹¹⁵ An annual surplus in global food supply for over 15% more people than the global population has been recorded since 1973. However, each year for the past two decades roughly 900 million people have been undernourished because of unequal access to food. See *Global Biodiversity*, *supra* note 23 at 63-64.

Revolution project. The lesson of that failure is that monoculture can be a source of scarcity and poverty.¹¹⁶ Furthermore, present concerns about genetically modified organisms (GMOS) in this era of “biorevolution” are also indicative of the uncertainty about the consequences of the Western industrial approach to nature.¹¹⁷

An industrial approach to natural resources facilitates overharvesting and consumption of natural resources thereby posing a major threat to biodiversity. The global consumption pattern of biodiversity components supports this fact. Only 25% of the global population control the technologies and 85% of global financial wealth¹¹⁸ needed for the deployment and consumption of natural resources. These are mainly the industrialized countries of the North. The Netherlands alone is said to be responsible for the degradation of an area in the tropics as large as its own territory just for the supply of *soya* and *tapioca*.¹¹⁹ Germany degrades approximately 200,000 hectares of rainforest each year through the consumption of tropical timber.¹²⁰ Four hundred or so years of biodiversity destruction is the handiwork of powerful forces to satisfy markets in colonial and industrialized countries.¹²¹ Compared to most communities in the gene-rich corners of the world, industrialized societies have had no satisfactory respect for biodiversity conservation. Communities that depend on “intact nature” are arguably “superior to modern industrial societies in terms of their relationship with nature, which is based on respect and a sense of community instead of just viewing it as ‘resources’”.¹²²

In sharp contrast to the foregoing, political and economic roots of biodiversity destruction are neglected in popular accounts of biodiversity loss. Ironically, the

¹¹⁶ See *Monocultures*, *supra* note 31 at 6 and 39.

¹¹⁷ Corn harvest in the US fell short by 15%, which amounted to a net economic cost of \$1 billion. This was the result of a leaf fungus that spread to the monocultural stock. The National Research Council writes that “[s]ince then, breeders have taken greater precautions to ensure heterogeneous array of genetic strains are present in the fields, but problems due to reduced diversity still recur”. See *supra* note 19 at 46. See generally Action Group on Erosion, Technology and Concentration, *Atomtech: Technologies Converging at the Nano-Scale* (ETC Group formerly RAFI), (Monograph, January 2003).

¹¹⁸ The tropical countries (including China) have 75% of the world’s population and only 15% of the global financial wealth. See Jeffrey A. McNeely *et al*, note 17 at 47. Collectively, people in developing countries use 20% of industrial energy and less of most other materials that contribute to their standard of living, and include among their members only 6% of world scientists or engineers’ according to the United Nations and the World Bank. See Raven & McNeely, *supra* note 44 at 14.

¹¹⁹ Shiva, in *Social and Ecological Imperatives* (citing a 1988 Study by IUCN). See *supra* note 29 at 33-4.

¹²⁰ *Ibid.*

¹²¹ See McNeely, *supra* note 35 at xiii. Outside the colonial alibi, many *developing* countries especially India and China, for instance, have been involved in industrial activities that do not show sufficient concern about biodiversity conservation.

indigenous peoples are often blamed for biodiversity erosion. Biodiversity degradation is shown as phenomena of the Third World which the developed countries are addressing.¹²³ Global institutional interests on biodiversity conservation are concentrated in the industrialized North. A situation has risen whereby environment management is now a condition precedent for economic and development assistance in the Third World.¹²⁴ Through the legal and institutional regimes of the CBD and the World Bank's Global Environmental Facility (GEF), "the developed and developing countries struck a less-than-perfect bargain: increased funding [to developing countries] would be made available to address global environmental issues",¹²⁵ including biodiversity loss. Inherent in this so-called consensus and other policy approach is that biodiversity depletion is a Third World phenomenon.

Absent the rhetorical reference to the *North's historical responsibility* for biodiversity loss, the developing countries are portrayed as the most responsible for the situation. Poverty and its offshoots: ignorance, hunger, disease, population pressure, poaching, over-harvesting of species are the Third World phenomena fingered in this account. Indigenous peoples are portrayed as threats to biological diversity.¹²⁶ Their relationship with the ecosystem *vis a vis* the Northern campaign of biodiversity conservation has been described as "the dilemma of deep ecology meeting the developing world".¹²⁷ The situation is one in which the local communities at the centers of biodiversity are blamed as its greatest threat. We know that this account flies in the face of the worldviews prevalent in indigenous cultures. Accounts of biodiversity crisis that

¹²² Social and Ecological Perspectives, *supra* note 29 at 31.

¹²³ *Ibid.* at 7-8.

¹²⁴ See Root Causes, *supra* note 87 at 4. For instance, the Debt-for-Nature initiative is based on the assumption that environmental degradation is a Third World or indigenous people's phenomena. It downplays the international political economy as the root of resource depletion.

¹²⁵ *Ibid.*

¹²⁶ See McNeely, *supra* note 17 at 38-9 for additional factors which do not necessarily have a direct linkage to the Third World phenomena; see also Root Causes, *supra* note 87 at 63-68. Compare Broombridge and Jenkins' emphasis on four major driving forces of biodiversity erosion: Human activities in general, introduction of alien species outside their natural range, high trade demand/consumption of certain species and products for international and domestic market and rapid environmental changes such as El Nino Southern Oscillation (ENSO) events. See Global Biodiversity, *supra* note 23 at 110 and 112.

¹²⁷ See Nations, *supra* note 58 at 79.

ignore the effects of consumption pattern, industrial and the global economic structure are flawed.¹²⁸

From 500 years of colonialism to the contemporary globalism, transfer of natural resources to the centers of global financial capital remains an uninterrupted trend. This correlates with the so-called international division of labour alluded to earlier. The South-North pattern of resource exploitation is the template upon which indigenous people are unwillingly dragged into the global economy. International economic and political forces influence resource exploitation at even the most local levels.¹²⁹ Thus, bioresource depletion in the gene-rich countries is largely a response to global economic pressure.

Trading relationships between gene-rich countries and the industrial regions of the world continue to put pressure on the natural environment in the former.¹³⁰ With high debt portfolios most of these countries are under stress to exploit their natural resources in order to service their debts and meet other demands of modern state administration. The debt crisis and the structural adjustment programs make natural resource export an imperative for raising foreign exchange. In Brazil, Pakistan, the Philippines, and India expansion of exports is the leading cause of decline in habitat and species loss.¹³¹ For instance, the export market is core to industrial growth in Pakistan. It turns out that this is at the expense of the mangroves in the Karachi Delta. In Cameroon, increased timber harvest meant for export exposes wildlife habitats, leading to an increase in domestic hunting and consumption of *bushmeat*.¹³² Thus, accounts of legal and illegal funneling of natural resources from gene-rich countries abound.¹³³

In the distorted account of bioresource depletion, gene-rich countries are portrayed as insensitive to conservation of their rich biological diversity.¹³⁴ The conservation-oriented nature of their local knowledge is dismissed as rudimentary.

¹²⁸ Shiva makes the point that “generating an international movement which puts pressure on industrialized countries to protect their own endangered nature and end their unsustainable use of resources is an absolute necessity”. See Ecological and Social Imperatives, *supra* note 29 at 36.

¹²⁹ See Root Causes, *supra* note 87 at 66-7.

¹³⁰ *Ibid.* at 66.

¹³¹ *Ibid.*

¹³² *Ibid.*

¹³³ The emergence of the WTO regime at the end of the last century and the formation of regional trading blocks such as the NAFTA accentuates this trend *ibid.* at 67.

¹³⁴ In exceptional cases, that may well be so. For instance, Malaysian and Chinese businesses are fingered in unethical exploration of oil in the Sudan. Malaysian private companies are active participants or collaborators in the destruction of tropical rainforests not only in Malaysia but also in South America.

with its Eurocentric origin. There is no unity of purposes between the power elites in those states and the indigenous or local peoples.¹³⁸ Built on colonial foundations, the political, legal and economic structures in most of these states reflect colonial values. Thus, complicit in the Western industrial model approach to life form, those states and their ecological policies neither encourage indigenous knowledge nor truly reflect indigenous aspirations.

Despite the political and economic frameworks in which the local peoples' voices are marginalized, they still retain practical respect for life forms generally but particularly within their epistemic framework. Their commitment to the sanctity of the ecological and spiritual order is a felt imperative for their survival continuously re-enacted on a daily basis as their lived reality. In his account of the Third World farmer, which is often the paragon of indigenous epistemic experience, James Nations writes:

The Third-World farmer appreciates his dependence on biological diversity because that dependence is highly visible to him. He knows that his life is based on the living organisms that surround him. From the biological diversity that forms his natural environment he gathers edible fruit, wild animals for protein, fiber for clothing and ropes, incense for religious ceremonies, natural insecticides, fish poisons, wood for houses, furniture and canoes, and medicinal plants that may cure a toothache or a snake bite.¹³⁹

We can take one definite conclusion from this account. A people to whom ecological harmony is first nature are the most appreciative of the imperative to preserve biodiversity. The political economy of resource exploitation as well as the politicized narrative of global ecological crisis marginalizes the role of indigenous knowledge and values. Similarly, mechanisms designed to encourage, protect and reward ecologically friendly practices are not presented in terms familiar to indigenous or local epistemic approaches to the natural environment. This will be made clearer in my discourse about intellectual property in the next section and in the subsequent chapters.

¹³⁸ See James S. Anaya & S. Todd Cridder, "The Mayagna Indigenous Community of Nicaragua: Moving from Conflict to a Convergence of Interests" in Guruswamy & McNeely, *supra* note 19 at 202-222.

¹³⁹ See Nations in Biodiversity, *supra* note 58 at 79-80.

2.3.2 The Western Roots of Intellectual Property Rights

Virtually all the somewhat disparate accounts of evolution of intellectual property regimes locate them in Europe. Historically, however, Europe has no common intellectual property tradition. For instance, “‘copyright’ refers to common law systems that characterize the exclusive rights of authors in essentially economic terms”.¹⁵⁷ On the other hand, in the civil law systems, emphasis is fundamentally on the right of author as a creator and the protection of what has been described as “authorial personality”. Instead of the economic emphasis that represents copyright as a commodity to be bought and sold in the Anglo-American tradition, in France and Western European countries, author’s rights are at the heart of copyright. Chartrand writes that author’s rights are rooted in the republican revolution of late 18th century as well as in the “Rights of Man Movement”.¹⁵⁸

Without delving deeply into the historical details, a few references to intellectual property’s European foothold will suffice here. Most accounts trace the evolution of the modern patent regime to the Italian city state of Florence at the birth of the Italian Renaissance in 1421, even though the Venetians are credited with the first properly developed patent law in 1474.¹⁵⁹ The popular story is of the first ever known patent, which was issued for a novel ship known variously as a “seagoing monster” or the “badalone”. The patent for the “badalone” was issued to an Italian architect, Filippo Brunelleschi in an unprecedented circumstance and upon his request.¹⁶⁰ The “badalone”,

[hereinafter Chartrand]; see also Peter Drahos and John Braithwaite, Information Feudalism—Who Owns the Knowledge Economy? (London: Earthscan, 2002) [hereinafter Information Feudalism].

¹⁵⁷ See Universality, *supra* note 147. Despite “conventional wisdom” which locates the origins of the modern patent system on the 1474 Venetian Act, the Venetian initiative is said to have its roots in Germany vide the patents on mining water technology issued in 1409. See Harold Wegner, “TRIPs Boomerang—Obligations for Domestic Reform” (1996) 29 *Vanderbilt Journal of Transnational Law* 535 at 538. See Patents and Plants, *supra* note 112 at 29 & n. 56. Although there are accounts in Europe of trade practices that predate the modern intellectual property regime, in its modern form, opinions are quite strong about the Venetian 1474 Act as the foundation of modern patent law. For insight into ancient European intellectual property practices, see Mladen Vukmir, “The Roots of Anglo-American Intellectual Property in Roman law (1992) *IDEA: Journal of Technology and Intellectual Property* 123.

¹⁵⁸ Chartrand, *supra* note 156; see also Hughes, *supra* note 146 at 159 (relating this to Hegalian personality justification of intellectual property rights as exemplified in the “moral rights” of creators to their creation which held sway in the continental Europe especially in France and Germany compared to the Anglo-American inclination to John Locke’s labour theory of intellectual property right).

¹⁵⁹ See Universality, *supra* note 147; see also Bugbee (1967), *supra* note 140 at 12-56.

¹⁶⁰ The circumstance in which Filippo Brunelleschi (1377-1446), the inventor of a loading crane for ships intended to transport marble across Lake Arno for the construction of the suspended dome of the Florentine Cathedral obtained this first patent ever is recorded in the preamble to patents No. 1 of 1421: “He refuses to

the United States in the 19th century in the following order: England, 1862 and 1875, France, 1857, Germany 1874 and the USA 1870 and 1876.

Beyond Europe, the modern patent concept caught up with the rest of the world through a three-pronged mode of penetration. They include transplantation occasioned by “[i]mmigration of Europeans and their consequent colonisation of a host of American, African, Australian and Asian indigenous peoples”.¹⁶⁶ A second mode of the spread of patents outside Europe was by volitional borrowing not motivated by a coerced or colonial relationship with Europe. The introduction of a patent system into Japan followed this model.¹⁶⁷ Lastly, the modern patents penetrated non-Western states through the instrumentality of coercive external political pressures requiring the creation and enforcement of patents in the domestic jurisdictions of target states.¹⁶⁸ The target states for the present purpose include China,¹⁶⁹ South Korea,¹⁷⁰ Taiwan, and Singapore,¹⁷¹ some European countries, such as the Netherlands and Switzerland,¹⁷² and lately, India.

2.3.3 The Spread of Intellectual Property

Peter Drahos identifies a pattern in the spread of Western intellectual property concepts across the globe.¹⁷³ He distinguishes between the territorial period, the

¹⁶⁶ See Patents and Plants, *supra* note 112 at 34 & n. 74.

¹⁶⁷ *Ibid.* at 35; see also Fredrick Abbot *et al*, eds., The Making of Modern Intellectual Property System (The Hague: Kluwer Law International, 1999) at 857; Toshikio Takenaka, “The Role of the Japanese Patents System in Japanese Industry” (1994) 13 Pacific Basin Law Journal 25; John Gadsby, “The Progress of Japanese Patent Law (1911) 27 The Law Quarterly Review 60.

¹⁶⁸ *Ibid.* at 36.

¹⁶⁹ See Richard Baum, “Science and Culture in Contemporary China: The Root of Retarded” (1982) 22 Asian Survey 1166; see also Jianyang Yu, “Protection of Intellectual Property in the P.R.C.: Progress, Problems, and Proposals” (1994) 13 Pacific Basin Law Journal 140; William P. Alford, “Don’t Stop Thinking About ... Yesterday: Why There Was No Indigenous Counterpart to Intellectual Property Law In Imperial China” (1993) 7 Journal of Chinese Law 3; see also William P. Alford, “Making the World Safe for What? Intellectual Property Rights, Human Rights and Foreign Economic Policy in the Post-European Cold War World” (1996-7) 29 International Law and Politics 135. For further references to Chinese intellectual property regime and its comparisons to the Western IP regime, see Patents and Plants, *supra* note 112, at 36 & n. 81.

¹⁷⁰ See S-H Song & S-K Kim, “The Impact of Multilateral Trade Negotiations on Intellectual Property Laws in Korea” (1994) 13 Pacific Basin Law Journal 118.

¹⁷¹ See Edward Slavako Yambrusic, Trade Based Approaches to the Protection of Intellectual Property (New York: Oceana Publication, 1992).

¹⁷² See Eric Schiff, Industrialization Without National Patents—The Netherlands, 1869-1912, Switzerland, 1850-1907 (New Jersey: Princeton University Press, 1971).

¹⁷³ See Universality, *supra* note 147.

international period and the global period.¹⁷⁴ The territorial period was when intellectual property was construed strictly as a subject of municipal regimes. During this period, intellectual property rights did not extend beyond the jurisdiction of the sovereign who conferred the right, or more appropriately the privilege.¹⁷⁵ The rise of modern intellectual property law within European States as we have seen above happened in Drahos' territorial period.

The second period, is the international period which commenced "in Europe toward the end of the 19th century".¹⁷⁶ A feature of this period were bilateral agreements that endorsed mutual reciprocity in the protection of works of nationals in contracting European States. Bilateralism among European States later extended to the United States. The high point of this period was the formation of two important international intellectual property treaties: the 1883 Paris Convention for the Protection of Industrial Property and the 1886 Berne Convention for the Protection of Literary and Artistic Works. Both the Paris and Berne Conventions were to be the foundation for extant globalisation of intellectual property in the third period. Historically, the second period coincides with the period when intellectual property as part of 'colonial baggage' was imposed on the pre-existing indigenous laws on property and ownership".¹⁷⁷

The global period "has its origin in the linkage that the United States made between trade and intellectual property in the 1980s, a linkage which emerged at a multilateral level in the form of the WTO Agreement on Trade-Related Aspects of

¹⁷⁴ Compare Mbgeoji's distinction of the primitive, the internationalization and the modern era of patents. Just like Drahos' global era of intellectual property, Mbgeoji's modern era of patents is rooted in "the contemporary linkage of trade and intellectual property rights in the early 1990s as the overall culmination of the neo-liberal process of globalisation with coercive powers". See Patents and Plants, *supra* note 112 at 94.

¹⁷⁵ Intellectual property rights are both territorial and international at the same time. They are territorial in the sense that the rights are effective within the jurisdiction of the sovereign that grants them. See Adebambo Adewopo & Chidi Oguamanam, "The Nigerian Trade Marks Regime and the Challenge of Economic Development" (1999) 30:6 *International Review of Industrial Property and Copyright Law* 632 at 645). They are international to the extent that the existence of intellectual property does not depend on where the activity entitled to intellectual property right takes place. But to give effect to that right outside the jurisdiction where the right is first conferred would require some elements of interlinking international treaties or local recognition of the same right in a second country. See David Vaver, Intellectual Property Law: Copyright, Patents and Trade-Marks (Concord, Ontario: Irwin Law, 1997) 13-14. Despite the international dimension to intellectual property rights, they originated as a strictly municipal regime.

¹⁷⁶ See Universality, *supra* note 147.

¹⁷⁷ Patents and Plants, *supra* note 112 at 34-5.

Intellectual Property Rights, 1994".¹⁷⁸ This coincides with an era of knowledge-based global economy. The hallmark of that economy includes exponential increase in digital technology and life-sciences-related *inventions*. Another feature of the knowledge-based economy is the deployment of the world's biological resources to an unprecedented level. The era of knowledge-based economy signifies a highpoint in the cross-cultural encounters between Western and non-Western knowledge systems and their conflicting ecological worldviews. Intellectual property is the template in which the tensions find expression. Drahos lucidly identifies the underlying tension in the contemporary intellectual property discourse:

The present international intellectual property regime...is a western positive law regime that has been shaped by liberal political traditions. National intellectual property systems around the world link the origination of rights to *individual persons and maximize the capacity of individual owners to trade in these rights*. The sharp divisions, for example that the western lawyers draw between real and personal property rights do not resonate in indigenous cultures where connection between land, knowledge and art form part of an organic whole. The practical outcome for indigenous groups is that many of their traditional informational resources fail to obtain protection. Often this means that they are appropriated.¹⁷⁹

3.3.4 Ideological Foundations

Legal systems are products of specific cultures and intellectual property right is no exception. As already noted, modern intellectual property rights are fundamentally Western in evolution. The framework in which the conception of property is extended to the "intangible abstractions of the intellect" or "mental labour" is associated with "the advent of capitalism, individualism, industrial organization and the technological age".¹⁸⁰ These basic Western liberal ideals are the driving force behind the phenomenon of property rights in general and intellectual property in particular.

Policy rationalization for intellectual property rights is anchored on the need to discourage the exploitation of *original* ideas or goodwill without adequate compensation. Intellectual property protection is presented as mediating two objectives: the encouragement of individual/corporate innovations and the society's desire to appropriate

¹⁷⁸ Universality, *supra* note 147 & n. 8.

¹⁷⁹ *Ibid.*; see also Information Feudalism, *supra* note 156.

¹⁸⁰ See Abbot, *supra* note 167; see also Patents and Plants, *supra* note 112 at 51-2.

the benefits.¹⁸¹ These objectives correspond to the tension between rights in private and public domains respectively. How much exclusivity individual/corporate creativity or innovation can claim from the public domain is a problematic issue for the proprietary nature of intellectual property. The truth is that individual/corporate creativity or innovations cannot be easily divorced from the social and cultural imageries of which they are byproducts.

The avowed objective of mediating the private/public domain tensions claimed for Western intellectual property scheme takes the likeness of an overcoat which fails to disguise the individualism underlying that regime. Hence, in the resolution of the often-conflicted balance between industrial incentives (private domain) and diffusion of useful knowledge (public domain), the individual interests whether as the inventor or the author remain paramount.¹⁸² A property rights based conception of intellectual property is a triumph of Western individualism¹⁸³ upon which capitalism (including its free market economy) is erected.¹⁸⁴ Conversely, indigenous societies, with perhaps a less apparent

¹⁸¹ Sherwood writes “the term “intellectual property” contains both the concept of private creativity and the concept of public protection for the results of that creativity”. See *supra* note 154 at 12. Paterson and Karjala write that “the goal of intellectual property law is to balance these two tensions in order to optimize the work made available to the public.” See Robert K. Paterson & Dennis S. Karjala, “Looking Beyond Intellectual Property in Resolving Protection of the Intangible Cultural Heritage of Indigenous Peoples” *Cardozo Journal of International Law and Dispute Resolution* [hereinafter Paterson & Karjala, forthcoming in 2003].

¹⁸² See Jeremy Waldron, “From Authors to Copiers: Individual Rights and Social Values in Intellectual Property Rights” (1983) 68 *Chi-Ken Law Review* 841; (Waldron, however, acknowledges that on the surface the argument for intellectual property ethic appears to reflect the protection of social good over individual rights and interests, *ibid.* at 484); see also E.C. Hettinger, “Justifying Intellectual Property” in *Intellectual Property Dilemmas*, *supra* note 146, at 17-37 (arguing that the popular Lockean labour and “just desert” arguments including those based on sovereignty is problematic for a number of reasons); Justin Hughes, “The Personality Interests of Artists and Inventors in Intellectual Property” (1998) 16 *Cardozo Arts & Entertainment Law Journal* 81; Fisher, *supra* note 153 (observing that a coalition of strong industry interests have infiltrated power in the United States and with that, influenced and continues to influence intellectual property regimes using the Lockean labour or “just desert” theory in favour of individual creators and collaborating industries. One of the powerful interests is the Motion Picture Association of America whose lobbying efforts have been quite successful particularly in the virtual absence of organized resistance by the consumer public).

¹⁸³ See Fraser Institute, *supra* note 142. A protective scheme tilted in favour of the individual/corporation (private domain) has a tendency to undermine the cultural and social basis of creativity and innovation.

¹⁸⁴ In addition to the three major theories of intellectual property rights discussed above, economics and/or political economics provide yet another theoretical basis for intellectual property rights. See, for example Trotter Hardy, “An Economic Understanding of Copyright Law’s Work-Made-for-Hire Doctrine” (1988) 12 *Columbia-VLA Journal of Law & the Arts* 181; see also Trotter Hardy, “Copyrightability of New Works of Authorship: ‘XML Schemas’ as an Example” (2001) 38 *University of Houston Law Review* 855 (arguing that if a work improves the quality of subsequent works to the satisfaction of consumers, then copyright should vest in such a work as an incentive), Robert Sherwood, *Intellectual Property and Economic Development* (Boulder, Colorado: Westview Press, 1990), Penrose, *infra* note 188, McIntyre &

inclination towards capitalism, have a more communal approach to proprietorship. However, despite the inclination of Western intellectual property rights to favour the private domain at the expense of the public domain, its mediating role cannot be underestimated in a democratic and plural society. As with Western intellectual property, attempts to protect indigenous knowledge must of necessity address the tension between public and private domain.¹⁸⁵ It may not be sufficient to appeal to the vague notions of collectivity and communality, which are not synonymous to the demands of public domain.

The justification for intellectual property is based on a number of theories. Broadly, three somewhat overlapping theoretical perspectives compete for prominence. The fourth rationale, articulated in *ought* terms, is evolving and has not crystallized into a common theoretical identity. The first rationale for intellectual property rights has natural law and moral undertone. It incorporates elements of two leading theories of intellectual property rights, namely labour and personality theories discussed in subsequent pages. Simply stated, it posits that the creator of an original idea has moral or natural entitlement to benefits arising therefrom.¹⁸⁶ In simple terms, the moral entitlement to creative endeavor has a logical connection to Locke's "just desert" principle.¹⁸⁷ Similarly, Hegel's

Papps *infra* note 198. It can, however, be argued that economic considerations are integral to, and subsumed in virtually all theories of intellectual property rights, including labour, personality, contract, *et cetera*. *Contra* Trotter Hardy's law and economic approach to intellectual property to Wendy Gordon's "An Inquiry into the Merits of Copyright: The Challenges of Consistency, Consent and Encouragement Theory" (1989) 41 Stanford Law Review 1343 [hereinafter Gordon, "Merits of Copyright"] (highlighting the weaknesses of economically oriented copyright critiques and arguing that contrary to the notion of its inconsistency with copyright, common law provides support for authors' reward).

¹⁸⁵ See Paterson & Karjala, *supra* note 181; see also Neil Weinstock Netanel, "Asserting Copyright's Democratic Principles in the Global Arena" (1998) 51 Vanderbilt Law Review 217 at 229.

¹⁸⁶ Fisher lucidly restates the crux of this theory in the following lines:

A person who labors upon resources that are either unowned, or "held in common" has a natural property right to the fruits of his or her efforts—and that the state has a duty to respect and enforces that right. These ideas originating in the Writings of John Locke, are widely thought to be essentially applicable to the field of intellectual property rights, where pertinent raw materials (facts and concepts) do seem in some sense to be "held in common" and where labor seems to contribute so importantly to the value of the finished products.

See *supra* note 149. See also generally Merits of Copyright, *supra* note 184.

¹⁸⁷ See Adam Moore, "Toward a Lockean Theory of Intellectual Property" in Intellectual Property Dilemmas, *supra* note 146 at 81-103; see also Robert Nozick, Anarchy State and Utopia (New York: Basic Books, 1974) at 178-182 (supporting Locke's labour theory of intellectual property.) Robert Nozick's discussion of the labour theory concentrates on the interpretation of Locke's proviso as an adequate theory

personality theory is the basis for inalienable “moral right” of a creator to his/her creations conceived as an extension of personality. A basic weakness of these arguments is that they are inconsistent with the history of intellectual property rights. From a historical perspective, intellectual property (specifically patents and copyright) were privileges conditionally extended to inventors or other creative persons by the state. In fact, as a matter of practice, certain discoveries or works of ingenuity are exempt from intellectual rights irrespective of the labour or personality arguments. As opposed to inherent rights, intellectual property rights are largely privileges of the state endorsed sometimes in statutory and non-statutory forms; and tempered by policy considerations.¹⁸⁸ Against the labour theory, Hughes argues that “it does not account for the idea whose inception does seem to have involved labor”.¹⁸⁹ And with regard to the personality theory, he argues that “it has difficulty legitimating alienation”.¹⁹⁰

The second rationale for intellectual property rights is the economic incentive or reward theory.¹⁹¹ An instrumentalist rationale at the heart of intellectual property rights, this overlaps with the labour theory.¹⁹² Offer of incentive here is justified by labour, which is the generator of the mental product.¹⁹³ According to this school of thought,

of justice. Locke’s theory is premised on the condition that there is “enough as good left for others” after a person has acquired property from the “commons” through labour. The meaning and theoretical context of Locke’s proviso remains a subject of *jurisprudential* debate amongst scholars. For some insight on this see Norzick *ibid.* at 176, J. W. Child, “The Foundations of Intellectual Property”, in *Intellectual Property Dilemmas*, *supra* note 146 at 57-60, Hettinger, *supra* note 182 at 27, Hughes, *supra* note 146 at 137. For a robust endorsement of Locke, see Gordon, “Merits of Copyright”, *supra* note 184.

¹⁸⁸ See Edith Penrose, *The Economics of International Patent System* (Connecticut: Greenwood, 1974) at 32.

¹⁸⁹ Hughes, *supra* note 182 at 164.

¹⁹⁰ *Ibid.* The point is that if we take the Hegelian thesis that property is a manifestation of personality, it becomes difficult to justify alienation of property. This difficulty does not exist under Lockean labour theory whose deep utilitarian bias justify alienation on economic scale of value that protects the “net gain” of the individual arising from the entire socio-economic system. See Hughes *ibid.* at 150.

¹⁹¹ Incentive and reward are often treated separately, as they do not technically convey the same idea. Incentive is normally for the purpose of encouraging a creative effort before it happens, whereas reward suggests compensation for an activity that has taken place even though it also serves the purpose of encouraging future creative endeavor. See Trotter Hardy, *supra* note 184 for perspective on economic analysis of intellectual property rights; see also Penrose, *supra* note 188.

¹⁹² Many scholars do not treat the incentive theory as a separate theory; they identify it as utilitarian justification for intellectual property. See Hettinger, *supra* note 182 at 30; see also Hughes, *supra* note 182. Compare Drahos in *Universality*, *supra* note 147 and Mgbeoji in *Patents and Plants*, *supra* note 112. The utilitarian character of major justifications of intellectual of intellectual property rights such as labour, and personality explains the interwoven nature of theories of intellectual property rights.

¹⁹³ Distinction must be made between labour and the social values which labour creates. From Locke’s labour-desert theory, it is the production of social value that reward is directed as opposed to labour, even

intellectual property rights are essentially justified on the ground that they encourage inventive and creative exploits. Although this purely economic and instrumentalist argument is popular in contemporary regime of intellectual property right,¹⁹⁴ it has some drawbacks.

Implicit in the reward theory is that lack of incentive would stifle invention. Empirical evidence does not support this conclusion.¹⁹⁵ From its origins, intellectual property is rooted in monopoly, and it constitutes as much reason to discourage creativity as to encourage it.¹⁹⁶ Furthermore, not all intellectual works are protected by intellectual property rights.¹⁹⁷ Yet the clock of creativity and invention has not stopped ticking. Finally, identical creative ideas have been known to occur concurrently to different persons in different places.¹⁹⁸ Hardly would any genuine originator of an idea suppress it

though the two are connected. See Hughes, *supra* note 182 at 121. If it were not so, reward would be due to every frivolous expenditure of labour which has no useful purpose.

¹⁹⁴ See Fisher, *supra* note 149; see also William Landes & Richard Posner, "An Economic Analyses of Copyright Law" (1989) 18 *Journal of Legal Studies* 325.

¹⁹⁵ See Samuel Oddi, "The International Patent System and Third World Development: Myth or Reality?" (1987) 63 *Duke Law Journal* 831 (arguing that the idea that intellectual property rights will encourage inventiveness in the Third World is a self-serving campaign by industrial countries in order to retain their industrial and technological hegemony. Oddi maintains that strict enforcement of intellectual property rights discourages technological take-off in developing countries). *Contra* Landes & Posner, *supra* note 194.

¹⁹⁶ In fact, the debate is not closed among scholars regarding the role of intellectual property rights in the promotion of creative effort or otherwise. Absent of some statistical analysis, peoples' view in this ongoing debate appear to be determined by their ideological alignment. Proponents of technologically advanced countries of the West are wont to argue the virtues of intellectual property which they commend for technologically backward countries of the South. Expectedly, the latter perceive intellectual property rights as a clog in their technological wheel of progress. See Bawa, *supra* note 144 Oddi, *supra* note 195 and Susan K. Sell, *Powers and Ideas: North-South Politics of Intellectual Property and Antitrust* (Albany: State University of New York Press, 1998). Perhaps William Fisher's opinion reflects the open-ended nature of the debate. He writes:

The truth is that we don't have enough information to know who is right. Empirical work has suggested that patent law has been more important in stimulating innovation in certain industries (e.g. pharmaceuticals and chemicals) than in others, but has failed to answer the ultimate question of whether the stimulus to innovation is worth its costs. See *supra* note 149.

¹⁹⁷ E.g. common ideas in daily use like walking the dog, riding a bike, *et cetera*. Also not covered by intellectual property rights are ingenious creations/discoveries/ideas like calculus, the Pythagorean theorem, a simple algorithm and mathematical formulae generally. See Hughes, *supra* note 182 at 113.

¹⁹⁸ A Russian, Polzunov is the first inventor of the steam engine, even though James Watt did the same independent of Polzunov, the former obtained a patent for his invention. Mgbeoji argues that if the inventions were to occur simultaneously in the same country the issue of who will claim the reward promised by the patent system remains an open question. The resolution of this question is not a difficult one because of the first to file and first to invent rule. However, the lesson here is that genuine inventors are more likely to invent in the natural course of their inventive quest or by hunch than by the promise of

simply for reasons of lack of incentive. Traditionally, in scientific and learned cultures, association of a person with an idea through citations, respect, fame, admiration, honour and other forms of non-economic connection signify as much a motivation for creativity as economic reward. Individual creators derive motivation to create from a number of reasons ranging from the sublime to the most absurd, without excluding proverbial necessity.

The third rationale for intellectual property derives from its contractual and conceptual framework. In theory, intellectual property is a right conferred on the originator of an idea or the assignee or proprietor of a creative work. In exchange for such a right the state retains residual power over the idea. Thus, the contractual relationship in this scenario forms a theoretical basis for intellectual property rights.¹⁹⁹ However, the contract rationale does not apply with equal force to all regimes of property rights. In order of relevance it applies to patent less than to other regimes, particularly copyright. Superficially, patent is contractual. For the “price” of disclosure of a useful invention to the state, an inventor obtains a negative right against other persons until the end of the statutory term, when the invention resides in the public domain. The overlap between this theory and incentive theory is that the monopoly authorized by the state is largely to facilitate the recouping of the expenses associated with the invention and to make some profit.

Among other reasons, inventors may find the patent option attractive is when they cannot otherwise guarantee the secrecy of their inventions. Resort to the less expensive and less limiting genre of trade secrets then also becomes an option. In relation to copyright, the contract theory does not have as much force. Copyright arises automatically without the aid of statute. Like trade secret, registration with the state is not a prerequisite for its existence, even though statutes may consolidate the customary

reward. See M. Kranzberg, “The Technical Elements in International Technology Transfer: Historical Perspectives” in J. McIntyre & D. Papp, eds., The Political Economy on International Technology Transfer (New York: Quorum Books, 1986) at 31 Patents and Plants, *supra* note 112 at 57; see also Nozick, *supra* note 186. Fisher, *supra* note 149.

¹⁹⁹ See Bugbee (1967), *supra* note 140 at 10.

details of copyright. With regard to trademark, the right has no statutory life span,²⁰⁰ and does not ordinarily go to the public domain.²⁰¹

A fourth theoretical plank for intellectual property is in evolution. William Fisher identifies it as the “social planning theory”.²⁰² According to him, it is arguable whether the category could be called a “theory”. Still lacking a settled nomenclature as it lacks distinctive theoretical status, a feature that distinguishes it from other theories is that it focuses on the search for a desired objective of intellectual property rights. This is distinct from its justification²⁰³ *per se*, which theories are concerned about. However, it is logical fact that an objective may inhabit a justification and *vice versa*. The concept of social planning draws in critical fashion from orthodox theories of intellectual property rights. As an aspirational project, it is an ongoing inquiry designed to respond to the dynamics and never-ending debates about the role of intellectual property rights in the society. Thus, it seeks to explore the shortcomings of orthodox theories to real cases in

²⁰⁰ Even though the trademark proprietor may be required under the state law to pay some (renewal) fees in order to keep the mark in the register, s/he does not automatically lose the right over the mark by not doing so. Trademark is protected both under the common law and statute.

²⁰¹ However, under the principle of genericness owners of certain trademarks can lose their exclusive claim to and protection regarding the marks in question. This happens when the marks are so commonly relied upon for communication, in which case, the claim to their exclusive use becomes meaningless. Such trademarks as xerox, zipper, cellophane or even aspirin are examples of generic trademarks. They are as trademarks as they are words in public domain, having acquired secondary meaning. See Hughes, *supra* note 182 at 135.

²⁰² See Fisher, *supra* note 149; see also Gregory S. Alexander, *Commodity and Property* (Chicago: University of Chicago Press, 1997) at 1 (referring to this approach as “proprietary”). Himself inclusive (see “Reconstruction of Fair Use Doctrine” (1988) 101 Harvard Law Review 1659-1795 at 1744), Fisher identifies other writers whose approach to intellectual property rights can be classified as “social planning”. They include: Rosemary Coombe, “Objects of Property and Subjects of Politics: Intellectual Property Laws and Democratic Dialogue” (1991) 69 Texas Law Review 1853; (indeed several of Coombe’s works confer deep theoretical and intellectual credibility to the social planning concept), Niva Elkin-Koren, “Copyright Law and Social Dialogue on the Information Superhighway: The Case Against Copyright Liability of Bulletin Board Operators” (1995) 13 Cardozo Arts & Entertainment Law Journal 345; Michael Madlow, “Private Ownership of Public Image: Popular Culture and Publicity Rights” (1993) 81 California Law Review 12; see also Niel W. Netanel, “Copyright and a Democratic Society” (1996) 106 Yale Law Journal 283; Aoki Keith, “Neocolonialism, Anticommons Property and Biopiracy in the (Not So Brave) New World of International Intellectual Property Protection” (1998) 6 Indiana Journal of Global Legal Studies 11. Needless to add, Fisher’s list is not exhaustive. Arguably, scholars such as Erica-Irene Daes, Samuel Oddi, Jeremy Waldron, Michael Blakeney, Peter Drahos, Jamie Boyle, Ruth Gana-Okediji (see particularly “Has Creativity Died in the Third World? Some Implications of the Internationalization of Intellectual Property” (1995) 24:1 Denver Journal of International Law & Policy 109), Ikechi Mgbeoji, *et cetera* can be classified as inclined toward a social planning or public interest approach to intellectual property right including the North-South conflicted perspectives on the subject.

²⁰³ However, scholarly writings that endorse the social planning concept support an objective of intellectual property rights that can be described as “culture-shaping” in a broad democratic setting. See for example, *infra* note 204.

order to leave space for the evolution of social policy-oriented and/or public interest considerations in relation to intellectual property rights.²⁰⁴

The social planning concept of intellectual property rights aspires towards a regime of intellectual property rights that advances a balanced cultural vision. The social planning approach is entrenched, according to William Fisher III, “[i]n the proposition that property rights in general—and intellectual-property in particular—can be shaped so as to help foster the achievement of a just and attractive culture”,²⁰⁵ and perhaps more appropriately, society. Intellectual property provides a context for creative expression of peoples’ interests in a wide array of political, economic, social, and cultural configurations. Thus, it plays a critical role in “bolstering the discursive foundations for a democratic culture and civic association”. This includes the mediations of the tensions inherent in such a society.²⁰⁶ Hence according to social planning concept, intellectual property policies must strive to balance the utilitarian and economic arguments of orthodox theories with the need to increase the sphere of “public domain available for creative manipulation”²⁰⁷ and expression.

²⁰⁴ Among the contemporary areas of interest for social planning advocates are the questions of intellectual property (copyright) in the internet and the “rights of publicity/ personality” for celebrities. Also featuring is the constitutional questions over how intellectual property rights (especially copyrights) shrink the sphere of freedom of speech and expression. Regarding the arguments for social planning or public interest imperatives for intellectual property rights, see Julie E. Cohen *et al*, Copyright in A Global Information Economy (New York: Aspen Law & Business, 2002) at 3-60; see also James Boyle, “A Politics of Intellectual Property Rights: Environmentalism for the Net?”, http://www.neomalab.com/section/ideas/ideas_articles/pdf/boyle.pdf (date accessed: 12 May 2003) (rejecting the over-protective tendency of intellectual property rights for proprietary stakeholders at the expense of broader public domain while making a case for “politics of intellectual property”. The purpose of this ‘politics’ is to re-invent public domain to include broader coalition of interests (analogous to environmental movement) capable of defending a shrinking public domain). See generally James Boyle, Shamans, Software, and Spleens: Law and the Construction of Information Society (Cambridge: Harvard University Press, 1996), David Lange, “Recognizing the Public Domain” (1981) 44 *Law & Contemporary Problems* 147, Wendy Gordon “introduction” to Symposium on “Ralph Sharp Brown: Intellectual Property and Public Interest” (1999) 108 *Yale Law Journal* 1611-1617; Ralph S. Brown Jr., “Advertising and Public Interest: Legal Protection of Trade Symbols” (1948) 57 *Yale Law Journal* 1165, reprinted in (1999) 108 *Yale Law Journal* 1619; Wendy J. Gordon, “On Commodifying Intangibles” (1998) 10 *Yale Journal of Law and Humanities* 135.

²⁰⁵ Fisher, *supra* note 149.

²⁰⁶ For the tensions associated with the role of intellectual property rights especially trademarks in a multicultural societies like United States and Canada including the use of marks or parody as expressions of *alterity* and responses to dominant culture’s appropriation of minority values in an “unequal dialogue” see Rosemary J. Coombe, The Cultural Life of Intellectual Properties: Authorship Appropriation and the Law (Durham: Duke University Press, 1998).

²⁰⁷ Fisher, *supra* note 149.

Apart from questions about its theoretical status, the social planning approach puts too much emphasis on the amorphous concept of culture, as if it is the only intellectual property paradigm. It is hardly surprising then that a lot of writings from the social planning strand concentrate on the copyright regime of intellectual property.²⁰⁸ Furthermore, Fisher himself acknowledges the paternalism inherent in social planning's vision of a desirable society. Such paternalism contrasts with the putative neutrality and objectivity of utilitarian appeal of labour and incentive/reward theories.²⁰⁹ It is not surprising that in practice, courts prefer economic arguments to those based on social planning.

It will be safe to surmise that all the above theories bear relevance to the concept of intellectual property rights. Jointly or separately they provide some rationale for intellectual property rights.²¹⁰ There is no exclusive or unified theory of intellectual property rights. No theory so far has fulfilled the promise "to provide comprehensive prescriptions concerning the ideal shape of intellectual property law".²¹¹ Consistent with the dynamic characteristic of the phenomenon of property, the conception of intellectual property rights will continue to evolve necessitating theoretical shifts in its wake. A major essence of theories is that they provoke debates which expose the hardly discussed policy questions that underlie the law-making process especially in the field of intellectual property. One such question, we have seen, is the tension between the public and private domain.

²⁰⁸ See for example the titles under note 202.

²⁰⁹ Fisher's treatment of intellectual property theories identifies utilitarianism as an independent theoretical school. He sees social planning as somewhat reconcilable with theory of personhood at least on the basis of their inclination to paternity. However, the utilitarian ideal of maximization of net social welfare through economic determination of values, in my view, advances the labour, personality and incentive/reward theories. As such, treating utilitarianism as an independent theoretical strand of intellectual property rights may be superfluous and "uneconomic". The "two grand theories" of intellectual property (labour and personality) as well as the incentive/reward theory have utilitarian appeal. This conceptual and taxonomic disparity in the scholarly discourse of theories of intellectual property rights confirms the overlapping nature of the theories. Compare Fisher's approach with the following: Mbgeoji in *Patents and Plants*, *supra* note 112, Justin Hughes, *supra* note 182 and Drahos in *Universalism*, *supra* note 147 and elsewhere.

²¹⁰ For instance, the crux of Justin Hughes' philosophical treatise on intellectual property rights is a synthesis of the two grand theories of intellectual property (labour and personality theory). Hughes argues that both theories are complementary as each provides the strength for the weaknesses identified in the other. The personality theory has difficulty justifying right alienation, a difficulty that does not arise with labour theory's emphasis on value maximization, which is the legitimate basis for alienation of property. Yet rights to labour and rights to individual expression are legitimate pursuits, even though Hughes argues, "they do have much more siren call than property rights". See *supra* note 182 at 165.

²¹¹ See Fisher, *supra* note 149.

However it may be appraised, intellectual property provides the essential catalyst and platform for commercialization of mental exertions. It provides some form of assurance or security for investors and creators alike willing to exploit creative ideas in their divergent forms. In that way, intellectual property indirectly encourages creativity, and that is different from arguing that intellectual property is the motivation for creativity.²¹² In the Stone Age, for instance, intellectual property rights did not motivate the hominid before he invented tools essential to his survival and continued evolution.

Orthodox conceptions of property rights did not originally extend to intellectual property. Before the extension of the phenomenon of property to the so-called intellectual exertions, property relations applied largely to corporeal objects.²¹³ Property rights status for intellectual labour is an extrapolation from the wider philosophical or theoretical writings on property, government and justice espoused by leading Western thinkers,²¹⁴ including Adam Smith, John Locke, G.W.F. Hegel, Immanuel Kant, and more recently, John Rawls to mention a few. Locke's discussion of property is only an inspiration for Lockean intellectual property theory. Drahos maintains that when Locke wrote, "he probably did not have intellectual property in mind".²¹⁵ Hegel's philosophy of rights is described as making peripheral observation on property and products of the mind. Kant's association with author's rights emanates from his writing about authors and the nature of genius, and not about intellectual property.²¹⁶ Basically, these thinkers touched on the central role of property in determining the rights and status of the individual in the Western socio-economic tradition. Nevertheless, scholars agree that their works provide theoretical foundation for intellectual property rights in the Western thought.

Although there are points of departure between them, Hegel and Kant's writings converge on the understanding that the essence of private property is attaining fundamental human needs.²¹⁷ According to Hegel, property constitutes a means by which

²¹² Mgbeoji argues that commercialization of inventions and inventiveness *per se* are two distinct phenomena that should not be confused. See Patents and Plants, *supra* note 112 at 57.

²¹³ See generally Bugbee (1967), *supra* note 140; see also Patents and Plants, *supra* note *ibid.* at 47.

²¹⁴ See Peter Drahos, The Philosophy of Intellectual Property Rights (Aldershot; Dartmouth, 1996) at 47; see also Adam More in Intellectual Property Dilemmas, *supra* note 146, Justin Hughes "The Philosophy of Intellectual Property" (1988) 77 Georgetown Law Journal 287.

²¹⁵ Drahos *ibid.* at 47.

²¹⁶ See Universality, *supra* note 147.

²¹⁷ Hegel and Kant's writing influenced the evolution of intellectual property right in continental Europe especially France and Germany, where the emphasis on the residual and inalienable right of creators,

the individual asserts his/her identity in the society. The Hegelian conception of property is based on the relationship property has with the personality of the individual or *vice versa*. Property has an essentially individual character, as it represents the identity of the individual who has created it. The individual is tied to her creation, in a bond that cannot be completely obliterated. Property is an expression of the self. Thus, the individual in the Hegelian society existed chiefly to aspire to establish a unique place and identity through the creation of property.²¹⁸ Because of its sway in continental Europe, Hegelian personality theory explains the well developed concept of “moral right” or the inalienable right of creators to guard the integrity of their creations against mutilation or other forms of misattribution and abuse.²¹⁹ Hegel’s emphasis on personality however bears a close link with the Lockean thesis that “every man has a property in his own person”.²²⁰

In Adam Smith’s world, the “wealth of nations” rests on a tripod of labour, capital and natural resources. Hardly deserving of further emphasis is the role of the individual in generating and harnessing those three elements. Locke’s labour theory is largely linked to the concept of intellectual property perhaps more than any other theorists in his class.²²¹ Like Smith, labour was the pivot of wealth in the Lockean tradition. Locke theorizes that in primitive society resources existed “in common” and were collectively held. Transfer of resources to the individual as an exclusive property ensued by acts of appropriation through labour. The latter became expressed in the form of money as a

otherwise called moral rights, is well developed. On the other hand, the Anglo-American intellectual property rights regime is largely influenced by the writings of John Locke especially his labour theory of intellectual property in Chapter Five of his Second Treatise on Government. Locke’s labour desert theory has deep utilitarian flavour, hence alienation of intellectual property rights through economic determination of values does not represent any theoretical challenge as it does with Hegelian personality theory.

²¹⁸ See G.W.F. Hegel, Philosophy of Right, trans. T.M. Knox 1st ed. (Oxford: Clarendon Press, 1967).

²¹⁹ It is interesting that in American copyright law, following from the common law tradition, there is no direct provision for “moral rights”. However, Hughes writes that personality justification for copyright in America followed a slightly different route than in continental Europe especially Germany and France. As late as 1903, however, Justice Holmes had entrenched the personality theory in case law *vide Bleistein v. Donaldson Lithographing Company* 188 U.S. 239 (1903) when he held that “[v]ery modest grade of art has in it something irreducible, which is one man’s alone and that “personality always contains something unique” to the individual. See Hughes, *supra* note 146 at 149 & n. 167-9. In Canada, the entrenched nature of “moral right” in that country’s jurisprudence is traced to the influence of Quebec civil law jurisprudence. See Paterson & Karjarla, *supra* note 181; see also *Morang and Co. v. William Dawson Le Sueur* (1911) 45 S. Ct. Rep. 95; *Snow v. Eaton Centre Ltd.* (1982), 70 Canadian Patent Reporter (2d) 105 (Ontario High Court).

²²⁰ See Hughes *ibid.* at 142 & n. 122; see also Locke *Second Treatise* sec. 27. However, this does not detract from the idea that Hegel offers a distinctive personality theory of property different from Lockean labour theory. See Drahos, *supra* note 213 at 74.

²²¹ See Child, *supra* note 187 at 107; see also Moore *ibid.* at 179.

means for its (labour) exchange.²²² However, the mental process of the individual exercising the act of appropriation through labour is crucial as it determined the individual's title and claim over the object of labour. Simply stated, in both Hegelian and Lockean traditions, the individual will is central in defining and acquiring a right to property. David Hurlbut outlines the individual-centredness of the Hegelian and Lockean Western tradition of intellectual property when he wrote:

The 'quiddity' of property is an intellectual phenomenon that arises from the way individuals conceived of themselves in their material environment. Property may therefore be the exertion of will over the transformation of material things, or it may be the exertion of intellect to create new ideas.²²³

Calvinist support for work ethic or "morality of labour" and promotion of the virtues of worldly acquisition of wealth lends support to the high stake of individualism in property rights.²²⁴ In Jeremy Bentham's words: "individualistic rationalism of capitalism is to be supreme also in the realm of law since egoism is the basic axiom of the legal system even as it is of the economic system".²²⁵ The bestowal of property status upon intangibles as a concept originated, developed and attained prominence in the West. The stronghold of individualism and capitalism in Western philosophy and jurisprudence is linked to intellectual property as an advancement of individual ideals.

Given its individualistic bias, property rights like individualism are sacrosanct. The society is hence constrained from limiting the individual right to fair accumulation of property and exercise of incidental rights.²²⁶ The nature of society's interference with the individual right to property remains an open question of ideological, economic, social and

²²² For Locke's discourse of money economy as a solution to the question of waste, see Second Treatise sec. 46-51. See also Nozick's criticism of the Lockean non-waste condition in light of "enough and as good proviso" where Nozick takes the view the latter proviso makes the non-waste condition redundant. Hughes argues that "[m]any intellectual property systems neither embody nor require a non-waste condition". See Nozick, *supra* note 187 at 176; see also Hughes, *supra* note 146 at 137.

²²³ See David Hurlbut, "Fixing the Biodiversity Convention: Toward a Special Protocol for Related Intellectual Property" (1994) 34 *Natural Resources Journal* 379 at 384.

²²⁴ R.H. Tawney, Religion and the Rise of Capitalism (Baltimore: Penguin Books, 1947); Patents and Plants, *supra* note 112 at 51 & n. 133.

²²⁵ Quoted in Patents and Plants *ibid.* at 51 & n. 134; see also W. Seagle, Men of Law—From Hammurabi to Holmes (New York: Macmillan, 1947) at 254.

²²⁶ See Baer, *supra* note 19 at 266. Among the incidental rights are: the right to protection and promotion of personality, right to labour of individual's body, right to the reward of individual desert, right to plan and exercise autonomy; See also Jeremy Waldron, *supra* note 182.

philosophical inquiry.²²⁷ Locke's "commons": whether it is an inexhaustible resource like ideas or whether it is finite and therefore scarce remains an intellectual quandary.²²⁸ Even his infamous ethical qualifier (to wit: a person may legitimately acquire property by mixing his labour with resources "held in common" subject to there being "enough and as good left in common for others" after the acquisition) is ironically famous largely because of its ambiguity.²²⁹ The nature of society's interference remains problematic. At the heart of it: how to strike an optimal balance between the power of exclusive rights for the few and the tendency of such rights to infringe on the rights of the rest of the society.

Justifiable interference is discussed at the yet amorphous level of "fairness" and the need to avert infringement of other peoples' freedom in the society. Herein comes the Rawlsian theory of distributive justice.²³⁰ Rawls premises limitation of individual freedom on two principles.²³¹ Simply stated, Rawls' principles seek equal rights to basic liberty for all people as well as the redistribution of inequalities in a manner that accords priority to those with lesser opportunity. Rawls' consideration is driven neither by a Lockean bias for labour nor by Hegelian dictate of personality, but by the inalienable right of the individual as a free and autonomous agent, in the Kantian tradition.²³² Rawls' corrective treatise of Hegelian personality theory of property rights strikes a harmony of sorts with Lockean concern for maintaining and furthering public good by way of restricting individual property rights. Rawls tempers and moderates the labour and individualistic paradigms of property rights by his principles of fairness.²³³

²²⁷ At one extreme level of this ideological schism is Marxism which characterized private property as theft. See Hughes, *supra* note 146 at 109; see also P.J. Proudhon, What is Property? An Inquiry into the Principles of Right and of Government, trans. B.R. Tucker (Paris: 1840; repr. 1966) 11-12 (cited in Hughes).

²²⁸ For different interpretive perspective on Lock's commons, see Drahos, *supra* note 214 at 44-72.

²²⁹ See generally Moore, *supra* note 146.

²³⁰ See generally John Rawls, A Theory of Justice (Cambridge Mass.: Belknap Press Harvard University, 1999).

²³¹ *Ibid.* The two principles that justify the limit of freedom are that: (a) each person is to have equal right to the most extensive basic liberty compatible with a similar liberty for others; (b) social and economic inequalities are to be arranged in that they are both (i) reasonably expected to be to everyone's advantage, and (ii) attached to positions and offices open to all. For further elaboration of this theory and its application in the context of biodiversity, see Baer, *supra* note 19 at 265-6.

²³² For discussions on autonomy and categorical imperative, see generally Immanuel Kant: The Critique of Reason, trans. Thomas Kingsmill (London: Abbott, 1909). Rawls acknowledges the closeness of his theory to Kant's doctrine; see Baer, *supra* note 19 at 268.

²³³ Baer *ibid.* at 268. An allusion is made by Karen Baer to Hohfeld's theory of correlatives to further provide the basis for a justifiable qualification of the unrestricted individualistic concept of intellectual property right in the Hegelian and Lockean sense. Hohfeld's theory of correlatives establishes that every

The emergence of intellectual property in the Western politico-philosophical landscape signifies the dynamism associated with the phenomenon of property. Conceptions of property at any point in time are paradigmatic of the ideological shifts and pathways through the course of Western civilization.²³⁴ Locke conceptualizes property as the platform of a vision to neutralize the excesses of an irresponsible monarchy.²³⁵ Along these lines Peter Drahos observes:

The emergence of well defined, secure property rights was part of a broader historical process in which absolute monarchies and their legitimating political philosophies lost their institutional dominance to be replaced by the institution of the modern state and secular political philosophies that recognized the rights of the individual within and against the state. Peasants, serfs and vassals became citizens and citizens came to hold properties²³⁶ created by the sovereign state...Redefining, rethinking, and redistributing property has always been one way, perhaps the most important way in which political ideas and philosophies have made themselves concrete in the world.²³⁷

In a similar vein, Justin Hughes writes that “[i]n the centuries since our founding, the concept of property has changed dramatically in the United States...towards treating new things as property”.²³⁸ In this change Hughes observes that atypical forms of

right has a corresponding or correlative duty. This is an imperative although not intended by Hohfeld which Baer associates with the modification of property rights. Baer relates the Hohfeldian square of opposites to the field of intellectual property rights in the terms of the duties due or owed right owners and those justifiably imposed on or flowing from them. Such qualifications as well as the Rawlsian theory of distributive justice portend the theoretical foundation for an intellectual property ethic. For a discussion and analysis of the Hohfeldian scheme, see R. W. M. Dias, *Jurisprudence* (London: Butterworth, 1976) at 33-65; see also Baer, *supra* note 19 at 266-281.

²³⁴ Extension of property right to mental exertions has in and of itself the entire characteristics of Western liberal political ideology of freedom, individualism, capitalism and free market economic framework. It alludes to the transition from the era of monarchical and ecclesiastical tyranny to the era of “enlightenment” and the dawn of “rationality”, even though the development of intellectual property rights did and does not reflect any such epochal divide. See Abbot, *supra* note 167.

²³⁵ See Hughes, *supra* note 146 at 114; see also John Locke, *Second Treatise on Government*, sec 138-40 in P. Laslett, ed., *Two Treatises of Government* (New York: Cambridge University Press, 1963) (cited in Hughes *ibid.*).

²³⁶ Although most of the inventors, artists, writers or composers were educated elites often described as “gentlemen of science” or arts, one characteristic of intellectual property different from the traditional property category is that it is a more neutral institution. According to Hughes, “the realm of intellectual property has less of the laborer capitalist/hierarchy of Marxist theory”. See Hughes, *ibid* at 110. Echoing Tawney and William Seagle, Mgebeji observes that “it is no coincidence that the earliest promoters of the patent system were elitist men, the gentry and the so-called gentlemen of science, “whose common interest lay in the promotion and professionalism of scientific activity”. See *Patents and Plants*, *supra* note 112 at 50-51.

²³⁷ See Universality, *supra* note 147.

²³⁸ See *supra* note 146 at 107; see generally *Information Feudalism*, *supra* note 156.

property such as intellectual property have taken on phenomenal importance as compared to old property paradigms like farms, factories and so on.

As a crucial arsenal of capitalist ideology “IPRs are essentially vehicles to propel works into the market: they are more instruments of commerce than of culture”.²³⁹ Following Lockean labour theory, transforming a physical object into property requires individual creation of value on the object. And the value created becomes a candidate for the common weal mainly by way of commercial exchange.²⁴⁰ Hegel classifies intellectual property as a “capital asset”.²⁴¹ Hughes understands this to mean “[a] property that has greater tendency to permanence and a greater ability than other property to give its own economic security”.²⁴² Bluntly stated, intellectual property in the West is a commercial commodity whose creator is *essentially* the individual.²⁴³

Commercial undertones of intellectual property right can be highlighted at few regime levels. Generally, the value of a patent for instance lies in the relevance of its end product or the patented process in the market place.²⁴⁴ Hence beyond usefulness, industrial applicability is a requirement of patentability. Similarly, no trademark worth the name exists or ever existed except it is attached to a product with goodwill of some commercial value or potential.²⁴⁵ With respect to copyright, “the underlying concept of copyright is monopoly, first granted to printers, then to booksellers and only later to individual creators...copyright is treated as a commodity to be bought and sold”.²⁴⁶ Easy alienation of a creator’s rights whether as an inventor or author by way of licensing, assignments, or contract signifies the commercial appeal of intellectual property rights. In

²³⁹ See Chartrand, *supra* note 156.

²⁴⁰ Hughes, *supra* note 146 at 131.

²⁴¹ See Philosophy of Right, *supra* note 218 para. 69.

²⁴² See Hughes, *supra* note 146 at 149 & n. 146.

²⁴³ Although the notion of the romanticized individual inventor or the idea of inventor as hero has been displaced by the notion of corporate and syndicated *inventorship*, the theory of corporate personality theoretically makes the individual the inventor whether as human person or as an artificial creation of law.

²⁴⁴ It includes the patent’s ability to fence off potential rivals in order to maximize commercial opportunities and further monopolistic tendencies.

²⁴⁵ Although generic trademarks may seem to be an exception to this claim, on a closer look they give validity to it. Before a mark can attain the status of a generic mark, it must have been a huge success in that market place hence it gives credibility to the commercial essence of trademark.

²⁴⁶ See Chartrand, *supra* note 156.

no substantive manner do other regimes of intellectual property represent an exception to the commercial and trade thrust at the heart of intellectual property rights.²⁴⁷

One of the conditions precedent to intellectual property rights is the necessity for physical manifestation of an idea or its reduction into practice.²⁴⁸ There is a limit to which mere ideas can enjoy protection as intellectual property.²⁴⁹ Because knowledge is abstract, intellectual property provides a vehicle for converting knowledge into tangible property. Thereafter, the value of the knowledge is expressed in economic terms and determined by market forces. Elaborating on the economic implication Norman Spaulding notes that the Western approach is one that “commodifies and ‘thingifies’ the process and output of human labour and imposes private ‘toll-gates’ or ‘fences’ around knowledge”.²⁵⁰ The epistemological framework in which this concept of intellectual property thrives is one which seeks to achieve fragmentation or reductionism, fixation, extractivism and form representation as concrete expressions of knowledge. All these features are not only associated with Western *scientific* worldview but they constitute key elements in its determination of knowledge. The scientific approach to knowledge is a channel through which the West relates to the natural environment. Biological resources are targets of human appropriation for industrial purposes; with the ultimate aim of advancing economic well-being first of the individual creator and then, the society. A different scenario reigns in non-Western traditions.

The achievement of a holistic ecological order through non-Western or informal scientific approaches is at the heart of epistemic regimes in non-Western cultures. A core feature of those epistemic regimes is the ecological essence. Although it defies definition, it is “rooted in a social context that sees the world in terms of social and spiritual relations between all life forms”.²⁵¹ Knowledge of the natural world is attained through

²⁴⁷ There are, however, categories of intellectual property rights that are not essentially market based such as moral rights. See Downes, *supra* note 141.

²⁴⁸ See Bugbee (1967), *supra* note 140 at 5.

²⁴⁹ Copyright and patents do not really protect ideas *per se* but the expression of ideas. For an idea to enjoy protection both under statute and common law it needs to be set out in detailed and concrete form. See Bugbee *ibid.*

²⁵⁰ See Norman Spaulding III, “Commodification and Its Discontents: Environmentalism and the Promise of Market Incentives” (1997) 16 *Stanford Environmental Law Journal* 293 at 132; see also *Patents and Plants supra*, note 112 at 53, 49 & n. 125.

²⁵¹ Although this equates roughly with the concept of traditional ecological knowledge, the espousal of which is an ongoing project in scholarly circles. Chartrand defines it “as a body of knowledge built up by a group of people through generations living in close contact with nature”. Writing in a more specific and yet

mysticism, spiritualism and forms of animism. In this holistic order, reductionism, fixation, extractivism and form are not fundamental paradigms. The natural environment and its biological diversity (of which humankind is a component) are inseparable. In the words of Chartrand, “cause and effect are not distinguishable. Science and art are one, how to make something and the thing made are mystically unified, process and product are identical”.²⁵² Unlike the Western mold, there is no conquest and adversarial relationship between the individual and community or between humanity and the natural environment. Humanity is one with the environment, and communitarian action and activity are the essential setting in which “intellectual property” is generated.²⁵³

The central conflict at the global phase of intellectual property is the epistemological gulf between Western and non-Western ways of knowing. Although the epistemic gulf is rooted in the early days of cross-cultural encounter with the New World, the birth of a knowledge-based economy in the post cold war era has heightened it. Despite the conflict, recent developments reinforce the validity of non-Western knowledge systems. In the bioresource-dependent field of life sciences, the information traffic from non-Western to Western scientific databases is simply phenomenal. Of major concern, however, is that an intellectual property rights-based approach to information or knowledge is an industrial and free-market model. Imported into a non-Western cultural milieu in a wholesale fashion, its adequacy is called into question.²⁵⁴ This is the major challenge of the extant global phase in the evolution of intellectual property rights. Using Western intellectual property yardsticks to determine knowledge and its rewards short-changes knowledge systems and worldviews centred on ecological holism and community. Ironically, while international attention in the 20th century has focused on non-Western or indigenous cultures and peoples, that same period has recorded an

general context of “indigenous knowledge”, Battiste and Henderson reject the idea of defining that body of knowledge as inconsistent with indigenous understanding. See *supra* note 102 at 35-56.

²⁵² Chartrand, *supra* note 156.

²⁵³ *Ibid.*

²⁵⁴ For example, with regard to the TRIPs agreement, Gana observes that TRIPs “ultimately asks developing countries to conform to a system and philosophy of laws and values which are alien and in some cases, in direct conflict with frameworks which historically have sustained these societies...it would be wishful to assume that enforcement of TRIPs will take place without some form of resistance...even countries must learn how to walk before being asked to leap”. See Ruth L. Gana, “Prospects for Developing Countries Under the TRIPs Agreement” (1996) 29 *Vanderbilt Journal of Transnational Law* 735 at 770-771. See generally Gana, *supra* note 202.

accentuated drive for a global intellectual property order fashioned after the Western tradition.

The next chapter surveys the recognition of the knowledge of indigenous or local communities in international law. It situates the inquiry in the larger context of the indigenous question in international law. Its emphasis is on traditional therapeutic knowledge and practices relating to the use of plant resources or traditional medicine as an isolated strand of indigenous or traditional knowledge.

CHAPTER THREE

Traditional/Indigenous Knowledge in International Law On Indigenous Peoples

3.0 Introduction

This chapter explores the extent to which indigenous or traditional knowledge has become an aspect of international law relating to indigenous peoples. In order to explore international law's treatment of indigenous or traditional knowledge, the first question to ask and attempt to answer is whether there is today an international law regime on the subject of indigenous peoples. In doing that, it is pertinent to reiterate that traditional knowledge is not the exclusive preserve of indigenous peoples. However, international law treatment of the indigenous subject provides the template for international legal development on the subjects of traditional knowledge of both indigenous peoples and other non-Western cultures. This is often evident in the interchangeable use of indigenous and traditional knowledge as well as references to the knowledge of “indigenous and local communities”¹ in a number of instruments.

3.1 The Indigenous Question in International Law: A Historical Perspective

From the onset of colonialism in the 15th century, the law of nations has had to grapple with the indigenous question. The indigenous subject matter has remained to some extent topical through different phases of colonialism and the evolution of international law. For instance, judicial developments in late 20th century Canada

¹ See, for example, references to “indigenous”, “tribal”, “traditional”, “local” and/or “other communities” in most instruments on the protection of indigenous knowledge including the ILO Convention No. 169 (1989) Concerning Indigenous and Tribal Peoples in Independent Countries, 28 I.L.M. 1382 (1989), the Rio Declaration on Environment and Development, 31 I.L.M. 874 (1992) and the Convention on Biological Diversity, 31 I.L.M. 818 (1992). On the fluidity of the distinction between traditional and indigenous knowledge, see Michael Blakeney, “The Protection of Traditional Knowledge Under Intellectual Property Law” (2000) 20:6 *European Intellectual Property Review* 251 at 252; see also final *Report of the WIPO Fact-Finding Missions on Intellectual Property and Traditional Knowledge 1998-1999* (Geneva, Switzerland: April 2001) at 28 [hereinafter “FFM”].

(Delgamuukw), Australia (Mabo), and New Zealand (the Waitangi Treaty Tribunal)² represent the continuation of the indigenous struggle from its roots in colonialism. The United Nations' decision to establish a Permanent Forum on Indigenous Issues in April 2001 coupled with the ongoing review of the U.N. Draft Declaration on the Rights of Indigenous Peoples³ epitomizes the continued evolution of the indigenous question in international law. Thus, it can be said that the indigenous question is as old as colonialism itself and has remained a topical subject up to the present time.

3.1.1 Natural Law and Indigenous Peoples

From early times, the colonialist encounter with indigenous peoples was bedeviled by legitimacy crisis. Acceptable justification for the oppression to which indigenous peoples were subjected by the colonial powers remained an enigmatic issue.⁴ Early European jurisprudence on dealings with indigenous peoples had a predominantly natural law appeal. It was based on the convergence of law and theology. Its champions included two prominent Spanish clerics, Bartolome de las Casas and Francisco Vitoria.⁵ For Vitoria, God was the source of legal authority. God's authority surpasses other temporal authorities. Normative order should apply throughout all humanity. It must transcend artificial categories of human association like nation-states and kingdoms.

² For a detailed discussion of *Delgamuukw* (Canada), *Mabo* (Australia) and the Maori indigenous claims under the Treaty of Waitangi, (New Zealand), see 130-134, below.

³ For the discussion of the U.N. Draft Declaration on the Rights of Indigenous peoples and Permanent Forum on Indigenous Issues, see 3.2.4 and 3.2.5, below.

⁴ For example, both the concepts of discovery and *terra nullius* did not enjoy the support of the natural law theorists who held sway in the early times. Furthermore, both theories were concerned about land or territorial claims. They did not address pertinent questions regarding the oppression and inhuman treatment to which colonialism subjected the indigenous populations. Vitoria and Grotius rejected the *empire and conquest's* claims to indigenous territories as *terra nullius*, and the colonialist discovery theory. For Grotius, all lands inhabited by humans, despite any reservations about their cultural and religious inclinations are not subject of discovery. See Hugo Grotius, *The Law of War and Peace*, trans. F.W. Kelsey (Washington D.C.: Carnegie Endowment for International Peace, 1925) at 38-9.

⁵ Both Casas (1474-1566) and Vitoria (1486-1547) were Dominican clerics and intellectuals who devoted a substantial amount of their time in affirming the essential humanity of Indians of the Western Hemisphere. For a detailed critical analysis of the contributions and contradictions of Vitorian doctrine in the evolution of international law in general and as it relates to indigenous peoples (Indians) in particular, see Anthony Anghie, "Francisco Vitoria and the Colonial Origins of International Law" (1996) 5 *Social & Legal Studies* 321-336, Arthur Nussbaum, *Concise History of Law of Nations* rev. ed. (New York Macmillan, 1954) at 79-84; see also Douglas Sanders, "The Re-Emergence of Indigenous Questions in International Law" (1983) *Canadian Human Rights Yearbook* 1 at 4-6 (highlighting the contributions of Casas and Vitoria). See generally James Anaya, *Indigenous Peoples in International Law* (New York: Oxford University Press, 1996) at 9-13 [hereinafter Anaya].

Thus, there was no basis for the denial of the essential humanity of the Indians.⁶ Vitoria is credited with having “contributed to the development of system of principles and rules governing encounters among all peoples of the world”.⁷ Vitoria’s influence on Hugo Grotius, “the most prominent of the ‘fathers’ of international law” was not in doubt. However, Grotius characterized natural law outside Vitoria’s divine paradigm. For Grotius, right reason, humanist and secular moral standards should be the filtering criteria for a suprasovereign normative order to which all laws including those dealing with indigenous peoples should conform.

Consistent with his intellectual alliance with Vitoria, Grotius rejected both the colonialist claims that indigenous territories were *terra nullius*, as well as the theory of discovery. For him, all lands inhabited by humans, despite any reservations about their cultural and religious inclinations were not subject to discovery.⁸ Therefore, a more dignified way of dealing with Indians was by way of treaty relationships.⁹ The Grotian and Vitorian exposition of natural law placed it at the foundation of a universal moral code for all humankind. At least theoretically, natural law ought to be the basis for determining the right and status of Indians. Such an approach would not support the *terra*

⁶ Despite his theory of the essential humanity of Indians, Vitoria did not disclaim the idea of non-consensual engagement with Indians. He therefore supported the idea of “just wars”. Such wars are legitimate if premised on the interest of indigenous peoples in so far as “they [indigenous peoples] are unfit to found or administer a lawful state up to the standard required by human and civil claims”. See Anaya, *supra* note 5 at 10 & n. 7; see generally Anghie, *supra* note 5 for inherent contradictions of Vitorian approach to the Indian question.

⁷ See Anaya, *ibid.*

⁸ “[D]iscovery refers to all things that belonged to none”. See Anaya *ibid.* at 12 & n. 35. The European doctrine of the right of discovery was introduced in 1492 at the onset of colonialism. Concerning the theory Keith Nunes writes that it “opened the debate about European and Native American lifeways and whether the original inhabitants of the Americas were a human or a ‘subhuman’ species”. See Keith Nunes, “‘We Can Do...Better’: Rights of Singular Peoples and the United Nations Draft Declaration on the ‘Rights of Indigenous Peoples’” (1995) 7 *St Thomas Law Review* 521 at 534; see also Robert A. Williams Jr., *The American Indian in Western Legal Thought: The Discourses of Conquest* (New York: Oxford University Press, 1990); Susan Shown Harjo, “Native Peoples’ Cultural and Human Rights: An Unfinished Agenda” (1992) 24:1 *Arizona State Law Journal* 321.

⁹ This is seen as a necessary consequence of natural rights of all peoples, even “strangers to the true religion”...According to the law of nature there is no degree a matter of doubt for the right to enter treaties is so common to all men that it does not admit of distinction arising from religion”. See *The Law of War and Peace*, *supra* note 4 at 38-39; see also James Henderson, “The Context of State of Nature” in Marie Battiste, ed., *Reclaiming Indigenous Voices and Vision* (Vancouver: University of British Columbia Press, 2000) at 11-38 (lending his voice to the sanctity of the treaty as a respectable basis for mediating the relationship between indigenous peoples and the dominant culture). See generally Hersch Lauterpacht, “The Grotian Tradition in International Law” (1946) 23 *British Year Book of International Law* 1.

nullius or discovery theory of the colonialists. In addition to natural law arguments, the concept of treaty making also mediated European relations with indigenous peoples.

In their early encounters with indigenous peoples, Europeans sought legal legitimacy through the use of treaties and other means. There were many types of such treaties including those of “protection”, “cession” and “friendship”. The problematic issue remained the status of the Indians and their capacity to enter into treaties. The colonial powers later adopted an ambivalent position regarding these questions. Thus, European treaty relationships with Indians remain an unsettled subject in most of the *enclave territories*¹⁰ five hundred years after Columbus.

3.1.2 Positivism and Indigenous Exclusion

The emergence of post-Westphalian state structure at the end of three-decade war (1618-1648) that brought the papal political hegemony to an end did not improve conceptions about indigenous peoples. That development marked an intellectual shift in the Grotian conception of natural law. James Anaya¹¹ observes:

Along with the rise of the modern state came a marked evolution in the naturalist thinking. European theorists transformed the concept of natural law from a universal moral code for humankind into bifurcated regime comprised of the natural rights of individuals and the natural rights of states. This transformation has been called “the most important intellectual development of the seventeenth century subsequent to Grotius”.¹²

The nation state then became the pivot of all political theorizations and discourse. Hobbes compared nation-states to the status of individuals and holders of rights.¹³ Vattel¹⁴ promoted the concept of nation state, and the idea of a discrete body of laws, which was directed exclusively to the states and their dealings with one another. The distinctive right of the individual and the sovereignty of the collective became the pivot of individual/state

¹⁰ The inchoate nature of these treaties is not, however, exclusive to the colonial relationships or the enclave territories. For example, treaty questions remain unresolved in Malaysia (regarding its hunter gatherer populations), the Philippines, Taiwan, Nigeria/Cameroon (regarding border dispute in these two African states), *et cetera*. With regard to the concept of enclave territories, see discussions in 3.2.6.1 and 3.2.6.2, below.

¹¹ *Supra*, note 5 at 13.

¹² Quoting Harold Damerow, “A Critical Analysis of the Foundation of International Law” (1978) at 29.

¹³ See Thomas Hobbes, (1688-1679), *Leviathan* (1651) ed. by Richard Tuck (Cambridge: Cambridge University Press, 1991) at 89.

dichotomy that constituted the fulcrum of Western liberalism.¹⁵ The rich variety of intermediate or traditional *associational* groupings prevalent in the diversity of human cultures did not merit the prerogatives of statehood. Centralized statehood, constructed in the Westphalian mold,¹⁶ was the model of all human associations. It also constituted the framework for all political privileges in international law.

The Westphalian structure may not squarely correspond to the socio-political and cultural groupings of indigenous peoples across the world.¹⁷ Again, Anaya notes:

The very idea of the nation-state would always make it difficult for non-European aboriginal peoples to qualify as such. The concept of nation-state in the post-Westphalian sense is based on European models of political and social organization whose dominant defining characteristics are exclusivity of territorial domain and hierarchical, centralized authority. By contrast, indigenous peoples of the Western Hemisphere and elsewhere, at least prior to European contact, typically have been organized primarily by tribal and kinship ties, have had decentralized political structures often linked in confederations, and have enjoyed shared overlapping spheres of territorial control.¹⁸

International publicists in the late 19th and early 20th centuries gave support to an extreme positivist view of international law.¹⁹ Contrary to Vattel, natural law was virtually jettisoned as an aspect of the law of nations. Thus, international law did not have

¹⁴ Emmerich de Vattel (1714-1769). See his treatise, The Law of Nations, or the Principles of Natural Law 1758 ed. Trans. by Charles Fenwick (Washington D.C.: Carnegie Endowment for International Peace, 1916), cited in Anaya *ibid.*

¹⁵ *Ibid.*

¹⁶ The sovereignty of the state was premised on exclusive jurisdiction, territorial integrity, hierarchical and centralised authority, and on the principle of non-interference in the domestic affairs of one another.

¹⁷ However, Anghie points out that according to Vitoria, the conventional view that sovereignty was developed in the West and exported to the European world may be misleading. On the contrary, “[s]overeignty doctrine acquired its character through the colonial encounter”. See Anghie, *supra* note 5 at 332.

¹⁸ *Supra* note 5 at 15 (footnotes omitted). This observation may apply with different weight to different indigenous peoples. For instance, the view is rife that historically, Africa has always had strong states with features similar to the Westphalian model enunciated in note 16 above, even before the advent of colonialism. Thus, the concept of pre-colonial African states is a historical fact. See Obiora Okafor, Re-Defining Legitimate Statehood: International Law and State Fragmentation in Africa (The Hague; Boston: M. Nijhoff Publishers, 2000), Cheikh Anta Diop, Postcolonial Black Africa: A Comparative Study of the Political and Social Systems of Europe and Black Africa, From Antiquity to the Formation of Modern States, trans. by Harold J. Salemson (Chicago, Illinois: Lawrence Hill Books, 1987).

¹⁹ See, for example, John Westlake, Chapters on the Principles of International Law (Cambridge, England: Cambridge University Press, 1894), William E. Hall, A Treatise on International Law 8th ed. by Alexander P. Higgins (1924), Lassa Oppenheim, International Law A Treatise 7th ed. by H. Lauterpacht (London: New York: Longmans Green Co., 1948-1952). Charles C. Hyde, International as Chiefly Interpreted and Applied by the United States (Boston: Little, Brown & Co., 1945), Mark F. Lindley, The Acquisition and Government of Backward Territory in International Law (London: Longman, 1926), Harold Damerow’s discourse of the positivist school, *supra* note 12.

universal application to all political bodies, not to mention persons. It was for all material purposes construed as law between nations. Under this conception, indigenous peoples were excluded as subjects of international law. They had no status or rights in international law except those conferred by the colonial state. Being entities not recognized under international law, there was no basis upon which they could have entered a valid agreement with ones so recognized. This positivist thrust was to deny the legal significance of the treaties entered into between indigenous peoples and the colonial powers.²⁰

3.1.3 Internationalizing the Indigenous Question

3.1.3.1 The Trusteeship Doctrine

The trusteeship doctrine²¹ marked the earliest attempt at internationalizing the obligations of colonial powers to indigenous peoples. Even though the *trust* experiment was officially the creature of the United Nations in the post World War II era,²² its overarching paternalism reflects the hallmark of colonialist treatment of colonized peoples. Trust territories included old mandated ones, those taken from enemy states and

²⁰ See Hyde, *supra* note 19 at 19. Most of these treaties were at best suspect and at worst, fraudulent and self-serving; many could not stand the legal scrutiny in relation to their validity. However, the important point is that they were entered in most cases as nation-to-nation agreements.

²¹ This is an essentially paternalist concept based on the European perception of other non-European races as inferior, and in need of civilization after European or Christian values. Even though it forms the basis of the trusteeship regimes in colonized states at the onset of the United Nations, I am concerned here with the paternalistic philosophy behind this form of colonial engagement. Under that rubric, inferior races are seen as incapable of governing themselves hence the intervention of the White “superior” race to an extent that legitimizes non-consensual engagement. Prosecution of “just” wars against the inferior races in order to bring them into conformity with *civilization* was considered legitimate. The pervasive notion was that Non-European indigenous peoples were after all not capable of knowing what was in their best interest. For this reason the Europeans believed that they could assume the role of trustees in their relations with members of the “inferior” races. Of the trusteeship doctrine Anaya comments: “[a]lthough it represented an element of humanistic thought toward indigenous peoples, nineteenth- and early twenty-century trusteeship doctrine was rooted in the same Western philosophy that underlay the positivist construct of international law, which viewed non-European aboriginal cultures as inferior”. See *supra* note 5 at 23-4.

²² Under the League of Nations, a Mandate system applied to former colonies considered unable to govern themselves. These colonies were handed over to allied states to administer under the supervision of the League. The Mandate ended in 1946. With the onset of the United Nations in 1945, the trust system was reviewed. Trust territories were administered under the supervision of the Trusteeship Council of the United Nations, and were never formally transferred as most of them were then awaiting independence. The last of the trust states, New Guinea, gained independence in 1976. See Hugh Kindred *et al*, eds., International Law: Chiefly as Interpreted and Applied in Canada 5th ed. (Toronto: Emond Montgomery Publications Ltd., 1987) at 27-34; see also Sharon A. Williams & Armand L.C. de Mestral, An Introduction

those surrendered by earlier colonial states after World War II. The doctrine obligated colonial powers to “protect” indigenous/colonized peoples. Earlier on, this obligation was internationalized in a manner that depicted indigenous peoples as “limited objects of international concern”²³ even though they were technically not subjects of international law. Before the United Nations came into being, the so-called civilized world including the United Kingdom, the United States, Canada, Australia, New Zealand and indeed most of the colonial settlements in the Americas and Africa had in principle followed an approach akin to a trusteeship.

With regard to Africa, the 1885 Berlin Conference of West Africa was the platform through which the trusteeship doctrine extended to all colonial possessions in Africa. It was convened primarily to check further possible clash of European forces in the “scramble for Africa”.²⁴ The Conference, in some ways, turned out to be a Charter of trusteeship. For instance, article VI of the Conference General Act states the resolve of the signatory colonial powers to “bind themselves to watch over the preservation of the native tribes, and to care for the improvement of the conditions of their moral and material well being”.²⁵ This was designed with the objective of “instructing the natives and bringing home to them the blessings of civilization”.²⁶ The central plank of the doctrine was that indigenous peoples were inferior both in their racial character and political organization. It was the *White Man's burden* to extend to them the benefit of *civilization*. Thus, through the conference, the trusteeship concept extended to far-flung Africa.

The trusteeship doctrine and *civilizing mission* were anything but a blessing for non-European peoples. Nonetheless, it opened the opportunity for an international approach to the indigenous question. The self-assumed “obligation of conscience to

to International Law: Chiefly as Interpreted and Applied in Canada 2nd ed. (Toronto: Butterworths, 1987) at 55.

²³ Anaya, *supra* note 5 at 25.

²⁴ *Ibid.* See also, R.J. Garvin & J.A. Betley comp., trans. & eds., The Scramble For Africa: Documents on The Berlin West African Conference and Related Subjects 1884-1885 (1973). See generally, Raymond F. Betts, ed., The “Scramble” For Africa: Causes and Dimensions of Empire (Lexington, Mass: Heath, 1972).

²⁵ General Act of the Conference of Berlin, Article VI reprinted in Garvin & Betley *ibid* at 291 as quoted in Anaya, *supra* note 5 at 25; see also article 22 of the Covenant of League of Nations reproduced in Kindred, *supra* note 21 at 28.

²⁶ Anaya *ibid.*

impact the blessings we enjoy”²⁷ resulted in the breakdown of indigenous forms of political and social organizations, disruption of communal landholdings, and suppression of cultural practices.²⁸ The use of alien socio-political structures on indigenous peoples proved to be culturally erosive and socially dislocating in the indigenous communities. The failure of the original colonial policy of assimilation is one example of this trend. Indeed, the colonial tendency to supplant indigenous identities, and socio-cultural values remains at the heart of the same problems which indigenous peoples continue to grapple with today. Its racial undertone notwithstanding, the trusteeship approach opened the window for an international policy obligation by states with regard to indigenous peoples over which they exercised control.

3.1.3.2 Decolonization and the United Nations

Developments in the second half of the 20th century²⁹ tempered the exclusive Eurocentric character of international law. Notably,

The horrors of the Nazi Holocaust prompted a rethinking of the virtually unlimited discretion states had regarding the treatment of their own citizens. The United Nations Charter put human rights and self-determination of peoples first, making them a *raison d'être* of the new worldwide organizations of governments.³⁰

Eurocentrism loosened its grip on the international process or so it appeared. Following the end of World War II, the demise of the League of Nations, and the emergence of the United Nations in 1945, the gates were opened for the admission of new actors in the international process. This was in part through the United Nations General Assembly's “Declaration on the Granting of Independence for Countries and Peoples in General”.³¹

²⁷ House of Commons Select Committee on Aboriginal Tribes, Report (1837), quoted in Anaya, *supra* note 5 at 24 & n. 138.

²⁸ *Ibid.*

²⁹ Notably, the end of World War II, the emergence of a global order based on a vision of peace and within the new governing structure of the United Nations.

³⁰ Siegfried Wiessner, “Rights and Status of Indigenous Peoples: A Global and Comparative and International Legal Analysis” (1999) 12 Harvard Human Rights Journal 57 at 98 [hereinafter “Rights and Status”].

³¹ See G.A Res. 1514 (XV), UN GAOR, 15th Sess. Supp. No. 16, UN. Doc. A/4684 (1961) 166 of 14 December 1960, otherwise less appropriately called the “Charter of Decolonization”. Although this Charter is associated with the decolonization process, it is important to note that by 1960 when the Declaration was made most colonies had become independent. However, events preceding that “Charter” affirmed the commitment of colonial powers to grant independence to colonized peoples. See, for example, the 1952

That Charter was catalytic to the independence of the countries of Africa, Latin America, the Caribbean, Asia and the Pacific. Clearly representing the majority, these countries were to dilute the European influence in global decision-making; or so it seemed.

Nevertheless, the General Assembly in effect limited decolonization to overseas territories, as opposed to “internal collectives” or the “enclave territories”. This policy is regarded as the *salt water or blue water theory*.³² The excluded indigenous collectives in the enclave territories continued to champion the decolonization struggle by using the United Nations framework.

The United Nations philosophy, perhaps more than the emergent states, was instrumental in re-directing the focus of international law. The United Nations Charter supervises a marked shift from the positivist thrust of international law. It embraced the accommodation of broad spectrum of views and the pursuit of a vision of world peace. Without, however, compromising the *statecentric* character of international law, the United Nations' vision of world peace incorporates basic human values. Those inalienable rights and values represent the backbone of the United Nations and modern international law's return to naturalist appeal. In the words of Keith Nunes:

The starting point of the Peace of the United Nations, as opposed to the Peace of Westphalia which was essentially centred on the nation-state, is the constitutive instrument known as the United Nations Charter, and it speaks of, “We the Peoples”...[A]ctually, the U.N. Charter speaks of rights that accrue to the peoples prior to the organization of the nation-state which is party to the Charter as an international agreement or treaty...³³

Another significant influence of the United Nations to modern international law is captured in yet another observation:

UN Declaration on the Rights of Peoples and Nations to Self-Determination, GA Res. 637, UN GAOR, 7th Sess., Supp. No. 20, UN Doc. A/2361 (1952) 26 (providing for direct participation of colonized peoples in the governance of their territories preparatory to independence).

³² Belgium and France had sought an expansive interpretation of Chapter XI of the United Nations Charter (which created obligations on colonial powers over “territories whose peoples have not yet attained a full measure of self-government”) to include indigenous peoples in the enclave territories. This move was opposed mainly by Latin American states to the effect that Chapter XI became subject of restrictive interpretation and thus was limited to overseas colonial territories. The salt-water thesis was incorporated into the so-called Charter of Decolonisation, i.e. Resolution 1514 (XV) of 1960. See Anaya, *supra* note 5 at 43 & n. 29.

³³ See Nunes, *supra* note 8 at 528.

The Charter engenders meaningful levels and forms of nonstate participation in the organization's deliberative process. The Charter allows for nongovernmental organizations to affiliate with the U.N. Economic and Social Council, the parent body of the United Nations' human rights and social policy organs.³⁴

To consolidate the shift in the direction of the international process, the United Nations initiated three key instruments known as the International Bill of Rights. They include the Universal Declaration of Human Rights, 1948,³⁵ the two basic human rights treaties of 1966: the International Covenant on Civil and Political Rights³⁶ and the International Covenant on Economic, Social and Cultural Rights.³⁷ In the observation of Wiessner, "[t]hese treaties ensure religious freedom, guarantee self-determination of peoples and even protect the rights of minorities to the preservation and enjoyment of their cultural heritage".³⁸ As grandiose as these may sound, at best they represent ideals for appropriation. The truth is that what states say and what they do are often worlds apart. Nevertheless, the indigenous question has traversed a checkered trajectory in international law. In comparison, the contemporary epoch is without doubt the most accommodating of indigenous claims and concerns.

3.1.4 The Indigenous Question In the United Nations

Raidza Torres argues that the absence of international norms regarding indigenous peoples made them seek recognition within the context of other legal rights under international and domestic law.³⁹ Consequently, the human rights framework of the United Nations was the launching pad for indigenous renaissance in contemporary international law. Under this framework, there is a guarantee of equal rights, and self-determination of peoples, respect for human rights and fundamental freedoms for all

³⁴ Anaya, *supra* note 5 at 41.

³⁵ Adopted and proclaimed by the General Assembly of the United Nations, 10 December 1948; see G.A. Res. 217A (III), UN GAOR, 3rd Sess., Supp. No. 13, UN Doc. A/810 (1948) 71

³⁶ GA Res. 2200A (XXI), UN GAOR, 21st Sess., Supp. No. 16, UN Doc. A/6316 (1966) 52 (16 Dec. 1966), reprinted in 999 U.N.T.S. 171, 6 I.L.M. 368 (1967).

³⁷ GA Res. 2200A (XXI), UN GAOR, 21st Sess., Supp. No. 16, UN Doc. A/6316 (1966) (16 Dec. 1966), reprinted in 993 U.N.T.S. 3, 6 I.L.M. 360 (1967).

³⁸ Rights and Status, *supra* note 30 at 98 (footnote omitted).

without distinction as to race, sex, language, religion and conditions of economic and social progress and development.⁴⁰

There is no dearth of headings under which indigenous issues find expression within the United Nations. According to Douglas Sanders,⁴¹ the following headings lend themselves to the indigenous cause: racial discrimination, decolonization or self-determination,⁴² cultural minorities, individual human rights. Others include labour, economic development, cultural rights, and the environment. Similarly, Benedict Kingsbury identifies five fundamentally different competing conceptual structures by which indigenous claims are placed in international agenda.⁴³ They are claims of human rights and non-discrimination, self-determination, historic sovereignty, and claims based on the fact of indigeneity, which includes treaty and other agreements with the states.⁴⁴ Sanders and Kingsbury's lists are not exhaustive. The convergence between these heads of claims indicates that:

Different claims made by indigenous peoples may fall into any of [the]...categories, or into several at once and that the totality of these claims as a genre cannot and should not be understood as belonging exclusively to any one or other category.⁴⁵

Indigenous peoples fit into the various provisions of the International Bill of Rights. Yet, it is clear that the peculiar problems facing them required more than a shift in emphasis from the general human rights framework to peculiarly indigenous issues.⁴⁶ Kingsbury

³⁹ See Raidza Torres, "The Rights of Indigenous Populations: The Emerging International Norm" (1991) 16 *Yale Journal of International Law* 127 at 149 [hereinafter "Emerging Norm"].

⁴⁰ See U.N. Charter, article 1 paras. 1, 2, 3; and article 55; see also Anaya, *supra* note 5 at 41.

⁴¹ See Douglas Sanders, "Indigenous Peoples in Comparative and International Law" (1998) [unpublished Lecture Notes, archived at Faculty of Law Library, University of British Columbia] at 27 [hereinafter "Indigenous Peoples in Comparative"].

⁴² In addition to decolonisation/self-determination, minority rights according to Sanders were the most logical themes for consideration of indigenous issues at the United Nations. However, those themes were politically sensitive and so they were often circumscribed at the United Nations, for instance, through the application of the salt-water theory, and the restrictive conception of the right to self-determination.

⁴³ See Benedict Kingsbury, "Reconciling Five Competing Conceptual Structures of Indigenous Peoples' Claims in International and Comparative Law" (2001) 34:1 *Journal of International Law and Politics* at 189-90 [hereinafter "Conceptual Structures"].

⁴⁴ *Ibid.* at 190.

⁴⁵ *Ibid.* at 191.

⁴⁶ See Russel Lawrence Barsh, "Indigenous Peoples: An Emerging Object of International Law" (1986) 80:2 *American Journal of International Law* 369 at 378, quoting the submission of Norway at the Fourth Session of the UNWGIP: "[e]xperience has shown that the special problems facing indigenous populations

agrees with “[t]he notion that some legal claims raised by indigenous peoples are *sui generis* and have distinct conceptual structure”.⁴⁷ Thus, the latter part of the 20th century finally is marked by a realization of the credibility of peculiarly indigenous demands in international law.

3.2 Customary International Law On Indigenous Peoples

Among contemporary international publicists on indigenous rights there appears to be a consensus over the existence today of customary international law on indigenous rights. Indeed, there is an understanding that an international norm on indigenous peoples has crystallized, or to use the language of Wiessner, “hardened”.⁴⁸ That understanding is based mainly on developments in the international and national arenas.

There are multiple juridical pathways through which the world's indigenous peoples, and indeed the international process, arrived at the place of the “hardened indigenous norm”. Indeed, virtually every principal source of international law as enunciated by article 38(1) of the Statute of International Court of Justice and other sources outside the statute provide evidence of the international law on indigenous peoples.⁴⁹ These are amplified by state practices and the struggles of non-governmental indigenous and human rights organizations which incorporate the “soft law” component. These struggles coupled with the writings of publicists have been largely instrumental to the responsive developments at national and international levels.

cannot be adequately solved by the existing international norms of human rights”. The imperative for a new set of norms which can be articulated in a declaration with the hope of arriving at a convention in the long run was envisaged. That was a consensus shared by the majority of countries that participated in the deliberations of the Working Group including Canada, New Zealand, Norway, Australia and Argentina to name a few.

⁴⁷ Conceptual Structures, *supra* note 42 at 191. Kingsbury appears to hinge the distinctiveness of the categories of indigenous claims partly on treaty rights and indeed on claims emanating from other agreements with indigenous peoples. See generally Emerging Norm, *supra* note 39, Anaya, *supra* note 5, Rights and Status, *supra* note 30, Sanders, *supra* note 5 and Barsh, *supra* note 46 for arguments about the exclusivity of indigenous claims.

⁴⁸ See Wiessner Siegfried, “Joining Control to Authority: The Hardened 'Indigenous Norm'” (2000) 25 Yale Journal of International Law 301 at 305 [hereinafter “Hardened Norm”].

⁴⁹ For the text of the Statute of International Court of Justice, see online: United Nations, <<http://www.un.org/Overview/Statute/content.html>> (date accessed: 11 December 2002); reprinted in I Brownlie, ed., Basic Documents in International Law 4th ed. (Oxford: Clarendon Press, 1995) 438. For a detailed discussion of sources of International Law including those enunciated in article 38(1) of the statute and other non-statute sources, see Peter Malaczuk, ed., Akehurst's Modern Introduction to International Law 7th Rev. ed. (London: Routledge, 1999) at 35-62.

It is necessary to point out that the idea of hardened indigenous norms does not exclude the continued evolution of indigenous rights. In accordance with the evolutionary character of the international process, details and operative particulars of indigenous rights are in continuing progression.⁵⁰ Thus, for indigenous peoples, it is not yet a moment of celebration. I do not by any means claim that indigenous peoples have reached the *Promised Land*. In the following pages I will attempt to appraise aspects of the developments leading to the consensus on the emergence of the customary international law on indigenous peoples.

3.2.1 Pioneering the Indigenous Cause through Labour

Ironically, labour, more than other directly related issues provided an entry point for indigenous concern in contemporary international law. This is true particularly at the institutional or instrumental level or both. The institution of reference here is the International Labour Organisation.⁵¹ The ILO's involvement with indigenous issues predates the modern era of international law, which for convenience, I delineate from the emergence of the United Nations. The ILO is the first major world body to address indigenous concerns even of the pre-decolonization era.

Originally, the ILO was concerned with addressing the exploitation of indigenous peoples as a labour pool for colonial industries. It sought to entrench a standard of just and decent treatment of indigenous peoples. In keeping with the *realpolitik* of the extant colonial policy, it embraced the trusteeship doctrine. As a result, underlying its

⁵⁰ For instance, at the present time modalities are still being worked out in respect of the operational framework of the newly established International Forum on Indigenous Issues. Perhaps most importantly, the epitome of international developments on indigenous rights as embodied in the Draft Declaration on the Rights of Indigenous Peoples is yet to be officially adopted as a Declaration of the General Assembly of the United Nations. Similar fate befalls the OAS Draft Declaration on Indigenous Rights. Recent developments on indigenous knowledge especially with regard to intellectual property rights are all open to continued evolution regarding their details. Thus, the fact that it can be safely said that there is a body of international consensus on indigenous rights does not mean that the rights are frozen. The indigenous question is a sexy subject in contemporary international legal discourse. It is hard to imagine when all issues relating to indigeneity or any other subject for that matter would be completely resolved or permanently settled.

⁵¹ Founded at the end of World War I, at about the same time as the League of Nations, 1919, it outlived the League to become a specialized agency of the League's successor, the United Nations.

convention No. 107 of 1957 i.e. the Indigenous and Tribal Peoples Convention⁵² were the principles of integration and assimilation of the indigenous peoples into the dominant culture. This initiative was very much out of tune with indigenous reality. Hence, the subsequent Convention No. 169 of 1989 reversed the assimilation policy. The new Convention No. 169 Concerning Indigenous and Tribal Peoples in Independent Countries,⁵³ represented in its time “international law's most concrete manifestation of the growing responsiveness of indigenous peoples' demands”.⁵⁴ The Convention outlines in concrete terms, the key claims which international publicists have identified as constitutive of indigenous norms. It creates responsibility on member governments to protect rights accruing to indigenous peoples. Thus, the ILO moved beyond its original concern about the exploitation of indigenous labour and pioneered an institutional and international legal initiative on virtually all aspects of the indigenous question.

The ILO initiative is significant in six major respects. First, it gives an official seal to the rejection of the policy of assimilation and integration of indigenous peoples into the dominant society. Second, it sets the tone for general reversal of that policy at national and international levels. Third, it sets an agenda for the subsequent elaboration of the indigenous question. This is reflected in its basic theme, which is the “right of indigenous people to live and develop their own designs as distinct communities”.⁵⁵ Fourth, it depicts an authoritative “part of a larger body of developments that can be understood as giving rise to new customary international law with the same normative thrust”.⁵⁶ Fifth, it promotes the notion of the treatment of indigenous issues as separate from other diverse concerns within the human rights framework, a trend that was to mark the crystallization of international law on indigenous peoples. Sixth, it underscores the sensitive and contentious nature of the term “peoples”, and its implication for self-determination. In article 3, the Convention states: “The use of term “peoples” in this

⁵² See the Convention Concerning the Protection and Integration of Indigenous and Other Tribal and Semi-Tribal Populations in Independent Countries of 26 June 1957, reprinted in 328 U.N.T.S. 247.

⁵³ Adopted by the General Conference of the International Labour Organization, Geneva, 27 June 1989, and entered into force 5 Sept. 1991. Reprinted in 28 I.L.M. 1382 (1989) and in (1990) 15:1 Oklahoma City University Law Review 127-353; see also *supra* note 1.

⁵⁴ Anaya, *supra* note 5 at 47.

⁵⁵ Right and Status, *supra* note 30 at 100.

⁵⁶ Anaya, *supra* note 5 at 49.

convention shall not be construed as having any implications as regards the rights which may attach to the term under international law”.

3.2.2 The Entry Point of Racial Discrimination

Of all the competing headings identified by Sanders, racial discrimination provided the channel for tabling indigenous concern at the United Nations.⁵⁷ This happened under rather dramatic circumstances. A 1970 U.N. interim report on racial discrimination *appropriated* indigenous concerns into its mandate. Nonetheless, the author of the report, Augusto Willemsen Diaz, acknowledged that racial discrimination did not completely describe the issues involved with the indigenous concerns.⁵⁸ Yet he had an expectation that indigenous peoples could get onto the agenda of the United Nations through the door of discrimination.⁵⁹ Strategically, that report recommended that a separate study on indigenous populations be conducted under U.N. auspices.⁶⁰ Thus, the Economic and Social Council of the U.N., in accepting this recommendation, authorized the Sub-commission on Prevention of Discrimination and Protection of Minorities to conduct a Study on the Problem of Discrimination Against Indigenous Populations.⁶¹

An Ecuadorian diplomat, Jose Martinez Cobo prepared a landmark compendium on indigenous peoples worldwide.⁶² Cobo’s widely acknowledged report, in the words of

⁵⁷ This is hardly surprising because racism is at the heart of the indigenous question. It was because of the perceived racial inferiority of indigenous peoples that the dominant culture imposed its whims on virtually all aspects of indigenous culture, identity and life. Assimilation and genocidal attacks on many indigenous peoples are extreme racist manifestations directed at so-called *savages* in need of *civilization*, failing which, extermination.

⁵⁸ The little known and hardly acknowledged author of the 1970 interim report of a study on racial discrimination was Augusto Willemsen Diaz, a Guatemalan Lawyer on the staff of the United Nations Human Rights Centre in the Mid-1960s. See *Indigenous Peoples in Comparative*, *supra* note 41 at 27.

⁵⁹ Sanders *ibid.* (citing personal communication with Diaz).

⁶⁰ According to Sanders, “[a] strategic decision was taken in the mid-1960s by Augusto Willemsen Diaz...to route a concern with indigenous peoples through the work underway on racial discrimination. As a result of his work a 1970 interim report of a study on racial discrimination recommended a separate study on indigenous populations. While Willemsen Diaz saw “discrimination” as an incomplete description of the issues involved, it was possible for indigenous peoples to get on the agenda of the United Nations through this door”. *Ibid.*

⁶¹ E.S.C. Res. 1589(L), 21 May 1971, U.N. ESCOR, 50th Sess., Suppl. No. 1 at 16, U.N. Doc. E/5044 (1971); see also Anaya, *supra* note 5 at 51.

⁶² Sanders observes that even though Cobo, then a member of the Sub-commission on the Prevention of Racial Discrimination and Protection of Minorities was named the special rapporteur, and “charged with the conduct of the study, inadequate staffing and funding at the U.N. Human Rights Centre meant that the work fell almost exclusively (sic) to Augusto Willemsen Diaz”. See *Indigenous Peoples in Comparative*, *supra* note 41 at 27.

Anaya, “became a standard reference for the discussion of the subject of indigenous peoples within the United Nations System”.⁶³ Triggered by the little mentioned 1970 report, Cobo’s study was to set the stage for the complete entrenchment of the indigenous question on the international agenda.

3.2.3 U.N. Working Group on Indigenous *Populations*

Perhaps one of the greatest contributions of the Cobo Study was its recommendation to establish the U.N. Working Group on Indigenous Populations (UNWGIP). This recommendation, which had the support of indigenous peoples, governments and non-governmental organizations, was accepted and implemented by the U.N. Human Rights Commission, and the Economic and Social Council in 1982.⁶⁴ It is interesting that because of its historical connection to the concept of *discrimination* the UNWGIP is attached to the Sub-Commission on Prevention of Discrimination and Protection of Minorities.

Chaired by the acclaimed indigenous scholar and activist, Erica-Irene Daes,⁶⁵ the UNWGIP operated within the framework of three principal mandates. They included reviewing developments concerning indigenous peoples worldwide, with a view to evolving appropriate international standards. The mandates were later enlarged to include the review of treaties between indigenous peoples and states, and the study of the concept

⁶³ Anaya, *supra* note 5 at 51.

⁶⁴ Sub-Comm’n. Res. 2 (XXXIV) (8 Sept. 1981); Comm’n. Res. 1982/19 (10 Mar. 1982) ECOSOC Res. 1982/34 (7 May 1982). See Russel Lawrence Barsh, *supra* note 46 at 372. Sanders notes that “[t]he Working Group on Indigenous Populations was established before the completion of the (Cobo) report. As a result, the report did not play a significant role in the establishment of a forum on indigenous issues in the United Nations”. See Indigenous Peoples in Comparative, *supra* note 41 at 27. Compare Anaya, *supra* note 5 at 51.

⁶⁵ The pioneer chair of the UNWGIP was a little mentioned Norwegian named Eide, who was not re-elected at the end of his term. *Contra* Wiessner: “She [Daes] Chaired the United Nations Working Group on Indigenous Population since its inception...”. See “Defending Indigenous Heritage: An introduction (2001) 14:1 St. Thomas Law Review 271 [hereinafter *Defending Indigenous Heritage*]. Of Eide, Barsh writes, “[s]ome governments ...considered Eide too liberal in admitting the statements of indigenous representatives, and he was not reelected to the Sub-Commission in 1984...his Greek successor, Erica-Irene Daes, has been perceived as stricter at least by indigenous organisations” see Barsh, *supra* note 46 at 379. After nearly a decade of steering the UNWGIP, it is quite doubtful if this represents a correct characterization of Daes, who is described as “the dean of international indigenous law”. See *Defending Indigenous Heritage* *ibid.* at 272.

of indigenous cultural and intellectual property.⁶⁶ The last mandate is central to this project.

3.2.4 U. N. Draft Declaration on the Rights of Indigenous Peoples

After nearly a decade of work⁶⁷ in 1993, the UNWGIP approved a Draft Declaration on the Rights of Indigenous Peoples.⁶⁸ This document emanates from the UNWGIP's standard setting mandate. Nonetheless, it covers aspects of the working group's other commissions, namely the subjects of treaties, and indigenous cultural and intellectual property. Like its precursor, the Cobo report, the Declaration has been hailed as a landmark document. Wiessner describes it as "the most affirmative intergovernmental response yet to the rights of indigenous peoples".⁶⁹

The range of rights set out in the draft is the most comprehensive category rooted in historical justice, and in the postcolonial quest for indigenous renaissance. These include, but are not limited to the right to self-determination to and to distinct political, legal, cultural, social and institutional identity of the peoples. Also covered are rights to protection against genocide and similar atrocities, forced relocation, and assimilation or integration into imposed or foreign lifestyles. In a similar vein, protection of tribal language, traditional conservation including medicinal rights and practices is guaranteed. Other protected rights include, educational and territorial rights over ancestral location, spiritual and religious autonomy, sanctity of archeological-historical sites, artifacts, human remains; restitution rights for confiscated lands, and general restitution rights for non-consensually alienated properties. This list is by no means exhaustive.

The Draft Declaration marks a watershed in the evolution of international law on indigenous peoples.⁷⁰ It reflects the tenacity of the indigenous struggle and the

⁶⁶ See Sub-Comm'n Res. 1984/35B (27 Aug. 1984), Comm'n Res. 1985/21 (11 March 1985), See also Barsh, *supra* note 46 at 372; Anaya, *supra* note 5 at 51.

⁶⁷ The WGIP first convened in 1982, and continued to meet annually, thereafter. It commenced the drafting of the Declaration in 1985 and completed it in 1993.

⁶⁸ United Nations Draft Declaration on the Rights of Indigenous Peoples—as agreed upon by the U.N. Working Group on Indigenous Populations at its Eleventh Session, Geneva, July 1993. Adopted by the Sub-commission on Prevention of Discrimination and Protection of Minorities by its resolutions 1994/45 of 26 August 1994; U.N. Doc.E.CN.4.1995/2, E/CN/SUB.2/1994 56, at 105 (1994), reprinted in 34 I.L.M. (1995).

⁶⁹ Rights and Status, *supra* note 30 at 102.

⁷⁰ The integrity and legitimacy of the work of the UNWGIP derives partly from its particularly unique mode of operation. This involved a form of partnership between experts and indigenous peoples in a

commitment of the United Nations to the international decade of indigenous peoples (1993-2004). Although it is yet to attain the ultimate objective of transforming into a Declaration of the General Assembly of the U.N., it represents the burgeoning consensus on indigenous rights within and between states. Indeed, declarations by their implementation can attain the status of traditional, customary international law.⁷¹ Despite the lingering controversy on the amorphous question of self-determination, it is hoped that the Draft would attain the status of a UNGA Declaration before the end of the indigenous peoples' decade. Signals in this direction, however, may not be amenable to a reasonable prediction. With the end of the indigenous decade months away, and the Draft presently stalled at the U.N. Human Rights Commission, the realization of that expectation within that time frame appears unlikely.

3.2.5 United Nations Permanent Forum on Indigenous Issues

While the review of the Draft was pending, in April 2001 the U.N. announced the establishment of a Permanent Forum on Indigenous Issues.⁷² The Forum was set up as a subsidiary organ of the Economic and Social Council. It is designed to "serve as an advisory body to the Council with a mandate to discuss indigenous issues within the mandate of the Council relating to economic and social development, culture and the environment, education and human rights".⁷³ The establishment of the Forum represents

participatory and democratic exchange. The UNWGIP ensured that it secured an optimum participation of indigenous peoples from all parts of globe. Thus, it is reputed to be "one of the largest regular human rights meetings organized by the United Nations". See Julian Berger, "The United Nations Draft Declaration on the Rights of Indigenous Peoples (1996) 9:6 St Thomas Law Review 209. The credit for the unique and democratic tenor of the UNWGIP is roundly given to the Chairperson and Rapporteur, Dr. Erica-Irene Daes. See for example, Ted Moses, "Invoking International Law" in *Reclaiming Indigenous Voice and Vision*, *supra* note 9, at 172. The UNWGIP approach is instrumental to the promotion of a permanent presence of indigenous peoples within the United Nations.

⁷¹ See Keith Nunes, *supra* note 8 at 554 (arguing that by implementation declarations can take the form of customary international law in the same way the Universal Declaration of Human Rights has now become part of customary international).

⁷² First approved by ECOSOC Res. 2000/22 of 28 July 2000, E/2000/INF/2/Add.2.

⁷³ See Carey & Wiessner, "A New United Nations Subsidiary Organ: The Permanent Forum on Indigenous Issues" *American Association of International Law (ASIL) "Insight"*, 17 April 2001, online: ASIL <<http://www.asil.org/insights/insigh67.htm>> (date accessed: 9 April 2003). Other mandates of the Forum are "to (a) provide expert advice and recommendations on indigenous issues to the Council, as well as to (sic) programmes, funds and agencies of the United Nations, through the Council; (b) Raise awareness and promote the integration and coordination of activities relating to indigenous issues within the United Nations system; (c) Prepare and disseminate information on indigenous issues". See UN Doc. E/2002/42 Suppl. 43 June 1 2002 at 14.

the climax thus far of international law on indigenous peoples. It symbolizes a political victory of immense historical and contemporary significance. Its promise for the future of indigenous peoples is beyond casual conjecture. The Forum is symbolic in a number of respects. One needs mentioning. It represents the willingness of the United Nations and international law to move beyond the rhetoric of indigenous rights toward some form of implementation. Like the U.N. Human Rights Committee, it is hoped that when the Forum crystallizes within the United Nations machinery, it will pave the way for addressing exclusively indigenous questions between indigenous peoples and their national governments. It is perhaps early to speculate on how far the Forum's mandate could metamorphose from its modest advisory status to a more concrete role capable of satisfying indigenous aspirations. Not unexpectedly, the debate is ongoing among international publicists on indigenous issues as to the role of the Forum.⁷⁴ Indeed, because the establishment of the Forum was so long-awaited, this debate predates the Forum's inauguration.⁷⁵

3.2.6 Indigenous Activism

From section 3.1 and thus far into 3.2 the reverses and vacillations of the international community regarding the question of the status of indigenous peoples have been demonstrated. From the original naturalist thought, there was little problem holding that indigenous peoples were subjects of a normative order which applied to all humanity. This position tasked European jurisprudence to justify the oppression of the indigenous population, a task it is yet to discharge satisfactorily. However, the overthrow of naturalist thinking by the positivist thought which promoted the Westphalian state model clearly alienated indigenous peoples from international law. Indeed, a dramatic return to the natural law thinking following developments in the middle of the 20th century has restored indigenous peoples to the centre of world constitutive process. From

⁷⁴ See, for example, the Report of the First Session of the Permanent Forum on Indigenous Issues, which held at the United Nations Headquarters, New York 13-24 May 2002. UN Doc. E/2002/42 suppl. 43 1 June 2002, online: Office of the High Commission on Human Rights (OHCHR): Permanent Forum on Indigenous Issues <<http://193.194.138.190/indigenous/pforum.pdf>> (date accessed: 2 April 2003). The second session of the forum, 12-23 May 2003 has just been concluded in New York City.

⁷⁵ See Anaya, *supra* note 5 at 152; see also Vienna Declaration and Programme of Action, World Conference on Human Rights 25 June 1993, Pt. 2. Para. 32, U.N. Doc. A/CONF. 157/23 (1993). The

the era of denial to one of acquiescence regarding indigenous rights the world community has come full circle.

This development did not happen in isolation. It is safe to say that indigenous peoples themselves played pivotal roles in influencing situations. In addition, developments within the states have shown discernible trends in state practices, which gave support to the idea of international law on indigenous peoples. Although such support does not necessarily translate to improvements in indigenous welfare, they represent a significant trend shift. It is hardly possible to give an exhaustive account of all the developments. However, a number of illustrations suffice to provide a contextual backdrop to the emergence of international law on indigenous peoples. First, I highlight the role of indigenous peoples in the process.

3.2.6.1 Indigeneity and the Salt Water Thesis

Because of the so-called salt-water or blue-water doctrine,⁷⁶ the United Nations decolonization process in the early sixties did not extend to the “colonies within”, also referred to as internal *Indian* collectives, or the enclave territories. The subjects of the enclave territories include the indigenous peoples of the Americas, Australasia, and the Arctic regions. In the bulk of those countries there was no settler withdrawal. Indigenous populations there did not have the benefit of independence from European powers. Virtually all countries of Africa and Asia benefited from the wave of decolonization. But for the rest of the world, the colonies within remained under the yoke of European settlers in the former’s ancestral territories. This dichotomy partly explains international law’s

Vienna Conference first made the call for the establishment of a *Permanent Forum* for indigenous peoples within the framework of the United Nations.

⁷⁶ The Soviet block and the Americas championed the salt-water or blue-water thesis to oppose the application of Chapter XI of the UN Charter and its empowering resolution 1514 (XV), 1960 for the granting of independence to colonial countries and peoples to the indigenous peoples in their territories. It is based on a distinction between overseas possessions from “internal fusions of indigenous and immigrant populations”. The argument is that this distinction is very important to avoid the dismemberment of virtually of all the states in the world. Therefore, it was feared that an interpretation of chapter XI of the UN Charter and the so-called Charter of Decolonisation (Res 1514 (XV)) that does not take the salt-water thesis into consideration would create anarchy in the international order. It is perhaps in the basis of the salt-water thesis that the implementation and interpretation of chapter XI was qualified to eschew any attempt aimed at the “partial or total disruption of the national unity and the territorial integrity of a country”. See G.A Res. 3429, UN GAOR, 30th Sess., Supp. No. 34, UN Doc. A/10427 (1975) 113; see also Russel Lawrence Barsh, “Indigenous North America and Contemporary International Law” (1983) 62:1 Oregon Law Review 73 at 84-90, see also *supra* note 32, and accompanying text.

narrow conceptions of indigenous peoples and, to some extent, the imprecision associated with the term. Also the notion of third and fourth world peoples is premised on the dichotomy of the salt-water thesis.

Based in part on the above ambiguity most countries of the Third World deny the existence of indigenous peoples within their countries. At best, they have remained ambivalent about it. In many of those states, European powers brought together previously autonomous traditional entities and consolidated them into a state.⁷⁷ The peoples were then subjected to the experiences of colonization. Nevertheless, independence did not make them any less indigenous than their counterparts in the enclave territories. Neither did it end the fact of domination.⁷⁸ Indeed colonization and domination are not exclusive Western phenomena. There is no gainsaying however that the questions of cultural identity, land claims and all the benefits of self-determination very central to indigenous peoples in the enclave territories appear to be of limited concern to indigenous peoples of the Third World. Those are perhaps the marked distinctions engendered by independence. In so many other respects, the plights of indigenous peoples are the same globally.

3.2.6.2 Decolonisation in the *Enclave Territories*

The salt-water principle challenged the resolve of indigenous peoples of the enclave territories in mainly non-Third World locations. Specifically, those are the indigenous peoples of particularly clear settler states such as Argentina, the United States, Canada, New Zealand and Australia. Others are indigenous peoples in those countries especially in most of Latin America and parts of Central America, including Mexico where colonialism brought about mixed-blood national populations. In Europe, the phenomenon of indigeneity arose from the absorption of weaker neighbours by stronger

⁷⁷ For example, Nigeria, Indonesia and India.

⁷⁸ Along these lines Belgium championed the application of Chapter XI articles 73 and 74 of the United Nations Charter titled "Declaration Regarding Non-Self Governing Territories" to a broad range of colonized peoples in the world. According to Belgium, underdeveloped peoples of the world shared similar problems whether in the Americas, Asia or Africa. Indeed more than half of the United Nations member states have indigenous peoples, even though as of 1952 only eight of those had committed to administering states in accordance with chapter XI provisions. In the long run, Belgium did not prevail. Others, especially Soviet and Latin American states favoured the restriction or application of chapter IX to instances of overseas colonisation. They rejected the characterisation of the indigenous groups as non-self-governing, arguing that they were fully integrated politically. See Russel Lawrence Barsh, *supra* note 76 at 85.

states in a process of expansion. The Ainu in Japan and the Saami in Norway, Sweden, Finland, and Russia are acknowledged as indigenous peoples. These categories were excluded from the decolonization of the external colonies. Hence some of them especially those in Australia, Canada, New Zealand and the United States championed the decolonisation from within. In addition, by their concerted effort the indigenous question has remained on the front burner of international law.

3.2.6.3 Networking and Mobilization

Through national and international mobilization efforts, and strong networking, indigenous communities in the Americas, Canada, Australia, New Zealand and Europe demanded accountability from their national governments. Indigenous leaders in those countries galvanized international consciousness regarding the plight of indigenous peoples. They formed a number of national and international non-governmental organizations.⁷⁹ Those movements capitalized on the United Nations' disposition toward the accommodation of non-state actors in the international process. Without delving deeply into the history of this prolonged struggle, the build-up to the setting up of the UNWGIP is a pointer to how effective indigenous peoples especially of the enclave territories have become in shaping or influencing the international process.

Through the efforts of the proliferating non-governmental organisations, which are devoted to indigenous causes, indigenous peoples won the sympathy of some states notably Belgium, France, Denmark, Norway and the Netherlands. In addition to the dramatic events that led to the setting up the Cobo *Study on the Problem of Discrimination Against Indigenous Populations*, the strong support of the Dutch head of the United Nations Human Rights Centre, Theo Van Boven, and that of some European

⁷⁹ Among the Pioneer indigenous support organizations are: the International Work Group on Indigenous Affairs (IWGIA), Copenhagen; Survival International, London. Some pioneering international indigenous organizations include the Canada-based World Council of Indigenous Peoples (WCIP), the US-based International Indian Treaty Council (IITC). In the contemporary time, the following indigenous interest organizations or initiatives have been active participants in the indigenous question: The Indian Law Resource Centre—a public interest law firm, the Four Directions Council, the National Indian Council, National Aboriginal and Islander Legal Services Secretariat, National Indian Youth Council, Inuit Circumpolar Conference, (ICC) the Indian Council of South America, Sami Council, Indian World Association, International Organization of Indigenous Resource, Grand Council of the Crees, Indigenous World Association. The list is endless. See Lydia van de Fliert, ed., “The Institutions of the European Union and Indigenous Peoples” in *Indigenous Peoples and International Organisations* (Nottingham: Spokesman, 1994) at 197-201.

states were instrumental to the establishment of the UNWGIP.⁸⁰ Added to the support of the Organisation of American States, indigenous peoples attracted the collective interest of European Union states to their causes as well. Since late 1980s, the European Union has adopted a number of resolutions on the violation of indigenous peoples' human rights.⁸¹ Also, the EU has on occasions directed its resolutions and actions to specific indigenous peoples or situations.⁸² Nowadays, it is safe to say that "[i]ndigenous peoples have increasing support worldwide, in the heartland and capitals of the conquering nations".⁸³

International developments on indigenous issues are indicative of the hard work of indigenous peoples. Their active participation in the work of the UNWGIP leading to the Draft Declaration is widely noted. Similar involvement of indigenous peoples' organizations in different international forums and negotiations testifies to the fact that international developments on indigenous issues is indicative in part of the hard work of indigenous peoples. Among the very many areas of indigenous impact, the Rio sets of international environmental agreements are perhaps most notable.⁸⁴ The active participation of indigenous peoples confers legitimacy on a number of international initiatives directed at the indigenous question.

⁸⁰ Indigenous Peoples in Comparative, *supra* note 41 at 28.

⁸¹ Lydia van de Fliert, writes that "[d]uring the period 1988-1993, the European Parliament drew up 28 reports and resolutions in which indigenous peoples were specifically mentioned or in which situations were addressed which directly affect them". See Lydia Van de Fliert, *supra* note 79 at 15.

⁸² Specific resolutions of the European Parliament have been directed to indigenous peoples' plights in Penan, Mutang, Kelabit and Keyan; in Sarawak (Malaysia), Yanomami and Awa Guaja in Brazil, Inuit in Canada, Tuareg in Mali and Niger, Nuba in Sudan. See van de Fliert *ibid.* for more details. Some of the resolutions were followed up with some intervening actions. For instance, European Parliament Resolution on the Situation of the Indigenous Peoples in Canada (Doc. B3-1659/90. OJ C260, 13 September 1990). This resolution was directed at the Oka/Kahnawake crisis. The Municipality of Oka in Quebec decided to expand its golf course by annexing a portion of land which the indigenous Mohawk claimed to be their traditional burial grounds. In the resolution directed to the Oka/Kahnawake crisis, the European Parliament urged parties to cease hostilities. But most important for the present purpose, it resolved in addition to other things that its "Delegation For Relations with Canada send observers to Quebec and enter the Mohawk question on the agenda for the next interparliamentary meeting". On the basis of this resolution Canadian Indigenous delegates visited the Inter-Parliamentary Delegation For Relations with Canada of the European Union on October 1990. On January 13-18 1991, the Inter-Parliamentary delegation visited Montreal, Ottawa and some Mohawk communities on a fact-finding mission. See Fliert, *supra* note 79 at 17-18.

⁸³ See Rights and Status, *supra* note 30 at 79.

⁸⁴ See *infra* note 217.

3.2.7 State Practices: Sanctioning Indigenous Claims

Another legitimating attribute of international indigenous initiatives can be traced to the practice of states. Legal and political developments in many of the states with indigenous populations point to a willingness on the part of states to address aspects of indigenous question as a matter of legal obligation, both domestically and internationally. However, the positive posturing of states toward indigenous causes may not necessarily reflect the desired improvement in the realities within the indigenous world. States are wont to make policy proclamations consistent with the tide of international and public opinion but often fall short in terms of implementation. Nonetheless, indigenous strides in international law are inextricably linked to developments within states and *vice versa*. By the time indigenous issues became entrenched at the United Nations through the newly inaugurated Forum, the five key indigenous issues identified by publicists had become *recognized* by states as a matter of *opinio juris sive necessitatis*. There is hardly any state today that wants to be cited as opposed to those basic indigenous claims.⁸⁵ In the following pages I examine the increasing responsiveness to indigenous causes within states as evidence of state practice regarding international law on indigenous peoples.

3.2.7.1 The United States

Despite its ambivalent relationship with its native peoples, the United States has recorded notable responses to indigenous claims. The federal government since 1871 froze the practice of concluding treaties with Indians. This was designed to halt continued appropriation of native lands. In keeping with the established trend, it has dispensed with the policy of forced assimilation. Indian self-determination is now an official policy of the federal government under an arrangement of government-to-government relationship between Indian nations and the government of the United States.

In response to the demand of the natives for the preservation of their cultural identity a number of laws have been put in place. Notable among them are The Native American Languages Act, and the Native American Graves Protection and Repatriation

⁸⁵ For instance, no country is on record as voting against the ILO Convention 169; none voted against the OAS Declaration on the Rights of Indigenous People.

Act, both of 1990. Wiessner enthuses that these “are examples of Congress’ growing sensitivity towards issues of Indian self-preservation and self-determination”.⁸⁶ On judicial developments, the overall impression is that the natives have not enjoyed as much support from the Supreme Court as they have with the Congress and the executive.⁸⁷ The alliance between the Congress and the executive on the native issues is indicative of a consensus that a political approach is more effective in addressing the native question.

3.2.7.2 The Canadian Experience

In Canada, the Royal Proclamation of 1763 recognized Indian territorial rights as “pre-existing”. Virtually all land transfers were transacted under one form of treaty or another.⁸⁸ Ironically, those treaties were honored more in their breach. Nonetheless, beginning from the 1970s, events were to take a different dimension. In *Calder v. Attorney General for British Columbia*,⁸⁹ the Supreme Court of Canada came close to endorsing aboriginal land claims. Three judges upheld the Nisga'a Indians’ claims to the ownership of their traditional territories. The other three held that colonial law extinguished the aboriginal title without compensation.⁹⁰ A seventh judge was to resolve

⁸⁶ Rights and Status, *supra* note 30 at 64.

⁸⁷ Save for *Worcester v. Georgia*, earlier decisions of the Supreme Court have supported tribal sovereignty of Native Americans. However, recent decisions are indicative of a retreat from the tune of tribal sovereignty on the part of the Supreme Court. Often cited is the famous case of *Employment Division, Department of Human Resources v. Smith*, 494 U.S. 872 (1990) in which the court declined to avail Indians an exception from anti-drug laws which would have allowed them to smoke *peyote* as part of their religious ceremony in the exercise of their First Amendment rights. Not pleased with this holding, the Congress via the Religious Freedom Restoration Act of 1993, 42 U.S.C. 2000bb (1993) sought to overrule the Supreme Court. In *City of Boerne v. Flores*, 117 S. Ct. 2127 (1997) the Supreme Court invalidated aspects of the RFR Act on the basis that it amounted to interference with the Court’s constitutional power to interpret the constitution.

⁸⁸ In *R. v. Syliboy*, [1929] 1 D.L.R. 307 for instance, the Court held that Indians were not independent powers and as such were incapable of concluding a treaty. See also *R. v. George*, [1966] S.C.R. 267.

⁸⁹ [1973] S.C.R. 313.

⁹⁰ The six justices were in agreement in holding that at the time of first contact with the Europeans, the Nisga'a had aboriginal rights they claimed and that the rights derived from their occupation of the ancestral territories which predated European contact. However, the justices were split evenly on whether the Royal Proclamation included Nisga'a territories within its geographical coverage. More importantly, on whether the general legislation extinguished aboriginal title or whether a specific legislation was required to do so, the justices split three-three. See Michael Asch, “From *Calder* to *Van der Peet*: Aboriginal Rights and Canadian Law, 1973-96” in Paul Havemann, ed., *Indigenous Peoples’ Rights in Australia, Canada & New Zealand* (Auckland: Oxford University Press, 1999) 428 at 431.

the tie by dismissing the native appeal on procedural grounds.⁹¹ Significantly, *Calder* served as a notice to the government regarding the direction that the Supreme Court was headed on the question of aboriginal title.⁹² Almost twenty-five years later, in *Delgamuukw v. British Columbia*,⁹³ the sanctity of aboriginal or native title appears settled in contemporary Canadian jurisprudence.

By the constitutional initiative of 1982, Canada further entrenched aboriginal claims with a constitutional seal. Specifically, Sections 25 and 35 of the Canadian Charter of Rights and Freedoms give special protection to peculiarly aboriginal rights, while saving and affirming the “existing aboriginal treaty rights” of Canada’s indigenous peoples. Subsequent judicial decisions on the indigenous question have advanced the constitutional guarantees in the Charter.⁹⁴

Evidence of growing sensitivity to indigenous claims abounds in Canada. Treaty making with First Nations has been ongoing since 1973, the year it was restored. Since then a number of treaties have been completed. In all of these the goal of enlarging aboriginal self-government have been at the forefront. In 1999, for instance, Canada blazed a trail when it split its Northwest Territories into two, and created the Territory of Nunavut. This was a consequence of Nunavut land claims. The Inuit First Nation peoples of Canada form 85% of the Nunavut population. The territory of “Nunavut constitutes the farthest ranging Canadian recognition yet of claims to aboriginal self-government...”.⁹⁵ It perhaps represents a model for those states which still have a phobia of indigenous claims to self-determination.⁹⁶

⁹¹ The seventh judge, Pigeon, J, ignored the substantive question i.e. the effect of general legislation on aboriginal title. Instead he dismissed Nisga'a action as incompetent. He found that in view of the absence of legislation allowing a suit against the Crown, such action could not be maintained against the Province of British Columbia.

⁹² As late as the early 1920s, the Privy Council held, in a Nigerian case, that a colonial treaty of cession did not extinguish traditional or customary claims to land. In the court’s opinion, the treaty of cession does not imply that the territorial lands were divested as to extinguish the rights of traditional or customary claimants. Change in sovereignty over a territory does not extinguish the rights of private persons and owners of land. See *Amodu Tijani v. Secretary of Southern Nigeria*, [1921] 2 AC 399.

⁹³ (1997), 3 S.C.R. 1010; see also Stan Persky, The Supreme Court of Canada Decision on Aboriginal Title: Delgamuukw (Vancouver: Greystone Books, 1998).

⁹⁴ See, for example, *Delgamuukw*, (overruling *Syliboy*); see also *Sparrow v. R.*, [1990] S.C.R. 1076.

⁹⁵ Rights and Status, *supra* note 30 at 69.

⁹⁶ See Jeffrey Wutzke, “Comment: Dependent Independence: Application of the Nunavut Model to Native Hawaiian Sovereignty and Self-determination Claims” (1998) 22 *American Indian Law Review* 509-566. Canada’s Nunavut initiative is, however, not an isolated case. Among countries that have granted a degree of autonomy to indigenous peoples are Australia (the region of the Northern territories), Denmark and

3.2.7.3 Australia

In Australia, state practices and other developments are not different from the global trend. Australia did not have a tradition of treaty relationship with its aboriginal peoples.⁹⁷ The *terra nullius* doctrine was the basis of British acquisition or appropriation of native Australian lands. Based on the ethnocentric and self-serving premise that the native inhabitants of these lands lacked *laws*, the only law that determined the allocation of rights over those lands was the common law introduced by European settlers. Without any *recognizable* legal system among the natives, their lands were regarded as *no man's land*. For all practical purposes, they were unoccupied. The courts continued to lend their support to the idea up to as late as 1973.⁹⁸

However, the *Mabo* decision in 1992⁹⁹ heralded a radical reversal of the Australian aboriginal land claims. The court held that where a native title was not extinguished, the natives were entitled to their traditional lands in accordance with their customary regimes. In rejecting the *terra nullius* argument, the Court, per Brennan, J., held that such denials of native title amounted to “discriminatory, denigration of indigenous inhabitants, their social organizations and habits”.¹⁰⁰ Thus, *Mabo* championed a radical perspective of outright rejection of the self-serving *terra nullius* doctrine.

One significant aspect of the reasoning in *Mabo* is its sufficient grounding in contemporary international law and comparative jurisprudence. Commenting in this vein, Wiessner observes:

In its recasting of the common law, emboldened by the 1986 Australian Act, the court squarely relies on the inspiration of international law, in particular the United Nations Covenant on Civil and Political Rights and its prohibition of unjust discrimination.¹⁰¹

Finland (in the autonomous areas of Greenland, Aland and the Faroe Islands). Other countries include Nicaragua, New Zealand, Panama, and the United States of America. See Erica-Irene Daes, “The Concepts of Self-determination and Autonomy of Indigenous Peoples in the Draft United Nations Declaration on the Rights of Indigenous Peoples” (2001) 14:2 St. Thomas Law Review 259 at 268.

⁹⁷ Rights and Status, *supra* note 30 at 72; see also Bradford W. Morse, Aboriginal Self-Government in Australia and Canada (Kingston, Ontario: Institute of Government Relations, 1984) 7-8.

⁹⁸ See for instance, *The Seas and Submerged Lands Case, New South Wales v. The Commonwealth* (1975), 135 C.L.R. 337.

⁹⁹ *Mabo v. Queensland* (1992), 107 A.L.R. 1.

¹⁰⁰ *Ibid* at 39; see also Rights and Status, *supra* note 30 at 72.

recommendations”.¹⁰⁷ The revived Waitangi Treaty concept as amplified by the Tribunal is now the blueprint with which the government of New Zealand seeks to address indigenous land claims and the quest for self-determination.¹⁰⁸ The work of the Tribunal continues to influence aboriginal jurisprudence and policy in New Zealand at all levels of government and public administration. Indeed, the New Zealand High Court has described the Tribunal as “the fabric” and “foundation” of the New Zealand society.¹⁰⁹ In relation to the emerging jurisprudence, the court relies on the Tribunal’s expertise on the cultural and spiritual values of the Maori.

3.2.7.5 The Americas

In the Americas, there are huge indigenous populations and their history is not different from the foregoing. The trend toward a more tolerant regime of accommodation of various indigenous claims including quests for self-determination remains the hallmark of state practice. A cursory mention of some notable developments in a few of such countries will suffice.

In Brazil, pressure from the Inter-American Commission on Human Rights prompted the 1988 constitutional reform. The central plank of that constitutional change is the preservation of Indian land rights, and their cultural, linguistic and spiritual values. Since 1992, Brazil has been involved in an often-checked policy of demarcation and registration of Indian lands.¹¹⁰

¹⁰⁷ Rights and Status, *supra* note 30 at 71.

¹⁰⁸ See Gnm, *supra* note 104. Although Maori rights are enshrined in the 1840 Treaty of Waitangi, and they now enjoy statutory recognition under the 1975 Treaty of Waitangi Act, there is no constitutional recognition of Maori indigenous rights under New Zealand’s unwritten constitution. See Paul Havemann, “Comparing Indigenous Rights in Australia, Canada and New Zealand: Some Signposts” in *Indigenous Peoples Rights in Australia, Canada and New Zealand*, *supra* note 90 at 9.

¹⁰⁹ See Rights and Status, *supra* note 30 at 71 referring to the High Court of New Zealand in *Huakina Trust v. Waikato Valley Authority*, [1987] 2 N.Z.L.R. 188. The Rt. Hon. Gnm, the Chief Justice of New Zealand writes: “it is accepted in recent cases that the Treaty of Waitangi cannot be regarded as just another Treaty. It is the foundation of New Zealand”. See *supra* note 104 at 625.

¹¹⁰ By virtue of Decree No. 25 of 25 May 1992, President Collor de Mello ordered the demarcation of about 10m hectares of Yanomami territory. Following his impeachment in December of that same year, a new Decree No. 1775 of 8 January 1996 empowered industrial interests to challenge the boundaries of yet to be demarcated Indian territories. Despite the stalling effect of that decree, subsequent policies and laws continued to pursue the demarcation and registration of Indian lands in the spirit of the 1988 constitutional and policy outlook of the federal government.

Columbia's 1991 constitution¹¹¹ is unique not only on the basis of its indigenous-friendly orientation, but also more importantly, because of indigenous participation in the constitution-making process. That constitution abandons the integrationist approach, and broadens the scope of indigenous cultural, political, economic and judicial self-determination.¹¹² In addition to expanding indigenous political representation, it also recognizes indigenous courts,¹¹³ languages,¹¹⁴ and the rights of indigenous peoples to exploit the natural resources within their territories.¹¹⁵

Recent developments in Venezuela indicate the determination of the court not to brook the erosion of the 1961 constitutional guarantee of special protection of indigenous peoples.¹¹⁶ In Ecuador,¹¹⁷ Peru,¹¹⁸ Bolivia,¹¹⁹ Chile,¹²⁰ Paraguay¹²¹, Belize¹²², and Mexico,¹²³ Nicaragua,¹²⁴ and Guatemala,¹²⁵ state practices, policies and constitutional

¹¹¹ See *Gaceta Constitucional No. 127, October 1991*.

¹¹² See arts. 246, 286, 321, & 329.

¹¹³ *Ibid.* arts. 246, 330.

¹¹⁴ *Ibid.* art. 159.

¹¹⁵ *Ibid.* art. 330.

¹¹⁶ An attempt by The Legislative Assembly of the federal state of the Amazonas to reorganize the political structure of the state was invalidated by the Supreme Court for not considering the legitimate interest of the indigenous peoples in that state in accordance with article 77 of the 1961 constitution's provision for the principle of special protection of indigenous communities.

¹¹⁷ The report of the Inter-American Commission on Human Rights in 1997 shows a deliberate strategy of exclusion of ten indigenous groups in that country by the ruling elite, in a bid to sustain a facade of monolithism. Even though they form 30-40% of the country's population, the indigenous peoples are classified as minorities. Since 1986, indigenous organizations have mobilized in the pursuit a plurinational society that guarantees their right to self-determination.

¹¹⁸ Consistently, constitutional developments in Peru since the 1920s protect communal lands and accord official recognition to indigenous communities. The 1979 constitution however marks the climax thus far of indigenous internal autonomy, recognition of language rights, and cultural identity.

¹¹⁹ Said to be the most indigenous of all countries in the Americas with indigenous population at 55%, indigenous political empowerment started in 1953 when the native Bolivians secured voting rights. In 1991, Bolivia signed the ILO Convention No. 169 leaving no doubt about that country's commitment to indigenous protection in accordance with the Convention. The 1994 constitution officially designated Bolivia a *multicultural* and *pluricultural* society. It confers indigenous peoples rights over the ownership of their traditional or ancestral lands.

¹²⁰ After many years of denial, neglect and non-recognition, the tiny indigenous Chilean Mapuche population (4.2% of Chile) has attained a watershed in their desire for recognition. In 1993 a new piece of legislation, the *Ley Indigena* confers recognition to Chilean indigenous peoples including the right to cultural identity, ancestral lands, and self-determination.

¹²¹ The Inter-American Human Rights Commission was instrumental to a settlement agreement between Paraguay and Tierra Viva, an indigenous organization for the return of nearly twenty thousand hectares of land to the indigenous communities of Lamexay and Riachito. See Rights and Status, *supra* note 30 at 85.

¹²² As in Paraguay, the Inter-American Commission on Human Rights mediated the indigenous challenge against the government for granting logging concession in Maya ancestral lands. See Rights and Status *ibid.* at 86.

¹²³ The Mestizo ("offspring of a Spaniard and an American Indian") *indigenous* population constitutes 85% of the Mexican population. See *ibid.* at 87-88 & n. 215. They have tenaciously pursued the case for their

Saami constitute an indigenous population there are concerted efforts to meet their aspiration to self-determination, autonomy, ancestral land rights and cultural preservation. In this regard, Norway, Sweden and Finland have each established a parliament for the Saami in order to sustain their distinct identity and self-government.¹³⁵

3.2.7.8 Indigeneity in Africa

The question of indigeneity is more complex in Africa than in the Americas, Europe, and elsewhere. This is so because generally, African states are not clearly monolithic in their composition. Again, the exclusion of enclave territories from decolonisation through the salt-water doctrine helped remove attention from the question of indigeneity in Africa. African countries were without doubt non-self-governing territories. Thus, it was beyond question that they were entitled to decolonisation. Therefore, in Africa the indigenous question was not directly at issue or otherwise a priority in international understanding at the time. Furthermore, the pattern of state formation in Africa did not help matters. European powers undermined natural boundaries of traditional societies by merging or partitioning them arbitrarily under the *alien* concept of the Westphalian state. In this arrangement, the question of indigeneity is hardly a simple one.

However, there are today notable flashpoints of indigenous discourse in Africa.¹³⁶ Often mentioned are the pastoral Maasai of Kenya, the !Kung of the Kalahari Desert, the Pygmies of the Congo, the Tuareg of Mali and Niger, the Nuba of Sudan, and lately the Ogoni of Nigeria. In all of these cases the antecedents are not as clear-cut as they are in the Americas, Northern Europe, Japan or Australasia.

In Africa, the question is perhaps one of how to isolate the non-indigenous. A critical re-examination of the indigenous label may point to the view that only few groups in Africa are non-indigenous. Independence or decolonisation did not make Africans less

Rights and Status, *supra* note 30 at 92; see also Hugh Beach, "The Saami of Lapland" in Minority Rights Group ed., Polar Peoples: Self Determination and Development (London; Minority Rights Publications, 1994).

¹³⁵ Wiessner writes that: "Following the recommendations of National Sami Rights Commissions, Norway, Sweden, and Finland each created a Sami parliament, a *Sameting*"; see Rights and Status, *supra* note 30 at 94.

¹³⁶ See generally Alice Metens, South West Africa and Its Indigenous Peoples (London; Collins; New York: Talinger, 1966/7).

indigenous than their counterpart in the enclave territories. Claimants to indigeneity in Africa are at liberty to exercise the right to self-identification as indigenous peoples. Nonetheless, they may not be able to exclude many other local nationalities, which are prima facie indigenous. Yet, some of the claimants to indigeneity who are clearly minorities resort to playing the *indigenous card* in order to attract global attention especially in the battle for resource control and environmental accountability. Even though indigeneity often coincides with minority claims, the point should not be lost that peculiarly indigenous claims go beyond minority rights. Thus, the preference for indigenous claims under the title of minority rights indicates the efficacious nature of international concern over the indigenous question.

International responsiveness to indigenous concern constitutes a standard for the treatment of claimants to indigeneity in Africa. It does not matter that the question of indigeneity remains complex and indeterminate. For instance, since the displacement of pastoral Maasai of Kenya from their hunting and unique traditional lifestyle became a subject of international interest,¹³⁷ the Kenyan government has strived to mitigate the Maasai plight in response to international norms. In Nigeria, it is arguable whether the Ogonis could claim to be indigenous to the exclusion of all other neighbouring nationalities in Nigeria's Niger Delta. However, the Ogonis have helped in no small measure in drawing international attention to the inequity in that country's natural resource regime. Under that regime, resource-bearing communities do not effectively partake in Nigeria's abundant petroleum wealth.¹³⁸ Nonetheless, they bear the direct brunt of environmental hazards of petroleum exploration on their ancestral lands. Although a far cry from the expectations of mainly minority resource bearing communities of the Niger Delta and the Southeast, a federal constitution of 1999 has entrenched a derivation formula. Under this constitutional arrangement, 13% of the national oil revenue is dedicated to resource-bearing states. In addition, a special government agency, the Niger Delta Development Commission, is now empowered by an

¹³⁷ For a historical perspective on this "uniquely indigenous" people see Joy K. Asiema & Francis D.P. Situma, "Indigenous Peoples and the Environment: The Case of the Pastoral Maasai of Kenya" (1994) 5 *Colorado Journal of International Environmental Law and Policy* 149 (the same material is reproduced in Endangered Peoples: Indigenous Rights and the Environment (Colorado: University Press, 1994) at 149).

Act of Parliament to address the plight of oil producing communities. Indeed, irrespective of the ambiguity over the question of indigeneity, no state today in Africa and elsewhere can afford to ignore the need to address basic indigenous demands.

3.3 International Law On Indigenous Peoples: Publicists' Perspectives

The trend in state practice analyzed in the above sections is part of the multi-judicial processes at play in indigenous discourse. In the following section, I will analyze the perspectives of publicists with regard to the idea of international law on indigenous peoples as yet another aspect of that process. Scholarly writings and opinions constitute a recognized source of international law. Additionally, however, in the present context, they also reflect analyses, syntheses and conclusions on the question of international law on indigenous people from its multiple juridical sources. As will become clear in subsequent analysis, conclusions reached are cognizant of the weight and juridical status of the multiple sources examined by the publicists. The debates focus substantially on customary international law (always the debated part), however, they do not foreclose discourse about the treaty aspect.

The perspectives of publicists on the status of international law on indigenous peoples have generated a substantial body of recent writings. The increase in the volume of writing and academic exchange in this area is a reflection of events from 1982; the year the U.N. set up the Working Group On Indigenous Peoples. Ten years later, 1993 was proclaimed the International Year of indigenous Peoples. That same year, the UNWGIP completed work on the Draft Declaration. Subsequently, the U.N. proclaimed the extant decade (1995-2004) that of decade of indigenous peoples. In consequence of these and other developments, international law scholars have been following and analyzing the indigenous renaissance especially in the latter part of the last century to the present time. It is a period when the indigenous resurgence seems to have reached its historical peak, at least for the time being.

¹³⁸ The bulk (but not all) of Nigeria's oil comes from areas of minority population whose ethnic nationalities are different from Nigeria's three main ones.

3.3.1 Indigenous Claims as *Sui Generis*

Amongst scholars, there is a consensus that indigenous issues are not fully accommodated by the existing international law on human rights.¹³⁹ The UNWIP is premised partly on the understanding that existing human rights standards, apart from being “not wholly adequate”, are “not fully applied” to indigenous peoples.¹⁴⁰ Thus, there was a need for a declaration which will lead to a convention on indigenous rights. In fact, it is safe to say that it is this reality that has given rise to an entirely new jurisprudence on indigenous peoples.

3.3.2 Morality and Legality of Obligations

The consensus over the inadequacy of any relevant international law mechanisms affecting indigenous rights does not extend to the status of international legal developments on indigenous issues. The debate is whether the identified indigenous claims have attained the status of *opinio juris*,¹⁴¹ that is, whether there is a consensus amongst states that they are under obligation to recognize certain indigenous claims as binding customary international law.¹⁴² A critical observation of the debate from the 1980s to the present time indicates that there is greater support over the notion of existence of *opinio juris*. A subtly different position is that all developments concerning indigenous issues are normative. Consequently, those who share this view argue that states are inclined to obey them on basis of moral as opposed to legal obligation. Nonetheless, responsive and bold state practices seem to weaken this position. In

¹³⁹ This is the fundamental reason for the Cobo study, a project which was to shape the direction of international law on indigenous peoples.

¹⁴⁰ See Barsh, *supra* note 46 at 371; see also UN Doc. E/CN.4/Sub.2/Add.8, paras. 624, 625, 628, Emerging Norm, *supra* note 39 at 153. The most important study on indigenous people commissioned by the United Nations was based on this understanding. The Jose Martinez Cobo Report recommended the setting up a United Nations Working Group on Indigenous Peoples. The Working Group was saddled with the task of working on a declaration.

¹⁴¹ *Opinio juris* refers to conduct of a state emanating from the latter's belief that it is under an obligation or that it is legally bound to act as it has done or as it does. It is important to determine what the state believes was/is the basis of its conduct before a determination can be made regarding the existence of customary international law. Practically, this is a very difficult task as there is no consensus as to how this determination can be made.

¹⁴² In a recent article, Kingsbury adopted a very different perspective on this inquiry. He sets out to investigate “whether a new legal category of claims of indigenous peoples has been established, and if so, what is its justification, structure and significance?” His approach, however, is not concerned with doctrinal

addition, international jurisprudence appears to undermine the putative divide between moral and legal subjectivities upon which the normative theory is cast.¹⁴³

3.3.3 Historical Accounts: Emphasis on Procedure and Process

Earlier commentaries focus on international law-making processes of the treaty type. Therefore they dwell on the chronological order of international developments on the indigenous question. Such commentaries draw a comparison between the decolonization process in the Third World, by general reference to the so-called U.N. charter of decolonization, i.e. Resolution 1514 of 1960¹⁴⁴ and the work of the UNWGIP. They emphasize an aspect of UNWGIP mandate, which is to raise a draft declaration that will be officially adopted by United Nations General Assembly.¹⁴⁵ The idea is that just as Resolution 1514 constituted a general reference to decolonisation in the Third World, so would be the eventual effect of the UNWGIP work in relation to indigenous peoples.¹⁴⁶ This would happen when the UNWGIP draft is adopted as a resolution of the General Assembly.¹⁴⁷ The expectation is that basic rights of indigenous peoples will be attained by a declaration, supported by governments.¹⁴⁸ It is the hope of commentators that such a declaration will have stronger binding or more persuasive effect,¹⁴⁹ and will eventually

analysis, or political assessment. His approach is strictly conceptual. See Conceptual Structure, *supra* note 43 at 192.

¹⁴³ See Anaya, *supra* note 5 at 55-6.

¹⁴⁴ See *supra* note 31 and accompanying text.

¹⁴⁵ Ironically, this was not in the original mandate of the UNWGIP. Canada and many indigenous organizations objected to how the UNWGIP was conducting aspects of its original mandate which required it to do a comparative study of indigenous situations all over the world with a view to appraising the evolution of standards concerning the rights of indigenous peoples. Canada had accused the UNWGIP of collecting raw data without doing adequate analysis. The UNWGIP consequently had its mandate adjusted in 1985. It was in addition to the original mandate asked to “consider the...drafting of a body of principles on indigenous rights based on relevant national legislation, international instrument and other juridical criteria”. See Barsh, *supra* note 46 at 372.

¹⁴⁶ On the appeal to the logic of decolonisation as an unfinished business, see Conceptual Structures, *supra* note 43 at 219.

¹⁴⁷ This is so even if it does not become a Convention, and better still, if it becomes one. Barsh seems to agree with the view that “a declaration, alone, if well crafted and supported by governments, could achieve as much as a binding instrument”. See *supra* note 46 at 379; see generally Emerging Norm, *supra* note 37.

¹⁴⁸ See Barsh, *supra* note 46 at 378-379.

¹⁴⁹ However, Keith Nunes rightly argues that declarations, through their implementations can become part of customary international law. See *supra* note 8 at 554; see also Myres S. McDougal, Harold D. Lasswell & Lung-Chu Chen, Human Rights and World Public Order: The Basic Policies of An International Law of Human Dignity (New Haven, Conn.: Yale University Press, 1980) at 180.

become a convention. But before then developments on the indigenous frontier are perceived mainly as norms with moral as opposed to legal consequences.

Yet another feature of the early commentaries is to trace the pattern of an indigenous normative regime. That regime has been in continuing evolution for decades. Hence, this approach views the issues as a study in progress. As such, there is a hesitation to make definite proclamation on the status of international legal developments on indigenous peoples. From such perspectives, indigenous issues were generally conceived as “emerging”.¹⁵⁰

3.3.4 The Normative Thesis and Morality of Obligation

In a seminal 1991 article Torres Riadza decided to confront the question directly. She argues that international developments on indigenous peoples have emerged as a normative regime. Indeed there is, according to her, a non-binding moral obligation among states to respect the norms that have emerged concerning their dealings with the indigenous *population*. According to Wiessner, Torres may have felt that “the argument for concrete customary international rights could not credibly have been made at the time”¹⁵¹ she wrote. Torres argues that the effects of the proliferation of domestic and international declarations, studies, working groups and state practices dealing with indigenous concerns is to “demonstrate an emerging norm”¹⁵² in the protection of cultural,

¹⁵⁰In 1983 Douglas Sanders wrote about the “re-emergence of indigenous question in international law”. See Douglas Sanders, *supra* note 5 at 3. In 1986 Russel L. Barsh wrote about “indigenous peoples as emerging objects of international law”. Barsh’s work under reference is a status account of developments on the indigenous issues, but it depicts the thinking of participants at the sessions of the UNWGIP whose dominant orientation was based on treaty making process. See *supra* note 46 at 379-379. In 1994, he (Barsh) queried whether indigenous peoples have since shifted from objects to subjects of international law. See Russel Lawrence Barsh, “Indigenous Peoples in the 1990s: From Object to Subject of international Law?” (1994) 7 Harvard Human Rights Journal 33. This paper reviews international and regional institutional initiatives concerning indigenous peoples. The relevant interest it has here is its adoption of law-making process approach in line with Barsh’s earlier account of developments on indigenous question including the expectation from the deliberations at the UNWIP in 1986. Generally, Sanders and Barsh were concerned with tracing the strides recorded at that time in international law on the subject they rightly considered *emerging*.

¹⁵¹ See Hardened Norm, *supra* note 48 at 303.

¹⁵² Torres defines international norm as “a pattern of authorized communication and acts on the part of international organizations and states. A norm includes, and is largely determined by, the enunciation and recognition of a given set of standards by authorized international bodies and agencies such as the United Nations”. See Emerging Norm, *supra* note 39 at 145. Although norms may not be binding, so long as “[e]nough states and international bodies have accepted the norm, a country will most likely incur some costs when it violates that norm” *ibid.* at 146, citing W. Michael Reisman, “International Law Making: A Process of Communication” (being an address at Lasswell Memorial Lecture delivered at the Annual

land, welfare, and self-determination rights within the particular context of each aboriginal group".¹⁵³ In her words, a norm does not "require absolute compliance with a given rule, and that international system often lacks compulsory mechanisms for implementation".¹⁵⁴ Moreover, because the emergent or emerging norms lack any specificity or details, states are the determinant of the extent to which they are inclined to conform to an indigenous norm. Such determination will be tempered by the particular local and historical contexts in each state.

3.3.5 *Opinio Juris*: Core Consensus on Indigenous Claims

Five to ten years after the Torres' thesis,¹⁵⁵ the school of thought it echoed was subjected to a thorough reappraisal. In 2000, Wiessner directly responded to Torres,¹⁵⁶ indicating that Torres may have been right in her conclusion to the extent that she focused exclusively "on the work of the media, scholarly studies, and international non-binding declarations".¹⁵⁷ Those efforts, Wiessner contends, translated to intelligence gathering, advocacy or promotion of indigenous preferences. According to him, Torres undermined actual prescriptions, authoritative and controlling responses to indigenous claims. On those counts, Torres ignored the 1989 ILO convention No. 169, which is the

Meeting of the American Society of International Law, Washington, D.C., 23-25 April 1981); (1981) 75 Am. Soc. Int'l. L. Rev. 101.

¹⁵³ Emerging Norm, *supra* note 39 at 158.

¹⁵⁴ *Ibid.* at 146.

¹⁵⁵ In 2000 Torres writes, "a decade later it is no longer appropriate to describe these rules [relating to indigenous rights under international law] as emerging". She however declines to characterize those rules as having the status of customary international law. See "Revisiting the Emerging International Norm on Indigenous Rights: Autonomy as an Option" (2000) 25:2 Yale Journal of International Law 291 at 292.

¹⁵⁶ See Hardened Norm, *supra* note 48; see also Rights and Status, *supra* note 30.

¹⁵⁷ Hardened Norm, *ibid.* at 304. Wiessner, however, points out that "it is not clear if Torres' quest was to investigate if there has emerged a "customary international law" of indigenous peoples. "Her goal [was] to prove that an "international norm" protecting indigenous people was emerging or had emerged" see *ibid.* at 302-3. It is difficult in my view to conceive of Torres great effort as not dealing with the question of the legal status of developments concerning indigenous rights and claims. Whether as emerging or emerged, Torres takes the position that the developments as they then stood could not amount to customary international law (a point that Wiessner endorses). In a follow-up article in 2000, Raidza Torres Wick (same scholar) acknowledges that there has been significant developments on indigenous rights since her 1991 seminal article. She alludes to the norms "gaining strength" and carefully avoids the mention of customary international law in relationship to the hardened or hardening norms. She had the opportunity to state whether she considered international "norms" on indigenous rights have attained the status of customary international law. Nonetheless, she insists in describing them as norms even though she notes, "the significant progress made towards the codification of a norm on indigenous rights". See *supra* note 155 at 294.

most authoritative international law on indigenous issues.¹⁵⁸ It is interesting that the Convention 169 framework is the pivot of subsequent articulation of indigenous claims.¹⁵⁹ Also the World Bank's insistence upon guidelines for protecting indigenous interests in development projects¹⁶⁰ represents a controlling response designed to give effect to international developments on indigenous issues. In addition to national and regional developments, another notable controlling response is significant even though it is limited to the Americas.

The Inter-American Commission on Human Rights has capitalized on the momentum provided by the OAS Draft Declaration. It "has begun to take preliminary steps toward juridical operationalization of an indigenous peoples' program".¹⁶¹ Nevertheless, around 1990 there was scant evidence of state practices affirmative to indigenous demands. For that consideration, Torres' position may have been tenable to a good extent.

¹⁵⁸ Convention No. 169 of 1989 came into effect in May 1991 following its ratification by Mexico and Norway. Although countries with significant indigenous presence have ratified the convention, Torres argues that the Convention is nevertheless "not the main forum for the development of indigenous rights." *ibid* at 292.

¹⁵⁹ See Russel L. Barsh, "An Advocate's Guide to the Convention on Indigenous and Tribal Peoples (1990) 15:1 Oklahoma City Law Review 209 at 234. Fully aware that the Convention No. 169 is the only "legally binding instrument on indigenous claims", the ILO made an official report on the Convention before the UNWGIP. In the expectation of the ILO and the UNWGIP, Convention No. 169 represents a template for further evolution of standard of protection of indigenous claims to which the UNWGIP subsequently addressed itself. See U.N. Doc. E/CN.4/Sub.2/AC.4/1989/3/Add.2 para. 3 (also cited in Barsh *ibid*).

¹⁶⁰ See Hardened Norm, *supra* note 48 at 302. In 1982, the World Bank issued an operational policy statement in which it set out procedures for the protection of the rights of "tribal peoples". In it, the Bank indicated that it would not support a development project that undermines indigenous interest like encroachment on ancestral territories without adequate safeguards over indigenous concerns. See "The World Bank and Indigenous Peoples", online: World Bank <<http://wbln0018.worldbank.org/essd.nsf/28354584d9d97c29852567cc00780e2a/f0eb15166971593852567cc0077fa4?OpenDocument>>. The Bank in 1991 adopted a more detailed Operational Directive (OD 4.20), online:<<http://wbln0018.worldbank.org/essd/kb.nsf/56bfcaf5e1062c0385256673005cf3bb/155e482beca9fc0385256735004e5f3b?OpenDocument>>) The thrust of this directive is the Bank's insistence that development projects must not erode indigenous interests and sensitivities. The Bank seeks to integrate indigenous peoples as active participants in development projects that affect them. Its lending/financing is very much tied on empirically verifiable assurances that the project is indigenous-friendly on every level. The directive applies to the bank's financed projects which are identified as affecting indigenous peoples. See Siegfried Wiessner, "General Developments: Indigenous Peoples" (1999) 10 Yearbook of International Environmental Law 193 at 202-204 [hereinafter "Indigenous Peoples, 1999"].

¹⁶¹ Conceptual Structures, *supra* note 43 at 240. The Commission has mediated and continues to play mediator roles in every case seeking to protect indigenous rights in many member states. For instance, it has played such roles in Nicaragua (case 79, La Comunidad Mayagna (Sumo) *Awás Tingi v. Nicaragua*, Inter-Am. Ct. H.R. (31 Aug. 2001), online: <http://www.corteidh.or.cr/serie_c/sentencia.html> and in Guatemala and Paraguay.

However, drawing from his 1999 global survey of domestic systems' response to indigenous demands,¹⁶² Weisner enthuses:

The results of this global comparative and international legal analysis are encouraging whether by genuine insight, or under more or less pressure, ruling elites have modified their laws throughout the Americas and beyond. They decided that indigenous peoples have a right to their distinct identity and dignity and the governing of their own affairs...Treaties of the distant past are being honored and agreements are fast becoming the preferred mode of interaction between indigenous communities and the descendants of the former conquering elites.¹⁶³

The legal status of ILO Convention No. 169 is not in dispute.¹⁶⁴ Its emancipatory policy continues to spread through countries with high concentrations of indigenous peoples. In addition, widespread state practices and other regional initiatives have continued to forge international standard-setting on indigenous claims. All of these "provide requisite *opinio juris* for the identification of specific rules of customary international law of indigenous peoples"¹⁶⁵.

Before Wiessner's survey, Anaya in 1996 appraised the status of customary international legal developments on the indigenous question.¹⁶⁶ For Anaya, there exists among states and other actors new common grounds about minimum standards that should govern behaviour toward indigenous peoples. Those grounds are now embodied in the ILO Convention No. 169 even though understanding about them may have predated the Convention. It is instructive in this regard that an "overwhelming majority"¹⁶⁷ of states adopted Convention 169 at a full conference of the ILO. There was no single government delegate that opposed it. Subsequent developments indicate an expanding core and legitimization of common opinion on the specific content of indigenous rights.

The U.N. Draft Declaration on the Rights of Indigenous Peoples represents "a manifestation of movement in a corresponding consensual nexus of opinions on the

¹⁶² Rights and Status, *supra* note 30.

¹⁶³ Hardened Norm, *supra* note 48 at 304-5.

¹⁶⁴ As an international Convention, the ILO Convention 169 is binding under international law *simply* on those countries that have ratified it and who in addition (where required) have taken consequential steps to make it part of a municipal legislation.

¹⁶⁵ *Ibid.* 305.

¹⁶⁶ See *supra* note 5.

¹⁶⁷ *Ibid.* at 52.

subject...”¹⁶⁸ The OAS Draft¹⁶⁹ and other international initiatives are consolidations of “[a] new generation of international consensus on indigenous peoples’ rights”.¹⁷⁰ Although these are mere declarations with minimal legal significance, the standards they forged were already guiding states’ behaviour. Thus, Anaya submits that because states’ conformity with these standards derive from “widely shared values of human dignity”,¹⁷¹ it therefore constitutes customary international law.¹⁷²

Convergence of understanding amongst states and relevant authorities emanate from a prescriptive dialogue. According to Anaya, “this convergence of opinion carries subjectivities of obligation and expectation attendant upon the rights, regardless of any treaty ratification or other formal assent to the norms articulated”.¹⁷³ Norms of customary international law derive from the point when a number of states or other international actors forge a common understanding of the content of the norms. Subsequent behaviours are expected to conform to these norms.¹⁷⁴ Before now, there was a need to satisfy two conditions: (i) a material element or a physical episodic conduct, representing a precedent of uniform behaviour in the past and, (ii) a subjective psychological element or *opinio juris* to the effect that compliance with the behaviour is binding.¹⁷⁵ In Anaya’s view, there has been a change in these requirements. Enhanced and explicit communication among states and other authoritative actors have advanced the practice of prescriptive dialogue and makes the classical requirement of episodic conduct fairly dispensable.¹⁷⁶ Such

¹⁶⁸ *Ibid.* at 53.

¹⁶⁹ For a historical perspective on the OAS draft, see Anaya *ibid.* at 54; see also Torres, *supra* note 155 at 294; Indigenous Peoples 1999, *supra* note 160 at 215.

¹⁷⁰ Anaya, *supra* note 5 at 54.

¹⁷¹ *Ibid.* at 55. As usual, nations may agree on basic principles, but the problem is the content and meaning of such principles in specific contexts.

¹⁷² Compare Kingsbury who acknowledges that categories of indigenous claims are already emerging as distinct conceptual structure, even though not all indigenous claims can be so privileged. He identifies appeal to history, culture, including special cultural relations with land, systematic discrimination and enduring disadvantage as strong arguments for justification of indigenous category. However, the list is not exclusive. For Kingsbury, “[t]he construction and justification of a conceptual structure of indigenous peoples’ claims is political as well as legal and threatens to exclude or make difficult other political and legal projects”. This results in setting up structures which privilege some and place others in a disadvantage. There is as yet no consensus on the conceptual foundations for legal analysis and political understanding of the indigenous question. See Conceptual Structures, *supra* note 43 at 244-7.

¹⁷³ Anaya, *supra* note 5 at 55.

¹⁷⁴ *Ibid.*

¹⁷⁵ *Ibid.* at 50.

¹⁷⁶ Keith Nunes describes this communication model of law making as “the best way of perceiving that there is a process at play involving a communicator—policy, content—policy bases of authority signal and control intention—and—target audiences. It promotes thinking about law that engenders the understanding

communication builds “[a] convergence of understanding and expectations about rules, establishing in those rules a *pull toward compliance*...”¹⁷⁷ This state of affairs applies to international legal development on indigenous claims. The developments have benefited from prescriptive dialogues, fired by the phenomenon of explicit communication amongst states.

3.3.6 Moral and Legal Obligations: Erasing the Putative Divide

Torres supports her normative thesis of international developments on indigenous rights on a conventional premise now disputed. According to her, developments as and when she articulated them were non-binding.¹⁷⁸ The obligatory nature of them was merely voluntary, often hinging on moral persuasion. Anaya disagrees that the obligations attaching to new indigenous norms are only of moral status. The tradition of demarcation between moral and legal obligations in which the latter is the basis of the psychological element of customary international law is rooted in positivism. Under that thinking, states could freely violate “widely shared moral precepts”¹⁷⁹ in international law since those are not subject to *opinio juris*. However, contemporary international law has embraced “broad moral precepts among its constitutional elements, particularly within the rubric of human rights”.¹⁸⁰ Under the U.N. Charter and major “constituent texts” of international law¹⁸¹ the obligation to uphold human rights has crystallized as general

and management of law”. See *supra* note 8 at 554; see also W. Michael Reisman, “Autonomy, Independence, and Responsibility” (1993) 103 *Yale Law Journal* 401.

¹⁷⁷ See Anaya, *supra* note 5 at 50 & n. 73 (alluding to Thomas Franck’s *compliance pull*—a reference to elements that establish norms in international law). See Thomas Franck, “Legitimacy in the International System” (1988) 82 *American Journal of International Law* 705.

¹⁷⁸ According to her, “[a]lthough not all states have fully adopted the emerging norm, the norm has had a significant impact on the interaction between states and aboriginal groups. By providing a framework in which indigenous groups can articulate their demands and states can design programs to meet those concerns, the norm encourages both sides to negotiate”. See *Emerging Norm*, *supra* note 39 at 164.

¹⁷⁹ Anaya, *supra* note 5 at 55.

¹⁸⁰ *Ibid.*

¹⁸¹ Anaya adds that “an infusion of normative discourse within the authoritative processes of decisions over the last several decades” also contributed to the entrenchment of “the obligation to uphold human rights as a matter of general international law. *Ibid.* at 55-6.

international law.¹⁸² Thus, many publicists have linked the notion of *opinio juris* to the subjective principles of humanity, morality, religion, reason and natural law.¹⁸³

However, not every constitutive instrument of customary international law has the status of *opinio juris*.¹⁸⁴ Kingsbury argues for instance that “[t]he evidence is that a category of claims by indigenous people is emerging as a distinct conceptual structure, although it certainly is not the case that every claim by an indigenous group or persons therefore falls into this category”.¹⁸⁵ Yet, where the documents contain core precepts that are widely accepted (for instance, the convergent normative understanding on indigenous rights) to that extent they are indicative of customary international law.¹⁸⁶ What neither Anaya nor contemporary jurisprudence does not address is the measure of acceptability or the scope of the consensus regarding the core precepts, and the mechanism for their determination.

3.3.7 Evaluating the Debate

From the above analysis I can sketch a number of points. Historical accounts of international developments on the indigenous question often focus on the international treaty making process. There is an emphasis on the expectation of an eventual UNGA Declaration. The Declaration is anticipated to pave the way for a convention on indigenous rights. It is envisaged that the Convention will represent the ultimate binding instrument to crystallize the indigenous quest. This approach speaks of international law on indigenous peoples as an *emerging* phenomenon. It often undermines the question as to the legal status of the strides already achieved on the indigenous frontier.

Yet when the task is broached, the core debate becomes whether there is a binding obligation amongst actors and states concerning indigenous rights and claims. The first major attempt to address the question¹⁸⁷ was inclined to hold that the obligations that

¹⁸² *Ibid.*

¹⁸³ *Ibid.* at 56 & n. 129-128 referring to Theodore Meron, Human Rights and Humanitarian Norms as Customary Law (Oxford: Clarendon Press, 1989) at 53; Myres S. McDougal *et al*, *supra* note 149 at 269 (other references omitted).

¹⁸⁴ Anaya, *supra* note 5 at 56.

¹⁸⁵ See Conceptual Structures, *supra* note 43 at 244.

¹⁸⁶ Anaya, *supra* note 5 at 56.

¹⁸⁷ Wiessner doubts if Torres' actually intended to address the question. In his observation, “but one never gets the feeling that the author’s intention was to ascertain, empirically, whether in traditional parlance, ‘customary international law’ had been formed that concretely spelled out obligations of nation-states and

existed were moral ones arising from the normative status of the developments. Even though there was not enough state practice to support a contrary view, that attempt however undermined the existence of the only legally binding instrument, ILO Convention No. 169 and other institutional practices imposing compliance, such as the World Bank. This omission may have been justified if the attempt was restricted to investigating customary international law which does not include treaties.

Notwithstanding the confusion about the ILO as a treaty regime, increased state practices lend credence to the existence of a customary international law on indigenous peoples. The existence of *opinio juris* on this matter, apart from being evidenced by pattern of state practices is more importantly supported by the contemporary jurisprudence in international law. This thinking erases the putative divide between moral obligation and legal obligation. An obligation to uphold core precepts that are widely accepted such as those on indigenous claims like human rights, are indicative of customary international law.

3.3.8 The Content of Indigenous Rights

Among virtually all leading publicists, there is a consensus as to the content of indigenous rights.¹⁸⁸ A synthesis of writings in this field shows the core demands to include: (a) cultural protections including preservation of indigenous spirituality, language, systems of justice, traditional ways of life and so forth, (b) recognition of the right to economic and social welfare, (c) rights to self-determination and forms of political empowerment and autonomy, (d) recognition of indigenous claims to ancestral

other actors toward indigenous peoples". See Hardened Norm, *supra* note 48 303. *Contra supra* note 155 and accompanying text.

¹⁸⁸ Apart from the jurists, the Draft Universal Declaration on the Rights of Indigenous Peoples which has been acknowledged as embodying the "the most affirmative intergovernmental response yet to the claims of indigenous peoples". See Rights and Status, *supra* note 30 at 102. The Draft represents the most comprehensive elaboration of the international consensus on the content of indigenous rights, it is doubtful if it can be appropriately characterized as an "intergovernmental response" since it has not been adopted by the UNGA. To some degree, the same could also be said of the OAS Draft Declaration. Unlike the ILO Convention No. 169 which is earlier in time, both the UN and OAS Drafts emerged from a transparent process in which indigenous peoples and support groups (as opposed to governments) were active participants.

lands or territories and (e) their insistence upon the honouring of historic treaty commitments by the colonial powers.¹⁸⁹

3.3.9 Between Custom and Treaty

In sum, it is safe to say that there is in existence today a customary international law as well as a conventional international (treaty) law on indigenous peoples. It does not matter that developments on the indigenous question continue to evolve. International law itself is an evolutionary process.¹⁹⁰ It does not require a convention on indigenous rights, as desirable as that may be before there is an international law on indigenous peoples. Presently, there is treaty law on a minimum standard of indigenous rights. It binds as many states as have ratified the ILO Convention No. 169; and that includes states with significant indigenous population.¹⁹¹ Apart from the ILO, however, there are other international treaties mainly on the environment (for example, the CBD) which create obligations on aspects of indigenous claims. Yet in the light of state practices, corroborating opinion of scholars and other developments, there is today an elaborate body of customary international law on indigenous peoples. This body of laws applies to the larger international community of states and relevant actors encompassing those states who have ratified the ILO Convention and other relevant treaties. In effect, the status of the law on indigenous people is multijuridical. It derives from treaty as well as from virtually other sources of “customary international law”.

¹⁸⁹ See Emerging Norm, *supra* note 39 at 133 & 292; see also Hardened Norm, *supra* note 48 at 305. Kingsbury’s more detailed list of normative features of indigenous claims include: “the legal regime for restitution of traditional lands, and territories; historically-grounded and culturally-grounded entitlements and responsibilities with to natural resources, religious sites, and spiritual or guardianship relationships with particular land, water, mountains, *et cetera*; entitlements and responsibilities based on treaties or other agreements to which the indigenous peoples are party; certain constitutional arrangement for participation and political structures for membership and self-government; duties in relation to ancestors and future generations, continuance of certain kinds of economic practices; and perhaps entitlements and responsibilities in relation to traditional knowledge”. See Conceptual Structures, *supra* note 43 at 240. This detailed list, to a large extent, constitutes a breakdown of the ones presented by Torres and Wiessner.

¹⁹⁰ See Keith Nunes, *supra* note 8 at 554.

¹⁹¹ As at this time (May 2003) there are Seventeen states that have ratified the ILO Convention No. 169. They include: Argentina, Bolivia, Brazil, Colombia, Costa Rica, Denmark, Dominica, Ecuador, Fiji, Guatemala, Honduras, Mexico, Netherlands, Norway, Paraguay, Peru, and Venezuela. Many others are considering ratifying the convention.

3.4 Indigenous Knowledge Under the International Law on Indigenous Peoples

3.4.1 General Conceptual Analysis

This section examines the extent to which indigenous or traditional knowledge¹⁹² is part of the international legal regime on indigenous peoples. Because of their holistic conception of phenomena, most indigenous or non-Western peoples' knowledge systems are inextricably linked to all the subjects of indigenous claims. Thus, indigenous knowledge as a vehicle of indigenous expression is implicated under the heads of cultural protection, land rights, individual and welfare rights and most importantly, the right to self-determination.

Self-determination is an open-ended¹⁹³ and amorphous concept.¹⁹⁴ In relation to indigenous peoples, the concept has since shifted from the logic of decolonisation or end-state emphasis (as was the case with the Third World), to a *relational approach*. Today its status is in a state of flux, and the subject of continued negotiation. From the original emphasis on the right of political participation, self-determination is now explored in the context of cultural, social, economic and developmental relationship between indigenous peoples and the colonial powers.¹⁹⁵ Article 3 of the U.N. Draft Declaration on the Rights of Indigenous Peoples provides that “[i]ndigenous peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development”. Self-determination is at the very heart of all indigenous claims. It covers a wide breadth of indigenous aspirations in virtually all situations. In the observations of Kingsbury:

¹⁹² When it comes to the subject of knowledge there becomes a blurred distinction between indigenous or traditional knowledge, and the concept is often interchanged.

¹⁹³ Emerging Norm, *supra* note 39 at 155.

¹⁹⁴ Kingsbury articulates the contemporary impressions of the subject of self-determination—which remains a source of suspicion between states and indigenous peoples—in the following manner: “Self-determination has long been a conceptual morass in international law, partly because its application and meaning have not been formulated fully in agreed texts, partly because it reinforces and conflicts with other important principles and specific rules, and partly because the specific international law practice of self-determination does not measure up very well to some of the established textual formulations”. See Conceptual Structures, *supra* note 43 at 217; see also B. Kingsbury, “Self-determination and ‘Indigenous Peoples’” (86th Annual American Society of International Law Proceedings Washington, D.C., 1-2 April 1992, 383 at 392), (1992) 86 Am. Soc. Int’l L. Rev 383 at 392. See generally Christian Tomuschat, ed., The Modern Law of Self-determination (Dordrecht; Boston: M. Nijhoff Publishers, 1993).

¹⁹⁵ See Erica-Irene Daes, *supra* note 96 at 261.

In their grounds or justification, self-determination and other [indigenous] rights are not sharply distinct; depending on the facts of a particular case, the realization of other rights should be regarded as realizing purposes underlying self-determination.¹⁹⁶

Daes lends support to the idea of self-determination as the determination of a group's social, cultural, economic and epistemic tradition. For instance, she draws a connection between self-determination and indigenous land claims. For her: “[a] fundamental aspect of the true meaning of self-determination is the respect for the land, without which, indigenous peoples cannot fully enjoy their cultural freedom and cultural integrity”.¹⁹⁷ Indeed the indigenous demand for treaty rights is rooted essentially in their land and territorial claims. Virtually all the colonial or pre-colonial treaties recognize the primacy of indigenous claims to their ancestral lands or territories. Most indigenous peoples did not want their land rights or titles extinguished as a result of their colonial encounter with Europeans or other colonizing powers. Land is the soul of indigenous cultural, religious, social, and economic life as well as the embodiment or foundation of their epistemic worldview.¹⁹⁸

3.4.2 Indigenous Worldview: Holism, Culture and Knowledge

Indigenous epistemic worldview—which is based on ecological sanctity including associated spiritualism, rituals and belief systems—is a component of all the heads of indigenous claims in international law. That worldview perceives relationships between phenomena as fundamentally holistic. It encompasses every natural and metaphysical experience in the practice of indigenous cultures/traditions and interpretation of the world. Thus, land claims, cultural preservation claims, treaty rights and so forth all have their significance in the context of indigenous epistemology and values. The realization of these rights is part of the justification for the indigenous quest for self-determination. Indigenous rights are attained by an unfettered practice of indigenous knowledge. Culture

¹⁹⁶ See *Conceptual Structures*, *supra* note 43 at 392-3.

¹⁹⁷ Erica-Irene Daes, *supra* note 96, at 264. See also article 3 of the Draft Declaration on the Rights of Indigenous Peoples states: “[i]ndigenous Peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development”.

¹⁹⁸ See *Gnzm*, *supra* note 104 at 621.

is interwoven with knowledge both in their generation and transmission.¹⁹⁹ Thus, the protection of indigenous knowledge underlies all the five separate but inextricably linked subjects of indigenous claims in international law.

Apart from the general conceptual framework, there are more specific contexts in which international law on indigenous peoples has incorporated indigenous knowledge. Nonetheless, the concept of indigenous knowledge is scattered through a litany of instruments. These include legally binding treaties and other less consequential sources of international law in keeping with the multijuridical trend. Indigenous knowledge is constantly on the agenda of international studies, forums, conferences, declarations and other regime-building initiatives. In appreciation of the diversity of regimes that cover traditional knowledge, Wiessner and Battiste lament:

As to traditional knowledge, other international organizations and treaty regimes have addressed the phenomenon of dispossession and the need for protection... they come at the issue from different angles and with potentially different objectives, such as the protection of biodiversity and biodiversity-related knowledge, or the limited purposes of intellectual property...²⁰⁰

The present exercise makes no pretension to being exhaustive. Specific instruments and relevant developments, which represent strands of international regime building, are discussed. Before focusing on specific regimes, one brief observation is called for.

3.4.3.0 “Indigenous Knowledge” In The *Fourth* And Third Worlds

Provisions for protection of knowledge in a number of the regimes apply not only to the knowledge of “indigenous peoples” *per se*. There is a discernible accommodation of other categories of knowledge holders whether they are identified as indigenous or not.²⁰¹ The U.N. decolonization through the salt-water thesis may have occasioned a

¹⁹⁹ See Miriam Latore Quinn, comment “Protection for Indigenous Knowledge: An International Law Analysis” (2001) 14:2 St. Thomas Law Review 287 at 294 & n. 42.

²⁰⁰ See Siegfried Wiessner & Marie Battiste, “The 2000 Revision of the United Nations Draft Principles and Guidelines on the Protection of the Heritage of Indigenous Peoples” (2000) 13:1 St. Thomas Law Review 383 at 388.

²⁰¹ See, for example, references to “indigenous”, “tribal” “traditional”, “local” peoples and/or “other communities” in most instruments on the protection of indigenous knowledge. See the Convention on Biological Diversity, the Rio Declaration, the ILO Convention No. 169 (1989) Concerning Indigenous and Tribal Peoples in Independent Countries; see *supra* note 1 and accompanying text.

dichotomy in the historical aspirations of colonized non-Western peoples. However, their identical epistemic orientations have necessitated a near common interest in the forging of alliances for the protection of their knowledge. Save for regionally specific instruments, it is not practicable to talk about indigenous or traditional knowledge that draws a strict distinction between the peoples of the third and *fourth* worlds. This, however, does not apply when reference is made to the regime structures or specifics of the knowledge among constituent nationalities. Absent historical and political dichotomies, that demarcation gets blunted especially in the discourse about protection of non-Western *knowledges*.

However, Rosemary Coobe has identified different *objectives* or *motivations* as they relate to categories of claimants to indigenous knowledge. She writes that:

Peoples who are already internationally recognized as indigenous appear to be more interested in making claims with respect to indigenous knowledge subservient to their larger claims for self-determination...whereas others whose claims to indigeneity are nascent and largely unacknowledged and those who must make their claims as communities who embody "traditional lifestyles"...appear to be more oriented to ascertaining how (CBD) provisions [on the protection of knowledge] might provide them with sources of social legitimation, political leverage and alternative sources of income.²⁰²

Coombe argues that the Third World local knowledge holders including, traditional healers' groups, development and NGO groups identify with the protection of knowledge mainly as a means of protection of livelihood and a source of alternative income.²⁰³ The missing motive here appears to be the connection to self-determination. Despite the perceived differences in motives, the most important point, for the present purpose, is that the strict political divide between *indigenous peoples* and other local communities of the Third World ceases to be sustainable at the level of discourse about knowledge.

Yet the peoples may have different interests or emphases. Such interests are dictated by the political contexts in which they (the peoples) operate.²⁰⁴ In one context,

²⁰² Rosemary J. Coombe, "The Recognition of Indigenous Peoples' and Community Traditional Knowledge in International Law" (2001) 14:2 St. Thomas Law Review at 277 (parenthesis added).

²⁰³ *Ibid.* at 277-8.

²⁰⁴ Keth Nunes makes a similar observation with reference to defining human rights conduct as an ongoing process, in which the process of claim and choice is influenced by tradition and lifetime of particular choices. See *supra* note 8 at 554.

indigenous/traditional knowledge may be more an aspect of self-determination and survival. In another, it may be a question of economic empowerment. The two may not be completely separated. It is a matter of relative emphasis. In many non-Western worldviews, the fact remains that the understanding of relationships from which all *knowledges* are generated is an integral part of a peoples' identify, be they indigenous or not.

3.4.3.1 The United Nations Framework

Specific provisions for the protection of indigenous knowledge are a vital component of the new international law on indigenous peoples. My *tour du monde* begins with the United Nations framework, which is an international forum for authoritative normative discussion.²⁰⁵ While the quest for *sui generis* indigenous rights continued, indigenous peoples have always availed themselves of the benefits of the international human rights regimes both within and outside the United Nations framework. The 1948 Universal Declaration of Human Rights (UDHR)²⁰⁶ in Article 27 provides that: “[e]very one has the right to freely participate in the *cultural* life of the *community*, to enjoy the *arts* and to share in *scientific* advancement and its benefits” (emphasis added). In Chapter one, I analyzed the multicultural character of “science”, which for all practical purposes is a way of knowing, an aspect or even a synonym of knowledge. Thus, Article 27 provides an authoritative protection of indigenous knowledge.

But it is not as simple as it seems. Indigenous peoples have argued that their understanding of community is a distinct indigenous community, not the colonial state.²⁰⁷ They seek a definition of a community in which they will have unfettered right to cultural enjoyment and identity both within an exclusively indigenous community and the state. A creative construction of the open-ended right to self-determination under the International

²⁰⁵ Anaya, *supra* note 5 at 41.

²⁰⁶ G.A. Resolution 271A (III), 3 (1) U.N. GAOR Resolution 71, U.N. Doc. A/810 (1948); see also *supra* note 35.

²⁰⁷ Emerging Norm, *supra* note 39 at 154, citing O’ Brien, “Federal Indian Policies and International Protection of Human Rights” in Vine Deloria, *American Indian Policy in the Twentieth Century*, (Norman, Oklahoma: Oklahoma University Press, 1985) at 53.

Bill of Rights²⁰⁸ is quite amenable to this thinking. Article 27 of the UDHR simply protects indigenous knowledge albeit as an aspect of the right to self-determination.

By numeric coincidence of sorts, Article 27 of the International Covenant on Civil and Political Rights²⁰⁹ serves also as a basis for addressing indigenous issues, and indirectly of indigenous knowledge in the context of culture. This Article makes no direct reference to indigenous knowledge. Nonetheless, it refers to the right to the enjoyment of culture, profession and practice of religion, and use of language, all of which are components of indigenous knowledge. Addressed specifically to minorities, the U.N. Human Rights Committee adopts an expansive understanding of the provision thus amply extending its guarantees to indigenous peoples.²¹⁰ This is so even though indigenous peoples rightly resist being classified as minorities. Indeed article 27 is acknowledged as “a basis and justification for addressing indigenous issues”.²¹¹

To sum up, as early as the onset of the new regime of international order, protection of indigenous knowledge constituted part of the thinking that was a foundation of that regime. This is shown from the Universal Declaration of Human Rights and the open-ended construction of self-determination under the International Bill of Rights. No direct reference is made to indigenous knowledge in those texts. Yet references to cultural, language, artistic and scientific rights and advancements of the community are clear endorsements of indigenous knowledge. As indigenous issues gradually attained a *sui generis* status in international law, subsequent developments extended those and similar provisions to the more specific context of indigenous peoples.

²⁰⁸ See Articles 1 of International Covenant on Economic, Social and Cultural Rights, 16 Dec. 1966, reprinted in 993 U.N.T.S. 3, 6 I.L.M. 360 (1967); see also International Covenant on Civil and Political Rights, 16 Dec 1966, 999 U.N.T.S. 171, 6 I.L.M. 368 (1967).

²⁰⁹ It provides: “In those States in which ethnic, religious or linguistic minorities exist, persons belonging to such minorities shall not be denied the right, in community with the other members of their group to enjoy their own culture, to profess and practice their own religion, or to use their own language”. See *ibid.*

²¹⁰ See Conceptual Structures, *supra* note 43 at 205.

²¹¹ *Ibid.* at 204.

3.4.3.2 Indigenous Knowledge Under the ILO Convention No. 169, 1989

Convention No. 169 is still the most authoritative, even though it is no longer the “[m]ost concrete manifestation of the growing responsiveness to indigenous demands”.²¹² It is a legally binding treaty on those countries that have ratified it. The Convention makes concrete and elaborate provision on the subject of indigenous knowledge. This is contained either directly or indirectly through its provisions on the core indigenous issues it deals with. The Convention outlines the minimum standard of indigenous rights, leaving ample room for continued improvement.²¹³ It is designed to enable indigenous peoples to live and progress as distinct communities with their cultural values and legal status especially as they relate to land, internal structures, environmental management, security and so forth.²¹⁴ Given its binding status, the Convention's provisions are quite significant especially in shedding light on the normative questions. I will restrict my discussion to more direct provisions concerning indigenous knowledge.

The relevant articles include 2(a) and 4(1), which commit governments to pursue socio-economic and cultural rights of indigenous peoples, including their customs, traditions, institutions and environment. Article 5 (a) and (b) secure socio-cultural, religious and spiritual values and practices of the people including the integrity of their institutions. Article 6 (c) provides for the development of indigenous institutions and initiatives. In article 7(1) indigenous rights to development and use of land in accordance with their traditional values is guaranteed. Under Article 8(1) and (2) indigenous customs, customary laws and institutions are protected. Indigenous dealings with land, its cultural and spiritual importance is secured in Article 13, while article 15 implores the protection of indigenous rights in the use, management and conservation of resources.

More directly, Article 13 touches on aspects of traditional knowledge:

²¹² See Anaya, *supra* note 5 at 47; see also Traci McClellan, “The Role of International Law In Protecting the Traditional Knowledge and Plant Life of Indigenous Peoples” (2001) 19 *Wisconsin International Law Journal* 249 at 253. While the ILO Convention 169 remained the most concrete manifestation at the time it was so described by Anaya in 1996, it appears to have lost that coveted position. At the present time, the Draft Declaration on the Rights of Indigenous Peoples and the Permanent Forum on Indigenous Issues compete for recognition as the most concrete response yet to indigenous question. Nonetheless, the Convention has a superior legal status over the Draft Declaration.

²¹³ See Barsh, note 159 *supra* at 211.

[1]. Handicrafts, rural and community-based industries, and subsistence economy and traditional activities of the peoples concerned, such as hunting, fishing, trapping, and gathering shall be recognized as important factors in the maintenance of their cultures and economic self-reliance and development...²¹⁵

Article 25 hinges indigenous healthcare on the primary/community model. It supports a health policy based on indigenous cultural conditions; traditional preventive care, healing practices and medicines, without dispensing links with other levels of health care services. Similarly, under the Convention, the sanctioned indigenous education model is one based on “their histories, their knowledge, and technologies, their value systems...”.²¹⁶ Overall, the ILO Convention No. 169 makes ample provisions for the promotion, and protection of virtually all aspects of indigenous knowledge at both policy and ideological levels.

3.4.3.3 The Rio Declaration and Agenda 21

Modern international environmental law incorporates indigenous knowledge concepts in its principles. This crystallized in concrete form in the 1992 United Nations Conference on Environment and Development (UNCED), tagged the “Earth Summit”. The Rio Earth Summit produced significant environmental instruments in the form of both hard and soft international law.²¹⁷ The Rio Declaration sets out the international consensus on environmental management or stewardship. Of all its 27 principles, principle 22 deals most squarely with indigenous knowledge. Strikingly, that provision relates indigenous knowledge or traditional practices to *other local communities*. It provides:

²¹⁴ See Indigenous Peoples 1999, *supra* note 160 at 200.

²¹⁵ 13(2) provides that “upon the request of the peoples concerned, appropriate technical and financial assistance shall be provided wherever possible, taking into account the traditional technologies and cultural characteristics of these peoples, as well as the importance of sustainable and equitable development”.

²¹⁶ Article 27(1); article 27(2) gives indigenous peoples the right to establish their own educational institutions and facilities; article 28 supports the use of indigenous languages without compromising national language policies

²¹⁷ Among them, The Agenda 21, the Rio Declaration on Environment, 31 I.L.M. 874 (1992), the Non-Legally Binding Authoritative Statement of Principles for the Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests a.k.a. The Forest Principles, 31 I.L.M. 881 (1992), the Convention on Biological Diversity (CBD), 31 I.L.M. 818 (1992), the Framework Convention on Climate Change, 31 I.L.M. 289 (1992) and the Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, reprinted in 33 I.L.M. 1332 (1994). See *supra* note 1.

Indigenous peoples and their communities, and *other local communities* have a vital role in environmental management and development because of their *knowledge and traditional practices*. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.²¹⁸

Agenda 21—which resulted from Rio—represents international consensus on global environmental policy framework and action for sustainable development in the 21st century. Agenda 21 makes an elaborate provision on indigenous knowledge under its famous chapter 26.²¹⁹ Chapter 26 provisions are consistent with principle 22 of the Rio Declaration. In paragraph 1, it refers to indigenous questions in international law and acknowledges pre-existing and current efforts that are already addressing them, namely the ILO and the UNWGIP.²²⁰ It recognizes that indigenous peoples “have developed over many generations of holistic traditional scientific knowledge of their land, natural resources and environment”. Thus, vide chapter 26, Agenda 21 incorporates indigenous rights within the global environmental thinking, which is anchored on the concept of sustainable development.²²¹

Agenda 21’s objectives to empower indigenous peoples is through the encouragement of deliberate policies, which recognize “indigenous values, traditional knowledge and resource management practices with a view to promoting environmentally sound and sustainable development”.²²² Others are measures to boost indigenous capacity building by adaptation and exchange of traditional knowledge and resource management practices for their sustainable development.²²³ This is envisioned through the incorporation of indigenous values and traditional conservation and other knowledge and practices in relevant national policies. Finally, Agenda 21 endorses other sets of measures to strengthen research and education programs for the study of indigenous environmental knowledge and management.²²⁴

²¹⁸ Emphasis added.

²¹⁹ Titled, “Recognizing and Strengthening the Role of Indigenous Peoples and their Communities”.

²²⁰ Chapter 26.2.

²²¹ Anaya, *supra* note 5 at 54.

²²² See Chapter 26.3 (a)(iii). Chapter 26.3 sets out a number of other objectives or measures which will empower indigenous peoples and communities.

²²³ Chapter 26.3 (a)(vii).

²²⁴ Chapter 26.5 (c)(i).

3.4.3.4 Indigenous Knowledge and the CBD

The CBD, an offshoot of Rio squarely addresses indigenous knowledge in accordance with the approach of Article 29 of the U.N. Draft Declaration. It is, however, more detailed in its provisions concerning issues relevant to biodiversity conservation. Primarily, it is not a convention on indigenous peoples. Nevertheless, unlike the Draft Declaration discussed below, the CBD like the ILO Convention No. 169 has the status of treaty law. Despite its framework status, it is a legally binding instrument to some degree.²²⁵ To that extent, its provisions on indigenous knowledge are viewed strongly. In this regard, the CBD framework has become the springboard for the evolution of national and regional initiatives designed to pursue its stated objectives, namely: “conservation of biodiversity, sustainable use of its components and the fair and equitable sharing of the benefits...”.²²⁶ In pursuit of these objectives, it accords strong regard to indigenous knowledge. Relevant provisions begin with paragraph 12 of its preambular text which accords recognition to the

close and traditional dependence of many indigenous and *local communities embodying traditional lifestyles on biological resources*, and the desirability of sharing equitably benefits arising from the use of *traditional knowledge, innovations and practices* relevant to the conservation of biological diversity and sustainable use of its components.²²⁷

Articles 8(j), 10(c),²²⁸ 17(1)(2),²²⁹ 18(4) spell out the Convention’s vision of indigenous knowledge in furtherance of its preambular declaration and its larger objectives under

²²⁵ Primarily, as an international treaty, the CBD has the status of a binding international instrument. See Kerry ten Kate and Sarah A. Laird, The Commercial Use of Biodiversity: Access to Genetic Resources and Benefit-Sharing (London: Earthscan, 1999) at 14 [hereinafter “Commercial Use of Biodiversity”]. However, doubts about its effectiveness arise in part because of its framework model. It is in some respects hortatory, and not detailed in a number of essential provisions. Yet in a number of other respects, the obligations of parties are clearly stated. However, the presence of hortatory provisions does not undermine the direct obligations of parties under the CBD nor does it reduce the CBD to the status of a soft law. At best, the CBD represents a compromise between the hortatory character of *soft law* and normative obligations of *hard law*.

²²⁶ Article 1

²²⁷ Emphasis added.

²²⁸ Requires contracting parties to protect and encourage customary use of biological resources in accordance with traditional and cultural practices that are compatible with conservation requirement.

²²⁹ Articles 17(1) & (2) encourages exchange of information which are relevant to conservation in a manner that accommodates the special needs of developing countries. The information under reference here is mainly that deriving from “technical, scientific, and socio-economic research as well as information on training and surveying programmes, specialized knowledge as such and in combination with the

Article 1.²³⁰ Article 18(4) requires parties to “encourage and develop methods of cooperation for the development and use of technologies, including indigenous and traditional technologies, in pursuance of the objectives of this Convention”. This rightly conceives of indigenous knowledge as technology or science. Though the technology transfer provisions of article 16 appear to be premised on North-South transfer, there is perhaps nothing excluding indigenous traditional knowledge from article 16’s guarantee of legal protection of right of knowledge holders.²³¹ This is consistent with the Convention’s philosophy.

Clearly, the most important provision of the CBD on indigenous knowledge is article 8(j). It reads:

Each Contracting Party shall, as far as possible and as appropriate: ...
(j) *Subject to its national legislation*, respect, preserve and maintain knowledge, innovations and practices of *indigenous and local communities embodying traditional lifestyles* relevant for the conservation and sustainable use of biological diversity and promote wider application with the approval and involvement of holders such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.²³²

Article 8(j) is the core provision for effectuating the contributions of indigenous peoples and their knowledge pursuant to the convention’s objectives.²³³ In practical terms, article 8(j) is a statement of guidelines. It leaves matters of details regarding its implementation or interpretation to both national governments and the implementing body of the

technologies referred to in Article 16 paragraph 1. It shall also where feasible, include repatriation of information”. Unlike in other provisions on transfer of technology, the exchange here is designed to enhance indigenous knowledge and make it adaptable, without necessarily compromising it.

²³⁰ Other articles of the Convention that may be somewhat related to indigenous knowledge include 15 (access to genetic resources), 16 (accesses to and transfer of technology), especially 16(5) which provides: “contracting parties, recognizing that patents and other intellectual property rights may have an influence on the implementation of this Convention, shall co-operate in this regard subject to national law in order to ensure that such rights are supportive of and do not run counter to its objectives” and 19 (technology transfer with specific reference to biotechnology). Although the provision of these articles seem relevant to indigenous knowledge on the face of it, they have little to do with it and its protection. Access to genetic resources is premised not necessarily on knowledge but on ownership or both. Also the perspective of technology transfer and reception under these articles are North-South transfer, which does not envisage any role for indigenous knowledge. The same applies to the reference to intellectual property rights in article 16(5). That reference is by implication made to Western form of intellectual property rights in a North-South equation.

²³¹ Indigenous Peoples 1999, *supra* note 160 at 211.

²³² Emphasis added.

²³³ *Ibid.* at 210.

convention, the Conference of Parties (COP).²³⁴ Because of the centrality of article 8(j) provisions to the CBD, its interpretation and implementation is perhaps the most important preoccupation of the COP since its Third Conference of Parties Meeting in 1996.²³⁵ That meeting established an inter-sessional process for the purpose of advancing further works on the implementation of article 8(j).

The COP through its meetings has become perhaps the most active global forum, at least this time, for setting the agenda on the policy direction for traditional knowledge. This is evident from the second COP meeting in 1994²³⁶ through to subsequent ones, in 1996, 1998,²³⁷ 2000²³⁸ and 2002.²³⁹ At its 1998 meeting, the COP co-opted the World Intellectual Property Organization (WIPO) into the article 8(j) agenda.²⁴⁰ Decision IV/9 of that meeting endorsed the negotiation of a memorandum of understanding with the WIPO and CBD on issues related to article 8(j). In that same year, 1998, the COP decided to set up a working group on article 8(j) and related provisions with the mandate to address their implementation.²⁴¹

International bodies and interests focusing on traditional knowledge now coalesce on the platform of article 8(j). Apart from the WIPO, the International Forum on Forest (IFF) is currently involved with the ongoing project at the CBD for effectuating the provisions of article 8 (j). The IFF was represented at the Seville meeting of the article 8(j) working group.²⁴² The representative at Seville made a case for a synergy between

²³⁴ The COP is the governing body of the CBD established under the latter's article 23. It "advances" the implementation of the Convention through the decisions made at its periodic meetings.

²³⁵ Buenos Aires, Argentina, 4-15 November 1996.

²³⁶ Decision II/18 of the second COP Meeting of the CBD set up as an agenda item for consideration at the Third COP, "Knowledge, Innovations and Practices of Indigenous and Local Communities: Implementation of Article 8(j)". A note by this title was prepared by the CBD Secretariat to facilitate the consideration of the item on the agenda. This note is part of the foundation study on article 8(j). It also incorporates discussions on possible mechanism for its implementation. Article 8(j) agenda has remained a fixed feature of COP deliberations since the third COP in 1996. For the text of the CBD Secretariat note on article 8(j), see UNEP/CBD/COP/3/19, online: CBD <<http://www.biodiv.org.cop3/html/COP-3-19-e.htm> (date of access: circa Sept. 2000); see also UNEP/CBD/COP/4/10/Add. 1, and UNEP/CBD/COP/5/5.

²³⁷ Bratislava, Slovak Republic, 1-15 May 1998.

²³⁸ Nairobi, Kenya, 15-26 May 2000.

²³⁹ The Hague, Netherlands, 7-19 April 2002.

²⁴⁰ Decision IV/9 of that meeting endorsed the negotiation of a memorandum of understanding with WIPO and CBD on issues related to article 8(j).

²⁴¹ Decision IV/9 on an Ad-Hoc Open-Ended Inter-Sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity. For details of the WG's mandate, see Wiessner, *supra* note 160 at 212.

²⁴² First meeting of the CBD Working Group on Article 8(j), Seville, Spain 27-31 March 2000.

unimpeachable²⁴⁸ even though it is not a binding instrument. It builds from established minimum consensus on indigenous demands as already articulated by Convention No. 169. My concern for the present purpose is the draft's perspective on indigenous knowledge.

The Draft's preambular statements generally affirm the sanctity of the cultural, spiritual, traditional, historical and philosophical values of the peoples in relation to their land, environment, institutions, resources and their aspirations to development. The 9th preambular paragraph states "that respect for indigenous knowledge, cultures and traditional practices contributes to the sustainable and equitable development and proper management of the environment". This *realization* is one of the *raison d'être* for the Draft Declaration.

Articles 3 and 31²⁴⁹ define the indigenous right to self-determination beyond the traditional political realm. They incorporate social, cultural, religious, educational, information, media, health, economic activities, land, environmental and resource management as aspects of indigenous self-determination. In all of these, indigenous knowledge is central. This fact is implied by the 9th preambular paragraph's statement of respect for indigenous knowledge in cultural context of development and environmental management. Culture's fusion with knowledge or *vice versa* means that preservations of cultural values of indigenous peoples including their protection against *cultural genocide*, the rejection of indigenous assimilation and integration by other cultures and ways of life, aim at a recognition of their knowledge system by which indigenous cultural identity is sustained.²⁵⁰

If the above sentiments on article 7 are not quite direct in relation to knowledge, without doubt article 12 is more direct. The latter draws a direct linkage between culture and knowledge proving that:

Indigenous peoples have the right to practice and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and

²⁴⁷ Nonetheless, it does not change the superior status which the Convention enjoys as a binding treaty over the Draft's mere persuasive consequence.

²⁴⁸ Unlike, the ILO Convention (which did not enjoy active participation of indigenous peoples or groups), the UNWGIP, which authored the Draft Declaration, is reputed to be the most open United Nations group yet. It mobilized virtually all indigenous groups from all parts of the world in a participatory and democratic exchange throughout its deliberations. See *supra* note 70 and accompanying text.

²⁴⁹ See also article 4's reference to the cultural characteristic and life of indigenous peoples and the state.

²⁵⁰ See article 7.

future manifestations of their cultures, such as *archeological* and historical sites, *artifacts*, *designs*, *ceremonies*, *technologies*, and *visual and performing arts and literature*, as well as the right to the restitution of *cultural and intellectual, religious and spiritual property* taken without their free and informed consent or in violation of their laws and traditions.²⁵¹

Similar to the provisions of Convention No. 169, the Draft Declaration empowers indigenous peoples to establish their own media, educational and institutional systems after their cultural and pedagogic traditions.²⁵² Indigenous knowledge of health care practices is also accommodated through their relevant traditional models and institutions. Article 24 Provides that: “Indigenous peoples have the right to their traditional medicines and health practices, including their right to the protection of medicinal plants, animals and minerals”. Similarly, the rights to control use of lands, territories, the total *environment*, flora and fauna, and other resources within traditional laws and customs, and institutions of resource management are protected.²⁵³

Perhaps, the most important provision of the Draft Declaration on the subject of indigenous knowledge is article 29. It reads:

Indigenous peoples are entitled to the recognition of the full ownership, control and protection of their cultural and intellectual property. They have the right to special measures to control, develop and protect their sciences, technologies and cultural manifestations, including human and other *genetic resources*, *seeds*, *medicines*, *knowledge of the properties of fauna and flora*, oral traditions, literatures, designs and visual and performing arts.²⁵⁴

This very important provision associates various facets of indigenous knowledge directly with the concept of intellectual property rights. It endorses the multicultural character of science and technology. By so doing it empowers indigenous knowledge against the traditional barriers of ‘scientific’ exclusion and epistemic parochialism. Article 29

²⁵¹ Emphasis added. All the emphasised words are indigenous epistemic genres in their own rights. Article 14 further amplifies the list by adding indigenous histories, languages, oral traditions, philosophies, writing systems and literatures. See article 13 *ibid*.

²⁵² Article 15 of the Draft provides in part: “All indigenous peoples also have the right [to all levels and forms of education of the State] and the right to establish and control their educational systems and institutions providing education in their own languages, in a manner appropriate to their cultural methods of teaching and learning”. Compare articles 26-31, Part VI of the ILO Convention No. 169 (*supra* note 1) on “education and means of communication”.

²⁵³ Article 26.

against Illicit and Other Prejudicial Actions. The Model Provisions serve as a framework for national regimes.

The WIPO/UNESCO collaboration took a significant turn in 1997 at the Joint Forum on the Protection of Folklore. Held in Phuket, that Forum's mandate was to explore "[t]he issues concerning the reservation and protection of expressions of folklore, intellectual property aspects of folklore and the harmonization of different regional interests".²⁵⁹ The traditional tension between the WIPO and UNESCO in relation to their mandate has been a feature of this collaboration.²⁶⁰ Whereas UNESCO's concerns relate to cultural creativity, without necessarily undermining those, WIPO focuses on industrial property: patents, trademarks, trade secrets and so forth. At the Forum, the term, "folklore" came under attack as not only derogatory but also inadequate as a means of protecting all aspects of cultural heritage.

However, a switch in nomenclature from folklore to traditional knowledge is instructive. This switch occurred at the roundtable discussions at Phuket.²⁶¹ It was sustained in 1999 when the WIPO and UNESCO convened four intergovernmental regional consultations on the protection and expression of folklore. The consultations adopted resolutions for future work in the field to embrace an understanding of folklore that encompasses all traditional knowledge.²⁶² The shift from folklore to traditional knowledge is described as "a movement from the common grounds of the two organisations".²⁶³ Meanwhile, in November 1999, the WIPO convened the first ever World Forum on Traditional Knowledge.²⁶⁴ The WIPO/UNESCO collaboration has now achieved a common and broad understanding of traditional knowledge that encompasses all folkloric expressions. Despite the WIPO/UNESCO collaboration on folklore, the

²⁵⁹ See WIPO Doc. BCP/CE/VI/16-INR/CE/V/14 para. 269 (9 February 1996); see also Blakeney, *supra* note 1, at 260.

²⁶⁰ *Ibid.* See also Ian MacDonald, "UNESCO-WIPO World Forum on the Protection of Folklore: Some Reflections and Reactions" (1997) 15 Copyright Reporter 128 at 136.

²⁶¹ "The expression "Traditional Knowledge" which is being used at this Roundtable accommodates the concerns of those who criticize the narrowness of folklore. However, it significantly changes the discussion. Folklore was typically discussed in copyright, or copyright-plus terms. Traditional knowledge would be broad enough to embrace traditional knowledge of plants, and animals in medical treatment and as food. In this circumstance, the discourse would shift from the environs of copyright to those of patent law and biodiversity rights". See Dreamtime, *supra* note 258.

²⁶² Indigenous Peoples 1999, *supra* note 160 at 214.

²⁶³ Blakeney, *supra* note 1 at 260.

²⁶⁴ *Ibid.* at 261.

WIPO is more proactive in relating folkloric issues and traditional knowledge to concerns about intellectual property rights.

The preference for a common and broad conceptual perspective of indigenous knowledge is based on an indigenous holistic worldview of phenomena.²⁶⁵ It is argued that the narrowness of folklore or fragmentation inherent in different intellectual property categories does a disservice to indigenous knowledge. The concept of Western intellectual property is viewed as too sectional, parochial and fragmentary.²⁶⁶

In 1998-9, as part of the global focus on indigenous people, the WIPO embarked on the process of identification and exploration of intellectual property needs and expectations of traditional knowledge holders. This project led to nine series of fact-finding missions covering all regions of the world.²⁶⁷ The missions enable the WIPO to interact with knowledge holders in the hope of identifying and exploring their intellectual property needs and expectation. The fundamental plank of the WIPO initiative is that the dominant Western forms of intellectual property rights are inadequate to protect traditional knowledge. Thus, the missions are designed to study current approaches to, and future prospects for protecting the intellectual property rights of traditional knowledge holders.²⁶⁸

A number of needs and expectations have been identified. Two are striking for the present purpose. According to the executive summary of the final report of the WIPO's fact-finding missions one of the needs and expectations is "the study of customary law and informal intellectual property regimes in local and traditional communities, including *conclusions* that are relevant for the formal IP system".²⁶⁹ The other is part of long-term needs and expectations. It refers to:

²⁶⁵ See Wiessner & Battiste, *supra* note 200 at 386.

²⁶⁶ See Brian Noble, "Circumventing Customary Transactions: Blackfoot Tipi Transfers and WIPO's Search for the Facts of Traditional Knowledge Exchange" in T. Crook and A. Holdings, eds., Innovations Around Property-thinking: Dialogues Between Law, Policy and Ethnography (Oxford: Berghahn Books) [forthcoming in 2003, the author has kindly made available the draft to the present writer].

²⁶⁷ See Blakeney, *supra* note 1 at 261; see also FFM, *supra* note 1; Siegfried Wiessner, "General Developments: Indigenous Peoples" (2000) 11 Yearbook of International Environmental Law 155 at 161; Indigenous Peoples 1999, *supra* note 160 at 213-24. For a critique of FFM, see Noble *ibid*.

²⁶⁸ *Ibid*. Notwithstanding the felt inadequacy of Western IP, Noble argues that the WIPO FFM project took a narrow focus and addressed only those aspects of traditional practices "which appeared to have "IP-like" characteristics or were activated by "IP-like" provisions.

²⁶⁹ See FFM, *supra* note 1 at 6.

[T]he possible development of new tools to protect traditional knowledge that is not protected by the existing IP tools, the elaboration of an international framework for TK protection using, *inter alia*, the 1982 WIPO-United Nations Educational, Scientific and Cultural Organization Model Provisions for National Laws on the Protection of Exploration of Folklore Against Illicit Exploitation and Other Prejudicial Actions as a possible foundation and development of a *sui generis* system of community or collective rights to protect TK.²⁷⁰

The WIPO's initiative on traditional knowledge and the elaborate work at the COPs meetings of the CBD on article 8(j) are works in progress. Hence it behooves both organizations to pay close attention to credible criticisms of the initiatives²⁷¹ Coombe observes that recent discussions at the CBD on access to genetic resources, benefit-sharing and traditional knowledge place more emphasis "on mechanisms to make existing intellectual property regimes more transparent, accountable and equitable than on the need for new intellectual property rights to protect traditional knowledge".²⁷² However, from the reference to the WIPO initiative in the preceding paragraph one gets the impression that WIPO and the CBD may have two different perspectives on the subject. While WIPO explores alternative regimes, from Coombe's observation, CBD is inclined toward enhancing the existing intellectual property regimes. Nonetheless, protection and recognition of traditional knowledge is now a concerted project in which many institutions are involved in the foundational stage of what promises to be a long-drawn out process. The options are still very much open. For instance, despite its shortcomings, the WIPO report has set the tone for continuing discussions in different regional, national and international forums. That report is crucial in a number of respects. Among others, it sets the tone for the forging of future policy on traditional knowledge. Similarly, the CBD initiative on article 8(j) is a work in progress. The WIPO and CBD initiatives recognize the unimpeachable consensus about the imperative for local regime content in the protection of traditional knowledge. Coombe is of the same view when she writes:

²⁷⁰ *Ibid.* at 7.

²⁷¹ For instance, as demonstrated by the work of Brian Noble, *supra* note 266.

²⁷² See Coombe, *supra* note 202 at 282. Coombe's opinion on this trend appears to be based on her impression of the meeting of the Ad-hoc Open-ended Working Group on Access and Benefit-sharing of the CBD, Bonn, Germany, 22-26 October 2001. It is not clear if that represents her general impressions of all the deliberations of the Working Group on Article 8(j). For a perspective on the Working Group, see "Article 8(j): Traditional Knowledge, Innovations and Practices", online: <<http://www.biodiv.org/programmes/socio-eco/traditional/default.asp>> (date accessed: 14 July 2002).

It is important that the WIPO and the CBD have recognized that indigenous customary law has to be respected when considering the use of traditional knowledge and that indigenous customary law principles provide legitimate juridical resources for a consideration of alternative forms and norms of property. The promise of a cross-cultural conversation in the international intellectual property arena that is thereby posed cannot be indefinitely postponed.²⁷³

(Further discussions on the WIPO and CBD initiatives are reserved to chapter six).

Another U.N. body apart from the WIPO/UNESCO involved in exploration of modalities for the protection of traditional knowledge is the United Nations Development Programme (UNDP). The UNDP identifies with the importance of traditional knowledge on sustainable human development. To this end, since 1999, it has embarked on a review of its activities, policies and projects in order to bring them in conformity with indigenous aspirations along the lines of the U.N. Draft Declaration on the Rights of Indigenous Peoples. In doing this, UNDP works closely with indigenous organizations and peoples.²⁷⁴ Wiessner reports that it has developed a project titled “Support to the Preservation of Indigenous Peoples’ Knowledge and the Protection of Indigenous Intellectual Property”.²⁷⁵ The project is designed to “identify strategies and means for promoting and protecting indigenous knowledge, intellectual and cultural property, and customary practices”.²⁷⁶

3.4.3.7 Draft Principles and Guideline on Indigenous Heritage

In 1990 the Sub-Commission on the Prevention of Discrimination and Protection of Minorities saddled Daes with the preparation of a working paper on the question of ownership of the cultural and intellectual property of indigenous peoples.²⁷⁷ Her work resulted in the 1995 Draft Principles and Guidelines for the Protection of Heritage of

²⁷³ See Coombe, *supra* note 202 at 284.

²⁷⁴ On July 22-4 1999, the UNDP held a Consultative Meeting in Geneva with representatives of indigenous peoples’ organizations. The forum or working group identified three priorities for the UNDP concerning its policy and relationship with indigenous peoples. Those are mainly policy initiatives that will further the provisions of the Draft Declaration on the Right of Indigenous Peoples as well as collaborating with indigenous peoples toward the realization of the then proposed Permanent Forum on Indigenous Issues. See Indigenous Peoples 1999, *supra* note 160 at 214.

²⁷⁵ *Ibid.*

²⁷⁶ *Ibid.*

²⁷⁷ See Wiessner, *supra* note 65 at 271.

Indigenous Peoples.²⁷⁸ This document has passed through expert revisions and is currently awaiting the input of the Commission on Human Rights.²⁷⁹ The importance of this document in the present context derives from two issues. First, its central thrust is that indigenous customary laws and practices should determine ownership, guardianship and interpretation of all aspects of indigenous heritage, including culture, arts and science. Second, much along the lines of holism, it defines indigenous heritage in a very broad sense as:

Everything that belongs to the distinct identity of a people and which is theirs to share, if they wish, with other peoples. It includes all of those things which international law regards as the creative production of human thought and craftsmanship, such as songs, stories, scientific knowledge and art works. It also includes inheritances from the past and from nature, such as human remains, the natural features of the landscape, and naturally-occurring species of plants and animals with which a people has long been connected.²⁸⁰

This holistic approach tallies with indigenous interests. International organizations and treaty regimes address the phenomenon of appropriation of traditional knowledge from different angles and objectives. Among them, access to genetic resources, protection of biodiversity and sharing of related knowledge, and the limited purpose of intellectual property regimes.²⁸¹ Wiessner and Battiste describe this as running “in the indigenous eyes the danger of losing the forest for the trees”.²⁸² In their view, “the holistic approach of the draft principles and guidelines, is to them, [indigenous peoples] of special approach”.²⁸³

²⁷⁸ See Erica-Irene Daes, *Protection of Heritage of Indigenous People* (U.N. Study Series # 10, New York; Geneva, 1997)—as revised by the U.N. Seminar, February/March 2000; see generally Wiessner & Battiste, *supra* note 200.

²⁷⁹ See Sub-Commission, Draft Report, Concluding Items: Adoption of the Reports on the 52nd Session, U.N. Doc. E/CN.4/Sub.2/2000/L.11/Add. 1 (2000), online: UNHCHR <<http://www.unhchr.ch/huridoca.nsf/>> (date of access *circa* May 2002). Report of the Seminar on the Draft Principles and Guidelines for the Protection of Heritage of Indigenous Peoples: Human Rights of Indigenous Peoples: U.N. Doc. E/CN.4/Sub.2/2000/26 (2000), reprinted in (2000) 13:1 St. Thomas Law Review at 405 cited in Wiessner, *supra* note 65 at 171; see also Erica-Irene Daes, “Human Rights of Indigenous Peoples: Report of the Seminar on the Draft Principles and Guidelines for the Protection of the Heritage of Indigenous People” (2000) 13:1 St Thomas Law Review 391-404.

²⁸⁰ *Supra* note 278 Para. 24 (1997).

²⁸¹ Wiessner & Battiste, *supra* note 200 at 388.

²⁸² *Ibid.*

²⁸³ *Ibid.*

3.4.3.8 OAS Draft Declaration on the Rights of Indigenous Peoples

Recognition of indigenous knowledge in international law is also evident in many regional initiatives. Perhaps the most notable of these regional initiatives is the Draft American Declaration on the Rights of Indigenous Peoples.²⁸⁴ It merits a separate discussion from other regional trends. In the specific context of knowledge, directly relevant articles are those securing the rights to cultural integrity, respect for indigenous ways of life, institutions, practices, belief, philosophical and value systems.²⁸⁵

The OAS Draft makes detailed provisions on indigenous knowledge relating to health and well being under article XII (1-4). It reads in part:

- [1]. Indigenous peoples have the right to legal recognition and practice of their traditional medicine, treatment, pharmacology, health practices and promotion, including preventive and rehabilitative practices.
- [2]. Indigenous peoples have the right to the protection of vital medicinal plants, animal and mineral in their traditional territories.²⁸⁶

The OAS Draft devotes article XX to intellectual property rights. It provides:

²⁸⁴ In 1989, the General Assembly of the Organization of American States charged the Inter-American Commission on Human Rights with the preparation of a juridical instrument for the protection of the rights of indigenous peoples in the Americas. The first draft was approved in 1995 at the 1278th session of the Inter-American Commission on Human Rights: O.A.S. Doc. OEA/Ser/L/V/II.90, Doc. 9 rev. 1 (1995). It was then opened up for comments by indigenous peoples, organizations, individual experts and others. The 95th regular session of the Inter-American Commission for Human Rights approved the proposed declaration: "Proposed American Declaration on the Rights of Indigenous Peoples", Inter-American C.H.R., 1333rd sess. OEA/Ser/L/V/II.95, Doc. 6, 26 February 1997, reprinted in (1997) 6:2 International Journal of Cultural Property 364. The Draft awaits passage by the General Assembly of the O.A.S. The most contentious issue between indigenous peoples and States remains the acceptable conception of the right to "self-government" under article XV of the Draft. For a perspective on the Draft, see Anaya, *supra* note 5 at 54, Rights & Status, *supra* note 30 at 104-107, Wiessner, *supra* note 160 at 215-6.

²⁸⁵ In that regard see preamble 3 on indigenous culture and ecology, articles VII on the right to cultural integrity, VIII on philosophical outlook and language, XI (1) & (4) on spiritual and religious freedom, XIII (3) on the right to environmental protection, XV (1) on the right to self-government, XVIII (1) & (4) on traditional forms of ownership and cultural survival, rights to land, territories and resources.

²⁸⁶ The rest of the article reads:

- [3]. Indigenous peoples shall be entitled to use, maintain, develop and manage their own health services, and they shall also have access, on an equal basis, to all health institutions and services and medical care accessible to the general population.
- [4]. The States shall provide the necessary means to enable the indigenous peoples to eliminate such health conditions in their communities which fall below international accepted standards for general population.

[1]. Indigenous peoples have the right to the recognition and full ownership, control and protection of their cultural, artistic, spiritual, *technological and scientific* heritage, and legal protection for their intellectual property through trademarks, patents, copyright and *such procedures as established under domestic law; as well as to special measures to ensure them legal status and institutional capacity to develop, use, share, market and bequeath that heritage to future generations.*²⁸⁷

[2]. Indigenous peoples have the right to control, develop and protect their sciences and technologies, including their human and genetic resources in general, seed, medicine, knowledge of plant and animal life, original designs and procedure.²⁸⁸

3.4.3.9 Other Initiatives

In addition to governmental and intergovernmental initiatives, indigenous peoples have capitalized on the burgeoning global recognition of their rights over their traditional knowledge. They realize that international recognition of their intellectual and cultural property depends much on their efforts.²⁸⁹ There has been a remarkable increase in international solidarity through conferences, workshops, declarations and resolutions on the subject of indigenous intellectual property rights. Arising from these forums are suggestions (as opposed to juridical instruments) for normative options for the protection of traditional knowledge.²⁹⁰

Two notable global initiatives illustrate this trend. The Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples is one of them. It was the first international conference of its kind.²⁹¹ The Declaration associates the protection of indigenous knowledge with self-determination.²⁹² It also recognizes among other things that the existing protection mechanisms are inadequate for the protection of intellectual

²⁸⁷ Emphasis added.

²⁸⁸ XX (3) provides:

States shall take appropriate measures to ensure participation of the indigenous peoples in the determination of the conditions for the utilization, both public and private, of the rights listed in the previous paragraphs 1 and 2.

²⁸⁹ See Blakeney *supra* note 1 at 257.

²⁹⁰ *Ibid.*

²⁹¹ Convened by the nine indigenous nations of Mataatua in the Bay of Plenty Region of Aotearoa, New Zealand in June 1993. See Blakeney *ibid.* at 258; see also Michael Blakeney, “Ethnobiological Knowledge and Intellectual Property Rights of Indigenous Peoples in Australia” in Blakeney, ed., Intellectual Property Rights Aspects of Ethnobiology (London: Sweet and Maxwell, 1999) 85 at 94 [hereinafter “Ethnobiological Knowledge”]; see also Blakeney, “The International Framework of Access to Plant Genetic Resources” *ibid.* at 3 at 16 [hereinafter International Framework].

²⁹² See Blakeney, *supra* note 1 at 258; see also Dreamtime, *supra* note 258.

3.4.3.10 National Initiatives

In the aftermath of the CBD, domestic legal regimes or policies on access to genetic resources based on the recognition to traditional knowledge have continued to evolve. This is mainly in response to the objectives of the Convention, especially along the lines of article 8(j) provisions. Developments from countries such as the Philippines,³⁰⁰ Brazil, Australia,³⁰¹ New Zealand, Nigeria,³⁰² Costa Rica,³⁰³ South Africa,³⁰⁴ Laos PDR, to mention but a few,³⁰⁵ are indicative of state practices favourably disposed to the recognition of traditional knowledge.

3.4.3.11 Corporate and Institutional Best Practices

It is inconceivable today for non-state actors such as multi-national corporations to engage in bioprospecting activities without accounting for the role of indigenous knowledge. This was not feasible fifteen or so years ago. There are now in place many contractual models or terms of engagements between public institutions, corporations and research organizations involved in securing vital genetic resources with the help of indigenous knowledge. Notable ones include the famous Merck/INBio model—an agreement between the government of Costa Rica and the American pharmaceutical company, Merck—that provides incentives including royalties for use of local genetic resources.³⁰⁶ There is also the US National Cancer Institute (NCI) initiative, which now

³⁰⁰ For developments in the Philippines, see V. Barber & A. La Vina, “Regulating Access to Genetic Resources: The Philippines Experience” in Mugabe *et al*, eds., Access to Genetic Resources: Strategies for Sharing Benefits (Nairobi: ACT Press, 1997) at 115; see also Commercial Use of Biodiversity, *supra* note 225 at 301.

³⁰¹ See Ethnobiological Knowledge, *supra* note 291.

³⁰² See Olawale Ajai, “Access to Genetic Resources and Biotechnology Regulation in Nigeria” (1997) 6:1 Review of the European Community International Environmental Law 42.

³⁰³ See Dutfield *infra* note 313 at 110-113.

³⁰⁴ See S. Laird & R. Wynberg, “Biodiversity Prospecting in South Africa: Developing Equitable Partnership” in Mugabe *et al*, *supra* note 300 at 143.

³⁰⁵ Others include: Argentina, Belize, Bolivia, Cameroon, Colombia, Ecuador, Ethiopia, Eritrea, Fiji, Gambia, Guatemala, India, Indonesia, Kenya, Laos PDR, Lesotho, Malawi, Malaysia, Mexico, Mozambique, Namibia, Nigeria, Papua New Guinea, Peru, the Republic of Korea, Samoa, Seychelles, Solomon Islands, Tanzania, Thailand, Turkey, USA, Venezuela, Vietnam, Yemen and Zimbabwe. See Commercial Use of Biodiversity, *supra* note 225 at 4.

³⁰⁶ This is a globally acclaimed but equally critiqued program. Merck is committed to the initial payment of the sum of US\$1.3m and a certain amount of royalty speculated to be in the range of 2-3% of the proceeds from useful medicinal/agricultural products arising out of the samples supplied by the non-profit INBio, which acts as the agent of the Costa Rican government. This agreement has been described as “the first of its kind in the world to recognize a nation’s proprietary right over its genetic resources”. However, a

requires the licencees of its locally-sourced research discoveries to enter into benefit-sharing agreements with the source countries and holders of local knowledge. Another example is the International Cooperative Biodiversity Group (ICBG). The ICBG is an international multi-party research collaboration by US institutions,³⁰⁷ corporations and their Third World counterparts. It targets biodiversity conservation projects, and the discovery of new drugs through natural products. The ICBG encourages the sharing of royalties among collaborators including holders of traditional knowledge.

Lastly, mention should be made of the practice of prospecting for new drugs by exclusive devotion to traditional knowledge of local communities. This practice is often credited to the moribund U.S.'s Shaman Pharmaceutical Company. The Shaman approach had different schemes through which it rewarded knowledge holders and their communities.³⁰⁸ Although few of the initiatives enumerated here predate the CBD,³⁰⁹ the latter's advent has in no little measure influenced a culture of corporate and institutional responsibility over indigenous knowledge. Even where there are yet no local regulations, corporations and institutions are inclined as a matter of "best practice" or ethics to follow

fundamental flaw of the agreement is that all patent and intellectual property rights to the products developed under the agreement vest in Merck. In effect, it is more of a compensation deal than recognition of traditional knowledge. For discussion on the Costa Rica Merck/INBio agreement, see the following: Rodrigo Gamez *et al*, "Costa Rica Conservation Program and National Biodiversity Institute (INBio)", and Ana Sittenfeld & Rorío Gamez, "Biodiversity Prospecting and INBio" in Walter V. Reid *et al*, eds., Biodiversity Prospecting: Using Genetic Resources for Sustainable Development (New York: World Resources Institute, 1993) at 53 and 69 respectively; Michelle Powers, "The United Nations Framework Convention on Biological Diversity: Will Biodiversity Preservation Be Enhanced Through Its Provisions Concerning Biotechnology Intellectual Property Rights?" (1993) 12 *Wisconsin International Law Journal* 103; L.H. Caperole, "The Merck/INBio Agreement: A Pharmaceutical Company Perspective" in Elaine Elisabetsky & Sarah A., Laird, eds., Medicinal Resources of the Tropical Rainforest: Biodiversity and Its Importance to Human Health (New York: Columbia University, 1996) at 137-41, Ana M. Sittenfeld & Annie Lovejoy, "Biodiversity Prospecting Frameworks: The INBio Experience in Costa Rica" in Guruswamy & McNeely, *supra* note 124 at 223-243; see also Nunes, *supra* note 8 at 526.

³⁰⁷ The US National Institutes of Health, the US Agency for International Development, and the National Science Foundation among others.

³⁰⁸ For a discussion of the shaman initiative the NCI and the ICBG programs, see E.J. Asebey and J.D. Kampenaar, "Biodiversity Prospecting: Fulfilling the Mandate of the Biodiversity Convention" (1995) 28 *Vanderbilt Journal of Transnational Law* 703; see also Commercial Use of Biodiversity, *supra* note 225 at 300-312.

³⁰⁹ E.g. the National Cancer Institute initiative, see Asebey & Kampenaar *ibid*. It does seem that the Merck/INBio program happened almost at the same time as the CBD. To a large degree, the underlying concept of that agreement depicts the CBD objectives. The Merck/INBio framework was, however, primarily influenced by the Regional Central American initiatives on access to genetic resources from the early 1980s to early 1990s. The Merck INBio Agreement was entered into in 1991, barely before the CBD.

a standard of recognition or access, which appropriates the CBD's objectives.³¹⁰ This practice has the likeness of "corporate *opinio juris*" if there was such a concept.

3.4.3.12 Other Regional Trends

In addition to the OAS Draft Declaration discussed in 3.4.3.8, there are other developments at regional levels. For instance, the ANDEAN Pact countries (Bolivia, Colombia, Ecuador, Peru and Venezuela) have initiated a regional access regime that emphasizes the integrity of local knowledge. In Africa, the African Union (formerly the OAU) countries have been working on a regional access regime based on the concept of recognition of traditional knowledge.³¹¹ A similar initiative is underway among the ASEAN (Association of South East Asian Nations) block. Kate and Laird report that since 1999 the South Pacific Regional Environmental Program has mooted the idea of initiating a regional access regime that aims at the recognition and protection of traditional knowledge.³¹²

3.4.3.13 Intellectual Property

On the intellectual property front, the ongoing debate over an appropriate IP regime for traditional knowledge represents the concerted quest for the juridification of traditional knowledge. A number of *sui generis* options such as traditional resource rights, community intellectual property rights, traditional cultural and intellectual property rights, and other contractual models for protection of local knowledge are part of the global brain-storming project for the protection of indigenous knowledge.³¹³ All of

³¹⁰ For corporate and institutional policies on, and responses to the CBD, see Commercial Use of Biodiversity, *supra* note 225 at 33, 294-312.

³¹¹ See The Organization of African Unity, *African Model Legislation for the Recognition and Protection of Rights of Local Communities, Farmers and Breeders and for the Regulation of Access to Biological Resources, 1998?*

³¹² *Ibid.* at 4. For a discussion of the ANDEAN initiative, see *ibid.* at 16. For the discussion of the O.A.U initiative and further discussions on the ANDEAN strategy, see also Dutfield, *infra* 313 at 108-117.

³¹³ See the following: Darrel A. Posey & Graham Dutfield, *Beyond Intellectual Property Rights: Towards Traditional Resource Right for Indigenous and Local Communities* (Ottawa: International Development Research Centre, 1996) at 95, G. Nijar, "In Defence of Indigenous Knowledge and Biodiversity: A Conceptual Framework and Essential Elements of A Rights Regime" (Penang; Malaysia: Third World Network Paper #1 1996), Anil K. Gupta, "Getting Creative Individuals and Communities their Due: Framework for Operationalizing Articles 8(j) and Article 10 (c)" Paper submitted (by invitation) to the Secretariat of the Convention on Biological Diversity, online: <<http://csf.Colorado.edu/sristi/papers/getting.html>>, Graham Dutfield, *Intellectual Property Rights, Trade*

these are going on within a broad network of international cooperation among indigenous and local communities, and moderated under the framework of burgeoning international regimes such as the UN, CBD, WIPO, UNESCO, WHO, UNDP, several regional initiatives and reluctantly, the WTO.³¹⁴

3.3.3.14 Evaluation

At the end of this *tour de monde*, pertinent conclusions are by now obvious. International law on indigenous peoples is not complete without the subject of indigenous knowledge. Indigenous knowledge is an integral part of that regime. The conception of knowledge is not limited to *indigenous peoples* in the strict sense. This partly explains the interchange between *indigenous* and *traditional* knowledge, and the use in some instruments of the term “local or other communities”. Even though there are perceived differences in interests between indigenous peoples and other holders of local knowledge in their quest for recognition of their knowledge, they share a commonality of understanding that traditional knowledge is a vital aspect of their cultural identity.

and Biodiversity: Sees and Plant Varieties (London: Earthscan, 2000) at 108-124, Ikechi Mgbeoji, “Patents and Traditional Knowledge of the Uses of Plants: Is a Communal Patent Regime Part of the Solution to the Scourge of Bio Piracy?” (2001) 9:1 *Indiana Journal of Global Legal Studies* 163, The Crucible II Group, Seeding Solutions: Policy Options for Genetic Resources: People, Plants and Patents Revisited Vol. 1 (Ottawa: IDRC/IPGRI/DHF, 2000), The Crucible II Group, Seeding Solutions: Options for National Laws Governing Control Over Genetic Resources and Biological Innovations Vol. 2. (Ottawa: IDRC/IPGRI/DHF, 2001).

³¹⁴ The general view is that the WTO-TRIPs agreement is based on the United States intellectual property regime. As such, it is insensitive to traditional knowledge. The agreement makes no provision on traditional knowledge, save for a stretched reading of its ambiguous article 27. Specifically, article 27.3 (b) makes provision for protection of plant variety rights “either by patents or by an effective *sui generis* system or by any combination thereof”. Even under this little window, there are strong doubts as to “whether plant variety innovations and the related knowledge are sufficiently inventive for this traditional knowledge to meet the criteria of non-obviousness of patent law and TRIPs”. See Quinn, *supra* note 199 at 300-1. The tension regarding indigenous interests and the WTO-TRIPs agreement boiled over at the botched 1999 Seattle Ministerial Conference of the WTO. In the Indigenous Peoples’ Seattle Declaration, the indigenous peoples contended, among other things, that the TRIPs agreement facilitates the theft and patenting of indigenous biogenetic resources. TRIPs, they charged, threatens indigenous access and control over their biological diversity, traditional knowledge and intellectual heritage. See “The World Trade Organization and Indigenous People: Indigenous Peoples’ Seattle Declaration on the Occasion of the Third Ministerial Meeting of the World Trade Organization 30 November-3 December 1999”, online: <http://www.ienearth.org/intellectual_property.html> Since the Seattle debacle, the revision of article 27 of the TRIPs which is now past due continues to drag through subsequent summits. Under the TRIPs original schedule, the revision of article 27.3 (b) became due four years after the date of entry into force of the WTO Agreement. In effect, the revision ought to have been done since January 1, 2000.

Indigenous knowledge is now recognized in virtually every normative plank for the affirmation of international law. The level of recognition includes both customary international law in all its extended discourse and treaty law. Accordingly, the relevant provisions of the Universal Declaration of Human Rights, including the International Bill of Rights, ILO and the CBD on indigenous knowledge are to a large extent treaty law. On the other hand, a combined reading of regional initiatives, the United Nations Draft Declaration, the Rio Declaration, Agenda 21, and other soft law proclamations pursuant to the international consensus they articulate, leads to the conclusion of *opinio juris*. Anaya and Wiessner's argument affirming the reality of international law on indigenous peoples on the basis of international consensus lends scholarly support to this contention. State practice and the activities of other relevant corporate and institutional actors such as multinational corporations further validate this conclusion.³¹⁵

Today, of all subjects of indigenous claims identified by scholars, just one remains contentious—self-determination—merely regarding its scope and interpretive detail. It is then safe to argue that just as there is an international law on indigenous peoples, there is today an international law that protects indigenous knowledge as an inherent component not only of that regime but also of the indigenous subject matter.

The critical issue of the moment is how to use that international legal dispensation on indigenous peoples to actually empower traditional knowledge holders without shortchanging them through the persisting stronghold of dominant epistemic ideologies. Because indigenous peoples have a holistic outlook on phenomena, their knowledge is not adequately accounted by the tendency to compartmentalize it into different genres. Unfortunately, signals from the post CBD regimes and relevant scholarly prescriptions indicate continuing subscription to Western epistemological and intellectual (property) framework. There appears to be little regard, at least for the moment, for alternatives rooted in traditional approaches, where indigenous knowledge finds its fullest and most unfettered expression.

³¹⁵ Perhaps mention needs to be made that the conduct of states during and at the UNWGIP were essentially affirmative of the international consensus on the recognition of indigenous aspirations. Many states used the platform of the UNWGIP to return a report of good conduct and commitment toward the protection of indigenous rights. See Barsh, *supra* note 46.

CHAPTER FOUR

International Law and the Socio-cultural Context of Traditional Knowledge of Plant-based Therapy (TKPT)

4.0 Introduction

In the last chapter, I traced the evolution of international law on indigenous peoples. I concluded that the question of whether there is international law relating to indigenous peoples could be answered in the affirmative. Under treaty law and customary international law, it can be said that there is an international legal regime on indigenous peoples. Protection of indigenous or traditional knowledge is a component of that regime. Traditional knowledge is practised by both indigenous and non-indigenous others, and as such, it is not limited to indigenous peoples *per se*. However, the international law on indigenous peoples provides the platform for an elaborate discourse of traditional knowledge. For this reason, I use the two terms, traditional and indigenous knowledge interchangeably.

In this chapter, I investigate the extent to which international indigenous law provides for the concept of traditional medicine or traditional knowledge of plant-based therapy, (TKPT) which I have defined in chapter one. I also inquire into the socio-cultural context of the use of plants in traditional therapy. In doing that, I examine whether indigenous use of plants in therapy is limited to the knowledge of plant therapeutic compounds or active agents; or whether it goes beyond that. My thesis is that traditional therapeutic knowledge and practices, especially those relating to the use of plants, constitute a fusion of the therapeutic and pharmaceutical aspects of indigenous medical traditions. Thus, traditional therapeutic knowledge may not be meaningfully isolated from the socio-cultural, religious and belief systems of indigenous and local communities.

Indigenous peoples' knowledge and worldview are based on holistic conceptions of phenomena in an entangled web of relationships. Isolating an aspect of that knowledge, as the concept of plant-based therapy suggests, would seem to subscribe to the fragmentation of the holistic spectrum of indigenous knowledge. The use of plants in indigenous therapy may not be clearly isolated from indigenous cultural life. As will be

evident in subsequent pages, plants are used in most cases of indigenous therapeutic intervention along with other substances including animals and minerals. However, the emphasis here is on the use of plants in therapy, even though other aspects of indigenous therapeutic applications are acknowledged. It will be demonstrated that the use of plants in traditional therapy involves the full complement of indigenous culture, religious beliefs, and social-cultural relationships and cosmology. Therefore, the focus on plants serves a purpose akin to a case study; and it demonstrates the holistic paradigm of indigenous knowledge and understanding of phenomena.

4.1 The Protection of Traditional Therapeutic Knowledge

There are few direct provisions on indigenous therapeutic knowledge in relevant international instruments on indigenous peoples. There are even fewer such provisions, which make more specific references to the use of plants in indigenous therapy. This is understandable for some reasons. As evident in chapter three, indigenous knowledge is intertwined with indigenous cultural practices. Hence the protection of the knowledge involves the protection of all its cultural manifestations and institutional representations. Those include the institutions of health, religion, education and economic development as aspects of indigenous self-determination.¹ In all of these contexts, indigenous therapeutic practices are implicated. For instance, the practice of traditional therapy has educational, religio-cultural and economic undertones in the preservation of indigenous cultural identity. In specialist legal and institutional regimes such as the Convention on Biological Diversity, the Convention for the Protection of Plant Variety (UPOV), the Food and Agricultural Organization (FAO), the International Undertaking for the Protection of Plant Genetic Resources (IUPGR), to mention the few, the focus is on biodiversity conservation, protection of plant resources, food, agriculture and so forth. Nonetheless, the dual role of plants as food and medicine links such regimes to uses of plants in therapeutic contexts. Therefore, even though there is scant mention of therapeutic knowledge in a number of relevant instruments, indirectly, there are adequate provisions

¹ For the ILO Convention No. 169, see 28 I.L.M. 1382 (1989). For example, the fourth preambular paragraph makes reference to “recognizing the aspiration of these peoples to exercise control over their

regarding such *knowledges* as integral aspects of the peoples' cultural and institutional lives.

Apart from the general guarantee of the right of participation in the cultural, religious, artistic and scientific life of the community under the International Bill of Rights,² there are provisions (albeit scanty for reasons stated) in other instruments referring directly to indigenous therapeutic knowledge, practices and institutions of health. I select three such instruments to determine if there is any discernible pattern in their provisions. The three instruments represent the multijuridical regimes in the evolution of international law on indigenous peoples, which I have explored. The first, ILO Convention No. 169, is a treaty regime. The second is the U.N. Draft Declaration on the Rights of Indigenous Peoples, which represents a crucial development toward the consensus on customary international law on indigenous peoples. And the last is the OAS Draft Declaration, which not only serves the same purpose as the U.N. Draft, but in addition, it represents the feature of regional initiatives.

Finally, mention will be made of the global policy regime on traditional medicinal knowledge under the auspices of the World Health Organization (WHO). The WHO has not initiated any treaty regime on the subject of traditional or indigenous therapeutic knowledge. Nonetheless, that organization remains perhaps the most authoritative international normative platform for global public health policy of which traditional therapy is a crucial aspect. Therefore, the WHO policy orientation toward traditional therapy, and the capacity of such a policy to encourage favourable state practices merit discussion in some detail.

4.1.1 Traditional Therapy Under the ILO Convention No. 169, 1989³

Under the title of “social security and health”, part V of the Convention includes provisions recognizing traditional therapeutic knowledge. The Convention's objective is

institutions, ways of life, and economic development...” (emphasis added); see also articles 2(b), 5(a) & (b) *ibid.*

² See article 27 of the Universal Declaration of Human Rights, G.A. Res 271A (III), UN GAOR, 3rd Sess., Supp. No. 13, UN Doc. A/810 (10 December 1948) 71; see also article 1 of the International Covenant on Economic, Social and Cultural Rights, GA Res. 2200A (XXI), UN GAOR, 21st Sess., Supp. No. 16, UN Doc. A/6316 (16 December 1966) 49, reprinted 993 U.N.T.S. 3, 6 I.L.M. 360 (1967), article 27 of the International Covenant on Civil and Political Rights, GA Res. 2200A (XXI), UN GAOR, 21st Sess., Supp. No. 16, UN Doc. A/6316 52 (16 December 1966), reprinted in 999 U.N.T.S. 171, 6. I.L.M. 368 (1967).

the provision of adequate health services as a step towards the attainment of the “highest standard of *physical and mental health*”⁴ by those subject of the Convention. The prescribed means of achieving this objective is “community-based”⁵ and “primary health care”⁶ service. While supporting this approach, the Convention encourages its pursuit as part of other levels of the health care services prevailing in the state.⁷ Nonetheless, the Convention encourages indigenous peoples to design and take control over their health services.⁸ According to the Convention, state health planning and administration should be done with indigenous collaboration. Such planning must “take into account the peoples' economic, geographic, *social, and cultural conditions* as well as *their traditional preventive care, healing practices and medicines*”.⁹ Finally, in somewhat repetitive tone, Convention No 169 stipulates that “the provision of such health services shall be coordinated with other social, economic and cultural measures in the country”.¹⁰ It is important to observe that the Convention makes no specific provision with regard to the use of plants in indigenous therapy. It does appear that the Convention eschews such specificity, which is however, implied by its reference to social and cultural conditions, relating to traditional healing practices and medicines.

4.1.2 Traditional Therapy Under the U.N. Draft Declaration.¹¹

The U.N. Draft Declaration on the Rights of Indigenous Peoples goes a little further than Convention No. 169, and associates indigenous health with the right to development. Article 23 provides:

Indigenous peoples have the right to determine and develop priorities and strategies for exercising the right to development. In particular, indigenous people have the right to

³ See *supra* note 1.

⁴ Article 25(1) (emphasis added).

⁵ Article 25(2).

⁶ Article 25(3).

⁷ *Ibid.*

⁸ Article 25(1).

⁹ Article 25(3) (emphasis added).

¹⁰ Article 25(4).

¹¹ The United Nations Draft Declaration on the Rights of Indigenous Peoples—as agreed upon by the U.N. Working Group on Indigenous Populations at its Eleventh Session, Geneva, July 1993, adopted by the Sub Commission on Prevention of Discrimination and Protection of Minorities by its resolution 1994/45, U.N. Doc. ECN 4.1995/2/1994 (26 August 1994) 56 at 105.

determine and develop all health, housing and social programmes affecting them, and as far as possible, to administer such programmes through their own institutions.

Article 24 makes more specific reference to traditional plant-based therapy by guaranteeing indigenous peoples the right to “[t]heir *traditional medicines and health practices*, including the right to the protection of vital *medicinal plants*, animals and minerals”.¹² It amplifies the reference to plant-based therapy in the context of its provision on intellectual property rights under article 29. Through the latter article, it encourages measures designed to protect indigenous ownership and control of intellectual property rights over “[i]ndigenous sciences, and cultural manifestations, including human and other genetic resources, seeds, medicines, knowledge of properties of fauna and flora...”. Finally, in almost the same manner as Convention No. 169, the U.N. Draft in an apparent reference to Western biomedical system, encourages indigenous access to other medical institutions, health services and medical care.¹³

4.1.3 Traditional Therapy Under the OAS Draft Declaration¹⁴

The Draft Inter-American Declaration on the Rights of Indigenous Peoples has perhaps the most elaborate provision regarding traditional/indigenous therapeutic

¹² Emphasis added.

¹³ Paragraph 2 of article 24 provides: “They [indigenous peoples] also have the right to access, without any discrimination, to all medical institutions, health services and medical care. Compare article 25(3) of the ILO Convention 169, *supra* note 1 which reads: “the health care system shall give preference to the training and employment of local community health workers, and focus on primary health care while maintaining strong links with other levels of health care services”. These two provisions provide very clear authority in support of the practice of medical pluralism. The OAS Draft makes identical provisions under article XII (4). It reads in part that indigenous people shall “have access without discrimination, to all health institutions and services and medical care”. I have a broader conception of medical pluralism, which I define as more than one epistemic approach to sickness and health. David Phillips defines it as “the existence and use of a wide range of sources of medical care, traditional and modern, static and evolving. See David Phillips, Health and Health Care in the Third World (New York: Youngman, 1990) at 75; Aginam defines it as “the existence in a single society of differently designed and conceived medical systems”. See Obijiofor Aginam, Salvaging the Global Neighbourhood: Multilateralism and Public Health Challenges in a Divided World (PhD Thesis, “Law”, University of British Columbia, 2002) [unpublished] at 166 [hereinafter “Public Health Challenges”]. For further reading on medical Pluralism, see John M. Janzen, The Quest for Therapy: Medical Pluralism in Lower Zaire (Berkeley, California: University of California, 1978); see also Horatio Fabrega, “A Complementary on African Systems of Medicine” in P. Stanley Yoda, ed., African Health and Healing Systems: Proceedings of a Symposium (Los Angeles: Crossroads, 1982)

¹⁴ Proposed American Declaration On The Rights of Indigenous Peoples, Inter-American Session Commission on Human Rights, 1333rd Session, OEA/Ser/L/V/II.95, Doc. 6 (26 February 1997), reprinted in (1997) 6:2 International Journal of Cultural Property 364.

knowledge and practices. Although the draft provisions may not yet enjoy the status of a treaty obligation in international law, they reflect to a large degree the consensus on the rights of indigenous peoples in international law. Its legal status notwithstanding, the draft has not been without some effect with respect to implementation. As was mentioned in chapter three, the Inter-American Commission on Human Rights has tapped into the draft provisions in the defence of the human rights of indigenous peoples in some countries. The provisions of the OAS Draft regarding indigenous health and wellbeing reflect a synthesis of similar provisions of the ILO Convention No. 169 and the U.N. Draft Declaration.

Article XII of the OAS Draft entitled, “[h]ealth and wellbeing”, confers on indigenous peoples the right to maintain, develop and manage their own health services.¹⁵ With respect to traditional therapeutic knowledge of plant-based therapy, the draft makes direct provision similar to the U.N. Draft. It not only mandates states to “[r]espect indigenous medicine, pharmacology, health practices and promotion including preventive and rehabilitative practices”,¹⁶ but also to facilitate their dissemination.¹⁷ Furthermore, article XII (3), provides that “[i]ndigenous peoples have the right to the protection of vital medicinal plants, animals and minerals”.¹⁸ Again, along the pattern of the U.N. Draft, it supports indigenous peoples’ right to intellectual property protection regarding their scientific and technological knowledge relating to genetic resources, seeds, medicines, plants and animals.¹⁹ Finally, despite indigenous autonomy over their health services, indigenous peoples are not precluded from access to other state health institutions and services.

4.2 Traditional Therapeutic Knowledge Under the WHO

The World Health Organization was founded in 1948.²⁰ Its principal objective is the “attainment by *all peoples* of the highest possible level of health”.²¹ As an organ of

¹⁵ Article XII (4).

¹⁶ Article XII (1).

¹⁷ Article XII (2).

¹⁸ See *supra* note 14.

¹⁹ Article XX (2).

²⁰ Even though its constitution was earlier adopted in 1946 at the International Health Conference, that constitution became effective upon the founding of the WHO in April 7, 1948. Before the formation of the WHO, three multilateral organizations were notably involved in matters of public health especially

the United Nations, the WHO is the most authoritative global body under international law entrusted with the overall subject of global public health governance including policies.²² The WHO constitution vests it with ample powers for facilitating the making of legally binding treaties and regulations in matters of public health.²³ Interestingly, the WHO adopts a broad, albeit ambiguous, conception of health. The WHO view of health incorporates two epistemic responses to ill health, namely the Western scientific and the traditional or non-Western systems. Thus, the WHO's constitution expansively defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”.²⁴ This notion of health inherently accommodates the biomedical and psychosocial paradigms. These dual paradigms, as would become clearer

regarding multilateral sanitary regimes. They were the Paris-based International Office of Public Health, the Health Organization of the League of Nations and the Pan-American Sanitary Bureau. See Public Health Challenges, *supra* note 13 at 135.

²¹ (Emphasis added). See Preamble to the Constitution of the World Health Organization, as adopted by the International Health Conference, New York, 19-22 June 1946 (Official Record of the World Health Organization, No. 2, at 100); see also Public Health Challenges, *supra* note 13 at 120.

²² Specifically, according to its constitution, the WHO is vested with broad enabling powers to effect its mandate. Some of the mandates of the WHO include powers to act as co-ordinating authority on international health work; to propose conventions or treaties, agreements, regulations and to make recommendations on the subject of international health; to initiate or promote and conduct health-related research; to determine and revise international disease taxonomy, and issues of public health practices; to establish and promote international standard dealing with food, biological, pharmaceutical and related materials. See The Constitution of the World Health Organization *ibid.*; see also Public Health Challenges *ibid.*

²³ Relevant articles include articles 9, 21 and 22.

²⁴ See WHO Constitution, *supra* note 21; see also Public Health Challenges, *supra* note 13 at 133. The WHO's definition tallies with the holistic conception of health in many non-Western indigenous or traditional communities. For instance, Good notes that in Coastal Tanzania, “the Swahili greeting *u mzima*, “are you whole, well?” captures the meaning of health as wholeness in the context of a community, a group of people related by bonds of kinship, neighborhood, or common work, and interdependent with one another”. Continuing, he also notes that:

In northern Nigeria, the common Hausa proverb *lafiyar jiki arzikine* (“health is wealth”) parallels the ideal definition of health espoused by the World Health Organization. *Lafiyar* symbolizes much more than the absence of disease. “It connotes general state of physical and social well-being which incorporates such characteristics as good relations with family and social contacts, a settled religious and moral state, freedom from danger and fear, success at work and in personal affairs, and the absence of sickness”. (Footnotes omitted).

See Charles M. Good, Ethnomedical Systems in Africa: Patterns of Traditional Medicine in Rural and Urban Kenya (New York; London: The Guilford Press, 1987) at 15 [hereinafter “Ethnomedical Systems in Africa”].

in the subsequent pages, are respectively associated with Western and non-Western or traditional approaches to health and illness.²⁵

Despite its pluralistic theory of health, the WHO for over half a century of its existence has failed to bring about a binding regulatory or treaty regime that effectively empowers traditional therapeutic practices. This situation is hard to explain since the WHO constitution vests it with powers to make recommendations and/or initiate binding instruments, conventions, agreements in matters of international and public health policies. A majority of scholars in the areas of health and international law agree that the WHO has woefully underutilized its legal potential²⁶ for a number of reasons which are not relevant for our present purposes.²⁷ The result is that at this apex level of global health policy there is no convention on traditional medicine. Instead, as a matter of the status quo, Western biomedicine continues to be privileged while other health systems are regarded as *alternatives*.²⁸ I do not suggest that only the WHO has all that it would

²⁵ See *infra* note 97 at 207.

²⁶ See for instance, the following: Aginam in *Public Health Challenges*, *supra* note 13 at 128-135, Allyn Taylor, "Making of the World Health Organization Work: A Legal Framework for Universal Access to Conditions of Health" (1992) 18 *American Journal of Law & Medicine* 301, David P. Fidler, "The Future of World Health Organization: The Role of International Law" (1998) 31 *Vanderbilt Journal of International Law* 1079. All of these scholars and several others decry the historical timidity of the WHO in deploying the machinery of international law in advancing its mandate.

²⁷ The reason for the WHO reluctance in making use of the unique and innovative legal powers under its constitution has been examined by a number of scholars. Aginam classifies these scholars as belonging to two schools of thought. The first school of thought is spearheaded by lawyers and the other, by doctors/epidemiologists. For the legal scholars, the WHO has been isolated from developments on international law since after 1945, by deliberately limiting itself to a "transnational Hippocratic society made up of physicians, medical scientists and public health experts" (Fidler *infra* at 15) while undermining the importance of legal strategy in the implementation of its mandate. According to this school of thought, the WHO's aloofness to law is also as a result of the conservatism of the medical professional fraternity that dominated the body. On the other hand, doctors/epidemiologist have relied on the success of the germ theory and have thus tended to treat matters of public health narrowly within that mechanistic and limited paradigm. Consequently, they undermine the truism that public health is a complex concept that traverses many segments of human life wherein the law and indeed international law is a formidable ally for the advancement of public health goals. See *Public Health Challenges*, *supra* note 13 at 131-133; see also David P. Fidler, "International Law and Global Public Health" (1999) 48 *University of Kansas Law Review* 1 at 15, Taylor, *supra* note 26 at 303.

²⁸ Often what constitutes the alternative therapeutic system is in relation to the prevalent health tradition in a given society or country. For instance, where traditional therapy is dominant as it is the case in most non-Western countries, then practically Western biomedicine represents the alternative. Good argues that in differentiating between what is, and what is not a folk system of medicine, "a key distinction is their geographic sphere of influence". Thus, he sees no reason why *Western biomedicine* cannot be described or labeled "as folk medicine in many tribal and peasant areas of Africa, Asia and Latin American where it [Western biomedicine] operates in the presence of locally dominant medical systems". See *Ethnomedical Systems in Africa*, *supra* note 24 at 22. However, in most non-Western societies traditional therapeutic systems are not officially recognized because of a colonial legacy that entrenches Western biomedical

take to reverse the epistemic and ideological conflict inherent in Western science/biomedicine and traditional knowledge systems.²⁹ Yet, if the latter could be accorded rightful status, as the WHO conception of health suggests, the WHO must be more active on the legal front regarding the subject of traditional medicine.

4.2.1 The Indispensable Nature of Traditional Therapy

Even though the WHO has initiated no legal or regulatory empowerment for traditional therapeutic knowledge and practices, it has an elaborate program on traditional medicine. The WHO recognizes that for a number of reasons, traditional therapeutic knowledge and practices are indispensable to indigenous and local communities. For instance, traditional therapeutic experience is culturally entrenched feature of indigenous or local peoples who represent 80% of world's peoples in need of health care.³⁰ Thus, it is inevitable that traditional therapy, notwithstanding its inadequacies,³¹ is the foundation of a realistic primary health care,³² especially in terms of the number of peoples it serves throughout the world. Furthermore, traditional therapeutic knowledge and practices constitute aspects of a people's socio-cultural, religious identity, worldview and understanding of phenomena. Again, Western biomedicine is not only expensive but also

hegemony. Hence traditional medicine is generally regarded as alternative or complementary to official biomedicine notwithstanding that more than 80% of world's peoples depend on it for their health care needs.

²⁹ The WHO is not the only organ concerned with the issue of health at international level. For instance, other specialized agencies such as the Food and Agricultural Organization (FAO) and the United Nations Environmental Program (UNEP) also deal with health issues within the intersections of their mandates. See Yutaka Arai-Takahashi, "The Role of International Health Law and the WHO in the Regulation of Public Health in Law" in Robyn Martin & Linda Johnson, ed., Law and the Public Dimension of Health (London; Sydney: Cavendish Publishing Limited, 2001) 113 & n. 2

³⁰ See Halfdan Mahler, in a foreword to Robert H. Bannerman, John Burton & Ch'en Wen-Chieh, eds., Traditional Medicine and Health Care Coverage: A Reader For Health Administrators and Practitioners (Geneva: World Health Organization, 1983) at 7 [hereinafter "Traditional Medicine and Health Care Coverage"].

³¹ See Robert H. Bannermann, "The Role of Traditional Knowledge in Primary Health Care" in Traditional Medicine and Health Care Coverage *ibid.* 318 at 320.

³² In its illusory mission statement of "Health For All by the Year 2000", the WHO had sought to incorporate various indigenous therapeutic practices and practitioners such as Traditional Birth Attendants (TBA). The 1978 International Conference on Primary Health Care held in Alma Ata endorsed the incorporation of a variety of health workers including traditional medical practitioners who may be trained to a level of *technical competence* in order to respond to the need of the community in primary health care. See Halfdan Mahler, *supra* note 30 at 7.

inaccessible to many indigenous or local peoples.³³ Concerns over the harmful effects of chemical drugs and disagreement over the assumptions and methodologies of allopathic medicine are cited as fuelling the patronage of traditional medicine in developed countries.³⁴ Finally, Western biomedicine or indeed any other health system does not have monopoly on solution to human affliction. Hence, in the search for the ways to mitigate the burden of illness there is no boundary; all options remain open.

4.2.2 The WHO Policy On Traditional Medicine

In support of the preceding sentence, since the 1970s beginning with the 1972 World Health Assembly (the governing body of the WHO) Resolution WHA29.72,³⁵ the WHO has pursued an official policy on traditional medicine. The WHO policy aims at the *integration* of modern and traditional medicine into the national health care regimes in the member states for the purpose of achieving optimal coverage of health care needs.³⁶ The policy seeks the evolution of initiatives aimed at assisting Third World countries to research, implement and develop cooperative training programs and

³³ For example, the ratio of traditional medicine practitioners to the population in Tanzania, Uganda, and Zambia is between 1:200 to 1:400, whereas the availability of allopathic practitioners is in the ratio of 1:20,000 or less. In sub-Saharan Africa, the ratio of traditional medicine practitioners to allopathic practitioners is in the excess of 100:1. See The WHO, Traditional Medicine Strategy 2002-2005 (Geneva: WHO, 2002) at 12 [hereinafter “Traditional Medicine Strategy”]. These statistics represent the trend on the availability of allopathic and traditional medicine practitioners in most of the non-industrialized countries.

³⁴ *Ibid.* at 2.

³⁵ That Resolution acknowledged the potential of traditional medical practitioners in health care delivery. The 1977 World Health Assembly Resolution WHA30.49 enjoined the WHO member countries to explore the utilization of traditional medicine in their health care systems. In 1978 the World Health Assembly wide Resolution WHA33.33 acknowledged the importance of medicinal plants in the health care systems of developing countries. Although not a resolution of the WHA, the 1978 International Conference on Primary Health Care in Alma Ata gave strong support for the use of traditional medical resource persons including traditional birth attendants and other practitioners for the enhancement of public health in developing countries. See Mahler, *supra* note 30 at 7; see also Public Health Challenges, *supra* note 13 at 165. Cecil G. Helman writes: “The importance of cultural factors to many different aspects of international health was officially recognized in 1996 by the World Health Organization and the UNESCO, who declared it the Year of Culture and Health. In their joint Declaration, the Directors General of both organizations proposed further avenues for cooperation so that health and culture can be developed in a mutually supportive manner which will benefit all peoples in all countries”. See Cecil G. Helman, Culture, Health and Illness (Oxford: Butterworth/Heinemann, 2000) at 9 [hereinafter Helman]; see also *The World Health Magazine* No. 2 (March-April 1996).

³⁶ See Jan Stepan, “Legal Aspects: Patterns of Legislation Concerning Traditional Medicine” in *Traditional Medicine and Health Care Coverage*, *supra* note 30, 290 at 307.

treatment strategies which incorporate traditional therapeutic experience.³⁷ Halfdan Mahler, the former Director General of the WHO observes that:

Since traditional medicine was incorporated in the World Health Organization's programmes in 1976, the gulf between traditional and modern systems appears to have narrowed to some extent. A genuine interest in many traditional practices now exists among practitioners of modern medicine; and growing numbers of practitioners of traditional, indigenous or alternative systems are beginning to accept and use some of the modern technology.³⁸

Twenty years after, it would appear that Mahler's optimistic observation is a statement of desire rather than reality. The WHO's policy on traditional medicine represents a desirable course of action which states are enjoined to pursue. Save for incorporation in a number of WHA Resolutions, and subsequent policy guidelines for testing the safety and efficacy of herbal medicine,³⁹ the WHO policy on traditional medicine does not have a binding effect. To that extent the policy is handicapped.

Apart from the WHA Resolutions in the 1970s relating to traditional medicine, the WHO's policy in that regard took a more proactive turn from 1991. In that year, the WHO issued, for worldwide use, the Guidelines for the Assessment of Herbal Medicine.⁴⁰ According to Timothy R. Tomlinson, Associate Director Emeritus of the Morris Arboretum of the University of Pennsylvania and Nigeria's Dr. Olayiwola Akerele, a former Manager of the WHO's Traditional Medicine Program: "[t]he objective of these [WHO] guidelines is to define basic criteria for the evaluation of the quality, safety and efficacy of herbal medicines and thereby assist national regulatory authorities, scientific organizations to undertake an assessment of the

³⁷ Ethnomedical System in Africa, *supra* note 24 at 11. Pursuant to the WHO policy, a number of countries have set up traditional medicine research institutes often with the technical and/financial assistance of the WHO. Notable examples include Ghana, China, Thailand, Nigeria, Indonesia, The Democratic Peoples Republic of Korea, India, Madagascar, Mali, Laos People's Democratic Republic, Sri Lanka and Vietnam. See Traditional Medicine Strategy, *supra* note 33 at 15.

³⁸ Mahler, *supra* note 30 at 7.

³⁹ In 1989, the Fifth International Conference of Drug Regulatory Authorities (IDCRA) held in Paris requested the WHO to prepare guidelines for the assessment of herbal medicines. In response, the WHO in June 1991 issued the requested guidelines which it recommended for use worldwide. Expectedly, the subsequent ICDRA (sixth) held in Ottawa that same year extensively promoted the WHO guideline. For the guideline, see WHO Doc: WHO/TRM/91.4, annex 11, See also WHO Technical Report Series, No. 863, (1996) annex 8. See *infra* note 68.

⁴⁰ *Ibid.*

documentation/submissions/dossiers in respect of such products”.⁴¹ More recently, the WHO has issued General Guidelines for Methodologies on Research and Evaluation of Traditional Medicine.⁴² The guidelines are based on “scientific” criteria. Thus, this suggests that the WHO’s attempt to link health to culture pursuant to its broad notion of health and as promoted by its joint declaration with UNESCO of 1996 as the Year of Health and Culture⁴³ is based on the reification of the “Western scientific” criteria as the basis for the validation of traditional medicine. Furthermore, the WHO’s emphasis on herbal medicine (as if there is no cultural context in which that component of traditional therapy is practiced) depicts the fragmentation which the “scientific” approach has wrought on indigenous knowledge systems. Thus, the WHO’s approach, based on narrow “scientific” criteria, sustains the status quo that reifies scientific/biomedical hegemony.

For instance, the WHO’s emphasis on active ingredients in its guidelines, advances not only the Western scientific culture but also advocates “mercantilism” and “extractivism” with which Western science and its intellectual property allies have besieged indigenous knowledge systems. Accordingly, the WHO guideline defines herbal medicine as:

Finished, labeled medicinal products that contain as *active ingredients*, aerial or underground parts of plants, or other plant material, or combinations thereof, whether in the crude state or as plant preparations. Plant material includes juices, gums, fatty oils, and any other substances of this nature. Herbal medicines may contain excipients. Medicines containing plant material combined with *chemically defined active substances*, including *chemically defined, isolated constituents of plants*, are not considered to be herbal medicines. Exceptionally in some countries herbal medicines may also contain, by tradition, natural organic or inorganic active ingredients which are not of plant origin.⁴⁴

The WHO’s elaborate policy on traditional medicine focuses on effecting desired policy changes at national levels in individual member states across the globe. According to the WHO, its policy strives to draw a balance between what it calls “uncritical

⁴¹ See Timothy R. Tomlinson & Olayiwola Akerele, eds., Medicinal Plants: Their Role in Health and Biodiversity (Philadelphia: University of Pennsylvania Press, 1998) at 205-211 [hereinafter “Medicinal Plants”].

⁴² See World Health Organization, “General Guidelines for Methodologies on Research and Evaluation of Traditional Medicine” (Geneva: WHO, 2000) (WHO Doc.: WHO/EDM/TRM/200.1).

⁴³ See Helman, *supra* note 35.

⁴⁴ Emphasis added, see the WHO Guidelines For The Assessment of Herbal Medicines, WHO document WHO/TRM/91.4, annex 11; see also Medicinal Plants, *supra* note 41.

enthusiasm and uninformed skepticism”⁴⁵ about traditional medicine. In the first global WHO Traditional Medicine Strategy recently published, the WHO articulates comprehensively in one document its policy on traditional medicine.⁴⁶ According to the text, the WHO agenda for “traditional medicine/complimentary alternative medicine” (TM/CAM)⁴⁷ aims at:

- ◆ Facilitating integration of TM/CAM into national health care systems by helping member states to develop their own national policies on TM/CAM,
- ◆ Producing guidelines for TM/CAM by developing and improving international standards, technical guidelines and methodologies for research into TM/CAM therapies and products, and for use during manufacture of TM/CAM products,
- ◆ Stimulating strategic research into TM/CAM by providing support for clinical research projects on the safety and efficacy of TM/CAM, particularly with reference to diseases such as malaria and HIV/AIDS,
- ◆ Advocating rational use of TM/CAM by promoting evidence-based use of TM/CAM,
- ◆ Managing information on TM/CAM by acting as clearing-house to facilitate information exchange on TM/CAM.

In pursuing these objectives the WHO does not contemplate the use of an international legal resource such as a treaty or a form of international regulatory mechanism. Rather it prefers to operate closely with national governments in the member states, non-governmental and international organizations, expert bodies, research institutes and especially the WHO Collaborating Centres on Traditional Medicines among others.⁴⁸ By means of these collaborations, the WHO has achieved some degree of

⁴⁵ Traditional Medicine Strategy, *supra* note 33 at 5.

⁴⁶ See *supra* note 33. This document is a comprehensive review of the status of traditional medicine and complementary alternative medicine worldwide. It articulates the role of the WHO in the promotion and regulation of traditional medicine; and “provides a framework for action for the WHO and its partners, aimed at enabling TM/CAM to play a greater role in reducing excess mortality and morbidity especially among impoverished populations”. *Ibid.* at 5.

⁴⁷ The WHO draws a distinction between traditional medicine and complementary alternative medicine. It uses traditional medicine when referring to Africa, Latin America, South East Asia and/or Western Pacific whilst it uses complementary alternative medicine to depict the same concept with reference to Europe and/or North America including Australia. See Traditional Medicine Strategy *ibid.* at 8. However, unlike in some countries of South East Asia and China, traditional medicine is not fully recognized as the official medical system in most countries of Africa, and Latin America. Therefore, it is normative for the peoples including the indigenous populations there to refer to traditional medicine as alternative just as is the case in the developed world. Compare, *supra* note 28 and accompanying text.

⁴⁸ Designated WHO Collaborating Centres for Traditional Medicine are located in the WHO member states in the five global geographical regions as follows: Africa (in Ghana, Madagascar and Mali), the Americas (in Bethesda and Chicago both in the USA), Europe (in Milan, Italy), South-East Asia (in Pyongyang, Democratic Peoples Republic of Korea) and Western Pacific (there are 12 collaborating centres in this region out of which 7 are located in China, 2 in Japan 2 in Republic of Korea and 1 in Vietnam). For a list of the institutions, see Traditional Medicine Strategy, *supra* note 33 at 41-42 annex 1.

consciousness among states and regional bodies on the question of promotion and regulation of traditional medicinal practices. The 1991 guidelines have been fairly instrumental in influencing national regulatory regimes on herbal medicines in many WHO member states. For example, between 1994 and 2000 the number of states that have enacted regulations concerning herbal medicine increased from 52 to 64.⁴⁹ Without doubt, the strategic importance of traditional medicine explains in part the increase in its patronage globally with or without the WHO's promotion. Yet the latter's policies have succeeded in setting in motion national regulatory regimes on traditional medicine with emphasis on its *scientific* validation and integration with allopathic health care and other issues of safety and efficacy.

The lack of an international legal mechanism for advancing its policy on traditional medicine contrasts with the WHO's two other notable initiatives. Pursuant to its powers under article 21 of its constitution, the WHO adopted International Health Regulations (IHR).⁵⁰ The IHR is an international regime which creates binding obligation on member states to notify the WHO in cases of outbreak of certain infectious diseases in their territories.⁵¹ Today, the IHR is a binding regime among member states of the WHO. Similarly, pursuant to its treaty making powers under article 19 of the WHO constitution, the World Health Assembly, by Resolution WHA52.18 sanctioned the commencement of a multilateral negotiation of a WHO-sponsored Framework Convention on Tobacco

⁴⁹ In 2000 for instance, Nigeria, Australia, Canada, Madagascar and the United States developed regulation on traditional medicine. Nigeria and Madagascar were assisted by the WHO. See *ibid.* at 15.

⁵⁰ See the World Health Organization, International Health Regulations, 3rd Annotated ed., 1963 (Geneva: WHO, 1983). Originally adopted in 1951 as the International Sanitary Regulations. Aginam describes the IHR as "the product of nineteenth century public health diplomacy". It was re-christened International Health Regulations in 1969, modified in 1973 and 1981. It is the first legally binding treaty adopted by the WHO pursuant to its treaty making powers under article 21 of its constitution. See Public Health Challenges, *supra* note 13 at 135; see also Arai-Takahashi, *supra* note 29 at 127-37.

⁵¹ I.e. cholera, plague and yellow fever; see articles 2-13 of the IHR; see also Public Health Challenges *ibid.* at 136. Although generally, the IHR is held to be a failure, and in fact has been more pungently described as a "toothless sleeping treaty" (*ibid.* at 141) partly because of the perceived WHO's inexperience in the deployment of international law in the administration of global public health. For further critique of the IHR, see Boris Velimirovic, "Do We Still Need International Health Regulation?" (1976) 133 *Journal of Infectious Disease* 478 (arguing that the IHR was more observed in breach and since such breaches attract virtually no consequences, the relevance of IHR is doubtful). Nonetheless, the IHR remains a very important measure. Its status as a binding instrument is significant. The IHR's metamorphosis and checkered history shows the seriousness that the WHO and indeed the international community attach to the infectious disease diplomacy. There is no reason why promotion and recognition of traditional medicine should now enjoy similar serious if for its critical status as the basis of primary health care for 80% of the world's peoples.

Control (FCTC), which has officially adopted without a vote on May 21, 2003 after two and half years of negotiation.⁵² According to Aginam, “[i]n its 53-year history, the FCTC process is the first time that the WHO is exercising its treaty-making powers under Article 19 of its constitution”.⁵³

It is, however, instructive that the first WHA resolution on traditional medicine was passed in 1972. Since then, there have been several resolutions relating directly to traditional medicine.⁵⁴ This does not include workshops, conferences, seminars, guidelines and several publications on traditional therapy sponsored chiefly or in part by the WHO. However, none of the WHA resolutions goes beyond merely cajoling member states to accord recognition to traditional medicine in their health systems and planning. This contrasts with the 1999 WHA Resolution, which set in motion the now-adopted FCTC; or the much earlier initiative, the IHR concerning the outbreak of infectious diseases which creates binding obligations. In effect, one conclusion is inevitable. Notwithstanding the elaborate nature of its traditional medicine policy, the WHO is yet to explore the possibilities in international law for advancing that policy. The WHO has failed to give maximum effect to its broader conception of health which incorporates both biomedical and traditional paradigms. Most of all, the WHO’s recognition of traditional medicine is subject to “scientific” validation or Western-based empiricism. As a consequence, the WHO finds itself in a situation whereby it perpetuates the traditional hostility and ethnocentrism which characterizes the relationship between Western biomedicine and traditional therapeutic practices.⁵⁵

⁵² See “World Health Assembly Adopts Historic Tobacco Control Pact”, (press release) online: WHO <<http://www.who.int/mediacentre/releases/2003/prwha1/en/>>(date accessed: 22 May 2003).

The FCTC was unanimously adopted in Switzerland by the WHA and now requires the 192 WHO member states’ ratification.

⁵³ Public Health Challenge, *supra* note 13 at 149.

⁵⁴ The 1972 WHA Resolution WHA29.72 which noted that traditional medical practitioners constitute a wealth of manpower for global public health; the 1977 WHA Resolution WHA30.49 which acknowledged the role of traditional medicine in health care system, whilst calling members states to explore its utilization; medicinal values of plants in the health care systems in the developing countries was the subject of the WHA Resolution WHA31.33 of 1978. See *supra* note 35.

⁵⁵ With reference to this ideological cum institutional hostility, see F. Staugard, Traditional Medicine in Botswana (Gaborone: Ipelegeng Publishers, 1985) at 5.

4.3 State Practices and Traditional Medicine

Today, there are examples of state practices which reflect the integration or co-existence of traditional and Western medical sciences⁵⁶ in line with the WHO vision. However, it is not clear whether or to what extent such examples were influenced exclusively by the WHO policy on traditional medicine.⁵⁷ I will resist the temptation to speculate on this, save to say that traditionally, the WHO policy has penetrated many regions of the globe and has made appreciable impact in the organization's 191 member states. Nonetheless, one point that compels reiteration is that whether officially endorsed or not, traditional therapy must continue to be resilient not only as a distinguishing socio-cultural characteristic of the people,⁵⁸ but also as a main source of their health care. There is no question that traditional therapeutic experience is part of the living reality of the majority of the world's peoples. Therefore, my interest relates to deliberate policy or state practices officially recognizing traditional therapeutic practices.

4.3.1 Industrialized Countries

Since the middle of the 20th century, exclusive reliance on Western biomedicine has increasingly proved inadequate for health care demands and delivery.⁵⁹ Attention has been focused on the so-called alternatives, which continue to rise in demand across the

⁵⁶ For accounts of early legislative developments relating to the accommodation or recognition of "unorthodox" therapeutic practices in the following countries: Mali, Upper Volta (Burkina Faso), Ghana, Uganda, Hong Kong, Sierra-Leone, South Africa, Lesotho, Swaziland, India, Sri Lanka, Pakistan, Bangladesh, Burma, Thailand, China, Korea, PDR, *et cetera*, see Stepan, *supra* note 36 at 295-308.

⁵⁷ With regard to developing countries of Africa, Central and South America, it would, however, seem that their policies toward traditional medicine depended for the most part on their colonial heritage more than on the WHO policy. For instance, Commonwealth Africa is inclined to adopt a more tolerant approach or sympathy toward traditional medicine. To this end, Stepan observes that "[t]he tendency in the Commonwealth countries, generally more liberal in recognizing indigenous practitioners, can be understood in the light of former British colonial policies which were based on minimal interference with native customs". *Ibid.* at 299. On the other hand, Francophone and Belgian colonies generally have been more cautious if not hesitant to officially accommodate traditional therapeutic practices. *Ibid.* at 298. Before the first ever WHA Resolution relating to traditional medicine in the early 1970s, most independent Third World countries have had to grapple with the issue of the status of traditional medicine in the post independent era. As I have noted, the legislative/policy approaches are influenced by the colonial legacies of those countries. Subsequent WHO policy on traditional medicine at best could be said to have added impetus to an evolving postcolonial trend. Therefore extant programs in developing countries, which seek to integrate traditional therapy under the WHO auspices, should be seen in the light of the checkered colonial and postcolonial experiences associated with traditional medicine.

⁵⁸ See Michael A. Attisso, "Pharmacology and Pythotherapy" in *Traditional Medicine and Health Care Coverage*, *supra* note 30, 194 at 196.

⁵⁹ See Stepan, *supra* note 36 at 291.

industrialized world. This trend is a reflection of the interpenetration of cultures, peoples and societies as well as their knowledge forms. According to the WHO, the percentage of the population in the following developed countries that have used complementary or alternative medicine at least once is 48% in Australia, 70% in Canada, 42% in USA, 38% in Belgium, and 78% in France.⁶⁰ In a similar vein, the growing non-affordability of Western biomedicine has triggered a resurgence in traditional therapy among indigenous and traditional communities. Good notes that “[d]espite the technological brilliance of scientific medicine, the behaviour of peoples seeking health care in Western societies suggests that the scope of mutual understanding and fruitful cooperating among variety of contemporary alternative therapy systems is possibly greater than ever before”.⁶¹

Indeed the inadequacy of modern biomedicine is partly the reason why the boundaries of what are considered “legitimate health practice” continues to expand. For instance, homeopathy, osteopathy, anthroposocial and herbal healing, transcendental meditation, yoga, acupuncture, chiropractics, astrology, palmistry among others continue to command increasing but varying interests across Europe and North America.⁶² Hitherto, these were not officially recognized as legitimate therapeutic systems.⁶³

The increased patronage of “non-official” therapies is matched by corresponding legislation, regulations and guidelines across the Western world where those conventional therapeutic cultures have made significant incursions.⁶⁴ For instance, by 2000, the USA had licensed over 12,000 acupuncturists,⁶⁵ and a reported 38 states have

⁶⁰ See Traditional Medicine Strategy, *supra* note 33 at 2.

⁶¹ Ethnomedical Systems in Africa, *supra* note 24 at 7.

⁶² *Ibid.* See Anne Underwood & Melinda Liu, “Learning From China: Ancient Cures From the Middle Kingdom Have Won Converts in the West” *Newsweek* (12 December 2002) at 54; see also, “The Science of Alternative Medicine: Chinese Medicine Homeopathy in European Depression Treatments” *ibid.*

⁶³ In fact, the survey of the *encounter* between traditional and allopathic medicine can hardly be complete. There is at moment so much going on which remains “under the radar, not widely known” and not usually reported. For instance, the Indian Health Service of the US Public Health Service hires Indian shaman to work with their clients”. (Prof. Bruce Miller, personal communication, 28 December 2002).

⁶⁴ See Stepan, *supra* note 36 at 291 & 298. In the Unites States, UK, Canada and Germany there is some degree of freedom to practice other forms of medicine within stipulated conditions. Patient’s right of privacy and freedom of choice especially relating to method of treatment are recognized. For instance, in the US case of *Andrews v. Ballard* 498 F. Supp 1038 (1980), a Federal District Court sitting in Texas held that the right to procure medical treatment falls within the purvey of the fundamental right of privacy. In terms of policy, however, only 25 of WHO’s 191 members have developed a national policy on traditional medicine/alternative or complementary/alternative medicine. See Traditional Medicine Strategy, *supra* note 33 at 20.

⁶⁵ In Europe, the number of acupuncturists is estimated at 15,000; nearly 80% of allopathic doctors in Belgium and Germany also practise acupuncture. See *ibid.* at 12.

legally recognized acupuncture with many in the process of doing so. From its Chinese origin, acupuncture is now a global therapeutic device used in 78 countries not only by acupuncturists but also by allopathic practitioners.⁶⁶ Consistent with its *scientific* bias, the WHO has developed two guidelines on the regulation of the practice of acupuncture.⁶⁷ Following the WHO Guidelines for Assessment of Herbal Medicine, over 12 European countries are said to have either established regulations of herbal medicines or revised the existing ones.⁶⁸ The gradual but silent integration of unofficial therapeutic practice into the official health system is indicative of state practices in this regard and the inevitability of interpenetration of knowledge systems.

4.3.2 Developing Countries

4.3.2.1 China and South East Asia

In most developing countries, traditional therapeutic structures remain resilient, even though Western biomedicine is officially privileged. Such is the situation in all the developing countries which historically were the colonial outposts of a few European nations, with the notable exception of China. Because traditional medicine has been acknowledged⁶⁹ as the bedrock of primary or community health care,⁷⁰ it is being incorporated into official health regimes in some developing countries. In this respect notable strides have been made in South and East Asia, more than any other region of the world.

⁶⁶ *Ibid.*

⁶⁷ See Guidelines on Basic Training and Safety in Acupuncture, and Guidelines on Clinical Research on Acupuncture. *Ibid.* at 31.

⁶⁸ *Ibid.* at 30; see also The World Health Organization, Regulatory Situation of Herbal Medicines: A World Review (Geneva: World Health Organization, 1998); WHO/TRM/98.1.

⁶⁹ At the early stages of colonialism, a policy of outright ban and incrimination of traditional medical practices and their practitioners was enforced in various countries of Africa, and the Americas. In pursuing this policy, the Colonial powers forged an alliance with the Christian missionaries by negatively branding traditional therapeutic practices and personnel; often dismissing the latter as charlatans or quacks, and the former as unscientific, fetish, diabolic, and idolatrous. Even in early 20th century China (1929) the central government of Kuomintang passed a bill banning traditional medicine in order to replace it with official biomedicine. However, Wang Pei writes that “they did not succeed in banning and replacing it. In the first place, people in the vast rural areas and both the common people and the upper class in many cities earnestly believed in traditional medicine”. See Wang Pei, “Traditional Chinese Medicine” in *Traditional Medicine and Health Care Coverage*, *supra* note 30, 68 at 71.

⁷⁰ See Robert H. Bannermann, *supra* note 31 at 318-327.

Generally, most of the countries in South and East Asia have effected substantial changes in their health laws for the purposes of tolerating and recognizing some formerly prohibited systems of health care.⁷¹ In China, for instance, traditional medicine was never completely dislodged in the first place from its central position in health care. Instead, over the years, it has continued to evolve toward integration with Western medicine.⁷² The story is not very different in the Indo-Pakistani subcontinent and a host of other Asian countries which have given official recognition to their traditional medical systems. Today, ayurveda, unani and traditional Chinese medicine enjoy formal status mainly in South East Asian countries. Worldwide, however, only China, the two Koreas and Vietnam have achieved full integration between the allopathic and traditional therapeutic systems.⁷³ Among other colonized indigenous cultures, the traditional therapy systems struggle against Western biomedicine for full official recognition.

4.3.2.2 Africa

In Africa, broadly speaking, the official health system remains Western biomedicine. Nonetheless, the inadequacy of Western biomedicine remains glaring. Hence, there is a strong reliance on traditional medicine for primary health care. A number of pilot public health projects which seek to integrate traditional therapy with Western biomedicine continue to be implemented in some African countries for example, Ghana,⁷⁴ Nigeria,⁷⁵ South Africa,⁷⁶ and Kenya⁷⁷ to mention but a few. In most other

⁷¹ Stepan, *supra* note 36, 290 at 291.

⁷² For instance, Hospitals and Schools of Traditional Medicine with harmonized curricular are now features of Chinese medical system. Even most if not “[a]ll the hospitals of Western medicine have set up departments of traditional medicine; the larger hospitals with better facilities have even instituted research laboratories to explore problems relating to the integration of traditional Chinese medicine with Western biomedicine”. See Wang Pei, *supra* note 69 at 72; see also Geoffrey Cowley, “Alternative Medicine: Now, ‘Integrative’ Care” *Newsweek*, *supra* note 62 at 49.

⁷³ Traditional Medicine Strategy, *supra* note 33 at 9.

⁷⁴ Ghana’s pilot project on the integration of traditional medicine tagged the Primary Health Training for Indigenous Healers (PRHETIH) targets the training of indigenous healers specifically Traditional Birth Attendants (TBA) in a rural district (Techiman). It involves collaboration between a local Catholic Hospital, and its staff, officials of the state ministry of health, local leaders and traditional healers. They jointly generated a curriculum and training program said to be suited to not only the needs of the healers but also to that of the community and recruited apprentices. The district hospital and its staff have remained a reference institution in the training of traditional healers. The hospital has since collaborated with the ministry of health and the WHO over an integrated development project for “the training of village health workers and traditional birth attendants, and the extension of nutrition clinics to neighboring villages”. The PRHETIH, an initiative of the 1970s, has endured. It represents a Ghanaian model for the integration of

traditional therapeutic experience with modern health care in order to optimize the capacity of the state and local communities to meet the increasing pressures on primary health care. The PRHETIH model has continued to enjoy the support of the WHO. See Bannermann, *supra* note 31 at 322; Ethnomedical System in Africa, *supra* note 24 at 308. Ghana has a National Centre for Scientific Research into Plant Medicine (CSRPM) at Mampong, which follows the WHO's General Guidelines for Methodologies on Research and Evaluation of Traditional Medicine. See Traditional Medicine Strategy, *supra* note 33 at 32. For some time now, Ghana has been working on a Traditional Medicine Practice Bill; see also the final *Report of the WIPO Fact-Finding Missions on Intellectual Property Needs and Expectations of Traditional Knowledge Holders 1998-1999* (Geneva, Switzerland: WIPO, 2001) [hereinafter, "FFM"] at 154-155.

⁷⁵ See the description of the pioneering effort at the integration of allopathic and traditional therapy in the treatment of psychiatric patients at Nigeria's Aro Mental Hospital in Abeokuta, Ogun State, South Western Nigeria by a one time Deputy Director General of the WHO, Dr. T. Adeoye Lambo, in "Mental Health in Nigeria: Research and Its Technical Problems" (1959) 11 *World Mental Health* 131-138; see also interview by Philip Singer with T. A. Lambo, MD, titled "Traditional Healing and the Medical/Psychiatric Mafia" published in P. Singer, ed., *New Science or New Colonialism? Essays in Critique of Medical Anthropology* (New York: Conch Magazine Publishers, 1977) 242-254, Raymond Prince, "The Psychiatrist and the Folk Healer: Interface and Partnership" in George G. Meyer, Kenneth Blum & John G. Cull, eds., *Folk Medicine and Herbal Healing* (Springfield; Illinois: Charles C. Thomas, 1981) 57, at 62-65 [hereinafter "Folk Medicine"]. For overview of the success story of the Aro Mental Hospital Project, see Ethnomedical Systems in Africa, *supra* note 24 at 307-308. Nigeria has a National Institute for Pharmaceutical Research and Development, which conducts research *inter alia* on plant medicine. The Centre uses the WHO Guideline for Methodologies on Research and Evaluation of Traditional Medicine. See Traditional Medicine Strategy, *supra* note 33 at 32.

⁷⁶ South Africa has been proactive in according recognition to traditional healers as well as the integration of indigenous therapeutic experience into its health care policy. As far back as 1974, South Africa evolved a licensing program which recognized the practice of general traditional medicine among Bantu medicine men and herbalists. Such practices include Naturopathy, Homeopathy, Osteopathy and Herbalism. South Africa's policy received its legal backing via a self-descriptive Act, titled Homeopaths, Naturopaths, Osteopaths and Herbalists Acts, 1974. Section 8 of the Act provides for Bantu medicine men and Herbalists. This Act paved the way for subsequent developments and policies on traditional medicine in South Africa which places that country in the proactive position with regard to official recognition of traditional therapy in Africa. In 1991, the Medical Research Council of South Africa established the Research Group on Traditional Medicine (RGTM), which is based at the Faculty of Medicine, University of Cape Town. Apart from establishing a database of traditional medicinal knowledge, the Group is principally involved in conducting research on the role of traditional medicine in alleviating particular afflictions common to local communities such as malaria and tuberculosis. See FFM, *supra* note 74 at 89.

⁷⁷ Officially sanctioned researches on the integration of traditional medicine with Western biomedicine are scanty in most African countries including Kenya. However, in Kenya a number of quasi-governmental and non-governmental bodies continue to invest in research on the traditional medicinal practices among rural populations whilst exploring the feasibility of a meaningful engagement of traditional therapy with official allopathic system. Notable in this regard is the African Medical and Research Foundation (AMREF). AMREF's Health Education Department researches the traditional therapeutic culture prevalent in some Kenyan nations including the pastoral Maasai indigenous peoples. Among AMREF's other interests is the improvement of knowledge, attitudes of traditional birth attendants in select parts of Kenya including, for example, parts of Machakos District. In Tanzania, Uganda, Zimbabwe and other Eastern and Southern African countries the involvement of traditional therapeutic practitioners in national health programs including education and training is gradually taking hold at different levels of government. See Ethnomedical Systems in Africa, *supra* note 24 at 303; see also Ann Beck, *Medicine, Tradition and Development in Kenya and Tanzania* (Waltham, Massachusetts: Crossroads, 1981). Kenya also has a Medical Research Institute which conducts research on traditional medicines and therapies among other things using the WHO General Guidelines for Methodologies on Research and Evaluation of Traditional Medicine. The WHO and UNESCO jointly declared that 1996 as the Year of Culture and Health, thus promoting the concept of cooperation in the fields of health and culture. See *supra* note 35. Consequently, primary health care programs such as the Expanded Programs on Immunization (EPI), Oral Rehydration Therapy (ORT) and other primary health care initiatives have proven more successful by an approach that

countries, various specific legislative and policies initiatives endorse a guided integration of aspects of traditional medicine often under the bureaucratic supervision of official biomedicine. To date, a total of sixteen African countries have established a legal framework for traditional medicine.⁷⁸ Many others have national management or coordination bodies including professional associations of traditional medicinal practitioners as well as bureaucracies that provide for training and budgetary allocation for the promotion of traditional medicine.⁷⁹ Yet no country in Africa has fully integrated traditional therapy with allopathic medicine. Only Nigeria, Mali and Equatorial Guinea are officially characterized as having an inclusive system.⁸⁰ Therefore, traditional medicine is not fully sanctioned officially in Africa.

4.3.2.3 Central and South America

With regard to the Central and South America, Jan Stepan surmises that:

A certain lack of legislative reaction to the issue of traditional medicine can be discerned in most “transitional countries” of South and Central America. Except for occasional provisions dealing with medicinal plants, traditional birth attendants or scientific disciplines such as chiropractic, little has been done to recognize traditional medicine even in the vast rural areas of the continent.⁸¹

Nevertheless, as part of the result of the WHO traditional medicine policy, regulations regarding the registration of herbal medicines are now in effect in the following countries: Bolivia, Chile, Colombia, Costa Rica, Ecuador, Honduras, Guatemala, Mexico, Peru and Venezuela.⁸²

favours community participation and the involvement of traditional therapeutic experience. See Helman, *supra* note 35 at 9.

⁷⁸ They include Burkina Faso, Cote d’Ivoire, Dem. Rep. of the Congo, Equatorial Guinea, Ethiopia, Ghana, Lesotho, Madagascar, Mali, Mozambique, Namibia, Niger, Nigeria, Sao Tome & Principe, Zambia and Zimbabwe. See Traditional Medicine Strategy, *supra* note 33 at 17.

⁷⁹ *Ibid.*

⁸⁰ The WHO defines inclusive systems as one that has not yet fully integrated TM/CAM into all aspects of health care even though there is an expectation that such integration is attainable. *Ibid.* at 9.

⁸¹ *Supra* note 36 at 291.

⁸² See Traditional Medicine Strategy, *supra* note 33 at 30.

traditional therapies;⁸⁷ (b) do not officially recognize traditional therapeutic systems but do not exclude them either;⁸⁸ (c) are tolerant of traditional therapeutic systems and are working toward their full integration into all aspects of the health care systems;⁸⁹ (e) have achieved full integration of traditional therapeutic systems into all aspects of their health care.⁹⁰

4.3.4 The WHO and Traditional Medicine: Of “Timidity” and “Scientific” Hegemony

In sum, the WHO’s policy on traditional medicine unlike the earlier and more recent WHO initiatives regarding infectious diseases and the extant negotiation of FCTC does not tap deeply into that organization's power under international law. This is so, despite the WHO’s ample latitude within its constitution to legally empower its policy on traditional medicine. The WHO endorses a conception of health that includes the scientific/biomedical and traditional/psychosocial paradigms. Nonetheless, its traditional medicine policy through its emphasis on “scientific” standards reifies and privileges Western medical science as the yardstick for validating traditional medicine. Again, the WHO's emphasis on herbal medicine unduly undermines the social context of traditional medicine. Herbal medicine is only an aspect (albeit a pivotal one) of traditional therapeutic knowledge and practices. As will be demonstrated subsequently, herbal medicine is not an isolated experience in indigenous therapeutic culture.

Its setbacks notwithstanding, the WHO's traditional medicine policy has influenced state policies and practices toward the integration of traditional therapeutic systems into national health care. Yet it may not be entirely correct to claim that the trend

⁸⁷ There is virtually no state that falls into this category, the purpose of which is perhaps to serve as a historical reminder of what was. Presently, from the global North to the global South, it is hard to identify any state that has completely shut out traditional or complementary alternative medicine from its healthcare system or outside the reach of its citizenry. Even if any state was so inclined, constitutional considerations bothering on individual liberty, freedom of choice and right to privacy are formidable obstacles to any such policy.

⁸⁸ This category generally reflects the present situation in Western industrialized countries.

⁸⁹ Majority of developing countries of Africa, the Americas and Asia fall within this category. However, these states do not necessarily recognize traditional medicine as the official medical system, even though traditional medicine is patronized by over 80% of the population.

toward integration is owed entirely to the WHO policy. Even the tendencies toward integration are not uniform because of the regional differences I have observed; yet there is no denying that the entrenched state practices are inclined to the integration of traditional medicine to Western biomedicine.⁹¹

The much touted WHO policy on traditional medicine dwarfs in comparison to the seriousness attached to traditional therapeutic knowledge and practices in the international instruments reviewed in the earlier pages of this chapter. Even though the WHO policy has generated and continues to generate state practices, the seriousness of the policy is undermined by the WHO's lack of courage in not exploring that policy through international legal channels. However, it can be argued that the strides attained by that policy in the WHO member states might ultimately pave the way for an international legal initiative on traditional medicine. Overall, even though no such treaty scheme is underway, the WHO presents a global policy framework which sanctions a pluralistic epistemic approach to health. Nonetheless, in the elaboration of that policy the WHO privileges biomedical hegemony over traditional medicine. The WHO needs to fully appreciate the cultural and psychosocial exchange at the heart of traditional medicine. Such an orientation will temper its insistence upon the validation of traditional medicine on the basis of a narrow conception of science. In order to have a fair and acceptable treaty on traditional medicine this kind of re-orientation on the part of the WHO's traditional medicine policy is necessary.

Summary

From the above review, some pertinent points regarding traditional therapeutic knowledge and practices can be made. Traditional therapeutic practices are recognized as an aspect of indigenous knowledge. They exist as an independent medical tradition, and

⁹⁰ Many South East Asian countries including China belong to this category. However, only three of them are recognized as having an integrative system. See Traditional Medicine Strategy, *supra* note 33 at 9; see also *supra* note 86.

⁹¹ In Western industrialized countries regulatory regimes in response to the incursion of unorthodox therapeutic practices arise from a growing demand more than from a deliberate policy initiative. Except in South East Asia, where traditional medicine has been formalized and officially sanctioned by the relevant states, in most regions of the world, Western biomedicine continues to be privileged. At best where

involve a complete health system.⁹² As such, they are associated with the socio-cultural conditions and developmental aspirations of indigenous peoples. Under that paradigm, there is little demarcation between pharmacological and therapeutic practices in traditional therapy. Although other substances such as animals and minerals are involved in the paraphernalia of traditional therapy, the use of plants is central to traditional therapeutic intervention, a point that will become clearer in the pages that follow. Thus, traditional therapeutic knowledge and practices can be distinguished from the orthodox Western biomedical approach to health care. On the issue of intellectual property rights with regard to traditional therapeutic endeavour, there is a consensus running through the instruments. The ILO Convention No. 169, the U.N. and Inter American Drafts all endorse the idea of intellectual property rights for indigenous knowledge in general and traditional therapeutic practices in particular.

Regrettably, however, the apex international body on health, the WHO does not have a binding or enforceable policy that recognizes traditional medicine. Its policy in that regard is rooted in the resolutions of its governing body, the World Health Assembly as well as in the elaborate but non-binding guidelines for worldwide application and other programs sponsored in virtually all the member states. Consequently, there are uneven state practices regarding the recognition and integration of traditional therapy in national health care systems. Because of the overarching importance of traditional medicine, the trends in state practices which favour the promotion of traditional therapy may not be exclusively credited to the WHO policies.

In addition to the foregoing, there is one other common trend discernible from the review of the instruments dealing with traditional therapy. The trend relates to the requirement that indigenous peoples' patronage of traditional medicine and right of autonomy over their health institutions should not preclude them from the benefits of official biomedicine. Thus, indigenous patrons of traditional therapy should also take advantage of the official biomedicine. Nonetheless, there is no such requirement for those

traditional therapy is not exclusively shut out, it is tolerated, included or integrated into the dominant official system to a varying degree.

⁹² Press defines a medical system as "a patterned, interrelated body of values and deliberate practices governed by a single paradigm of the meaning, identification, prevention and treatment of sickness". See I. Press, "Problems in the Definition and Classification of Medical Systems" (1980) 14B *Social Science & Medicine* 45 at 47; see also *Ethnomedical Systems in Africa*, supra note 24 at 23.

steeped in orthodox biomedicine. Hence the incursion of unorthodox therapeutic cultures and their patronage in the Western industrialized countries reflect the resilience of traditional therapy, the inadequacy of Western biomedicine and humanity's desperation in matters of health and illness more than it attests to a deliberate policy. A situation such as this depicts a lack of "intellectual reciprocity" in the relationship between orthodox biomedicine and traditional medicine as an aspect of their paradigmatic conflict.⁹³ Shortly, I will turn to that paradigmatic divergence. As will be made evident in chapter five the application of Western intellectual property model to TKPT is based on the conceptions of Western biomedicine. In that chapter, I will explore how that paradigmatic imposition affects traditional therapeutic endeavours.

4.4 Traditional Therapy and Western Biomedicine:⁹⁴ The Paradigmatic Divergence

4.4.1 Between the Biomedical and the Psychosocial

Peoples' health systems or therapeutic models derive from their philosophical and cultural affiliation.⁹⁵ Often their worldview and understanding of phenomena are linked

⁹³ See Collins O. Airhihenbuwa, Health and Culture: Beyond Western Paradigm (California; London and New Delhi: Sage Publications, 1995) at 57 [hereinafter Airhihenbuwa] (arguing that "seldom has the traditional healer been viewed as a health provider with superior knowledge in certain aspects of health care that would be of benefit to the allopathic provider..." According to Airhihenbuwa, "the assumption is made that the [traditional] healer...can make little or no contribution in improving the knowledge and practice of the allopath").

⁹⁴ I am using these broad categories with reference to the core conceptual features of traditional therapeutic practices and Western biomedicine and for reason of analytical convenience. Between traditional therapy and Western medical science, there is hardly any homogenous therapeutic model *strictu sensu*. Within these broad categories there are distinct health subcultures with variant contextual uniqueness. Referring to (Western) medical science, Helman writes that "[t]here is really no such thing as uniform Western or scientific medicine...the medical model is always to a large extent culture-bound, and varies greatly depending on the context in which it appears. Even within the same society, huge differences in perspective exist between different branches of medicine—between, say the perspective of surgeons, psychiatrists, epidemiologists, general practitioners and public health specialists". See Helman, *supra* note 36 at 82.

⁹⁵ See Patrick A. Twumasi, "Aging, Illness, and Traditional Medicine in Ghana" in Wilburn H. Watson, ed., Black Folk Medicine: The Therapeutic Significance of Faith and Trust (New Brunswick, USA; London: Transaction Books, 1984) 17 at 22; Ethnomedical Systems in Africa, *supra* note 24 at 5. Beyond being a system of scientific ideas, health concerns or medical practices are symbolic systems, which

to their approach to health and well being; their theories of disease and illness; pain and suffering; sickness and afflictions.⁹⁶ The epistemological disparity between the Western and indigenous or non-Western cultures in relation to their health care cultures is broadly expressed as biomedical and psychosocial respectively.⁹⁷

Within the Western “scientific” culture, disease or illness is a biological process or condition requiring a directly targeted course of treatment. As such, a “medical condition” is generally perceived as Newtonian, mechanical and organismic in nature. For this reason, allopathic or orthodox medical science is divided into several major disciplines, which in turn are divided into various subdisciplines,⁹⁸ based on organismic conception. Thus, however complex a medical condition is, part of the diagnostic process is to *break* down the situation including the human body into component parts. Effort is directed at tracing a single causal agent responsible for the ailment. When identified, treatment is administered on the implicated component part or targeted at the causal agent now isolated from all others. The highly mechanized or chemicalized nature of these treatments takes the form of “medical militarization”.⁹⁹ For instance, treatment programs such as radiotherapy and chemotherapy are associated with the metaphor of aerial and chemical warfare.¹⁰⁰ The patient’s body is, for all practical purposes, an isolated site of

express or reflect “some of the basic underlying values, beliefs and moral concerns of the wider society”. See Helman *ibid.* at 83.

⁹⁶ Charles Good observes that among medical anthropologists, other social and behavioral scientists, there is recognition of the need to distinguish between disease and illness, which are perceived as two elements of sickness. While disease is reference to the debilitation of biological and or physiological process, illness emphasizes the psychosocial interpretation and meaning of perceived disease. See *Ethnomedical Systems in Africa*, *supra* note 24 at 18; see also Arthur Kleinman, *Patients and Healers in the Context of Culture*, (Berkeley, C.A.: University of California Press, 1980) at 72, Airhihenbuwa, *supra* note 93.

⁹⁷ *Ethnomedical Systems in Africa*, *supra* note 24 at 13. The interpenetration of cultures, societies, peoples and their medical knowledge does not sustain any rigorous paradigmatic taxonomy. For instance, medical and nursing schools in United States and Canada offer courses on psychosocial approach to health. It has been suggested that “nursing as a discipline can be characterized as based on psychosocial/holistic approach to health”. (Bruce Miller, professor of anthropology, University of British Columbia, personal communication 28 December 2002)

⁹⁸ See John J. Canary, “Modern Allopathic Medicine and Public Health” in “Traditional Medicine and Health Care Coverage”, *supra* note 30, 90 at 92.

⁹⁹ See Deborah Oates Erwin, “The Militarization of Cancer Treatment in America Society” in Hans A. Baer, ed., *Encounters With Biomedicine: Cases Studies in Medical Anthropology* (New York; London: Gordon and Breach Science Publishers, 1987) 201 at 202.

¹⁰⁰ *Ibid.* at 201.

medical experiment.¹⁰¹ What is required of the sick is to “fight” the battle in which part of her body is either the enemy or harboring it. Her relationship with the doctor is as mechanical as the treatment. The overtly mechanistic approach is a consequence of the philosophical revolution of the Renaissance and the success of the germ theory. The Renaissance disseminated Cartesian scientific materialism in all fields of human endeavour in the West including the theory and practice of health care.¹⁰²

Unlike the situation in traditional therapy, there is a limited conceptual space for the consideration of psychosomatic elements in Western biomedicine. Ironically, 70-80% of patients do not suffer from organic disorder, which as we have seen is the preoccupation of allopathic medicine.¹⁰³ In a majority of cases, patients’ distress results from psychosomatic disorder. It is observed that “[s]ince psychosomatic disturbance is today one of the commonest of human afflictions, the philosophy and functioning of modern health is being questioned in many quarters”.¹⁰⁴

Interestingly, traditional therapeutic systems emphasize the psychosomatic dimension to illness. Health and sickness are conceived in all their psychological and psychosocial dimensions.¹⁰⁵ An individual’s well being depends on her harmonious relationship with the community and other supernatural forces, as well as the maintenance of necessary equilibrium. In this holistic conception of health, spiritual, emotional and social factors constitute the focus of traditional diagnoses as well as the

¹⁰¹ John Canary, writing in relation to allopathic medical system observes that “[i]n the best medical establishments, the student or the doctor is encouraged to consider his activity in regard to each patient also as a research project”. See Canary, *supra* note 98 at 98.

¹⁰² See Traditional Medicine and Health Care Coverage, *supra* note 30 at 9. The editors observe that until the beginning of the 19th century, all medical practice had the status of what is currently referred as “traditional”. Thus, the West itself has been part of the traditional culture hence “science” is not its indigenous culture. It is more appropriately a product of changing paradigm. John Canary observes that “[t]he primary point of separation of allopathy or, as it is frequently termed today, “modern”, “Western” or “scientific” medicine, from the traditional or indigenous medical system from which it evolved millennia ago, is unclear...”. See Canary, *supra* note 98 at 90.

¹⁰³ Claim is credited to a former Deputy Director General of the WHO, Dr. T.A. Lambo, see Ethnomedical Systems in Africa, *supra* note 24 at 13; See also singer, *supra* note 75 at 246.

¹⁰⁴ See Traditional Medicine and Health Care Coverage, *supra* note 30 at 11. There is no doubt, however, that the rise of modern medicine is indicative of its practitioners’ ability to provide services that meet important human need. See Wilbur Watson, in Black Folk Medicine, *supra* note 95 at 12. Modern medicine is patronized for the treatment of organic ailment and other serious medical conditions for which traditional medicine has no effective remedy, even though the latter would often provide a cultural and spiritual rationale for the ailment after it has been contained.

¹⁰⁵ See Mamadou Koumare, “Traditional Medicine and Psychiatry in Africa” in Traditional Medicine and Health Care Coverage, *supra* note 30 at 25.

remedy.¹⁰⁶ The sick person is a social being. Her sick state results from her social environment and the bundle of relationships incidental thereto. The essence of therapy is the restoration of the sick to her community.¹⁰⁷ Among the Navajo, the notion is rife that “[s]ick people are lost and lonely. They’re way out there somewhere all by themselves. We have to bring them back”.¹⁰⁸ Indeed there are no better-qualified persons than the members of her social and cultural group who could constitute the therapeutic community for the restoration of the sick. In this regard, the patient and the healer(s) share a commonality of belief, an identical worldview, religious, and other cultural and social bonds necessary for a successful therapeutic intervention. In all of these, the patient is not an object or subject of experiment, but an active participant in the therapeutic process.

The organismic and psychosocial paradigms of Western and traditional therapy result from their differing conceptions of the human body. Since the Middle Ages, humanity has been conceptualized as separate aspects of body, mind and spirit.¹⁰⁹ Historically, Western thought emphasizes humankind’s individual parts as opposed to seeing it as an integrated whole.¹¹⁰ The Cartesian scientific materialism in which biomedicine is essentially rooted maintains a distinct schism between the mind and the body.¹¹¹ The mind-body division is also the basic principle of the Western Judeo-

¹⁰⁶ See John Burton, “Public Health” in “Traditional Medicine and Health Care Coverage” *ibid.* 102 at 107; see also J.S. Mbiti, *African Religions and Philosophy* (London: Heinemann, 1969) at 169; O. Ampofo & J.D. Johnson-Romauld, “Traditional Medicine and Its Role in the Development of Health Services in Africa”, (Technical Discussion of the 25th, 26th and 27th Sessions of the WHO Regional Office for Africa, Brazzaville, Congo Brazzaville, 1987) at 51 (cited also in Public Health Challenges, *supra* note 13 at 167-9). Mbiti, Ampofo, Johnson-Romauld and Good posit that African conception of disease is not necessarily organismic dysfunction; rather, and more importantly, it emphasizes the notion of disharmonious relationship with natural and social forces.

¹⁰⁷ Ethnomedical Systems in Africa, *supra* note 24 at 15 citing O.F. Onoge, “Capitalism and Public Health: A Neglected Theme in Medical Anthropology of Africa” in Stanley R. Ingman & Anthony E. Thomas, eds., *Topias and Utopias in Health* (The Hague: Mouton, 1975).

¹⁰⁸ Robert L. Bergman, quoting a personal communication with Thom Large Whiskers, a 100-year old Navajo medicine man. See The Physician and the Folk Healer in Folk Medicine, *supra* note 75, 84 at 88.

¹⁰⁹ See Kenneth R. Pelletier, “Psychosomatic Approaches to Healing” in Folk Medicine *ibid.* 30 at 31. Compare Cecil Helman who observes that the mind-body conceptual dualism “can be traced back at least to Descartes in the seventeenth century, who divided man into a “body” (to be studied only by science), and “mind” or “soul” (to be studied by philosophy or religion)”. Commenting further Helman notes that “[i]n more recent times, “mind” has been handed over to psychiatrists and behavioural scientists to study (rather than priests), while “body”—seen increasingly as an animated machine—has been handed over to medical science and its diagnostic technology”. See Helman, *supra* note 35 at 81-2.

¹¹⁰ *Ibid.*

¹¹¹ It is not suggested that Western medicine is simply or exclusively a monolith of the “Cartesian order”, even though it is influenced fundamentally by that order. Within Western medicine there are differences in perspectives and therapeutic approaches between different branches. See *supra* note 94 at 206.

Christian tradition. Both under scientific materialism and Judeo-Christian thought the mind is severed from the body. Bodies are assumed to operate in causality systems with no input from the mind.¹¹² This represents the major premise of the most contemporary “scientific” medical practice and research.¹¹³ For instance, the present structure of the therapeutic professions is one in which physicians attend to the body; psychologists/psychiatrists attend to the mind, while the religious professions preach salvation to the soul.¹¹⁴ Nonetheless, in the Western medico-scientific professional tradition, the nature of the mind-body duality remains a subject of endless debate.

On the contrary, in traditional therapeutic systems, humanity is an integrated being comprised of the indivisible unity of mind, body and soul. The unity of mind and body is linked to the desired unity between the individual and her larger community, as the primary aim of traditional therapy. Treatment of sickness is approached from a holistic perspective in which physical debilitation is linked to the psychosomatic state of the sick. Thus:

Most folk healing systems assume a complex interconnectedness of body, mind and spirit. The balance and harmony that define health incorporate all of these aspects of persons, and disturbances in any of the aspects can produce sickness and symptoms in any of the others...Spiritual well-being and harmony may be crucial aspects of health, and are variously defined in terms of an individual’s inner state as well as in terms of relationships between human individuals and spiritual entities understood to interact with the material world and to influence personal health and well being.¹¹⁵

In the search for a cure, there is no organismic separation between the individual and her component parts. Therapeutic intervention is a total package comprising of complex diagnostic and curative rituals rooted in cultural, religions and psychosocial appeal. Even though there may be specialization within the healing professions, it is generally in a loose or non-absolute form. Such specialization is not in the nature of mastery of the organismic components of the human body. Each member of the healing

¹¹² See Lola Romanucci-Ross, “Melanesian Medicine: Beyond Culture to Method” in Peter Morley and Roy Wallis, eds., Culture and Curing: Anthropological Perspectives on Traditional Medical Beliefs and Practices (London: Peter Owen, 1978) 115 at 137 [hereinafter “Culture and Curing”].

¹¹³ *Ibid.*

¹¹⁴ *Ibid.*

profession adopts a psychosomatic understanding of illness and may be involved in multiple roles along with other members of the therapeutic community.

Another area of paradigmatic divergence between Western biomedicine and traditional therapy is in the nature of the therapeutic environment. The allopathic system maintains a formal relationship between the physician and the patient. Its narrow “scientific” bias encourages this formality in which objectivity is a virtue. Not much effort is made to know “a patient in terms of his or her social network and identity in a community, or the physical and psychological conditions of the patient’s life space”.¹¹⁶ Already, I have noted how the patient is conceived as more or less a specimen for experimentation. In essence, the physician-patient relationship is strictly formal and therapeutic intervention highly *objective*.

Apart from that, there are countless bureaucratic gatekeepers and other extraneous considerations mediating the physician-patient relationship. For instance, the retinue of medical intermediaries in a typical hospital setting is often intimidating to an unsophisticated patient. Before eventually getting to see the physician, the patient’s *case* has been thoroughly processed and computed, often through commercial laboratories. Her input is minimal, usually requiring the donation of her body component or fluid. With the doctor, she ends up spending some two minutes, like a product at a finishing end of a factory line. Little personal connection is made between her and the healer. The biomedical bureaucratic process is well designed toward processing a high patient load.¹¹⁷ Thus, time is of the essence; the doctor earns her pay by the number of patients turned over. So, she must be mindful of the appropriate contracts and requirements of the insurance companies and HMOs in order to maximize her remuneration.¹¹⁸ In the observation of Canary, “the concept of a production unit and the industrial assembly line can be applied to doctor-patient interaction”.¹¹⁹

¹¹⁵ Bonnie B. O’Connor & David J. Hufford, “Understanding Folk Medicine” in Erika Brady, ed., Healing Logics: Culture and Medicine in Modern Belief Systems (Logan, Utah: Utah State University Press, 2001) 13 at 19 [hereinafter “Healing Logics”].

¹¹⁶ See Ethnomedical Systems in Africa, *supra* note 24 at 13.

¹¹⁷ *Ibid.*

¹¹⁸ In most countries of the West, the physician is either salaried or is paid on a capita basis according to the number of patients attended to under the prevailing medical insurance or health services scheme.

¹¹⁹ See John Canary, *supra* note 98 at 96.

The formalism of physician-patient relationship in the biomedical context is sometimes antithetical to the psychosocial paradigm of traditional therapy.¹²⁰ Under the latter, the therapeutic environment is informal. The patient knows most, if not all, members of the therapeutic community. Therapeutic interveners do not constitute any bureaucratic intimidation. Usually they are members of the patient's immediate family or those with whom she shares kinship ties. Along with the traditional healer, who often doubles as a chief-priest, therapeutic interveners are part of an extended therapeutic community. They facilitate the restorative process by ensuring that all prescribed rituals and rites are fulfilled according to tradition and/or religion. The patient is treated on a case and culture-sensitive basis, in an environment not pervaded by time pressure¹²¹ or other extraneous considerations. Objectivity or universalism has little or no space in this context. Therapy is a targeted spiritual process. For instance, a patient's ailment may be linked to her totemic affiliation or to her incarnate ancestral roots, in which case, specific rituals and sacrifices may be prescribed. Here, the patient would be an active participant in the therapeutic process, and not an object of experimentation.

The above overview reflects the basic paradigmatic divergence between Western biomedicine and traditional therapy. It is by no means exhaustive. To a very large degree, the paradigmatic divergence results from the theories of illness and sickness, which constitute the foundation of Western and indigenous or non-Western therapeutic establishments. An understanding of the influence of the theories on the therapeutic cultures will further amplify the tensions and extent of the paradigmatic divide especially in relation to the use of plants in therapy.

¹²⁰ However, the notion of holistic and informal nature of traditional therapeutic system is open to dispute. For instance, David Phillips makes a counter argument. He dismisses the holistic construct of traditional medicine as a stereotyping which does not hold true in some cases. He writes, "[i]n large part of Asian and African villages and towns, there is probably almost as much impersonal treatment by traditional healers as there is by practitioners of modern medicine". Continuing, Phillips insists that "[t]he holistic appeal of traditional medicine—that it considers the patient as a whole person, in his or her domestic and social setting—may in fact be perpetuating a false image". See David Phillips, *supra* note 13 at 81; see also Public Health Challenges, *supra* note 13 at 168 & n.15.

¹²¹ As late as 1980s, the WHO indicates that the ratio of traditional healer to patient stood one to every 500 local inhabitants, whereas that of Western trained physician was one to 40, 000! See Koumare, *supra* note 105, at 27. Current statistics is 1:200-400. See Traditional Medicine Strategy, *supra* note 33.

4.4.2 Theories of Illness¹²²

Generally, there are almost as many theories of illness as there are specific illnesses, and cultures which seek explanation for human afflictions and diseases. A comprehensive review of culture-specific accounts of illness is a specialist and monumental project, which cannot be accomplished within the pages of this work. Nonetheless, on a paradigmatic basis, Western biomedicine and traditional therapy subscribe to two broad theories of illness that have influenced their respective therapeutic conventions. However, it is important to indicate that no culture subscribes exclusively to one theory of illness. In fact, most cultures subscribe to multiple theories of illness with varying degrees of emphasis.¹²³ The two broad categories are the “natural” and “supernatural” theories of illness.¹²⁴ Within each of these two broad paradigms there are metatheories.

4.4.2.1 The Natural Theories of Illness

George Murdock defines theories of natural causation as “any theory, scientific or popular, which accounts for the impairment of health as a physiological consequence of some experience of the victim in *a manner that would appear reasonable to modern*

¹²² George Murdock makes a case for the use of theories of “illness” instead of theories of “disease”. According to him, the word disease has too narrow a connotation, suggesting primarily the communicable virus-borne or bacteria-borne ailments” whereas, “‘illness’ serves far better to connote the wider range of phenomena...”. See George P. Murdock, *Theories of Illness: A World Survey* (Pittsburgh: University of Pittsburgh Press, 1980) at 6 [hereinafter “Theories of Illness”]. In addition, “theories of disease” would serve an unintended purpose of excluding cultures that do not even subscribe to the etiology of disease in their account of human afflictions. In a related analysis, Helman endorses Cassell’s use of “illness” to depict “what the patient feels when he goes to the doctor and disease for what he has on the way from the doctor’s office”. For Cassell according to Helman, disease applies to organic affliction, whereas illness depicts an overall affliction of the individual in socio-cultural context i.e. “illness is something a man has”. Offering his own definition, Helman holds that “illness is the subjective response of an individual and those around him to his being unwell; particularly how he and they interpret the origin and significance of this event; how it affects his behaviour and his relationship with other people; and the various steps he takes to remedy the situation. It not only includes the experience of ill health, but also the meaning he gives to that experience”. See Helman, *supra* note 35 at 83. For similar perspectives on illness and disease, see *Ethnomedical Systems in Africa*, *supra* note 24.

¹²³ Nonetheless, as a matter of broad generalization, social and supernatural etiologies hold sway in indigenous and less industrialized societies, while natural causation or patient-centred rationalizations of illness are usually associated with Western industrialized societies. See Helman, *supra* note 35 at 91.

¹²⁴ Good identifies two general categories of illness amongst Africans: nature or *God-given illness*, which are unrelated human causation, and *illness of man*, “caused by bad-will or hostile conduct of one person or

medical science".¹²⁵ Clearly, natural causation is the theoretical domain of biomedicine. Murdock identifies five distinct theoretical categories within natural causation account.¹²⁶ Among them are the infection theory, which encompasses Pasteur and Koch's germ theory. The central thesis of this theory is that the cause of illness is the exposure of the victim's body to harmful microorganisms. This is purely an organismic account. The second category is stress, defined as "exposure of the victim to either physical or psychic strain".¹²⁷ A third is organic deterioration, which results in decline in man's physical capacities usually associated with old age. Accident is the fourth category. It is explained in terms of physical injury resulting from the victim's unintended encounter, but which cannot be traced to the supernatural. The fifth category refers to injury or suffering resulting directly from overt human aggression such as violent quarrels, brawls, war, assault, and such like. Different cultures subscribe to varying degrees to some of the theories. Modern science including biomedicine, as an applied science does not recognize any other accounts of illness, not located within the rubric of natural causation. Therefore, the following classification of supernatural causation is an anthropological enterprise.¹²⁸

4.4.2.2 The Supernatural Theories of Causation

Supernatural theories seek to explain the causes of illness on the basis other than those sanctioned by Western biomedicine. From a study of 139 primitive, historical and contemporary societies, Murdock finds that the supernatural causes of illness far outweigh natural causes in the belief systems of the world's peoples. His study is not only detailed, it also adopts a coherent classification of the supernatural categories. Thus, it

group against another, the commission of various indiscretions, or the activation of supernatural forces". See *Ethnomedical Systems in Africa*, *supra* note 24 at 14.

¹²⁵ Emphasis added. See *Theories of Illness*, *supra* note 122 at 9.

¹²⁶ Murdock's classification could not be exhaustive. His guiding criterion is that the explanatory model must appear reasonable to modern medicine. What appears reasonable may not in fact be so. Nonetheless, his definition is a direct reference to the scientific model, which we have seen is a fluid and contested paradigm.

¹²⁷ *Theories of Illness*, *supra* note 122 at 9. Examples of stress include overexertion, prolonged hunger, thirst, debilitating extremes of heat or cold, worry, fear, or the emotional disturbances now classified within the province of modern psychiatry.

¹²⁸ *Ibid* at 8.

merits some attention.¹²⁹ It is important to point out that the societies which Murdock studied includes the ancient and contemporary civilizations of Europe and North America who are the present-day champions of scientific tradition, and modern biomedicine.¹³⁰ Within the umbrella of supernatural causation, Murdock distinguishes eight additional theories of illness, which can be conveniently pigeonholed into three broader heads of mystical, animistic and magical causations.

Mystical causation theory traces illness from a victim's experience of a supposed impersonal causal relationship, which is not occasioned by identified human or supernatural entity.¹³¹ Examples of mystical causation include fateful occurrences associated with forces of astrology, predestination and ill luck. Illness can also be blamed on the *contagion* mystique, which refers to contact with defiling or polluting objects or persons. This form parallels the natural causation theory of infection. Among different cultures, contacts with corpse, swine, menstrual blood, or menstruating woman or social outcasts are considered *contagion*. Ominous sensations in the form of dreams, sights or some mystical experience also fall under mystical causation. Finally, mystical retribution is believed to manifest in illness where there is a violation of taboo or moral injunction.¹³²

¹²⁹ Compare Helman's generalized analysis of illness, *supra* note 35 at 85-97.

¹³⁰ In order to ensure a fair and balanced representation or sampling, Murdock adopts an interdisciplinary standard of modern cross-cultural research. He divides the world into six regions showing a reasonably uniform geographical distribution of primitive, historical and contemporary societies across the globe. The regions are as follows: North America, South America, Insular Pacific (including the Australian continent, and the groups of islands from Indonesia and Polynesia), Sub-Saharan Africa, East Asia, and what he called Circum-Mediterranean (Including Europe, North Africa and Near East). See Theories of Illness, *supra* note 122 at 36. It is important to emphasize the point that the idea that all diseases were as a result of agency is a universal belief across cultures. Ancient Chaldeans believed that all diseases were influenced by demons; in the first book of the Iliad, sickness befell everyone as a result the daughter of the priest of Apollo's kidnap. Pythagoras promoted the notion that because air was full of spirits, disease and death were inevitable. The demonic agency or theory of disease is a core teaching of ancient and contemporary Christianity. In the early 17th century Church of England, priests could not cast out evils without a special licence from the Bishop. The hanging of suspected witches in Salem, Massachusetts in 1692 indicated the prevalence of the agency or demonic theory of affliction. See William H.S. Aubery, The Natural and Domestic History of England Vol. II (London: 1870-1888), at 296, Frederick George Lee, Glimpses of the Supernatural (London: 1875). See John L. Maddox, The Medicine Man: A Sociological Study of the Character and Evolution of Shamanism (New York: The Macmillan Company, 1977) at 17-19 [hereinafter "the Medicine Man"]. Cartesian materialism, rise of modern medicine in the 19th century including the emergence of the germ theory marked a shift in emphasis from the supernatural or demonic agency in Western approach to illness.

¹³¹ Theories of Illness, *supra* note 122 at 17.

¹³² Noted forms of taboos and moral injunctions include those relating to drinking etiquette, rituals, sex (including incest, bestiality, or intergenerational sex), blasphemy, *et cetera*.

The second broad category of supernatural causation is animistic causation. It ascribes illness to a victim's personalized supernatural being such as ghost, soul, spirit or god.¹³³ For instance, among the Igbos of Nigeria, each person is believed to have a personal god called *chi*, which is credited or blamed for an individual's circumstance.¹³⁴ The concept of *chi* is likened to personal fortune or ill fortune; luck or ill luck; or fate in a loose sense.

Animistic causation explains such situations as soul loss in which the victim's soul is believed to voluntarily depart from her body as opposed where it is lured out by an act of sorcery.¹³⁵ Another example is spirit aggression, whereby the victim's ailment is traced to the punitive conduct of an offensive spirit entity such as ancestral, demonic spirits, other entities or godly beings. Again, the Igbos may describe this occurrence as an attack by one's ancestral spirit.¹³⁶

Magical causation theory is the third form of supernatural causation. It is perhaps the most controversial theory because of its linkage to witchcraft, which has been a subject of cross-cultural epistemic debate. Magical causation ascribes illness to the clandestine action of malevolent persons who afflict their victims through deployment of magic. Sorcery and witchcraft are the two aspects of magical causation. Individual deployment of magical technique either alone or with the aid of magicians can accomplish the objective of causing another to be ill. Sorcery is deemed to be perpetrated by several means including: casting of spell, curses, prayers, intrusion of debilitating objects into the victim's body, or performing rituals or exuvial rites over victim's personal garments or biological components such as hair, nail cuttings¹³⁷ as well as excrement and semen. Illness is associated with the act of a member of a privileged cult, who is believed to have enormous capacity and propensity to do evil.

¹³³ See Helman, *supra* note 35 at 94.

¹³⁴ See Chinua Achebe, *Things Fall Apart* (New York: Anchor Books, 1994) at 18. However, *Chi* or *Chukwu* could also represent the "Supreme God", "the Creator", both as a being and as a concept and not necessarily a "personal god".

¹³⁵ Theories of Illness, *supra* note 122 at 19.

¹³⁶ This is called *Mba'gbara*. Sudden deaths, for instance scientifically diagnosed as "cardiac arrest", "heart attack" or "heart failure" are often explained by this phenomenon. The Igbos are not among the peoples covered in Murdock's study but the credibility of his categories and classification is evident to persons who are socially and culturally exposed to indigenous or traditional practices such as the present writer. It would appear that even though Murdock's project covered 139 societies they would seem to echo the general philosophical foundation regarding illness and associated belief systems across peoples and cultures.

¹³⁷ Theories of Illness, *supra* note 122 at 21.

“Evil eye”, otherwise fear of envy in the eye of the beholder¹³⁸ is the most prominent technique used by witches to perpetrate evil. It is recognized in most societies that have the tradition of witchcraft.¹³⁹ The use and effect of witchcraft across cultures is a subject of controversy. For instance, although witchcraft is wont to be identified with the so-called backward or indigenous cultures, it is a universal phenomenon.¹⁴⁰ It is not always that witchcraft is associated with evil.¹⁴¹ In a number of cultures, witchcraft is identified with both the capacities for good and/or evil; and it is often deployed in healing practices.¹⁴² Nonetheless, with regard to supernatural theories of illness, the emphasis is on the diabolic aspect of witchery.

It would be virtually impossible to account for every theory of illness prevailing in all cultures. However, the above depicts a fair overview. It is important to reiterate that most cultures have theories of sickness which derive from both the natural as well as the supernatural paradigms. There is no culture which subscribes exclusively to only one theory of illness. But in terms of paradigmatic divide between Western biomedicine and indigenous therapeutic philosophy, the limitations of the former are palpable. Medical science does not subscribe to the validity or credibility of the supernatural phenomena. Traditionally, “science” strives toward *clinical* and *experimental* evidence, isolating active principle in the search for the way in which it affects the organs.¹⁴³ The human body is the only proper object of medical knowledge, while faith in experimental biology represents the solution to the challenges of health and illness.¹⁴⁴ On the other hand,

¹³⁸ Helman, *supra* note 35 at 94. For a historical cum trans-religious and cultural discourse of the concept of evil eye, see “The Evil Eye in Its Folk Medical Aspects: A Survey of North America”, reproduced in Wayland Hand, Magical Medicine: The Folkloric Component of Medicine in Folk Belief, Custom, and Ritual of the Peoples of Europe and America—selected Essays of Wayland D. Hand (Berkeley; Los Angeles: University of California Press, 1980) at 239-249.

¹³⁹ Helman, *supra* note 35 at 94.

¹⁴⁰ Helman, for instance, observes that “witchcraft beliefs were common in Europe in the Middle Ages. In England, for instance, illness was often ascribed to a witch’s *maleficium*, and thousands of women were condemned as witches in the sixteenth and seventeenth centuries”. *ibid.* at 93. Thus, in Murdock’s Circum-Mediterranean group of societies, which includes Europe and North Africa, witchcraft is not an alien phenomenon; see also Airhihenbuwa, *supra* note 93 at 56.

¹⁴¹ See generally Theories of Illness, *supra* note 122.

¹⁴² See Zoe D. Oakleaf, “Ozark Mountain and European White Witches” in *Black Folk Medicine*, *supra* note 93 at 71-97; see generally Vance Randolph, Ozark Magic and Folklore (New York: Dover, 1964).

¹⁴³ See Hakim Mohammed Siad, “The Unani System of Health and Medicare” in *Traditional Medicine and Health Care Coverage*, *supra* note 30, 61 at 65.

¹⁴⁴ See *Healing Logics*, *supra* note 115 at 7.

traditional therapeutic systems are not necessarily limited to supernatural accounts of illness.¹⁴⁵ Theoretically, the systems are open to understanding other accounts.

Not reckoning with supernatural theories has the consequence of self-marginalization for biomedicine. For instance, Murdock finds that except for overt human aggression, and to a limited extent, stress, the natural causes of illness have remarkably little attention across cultures. What predominate are the supernatural accounts. Of the 139 cultures Murdock studied, only the Japanese for instance, give a dominant consideration to biomedicine's most valued theory of infection.¹⁴⁶ Another consequence of undermining the supernatural account is that it limits biomedicine to organismic and clinical intervention and explanation. In a sense, biomedicine serves a less than adequate purpose of treating mainly clinical symptoms of disease, especially acute conditions. It does not however give indigenous and non-Western peoples the assurance of cure from their illness, which is not merely the absence of disease. Hence, even those who have been clinically rid of disease still fall back on traditional healers. The latter are trusted to treat the illness, which includes, perhaps most importantly, claims knowing the culturally and spiritually valid reason why the *victim* was afflicted in the first instance.¹⁴⁷

¹⁴⁵ For instance, *empirical medicine* such as various forms of surgery including cataract surgery, extraction of bullets, shrapnel and cauterization of wounds were aspects of African medical experience from antiquity. See Cheikh Anta Diop, *Precolonial Black Africa: A Comparative Study of the Political and Social System of Europe and Black Africa, From Antiquity to the Formation of Modern States*, trans. by Harold J. Salemson (Brooklyn, New York: Lawrence Hill Books, 1987) at 205-206; see also Airihnebuwa, *supra* note 93.

¹⁴⁶ See Theories of Illness, *supra* note 122 at 9.

¹⁴⁷ See Ethnomedical Systems in Africa, *supra* note 24 at 15; Peter Morley & Roy Wallis refer to this in terms of inquiry into immediate and ultimate causes of disease. "Ultimate causes explain the fundamentals which govern and condition the occurrence of disease". Immediate causes address how diseases materialize, but ultimate cause is concerned with why they occur. Lola Rommanucci-Ross writes that "[n]atives credited Western medicine with excellent description categories and precise instrumentation but judged it poor in explanatory models: 'What is good about your medicine if you can't tell me why I got sick?'" See Culture and Curing, *supra* note 112 at 119. In his East African study, Good reports:

In Nairobi, for instance, a mother whose child experiences a sudden loss of weight and alertness may take him to the pediatric filter clinic...to be seen by a doctor; and a man injured in an industrial accident will recuperate as an inpatient at the hospital. Assuming that both individuals are soon "cured" in a biomedical sense, neither the adults directly affected nor their families may consider the respective cases resolved until there is a satisfactory explanation as to *why* they were singled out for distress and injury. At this stage a diviner or other medicoreligious specialist is frequently consulted.

See Ethnomedical Systems in Africa, *supra* note 24 at 15-16 (emphasis in the original).

Supernatural theories of illness constitute a triad of the mystical, the animistic and the magical. All of those make sense within a given socio-cultural, religious, and belief system in which sickness and healing coalesce as a way of life in contradistinction to being an organismic or clinical inquiry. Thus, healing, as a way of life, is a cultural and performative art and science, which is administered within a people's cosmological milieu. Before I examine the performance of healing in the indigenous or traditional context, I will first explore the significance of a pivotal element in traditional therapy, the use of plants.

4.5 The Central Role of Plants in Traditional Therapy

From the ancient times to the present, there is no culture in which the use of plants as medicine is not a norm.¹⁴⁸ Documented accounts demonstrate the role of ancient Greco-Roman,¹⁴⁹ Hebrew,¹⁵⁰ Egyptian,¹⁵¹ Chinese,¹⁵² Arabian and Aryan¹⁵³ civilizations

¹⁴⁸ See Timothy R. Tomlinson, "Promoting the Worldwide Use of Medicinal Plants" in *Medicinal Plants*, *supra* note 41 at viii.

¹⁴⁹ Use of herbs in the ancient Greco-Roman civilization was influential in the evolution of medical knowledge. This was boosted through the development of trade routes. Stanley Krippner and Benjamin Colodzin illustrate the use of common medicinal plants in the ancient times between various peoples. Here are some insights: "Violets were an essential ingredients for Persian sherbet, as well as for scented garlands worn throughout ancient Greece. Roses were used by the Romans for decoration, drunk as rose wine, bathed in as rose water, eaten as rose jelly or candies as rose petals". See "Folk Healing and Herbal Medicine: An Overview" in *Folk Medicine*, *supra* note 75 at 16. Marijuana or Cannabis indica/sativa listed in Atharva Veda as one of India's sacred plants was used as antiphlegmatic and as an anesthetic. It was used as far as 2000 BC in Egypt for treating sore eyes. For the Greeks it was a remedy for earaches and inflammation. *Ibid.* For Romans, it was an intoxicant used at banquets, it was to become used by Islamic adherents as a replacement for alcohol which they were forbidden from taking. Today, modern medical science generally accepts it as a pain reliever. Greek medical legend, Hyppocrates is known to have based most his medicinal exploits on the use of plants. Greek Theophrates's nine-volume classic, *Inquiry Into Plants* was written in 300 B.C. The Inquiry covers both Greek and Middle Eastern medicinal plants. Theophrates's work contains information about a number of plants notably cinnamon, cotton, pepper, frankincense and myrrh. Those are reported to have been made available to him by Alexander the Great, himself an Aristotelian student. Krippner and Colodzin opine that "perhaps the most authoritative *materia medica* of the ancient herbalist was one written about 77 A.D. by Dioscorides, who borrowed from Egyptian texts. His work appears in the writings of Galen (131-200 A.D.) whose books became the basis of European medical practice for over 1000 years". *Ibid.* at 17.

¹⁵⁰ For a revealing biblical account of cultural uses of plants among the Hebrews, see Richard Lucas, Nature's Medicines: The Folklore, Romance, and Value of Herbal Remedies (West Nyack, New York: Parke Publishing Inc., 1966) [hereinafter "Value of Herbal Remedies"]; see also Richard L. Rubbin, "Healing With Plants in Jewish Culture" in *Folk Medicine*, *supra* note 75 at 167-175.

¹⁵¹ Egyptian *Ebers Papyrus*, written about 1550 B.C. is like the Chinese Pen Ts'ao. It documents in consolidated form earliest medical knowledge of ancient Egypt, which is substantially based on the

among others in the evolution of modern medical and associated sciences beginning with herbology.¹⁵⁴ The use of plants is central not only to traditional therapy but also to Western biomedicine. For instance, apart from owing their origins to traditional herbology, modern pharmacology and phytomedicine—two ancillary disciplines to pharmaceutical and medical sciences—derive their relevance from the use of plants.¹⁵⁵

However, plant use in traditional therapy is far more crucial to the traditional institution of healing for a number of reasons. First, unlike in modern medical applications, traditional uses of plants do not subscribe to the idea of artificial or synthetic alternatives. In the traditional therapeutic arena, there is no substitute to natural use of plants. Second, in most cultures, plants, animals, and humans have an equal status in a cosmological philosophy in which phenomena are united in a complex web of living relationships.¹⁵⁶ Therefore, the knowledge of plant therapeutic properties including their dispensation is not an isolated endeavour. Rather, it is a religio-cultural and spiritual exercise whose full significance is better appreciated within the context of indigenous holistic worldview.

Third, in formal terms, traditional healers use plants in their healing art. However, a wide range of ordinary members of the traditional community has a functional and nonprofessional knowledge of plant uses,¹⁵⁷ particularly in the treatment of common

medicinal plants notable among them, aloes, castor oil, mandragora, senna and opium. See Lucas *ibid.* at 13; see also Rubin *ibid.* at 167-168.

¹⁵² Perhaps to the Chinese the world owes its first ever botanical garden attributed to Emperor Shen Nung by various accounts, see for example Folk Medicine, *supra* note 75, at 15, William Mckinley Klein, Jr., “The Role of Botanical Gardens and Arboreta in Traditional Medicine” in Medicinal Plants *supra* note 41, 120 at 121. The said garden is reputed to be where Emperor Nung tested all plants in the Chinese kingdom for purposes of discovering their medicinal properties. The authoritative Chinese text *Pen Ts’ao* said to be completed in 1596 A.D. by Li-Shihchen represents the earliest consolidation of pharmacological knowledge.

¹⁵³ The Aryans, who migrated to the Indus Valley about 1500 B.C. are credited with writing the vedas (perhaps in the Iranian Plateau before migration) which is the pivot of the Indian ayurvedic medical tradition. The striking feature of the vedas is their extensive botanical information. See Krippner & Colodzin, *supra* note 149 at 16-17.

¹⁵⁴ The term herbology refers to the combination of Latin word *herba* or grass and the Greek *logos*, description, which literally translates to description of grass. See Krippner & Colodzin *ibid.* at 15.

¹⁵⁵ See Value of Herbal Remedies, *supra* note 150; see also Krippner & Colodzin *ibid.* at 13-27.

¹⁵⁶ See generally, Marie Battiste & James S. Y. Henderson, Protecting Indigenous Knowledge and Heritage: A Global Challenge (Saskatoon: Purich Publishers, 2000), also Gregory Cajete, Native Science: Natural Law of Interdependence (Santa Fe, New Mexico: Clear Light Publishers, 1999) Marie Battiste, ed., Reclaiming Indigenous Voice and Vision (Vancouver: University of British Columbia Press, 2000).

¹⁵⁷ See Krippner & Colodzin, *supra* note 149, 13 at 14.

ailments.¹⁵⁸ For example, among ayurvedic practitioners, patient's prescriptions are prepared in the *clinic*. Nonetheless, as a matter of practice, patients are encouraged to prepare simple decoctions from home using locally available herbal resources.¹⁵⁹ In many other cases, local folks use herbal preparations for the treatment of common symptoms without having to consult healers. In essence, medicinal use of plants is generally practiced by most members of local and indigenous communities, albeit for elementary purposes. It is not surprising that 85% of traditional medicine involve the use of plants.¹⁶⁰ The remaining 15% relates to the use of animals, minerals and other medicinal elements. Translated, this means that about 4 billion of world's peoples rely on plants for their drugs.

The religious cum therapeutic significance of plants is a phenomenon common to almost all the world's known cultures, religions and different belief systems. For instance, amongst the creationist and evolutionist theorists, the earth is known to have been home to plant kingdoms for longer than it has borne human life.¹⁶¹ There is no question however, about the medicinal values of plants. In fact, it could be argued that plants predated humanity perhaps so that the latter's dependence on plants for food and medicine among others would be assured. There is no human culture or worldview that does not subscribe to the medicinal values of plants.

¹⁵⁸ See Achebe, *supra* note 134 at 85-6 see also Public Health Challenge, *supra* note 13, at 179-180 (recollecting a dramatic account in *Things Fall Apart* where a suspected attack of malaria was reported to a family head late at night. The latter quickly rushed into the bush and collected "bundle of grasses, leaves, and bark of medicinal trees and leaves" with which he administered traditional anti-malaria therapy using steam bath). The classic, *Things Fall Apart*, is a fictional but authoritative account of the Igbo cosmology cast at the early stages of colonialism. It essentially depicts the African cosmology, but limited to the Igbo experience in terms of its details.

¹⁵⁹ See P.N.V. Kurup, "Ayurvedic Medicine" in *Traditional Medicine and Health Care Coverage*, *supra* note 30, 50 at 54. It needs pointing out that this tendency is not peculiar to ayurvedic practitioners. It is common in many traditional medicinal practices especially in Africa. For instance, in 1998 surveys of the WHO Roll Back Malaria Program in Ghana, Mali, Nigeria and Zambia over 60% of children with high fever (one of the symptoms of malaria) were treated at home with herbal medicines. See *Traditional Medicine Strategy*, *supra* note 33 at 13; see also Objiofor Aginam, "From the Core to the Peripheries: Multilateral Governance of Malaria in a Multi-Cultural World" (2002) 3 *Chicago Journal of International Law* 87-103.

¹⁶⁰ See Norman R. Farnsworth, "Screening Plants for New Medicine" in Edward O. Wilson, ed., *Biodiversity* (Washington D.C.: National Academy Press) at 91; "Safety, Efficacy and the Use of Medicinal Plants" in *Medicinal Plants*, *supra* note 41 at 29; see also Norman R. Farnsworth *et al.*, "Medicinal Plants in Therapy" *WHO Bulletin* # 63 (1985) at 965-981.

4.5.1 Plant Therapy: Some Biblical Insight

The place of plants in Judeo-Christian tradition is glimpsed from biblical references. Richard Lucas observes that the term, herb(s) is mentioned 37 times in the bible. This is in addition to the repeated mention of specific botanicals by their names. A few examples include the following: the Balm of Gilead, the fig tree, the myrtle tree, frankincense, myrrh, and hyssop. Further, even the famous heaven's manna is associated with the tamarisk tree or the saccharine juice of different plants and trees. Interestingly, all of these plants have been identified with medicinal values, even as they bear some religious or symbolic relevance amongst the Jews, Greeks and Arabs.¹⁶²

For example, the Balm of Gilead is a tree native to Arabia. It is mentioned in the bible as a medicinal plant.¹⁶³ Its buds are presently used as remedy for treatment of lung, stomach and kidney disorders. In the biblical times, the fig tree was used in the treatment of boil,¹⁶⁴ a use for which it is still applied in many cultures today. In addition, the fig has the symbolism of peace and plenty among the Jews. Myrtle is mentioned as a symbol of God's promise. Apart from this religious significance, it is a remedy for rheumatism, ulcer and dysentery. The Greeks associate its evergreen feature with immortality.¹⁶⁵ Spikenard, with which ointment Jesus was anointed, is both an aromatic and medicinal plant.¹⁶⁶ Frankincense and myrrh are known preservatives. In addition, Jews and some parts of the Arab world including Egypt burn them in religious rites.¹⁶⁷ This is parallel to the manner peyote is used for hallucinogenic effect by some Native Americans in the performance of religious rites. Hyssop, which was served to Jesus on the cross, is a religious symbol of purification from sin. Among the Jews, it is symbolically related to the Passover.¹⁶⁸ Early herbalists used it on fresh wounds against infections and for

¹⁶¹ Krippner & Colodzin, *supra* note 149 at 13.

¹⁶² See Value of Herbal Remedies, *supra* note 150 at 22.

¹⁶³ *Ibid.* See Jeremiah 8:22; 46:11.

¹⁶⁴ Value of Herbal Remedies *supra* note 150 at 22.; see also 2 Kings 20:7.

¹⁶⁵ Value of Herbal Remedies at 23; see also Isaiah 55:13.

¹⁶⁶ Value of Herbal Remedies at 24; see also Matthew 14:3.

¹⁶⁷ Value of Herbal Remedies at 25; see also Matthew 21:11.

¹⁶⁸ In accordance with divine revelation, Moses instructed the Jews to specifically use hyssop for sprinkling the blood of the Passover lamb upon their lintels and door posts: "Drain the lamb's blood into a basin, and take a cluster of hyssop branches and dip them into the lamb's blood, and strike the hyssop against the two side panels, so that there will be blood upon them, and none of you shall go out outside the night" See Exodus 12: 22 (*The Living Bible Paraphrased*); see also John 19:28.

healing. Subsequently, the mould that produces penicillin has been found to grow on hyssop leaves.¹⁶⁹

4.5.2 Plants Under Unani Medical Tradition

Unani or Greco-Arab system of medicine was developed during the Arab civilization. It is now commonly practised in the Indo-Pakistani sub-continent and other parts of the Moslem world.¹⁷⁰ Unani prescriptions are substantially herbal, even though its pharmacopoeia consists of natural drugs from animals, minerals and marine flora and fauna.¹⁷¹ According to Hakim Mohammed Said, “[t]he prescriptions are begun with *Howash Shafi* (God is the Healer),¹⁷² generally in the Persian language”.¹⁷³ Since Unani attained recognition by Indian and Pakistani governments, there has been a vast scope of collaborative research on medicinal plants whose therapeutic values have long been known to Unani practitioners, the *tabibs*. What is instructive here is not only the centrality of plants in the Unani system, but also the religious undertone associated with Unani plant medicinal prescriptions.

4.5.3 Plant Medicine in Ayurveda

The Ayurvedic¹⁷⁴ system ranks as one of the oldest medical systems known to civilization. Its practice is prominent in the Southeastern Asian countries of Bangladesh, India, Pakistan, Nepal and Sri Lanka. Ayurveda is a comprehensive medical system to which modern medical science owes a great deal.¹⁷⁵ Today, the practice of Ayurvedic medicine includes such specialties identified in modern medicine as internal medicine, surgery, paediatrics, toxicology, eugenics, geriatrics, *et cetera*. It is deeply steeped in the

¹⁶⁹ See Value of Herbal Remedies, *supra* note 150 at 25.

¹⁷⁰ See P.N. V. Kurup, “Medical Astrology” in Traditional Medicine and Health Care Coverage, *supra* note 30 at 64.

¹⁷¹ *Ibid.*

¹⁷² Compare, one of the Hebrew names for God, is the healer. “I am the God that healeth thee”.

¹⁷³ See Siad, *supra* note 143 at 63.

¹⁷⁴ From Ayurveda, meaning, “the science of life”.

¹⁷⁵ There are about 70 books of Ayurvedic Pharmacopoeia containing about 8000 recipes, however, not all have been published.

ancient Hindu religion¹⁷⁶ and astrology. Ayurveda is believed to emanate from revelation and intuition.¹⁷⁷ According to Mgbeoji, “the ancient Rig Veda¹⁷⁸ postulated that God sleeps in the mineral and awakens in the vegetable, walks in the animal and drinks in man”.¹⁷⁹ This observation not only underscores the holistic conception of phenomena in the vedic tradition, but also the religious significance of plants (vegetables).

In addition to other materials, Ayurveda emphasizes the use of plants in the treatment of pathological conditions. Principal therapeutic measures include medicine, especially herbs, diet and activity, all of which are targeted at antagonizing the disease. By exposure to astrology, the ayurvedic physician is believed to acquire the knowledge to select the appropriate herbal medicine. The appropriate herb must be one which is ruled by a planet opposed to that responsible for the sickness.¹⁸⁰ In Ayurvedic tradition, we see not only the centrality of plants in therapy but also the connection between traditional therapy, religion and the entire universe.

4.5.4 Plants in Chinese Traditional Medicine

Chinese traditional medicine, an enduring treasure of ancient Chinese civilization, is one of that country’s greatest legacies. It is noted for its confounding dynamism and efficacy, which is attested to in part by contemporary global patronage. The use of plants, the role of religion or belief system is fundamental to Chinese medical heritage, which is appropriately described as the “crystallization of Chinese people’s wisdom and

¹⁷⁶ According to Hindu philosophy, Lord Brahma decreed the universe including its laws into being. Lord Brahma is believed to have taught Ayurveda to Daksha Prajapati, the latter taught the Kshwinkumar twin, who in turn taught Lord Indira. See Kurup, “Ayurvedic Medicine”, *supra* note 159 at 50.

¹⁷⁷ *Ibid.*

¹⁷⁸ Vedas are books of wisdom containing scattered references to health and diseases. Ayurveda, writes P.N.V. Kurup, originated from Atharvaveda, which has as many as 114 hymns that describe the treatment of disease. The vedas that deal substantially with treatment of disease are the Rig and the Atharvaveda. *Ibid.*

¹⁷⁹ See Ikechi Mgbeoji, Patents and Plants: Re-Thinking the Role of International Law in Relation to the Appropriation of Traditional Knowledge of Uses of Plants (S.J.D. Thesis, Dalhousie University, 2001) [unpublished] at 134 [hereinafter “Patents and Plants”]. The intricate web of relationship and communication between man and plants is associated with “supramaterial world of cosmic beings” which the Hindus refers to as “devas”. This supramaterial phenomenon has been subject of scientific inquiries leading to the affirmation of the consciousness of plants for instance in expressing “the most violent reaction against abuse and the most ardent gratitude for favors”. See Peter Tompkins & Christopher Bird, The Secret Life of Plants (New York: Avon Books, 1973) at xv.

¹⁸⁰ See Kurup, “Medical Astrology”, *supra* note 170 at 59.

experience”.¹⁸¹ Earliest recorded history locates the evolution of Chinese medicine in 1800 B.C., at the beginning of the Shang dynasty. In that account, Chinese medicine is traced to oracle-borne inscriptions on scapulae and tortoise shell, discovered from the ruins of Yin dynasty. Those inscriptions identified, described, and classified various illnesses and diseases and prescribed primary methods for their treatment.¹⁸² The Book of Rites, a manual of religio-therapeutic ceremonies, written in the Zhou dynasty (1100-800 BC) reinforced the link between religion and therapy. It identified four departments of medical specialty: nutrition, internal medicine, surgery and veterinary medicine.¹⁸³

The most prominent book on Chinese medicine, which doubles as the oldest and most comprehensive, the *Yellow Emperor's Internal Classic*, highlights the clinical and theoretical foundations of Chinese medicine.¹⁸⁴ The Chinese medico-philosophical outlook is based on the theories of yin-yang, viscera and bowels.¹⁸⁵ Among other things, the outlook aims at the sustenance and restoration of equilibrium in all facets of the human life. Illness is generally perceived as the distortion of natural equilibrium in diet, in social relations, metabolism, the environment, natural choices, metaphysical intervention and so on. Therefore, health in simple terms is striving toward maintenance of equilibrium in the social, physiological and natural order of things.¹⁸⁶

Herbal medicine is perhaps the most prominent form of traditional Chinese medicine. Nonetheless, in addition to clinical experiences, the Chinese have a reach variety of other therapeutic endowments including some on medical borderline such as acupuncture, moxibustion¹⁸⁷ or massage therapy. The first botanical garden in history is

¹⁸¹ Wang Pei, *supra* note 69 at 68.

¹⁸² *Ibid.*

¹⁸³ *Ibid.* at 69.

¹⁸⁴ *Ibid.*

¹⁸⁵ *Ibid.* For a thorough analysis of the Yin-Yang concept, see Barbara & Rock Avery, “Oriental Healing: The Ying-Yang Concept” in *Folk Medicine*, *supra* note 75 at 139-165.

¹⁸⁶ See William McKinley “The Role of Botanical Gardens and Arboreta in Traditional Medicine: A Personal Reflection and Case Study” in *Medicinal Plants*, *supra* note 41, 121 at 122.

¹⁸⁷ For perspectives on acupuncture and moxibustion, see Wei Ru-Shi, “Acupuncture and Moxibustion: Theory and Practice” in *Traditional Medicine and Health Care Coverage*, *supra* note 29 at 76-81; see also Robert H. Bannerman, “Research in Acupuncture” *ibid.* at 82-85. In his global study on the theories of illness, Murdock excludes acupuncture, chiropractics, osteopathy and what he calls “various versions of faith healing”. He describes them as theories within the twilight zone i.e. between natural and supernatural causation. According to Murdock, they generate incompletely formulated theory of causation. He avers that none of these healing arts are accepted by medical science yet. Although they are lacking in substantial scientific experimental support, their therapeutic efficacy may not be denied. See *Theories of Illness*, *supra* note 122 at 16; compare Cowley, *supra* note 72.

linked to the Chinese herbology; and it dates back to Shen Nung, the red emperor who lived till 2697 B.C. Shen Nung is said to have tested the herbs from his garden for their medicinal properties. From then, and perhaps earlier, Chinese experience on the use of herbs has become probably the most comprehensive known to civilization.

Records from the 2nd-12th centuries showed progressive discoveries in herbal applications. By the 17th century China had officially documented 1,892 herbal drugs, and 11, 000 prescriptions. Official recognition of Chinese medicine has led to more emphasis and research on the use of herbs over other therapeutic regimes. By the 1980s, traditional medicine in China had to its credit a rich pharmacopoeia including more than 10, 000 medical books, 5, 000 variety of herbal remedies and an enviable experience in clinical therapy.¹⁸⁸ Today, herbal medicine is a burgeoning global industry in which China is a major stakeholder. In sum, it is beyond question that the use of plants is predominant in Chinese traditional therapy over other curative regimes.

4.5.5 Plant Medicine in Native American Therapeutic Traditions

In the therapeutic traditions prevalent among the various North American indigenous peoples, the use of plants is quite preeminent.¹⁸⁹ Native Americans have relied virtually exclusively on the plant kingdom for their medicinal needs.¹⁹⁰ The medicinal use of plants among aboriginal peoples of North America is essentially a spiritual and cultural process. In a worldview based on complex relationships between all ecological forces and phenomena, plants are regarded as sacred, and are perceived as truly living entities with which humans share a sanctified communion and ecological space.

Perhaps it is appropriate at this juncture to review some corroboration of native or indigenous beliefs about plants from different paradigms. The notion that plants are active participants in the complex web of living relationships with humanity and other forces of nature is not a matter of “native fantasy and superstition”. From time immemorial, indigenous peoples have known that plants have a full complement of

¹⁸⁸ See Wang Pei, *supra* note 69 at 70-73.

¹⁸⁹ See Virgil J. Vogel, “American Indian Influence on the American Pharmacopoeia” in *Folk Medicine*, *supra* note 75 at 103-119.

¹⁹⁰ See Value of Herbal Medicine, *supra* note 150 at 132.

human characteristics beyond mere depiction as dormant living organisms. Nonetheless, the extent of “humanity” of plants has attracted scientific inquiry and validation even from the time of Aristotle. Indeed, plants have been demonstrated to have emotions, and other intimate feelings. They have been proven to be capable of identifying their enemies, abusers, exploiters, nurturers, and *friends*. They are also known to respond in self-defence or gratitude as the situation demands.

Inquiry into the behavioural life of plants and their capacity for communication has been the preoccupation of scientists, even poets, philosophers, psychics and people of different backgrounds. It is not surprising that from the array of knowledge generated from the inquiries into the “secret life of plants”, plants have been aptly described as the “bridesmaid of a marriage of physics and metaphysics”.¹⁹¹ Peter Tompkins and Christopher Bird passionately document the evolution of landmark scientific inquiries into the life of plants, all which confirm the thesis that plants have the fullest if not more complex characteristics akin to human life and living experiences.

According to them, from the Middle Ages into the 18th century the Aristotelian notion that plants have soul but no sensation held sway. That view was successfully challenged by Carl Von Linne who postulated that plants differed from humans and animals on the basis of lack of movement. Linne’s thesis was short-lived. It could not be maintained in the face of Charles Darwin’s postulation that “every tendril has the power of independent movement”¹⁹² which it resorts to when it is of some benefit. Improving upon Darwin at the beginning of the 20th century, Viennese biologist, Raol France, insisted that plants have limitless and uninterrupted capacity of movement albeit at a slower pace as humans and animals. In addition, France’s research showed that plants are capable of intent and that they are sentient, romantic and generally more responsive to the environment to a degree of complexity above humans.

Among notable researchers who have spent considerable time investigating the emotional and sentient nature of plants are America’s Cleve Backster of the famous “Backster Effect”, who demonstrated that plants have extra sensory perception (esp) and cellular consciousness; Marcel Vogel who established that plants anticipate and react to

¹⁹¹ See *The Secret Life of Plants*, *supra* note 179 at xv.

¹⁹² *Ibid.* at x.

the act of tearing their leaves or other violent or violating assaults. According to Tompkins and Bird, Vogel avers through his researches that “it is a fact: man can and does communicate with plant life. Plants are living objects, sensitive and rooted in space. They may be blind deaf and dumb in the human sense, but there is no doubt in my mind that they are extremely sensitive instruments for measuring man’s emotions”¹⁹³ The American Indians, Vogel acknowledged, “were keenly aware of these faculties”¹⁹⁴ Vogel’s thesis represents a consensus amongst generations of scientists committed to lifetime inquiries into the mysticism and science of plant life.

Among Native Americans, the healing qualities of plants elevate them to a divine status, in a manner akin to the philosophy of many non-Western cultures. For example, Native American scholars, Mary Battiste and James Henderson observe that “Eurocentric researchers may know the name of a herbal cure and understand how it is used, but without the ceremony and ritual songs, chants, prayers and relationships, they cannot achieve the same effect”¹⁹⁵ Native American therapeutic practices are complex cultural, religious and spiritual processes, which spin around the use of plant to a large extent.

In Navajo’s reputed sophisticated therapeutic tradition as in other Native American nations, the use of plants is crucial. Therapeutic process and intervention involves a complex combination of diverse shamans of different specialties collaborating through fused diagnostic and curative processes.¹⁹⁶ Navajo therapeutic practice is a cultural cum spiritual performance in which a meticulous array of traditional therapeutic paraphernalia is usually displayed. For instance, a Navajo medicine man spends hours to prepare the setting for a healing ceremony paying great attention to relevant symbolism.¹⁹⁷ In doing this, he engages in a creative endeavour by making a sand painting upon which the patient will be placed. The painting depicts a mythic scene. The

¹⁹³ *Ibid.* at 38.

¹⁹⁴ *Ibid.* Other pioneers and modern scientific inquirers into plant mysteries Tompkins and Bird discuss at some length include Pierre Paul Sauvin, Eldon Byrd, Japanese Dr. Hashimoto, Leipzig’s Gustav Theodore Fechner, Indian Sir Jagadis Chandra Bose, German Rudolf Jakob Camerarius (on sexual life of plants), German’s great Poet of all time, Johann Wolfgang Von Goethe, and Luther Burbank to mention a few; each of whom spent considerable time investigating the mystery of plant communication from scientific perspectives. For a very exciting description of the experiments and writings of these scientists, and other philosophers and scholars on the life of plants see generally *The Secret Life of Plants*, *supra* note 179.

¹⁹⁵ See Battiste & Henderson, *supra* note 156 at 43; see also chapter two at 73 & n. 110.

¹⁹⁶ Robert L. Bergman, “The Physician and the Folk Healer” in *Folk Medicine*, *supra* note 75, 84 at 89.

¹⁹⁷ *Ibid.* at 90.

often segmented rituals also involve an elaborate singing process, which could last as long as nine nights of roughly ten hours in a session.¹⁹⁸ Ultimately, this elaborate experience elicits chants, prayers, and recitations which give form to the ceremony. In this complex process, the underlying myths are explained, while herbs are prepared and administered.¹⁹⁹ Among several Native American nations, peyote, a hallucinogenic plant, is not only used in complex religious rites, it also constitutes a religion on its own merit.²⁰⁰ There are other examples in which complex cultural and religious ceremonies depict a therapeutic process in which plants are central either as prescriptions or symbolic ceremonial elements. The point here is that no matter how sophisticated a therapeutic tradition, use of plants is usually its complementary, if not fundamental, aspect.

The richness of modern American pharmacopoeia is linked to the wealth of knowledge derived from Native American traditional pharmacology. Virgil Vogel identifies about 170 drugs listed in the pharmacopoeia of the United States of America.²⁰¹ Historically, those drugs have been medically applied in what is called *rational therapy*,²⁰² by Native Americans north of Mexico. In Vogel's study, about fifty more of those drugs were used by inhabitants of West Indies, Mexico, Central and South America.²⁰³ The range of plant-derived drugs and their applications contained in Vogel's list though not exhaustive of the richness of medicinal use of plants by Native Americans is nonetheless revealing. They cover drugs in the following pharmacological categories: anesthetics, narcotics, stimulants, astringent, cathartics, childbirth medicines, antibiotics, poisons, febrifuges, vermifuges, emetics, and contraceptives.

¹⁹⁸ *Ibid.* at 91.

¹⁹⁹ See William Morgan, "Navaho Treatment of Sickness: Diagnosticians" in David Landy, ed., Culture Disease and Healing: Studies in Medical Anthropology (New York; London: Macmillan Publishing Company, 1977) 165 at 167-9.

²⁰⁰ See Bergman, *supra* note 196 at 96.

²⁰¹ See Virgin Vogel, American Indian Medicine (Norman, Oklahoma: University of Oklahoma Press, 1970); see also Virgin J. Vogel, "American Indian Foods Used as Medicine" in W. Hand, ed., American Folk Medicine: A symposium (Berkeley: University of California Press, 1976).

²⁰² Rational therapy is an ethnocentric reference to scientific or pharmacological significance of plants/drugs used by primitive peoples as opposed to their other therapeutic practices which were supposedly not explicable to medical science. Among Native Americans such therapeutic traditions influenced by "omens and the doctrine of signatures, sometimes by soul loss and spirit intrusion theories" and practices such as sucking out of evil intruders, drum-beating, rattle shaking, singing, dancing, sand painting (Navajo) and false face wearing (Iroquois) do not fall under rational therapy. See Virgil J. Vogel, "American Indian Influence on the American Pharmacopoeia" in Folk Medicine, *supra* note 75 at 103.

²⁰³ See Vogel *ibid.*; see also Peter Morley, "Culture and the Cognitive World of Traditional Medical Beliefs: Some Preliminary Considerations" in Culture and Curing, *supra* note 112 at 5.

A few of them deserve mention: coca leaves and its cocaine alkaloid, daturas, tobacco, and peyote are essentially anesthetics, narcotics and stimulants.²⁰⁴ Others are cathartic drugs such as, cascara sagrada, and May apple root.²⁰⁵ Among childbirth medicines are corn smut, and octton root bark.²⁰⁶ For febrifuges, we have the greatest of all botanical fever drugs, the anti-malarial: cinchona bark and its quinine alkaloid²⁰⁷ and the dogwood bark. Wormseed or Jerusalem oak,²⁰⁸ and pulverized root of the pinkroot (*Spirgelia marilandica*)²⁰⁹ are examples of vermifuges. In the emetics category are ipecac obtained from the bark of *Cephaelis ipecacuanha* and its alkaloid emetine.²¹⁰ Finally, mention may be made of stoneseeds (*Lithosperma ruderale*) used by Native Americans as oral contraceptives; it is the source of modern pill.²¹¹ Indeed apart from the

²⁰⁴ These categories have long been subjected to prejudice because of their association with ritual, hallucinogenic, and intoxicating practices, hence they are branded *mind-expanding drugs*. However, this tendency often obscures their medicinal uses. In fact, mind-expansion may of itself be therapeutic. Western psychiatrists often prescribe mind-altering drugs in variant quantities and posology. It took a long time before the prejudices were over come. Today, the medicinal values of the plants are no longer in any serious doubt. For example, coca is a notable painkiller among other things. Apart from being hallucinogenic generally, “parts of the datura plants have been used in both Indian and *white medicine* not only as anodyns, but externally in plasters and lotions. Atropine, an anti-cholinergic drug, is obtained from datura”. See Vogel in *Folk Medicine*, *supra* notes 75 & 199 at 107. Canada’s recent resolve to decriminalize the possession of little quantity of marijuana for medicinal purposes has stirred renewed debates and concerns in the United States where 11 states have already decriminalized the use/possession of the plant on medical grounds.

²⁰⁵ These are the sources of the most widely used cathartics. When used externally cascara sagrada or Rhamnus purshiana is classified as caustic. Mechoacan and Jalap were hitherto two popular cathartics. Jalap, obtained from a tuberous root and mechoacan were obtained from Mexican Indians. The two were cited respectively in Badianus Manuscript of 1552 and in the Pharmacopoeia of London in 1618. See Vogel *ibid.* at 108.

²⁰⁶ Corn smut (*Ustilago zae*) was used by the Zuni, whilst the Alabamas and Koasatis used octton root bark (*Gossypium hirsutum*) as tea for women in labour. See Vogel *ibid.*

²⁰⁷ There are different versions of the source of the medicinal knowledge associated with cinchona bark and its alkaloid, quinine, some mythical, others legendary, yet others quite practical. However, the consensus is that it is a discovery of South American Indians particularly the Peruvians. See Vogel *ibid.* at 108-9; see also H.S. Scott, *History of Tropical Medicine* (London: Edward Arnold, 1939). For various historical accounts of the medicinal discovery of quinine from cinchona bark, see *The Medicine Man*, *supra* note 130 at 249-264.

²⁰⁸ The Botanic name is *Chenopodium ambrosioides*. Notwithstanding the ‘Jerusalem’ prefix, it is native to America. The Natchez and perhaps the Mayas used it as vermifuge. See Vogel *supra* note 202 at 109.

²⁰⁹ This is a discovery of the Cherokee Indians. *Ibid.*

²¹⁰ *Cephaelis ipecacuanha* is tree native of the Brazilian rain forest. Natives used it to treat amebic dysentery, and its derivative, emetine, is also used for the same purpose. It can also be used as a laxative and have been used in the past for the treatment of hepatitis. *Ibid.*

²¹¹ Shoshonea Indians of Nevada used stone seed to inhibit ovulation and control menstrual circle, also the Cherokee used *Cicuta maculata* as an oral contraceptive. Those were at the time when modern medical science held tenaciously to the view that there was not yet a discovery of an oral formulary capable of inducing temporary sterility. It was the use (chewing) of stoneseed by the Soshoneas as indigenous contraceptives that paved the way to the discovery of modern pill. See Vogel *ibid* at 111.

contribution of Native Americans to the pharmacopoeia of the United States, and elsewhere, modern pharmacopoeias reflect numerous contributions from other cultures.²¹²

4.5.6 Plant Medicine in Humoral Therapy in Latin America

Humoral therapy is defined as “‘hot-cold’ classification of living and inanimate matter”.²¹³ Said to originally derive from Greek concepts, humoral medicine is now the received wisdom of indigenous societies in Mesoamerica, and South America,²¹⁴ attesting to the historical interpenetration of cultures and knowledge systems. Humoral therapy is today the theoretical foundation of traditional therapeutic practices prevalent among Latin American Indians.²¹⁵ In this theoretical outlook, the need for balance in physical, physiological and psychosocial aspects of the individual is the essence of good health. Balance refers to the state of dynamic equilibrium;²¹⁶ as such, it is relative and specific. Imbalance is associated with ill health and disease. When an individual is out of balance, the body equilibrium is distorted, thus precipitating hot or cold excesses devoid of the requisite balance in both phenomena.

Usually, foods are classified according to hot-cold praxis. Consumption of food types without due cognizance to the “cold-hot” compositions results in imbalance. Another cause of imbalance is physical activity and exposure to the elements.²¹⁷ The aim of therapy is the restoration of balance. Food and medical plants are the principal therapeutic remedies in the humoral theory. Treatment consists of food and herbs that are capable of neutralizing the imbalance identified with the patient. The method is analogous to the use of medicine, diet and activity to antagonize diseases under the ayurvedic system.²¹⁸

²¹² See Theories of Illness, *supra* note 122 at 5; Peter Morley, *supra* note 203 at 5; see generally Value of Herbal Remedies, *supra* note 150; Folk Medicine, *supra* note 75.

²¹³ See Carmel Goldwater, “Traditional Medicine in Latin America” in Traditional Medicine and Health Care Coverage, *supra* note 30 at 37.

²¹⁴ Personal communication with anthropologist, Prof. Bruce Miller, 28 December 2002.

²¹⁵ A different view is that “hot” and “cold” may not be strictly called a theory, if perceived as depicting processes within the body which can be studied and appreciated. When properly understood, the “hot and cold” notion is not any different from the intrinsic properties or characteristic of a medicinal food or plant. *Ibid.* at 45-46.

²¹⁶ *Ibid.* at 38.

²¹⁷ *Ibid.*

²¹⁸ See Kurup, Ayurvedic Medicine, *supra* note 159 at 54.

Because of the fine line between food and plants, it can be argued that perhaps under the humoral therapy, more than any system of traditional medicine, the use of plant is most paramount. Consequently, traditional herbalists appear to be the most visible genre of traditional therapeutic practitioners in systems that practice humoral therapy.²¹⁹ Nonetheless, belief systems rooted in spirituality and the supernatural phenomenon warrant the prevalence of other traditional practitioners especially diviners. For instance, Carmel Goldwater observes there is a universal and specific belief systems in Latin American societies. Diagnostic methods depend on the origin of the illness.²²⁰ Yet underscoring the centrality of plants, she notes that “in divining methods, coca leaves and different coloured maize grains are used”.²²¹

4.5.7 Plants and African Therapeutic Systems

As an aspect of its central tendency, African traditional medicine is not exempt from the general trend in which the use of plants in therapy is paramount. Described appropriately as “a distillation of African culture”²²² traditional African medicine is steeped in Africa’s rich cultural and belief systems. Among the peoples of Africa there is a strong belief in God, ancestral spirits and other supernatural phenomena.²²³ Relationships exist between the living and these entities. Such relationships must be constantly kept in healthy communion. Sickness and health are perceived from physical, spiritual and psychosocial dimensions.²²⁴ Often illness is linked to the dislocation of those relationships. For instance, sickness can be related to the undermining of a taboo, which may have socio-religious and cultural undertone. Plants, animals are traditional objects of therapeutic and religious application. They are used in sacrifice and therapy in order to appease angry ancestral spirits; seek restoration of health and reconciliation of the ailing with the society. Spirits of the departed, including both diabolic and benevolent

²¹⁹ Other treatments such as sweating and massage with various types of herbs are also applied.

²²⁰ See Goldwater, *supra* note 213 at 43.

²²¹ *Ibid.*

²²² See Koumare, *supra* note 105 at 25.

²²³ See generally Mbiti, *supra* note 106.

²²⁴ See Mbiti *ibid.* at 169; see also Victor C. Uchendu, *The Igbo of Southeast Nigeria* (New York: Holt, Rinehart & Winston Inc., 1965) at 13, Ethnomedical Systems in Africa, *supra* note 24 at 14-15.

agents are believed to inhabit plants, and animals.²²⁵ The Hausa herbalist believes that most effective medicinal plants in the bush belong to uncompromising spirits, who zealously keeps guard over the plants.²²⁶ Consequently, he embarks on rituals of fortification before he attempts to harvest medicinal plant.²²⁷

As part of their association with the supernatural, plants are often deified. Among the Igbos, trees as well as ancestors have totemic affiliations to humans. For this reason, trees more than animals are believed to have the ability to incarnate into human beings.²²⁸ Perhaps the closest to animal totemism in the Igbo tradition is the symbolic association (usually by names) of certain animals with particular kinship, village or community. Generally therefore, plants appear to have an elevated status.

Trees are regarded as sacred sources of life,²²⁹ healing, and protection. The medicinal value of plants amongst Africans is not an isolated experience; rather it is a religious one. Plants or more appropriately, trees are believed to have the ability of taking a human life form on incarnation. They also constitute shrines of worship in the sacred groves where herbs are procured; and sacrifices are made to ancestral spirits and other

²²⁵ See Patents and Plants, *supra* note 179 at 136. Romanucci-Ross describes how in Melanesian traditional medical and belief system a man can become a healer by sitting under a tree or beside a stone. In either of those locations a spirit visitation can occur. The spirit is wont to bequeath secrets of healing, whilst it (the spirit) undertakes an imaginary journey jointly with its elect. Romanucci-Ross reports that certain trees are the abode of bush spirits. The most favoured tree for spirit habitation is old ironwood tree, otherwise called *callophyllum*. See Romanucci-Ross, *supra* note 112 at 133.

²²⁶ See Ismail H. Abdalla, *Islam, Medicine and Practitioners in Northern Nigeria* (New York; Edwin Mellen Press, 1997) at 121 [hereinafter Abdalla].

²²⁷ *Ibid.* This would include prayer, taking of medicine, and abstinence from sex and other pleasures.

²²⁸ It is commonplace for the Igbos to bear metaphorically symbolic names of trees, such as *Oji*, which means the *Iroko*, a symbol of strength, longevity and distinction. There are hosts of *Oji*-derivative names. Also such names as *Okeosisi*, or *Osisioma* (literally, great tree, or noble trees respectively) indicate affinity with the strength and power associated with trees. Among the more elderly populations, men share names of trees from which they are said to incarnate. This is a form of totemic affinity. There is a parallel here to the Hebrews, the Celts and other Aryans, who believe that names are not only part of man, but it is associated with the most vital part of his soul or life. See The Medicine Man, *supra* note 130 at 16. Thus, for cultures where names of persons take the form of tree metaphor, there is perhaps no better way to underscore the importance of tree or plant life.

²²⁹ For example, the famous and controversial Neem Tree (which although popularly believed to be native to the Indian subcontinent, the southeast and southern Asia grows in the dry regions of more than 50 tropical countries and is actually subject of multiple origin) is associated with great religious significance in India and elsewhere. Its versatility earns it a reference in the *sanskrit* which translates to “curer of all ailments”. In the Moslem tradition, it is called the blessed tree (*shajar-e-mubarak*). Among many Indians, it is called “the tree of life”. See J. Kocken & G.V. Roozendaal, “The Neem Tree Debate”, *Biotechnology Monitor* # 3 (30 March 1997) at 8-11; see also Vandana Shiva, “The Neem Tree—A Case History of Biopiracy”, online: Third World Network <<http://www.twinside.sg/title/pir-ch.htm>>; <<http://www.physics.uc.edu/~manash/neem.html>> (date accessed: circa May 2000).

deities.²³⁰ Usually, animals are objects of sacrifice, often slaughtered or dedicated alive in an act of sacrifice before the shrine. It can be argued that the use of plants does not depend exclusively on their pharmaceutical potency as herbal extracts, but on their religious significance.²³¹ Even though plants are used in association with animals and mineral products and other ritual objects, they occupy a preeminent place in African therapeutic tradition and philosophical outlook, perhaps above other objects such as animals and minerals.

For instance, among the predominantly Moslem Hausa/Fulani of West Africa, the advent of Islam in the mid-14th century displaced virtually all aspects of indigenous traditional therapy with “prophetic or Islamic medicine” which is based on the Koran.²³² Indigenous *pegan* Hausa (Maguzawa) traditional medical practitioners, who did not convert to Islam, virtually lost all components of their therapeutic tradition to prophetic medicine except the herbal aspects. Among the traditional therapeutic specialists in the pre-Islamic Hausa were the *bokaye* (herbalists),²³³ the *mansu magani* (the ones with medicine), the *wazamai* (barbers and specialists in circumcision), the *madorai* (bone setters), *ungozomai* (midwives), and the *yan bori* (spirit mediums). Of all of these, the *bokaye* survived Islamization. Commenting on this, Sudanese-American scholar, Ismail H. Abdalla writes:

²³⁰ See Wayland, “‘Passing Through’: Folk Medical Magic and Symbolism” in selected essays *supra*, note 138 at 133-185 (highlighting the universal worship of trees and their roles in traditional therapeutic rituals).

²³¹ See Una Maclean, “Choices of Treatment Among the Yoruba” in *Culture and Curing*, *supra* note 112 at 152, 164.

²³² At the peak of Islamic civilization, the foundation of medicinal knowledge was “scientific”. Greek medicine and philosophy were said to have substantially influenced Islamic physicians, a claim that is denied by the Greeks. Nonetheless, Islamic medicine was said to have thrived on the Greek legacy hence at its earlier stage Islamic medicine was *scientifically* advanced. However, following the successful challenge of the hegemony of Islam in the West by the Christian Europe, especially Spain and in the East by the “steppe peoples of Central Asia”, Islamic intellectualism receded and in fact froze in what has been described as “closing the door of independent judgement” or *bab al-ijtihad*. Islamic medicine lost its “scientific” face and took on a theocratic and supernatural stethoscope. The kind of Islamic medicine that came with the advent of Islam in Hausaland of West Africa, especially Northern Nigeria and the Niger Republic was based on the “medicine of the prophet”. Prophet medicine is based on Mohammed’s experience with medicine, and often associated with recitation of Koranic verses believed to have therapeutic effect on the faithful. Mohammed was said to have been in the habit of administering medicine to needy followers. There are recorded 300 *hadiths* or anecdotes on medicine and allied matters attributed to the prophet. However, during the peak of Islamic civilization not much consideration was given to those as part of Islamic therapy until at the onset of *bab al-ijtihad* and “prophetic medicine”. See Abdalla, *supra* note 226 at 53-88.

²³³ There are other categories of Hausa herbalists. See *ibid.* at 118-126.

Prophet medicine...did not reach a group of Hausa practitioners I call here 'the herbalists'. These men and women continued to rely, in the main, on a rich tradition of Hausa therapy that was orally transmitted. Of course, the written and the orally transmitted medical traditions were not mutually exclusive. Nonetheless, the 'herbalists' practice today a type of medicine that is only minimally influenced by Islamic medicine.²³⁴

In his own contribution, Murray Last avers that only herbal aspects of traditional medical system of the Hausa have survived Islamic assault and are sure to continue.²³⁵ The foregoing underscores not only the universal centrality of plants in traditional therapy, but also establishes that there is no civilization whose medical tradition is independent of the use of plants in therapy.

Summary

As in modern medicine, it is inconceivable to think about traditional medicine or therapy outside the use of plants. Across cultures, religions and belief systems, there is a consensus that the medicine for humanity's ailment, present and potential, can be located within the plant kingdom.²³⁶ In the traditional therapeutic concept, it is quite clear that the two main components of any health system: the healing art and the pharmaceutical art are fused or intermingled.²³⁷ Therein lies the uniqueness of traditional therapy. It is perhaps this fusion that justifies plants as the centerpiece of traditional therapeutic practices.

Apparently, the traditional therapeutic enterprise is not an isolated endeavour. It is an extension of the socio-cultural, religious, spiritual and general cosmological outlook of the people. The healing art and the pharmaceutical art may be fused. But their fusion takes a life of its own as a cultural and religious expression, as an art and as a performance. In this form, traditional therapy is far from being an isolated organismic or clinical inquiry or a scientific probe into active substances. In the next section, I highlight some central tendencies in traditional therapeutic experience. I recognize that traditional therapeutic practices are culture-specific, and that no two cultures may have a uniformity of details in healing skills and associated rituals. My purpose is to establish that

²³⁴ *Ibid.* at 117.

²³⁵ See Murray Last, "The Importance of Knowing About Not Knowing" (1981) 15B Soc. Sc. & Med. at 390; see also Abdalla, *supra* note 226 at 49.

²³⁶ See Value of Herbal Remedies, *supra* note 150 at 36.

²³⁷ See Koumare, *supra* note 105 at 32.

traditional therapy transcends the parochial paradigm and fragmentation common to Western biomedical and pharmaceutical science.

4.6 Traditional Therapeutic Practices: Beyond *Active Substances*

4.6.1 The Social Position of Traditional Healers

In most indigenous cultures, the traditional medical practitioners are the main projectors of traditional therapeutic practices. As we have noted, the dominant theory of illness in many cultures is the supernatural theory. Therefore, traditional healers are involved in multiple roles,²³⁸ which correspond to the underlying cultural, spiritual and religious belief systems in their societies. It follows that in societies where the supernatural conception of illness holds sway, the so-called folk healers are first and foremost priests, or cultic personalities, intercessors, intermediaries and cultural custodians. Writing with reference to the Yoruba (Nigeria), Una Maclean argues that “[s]ince Yoruba medicine in its broadest sense encompasses the sacred, the social, and the psychological, it is proper that its most revered practitioners should be priests”.²³⁹ The traditional medical practitioners occupy a powerful position of authority, and as such they wield enormous influence in traditional societies.²⁴⁰ The categories of these healers may vary from society to society in accordance with the prevailing philosophy of illness and health. For instance, Navajo diagnosticians are distinguished between hand tremblers, herbalists and singers, who perform different roles in traditional therapy.²⁴¹ The Yorubas distinguish between two loose categories²⁴² of native healers: the *onishangun* or the herbalist and the *babalawo* or diviner who is the priest of the cult of *Ifa* oracle.²⁴³

²³⁸ Ethnomedical Systems in Africa, *supra* note 24 at 2.

²³⁹ See Una Maclean, *supra* note 231 at 165. For further insight into the nature of Yoruba traditional religious and therapeutic life, see G.E. Simpson, *Yoruba Medicine and Religion in Ibadan* (Ibadan: Ibadan University Press, 1980).

²⁴⁰ See The Medicine Man, *supra* note 130 at 91-166.

²⁴¹ See George Meyer, “The Art of Healing: Folk Medicine, Religion and Science” in *Folk Medicine*, *supra* note 75, 5 at 9.

²⁴² These two represent a broad paradigm; there are other categories of healers among the Yoruba, such as the faith healers and some that defy easy categorization.

²⁴³ Una Maclean observes that “[t]he distinction between these specialists is not absolute, however, since some *babalawo* (diviners) recommend the collection and preparation of herbal constituents for their prescriptions whilst certain herbalists practice divination procedures”. See *supra* note 231 at 155.

Already, I have noted that in the pre-Islamic Hausa societies there were as much as six classes of native healers.²⁴⁴

However, three²⁴⁵ broad categories of traditional healers are more usually identified.²⁴⁶ They are spiritists/diviners or religio-medical specialists, herbalists, and traditional midwives or birth attendants.²⁴⁷ These three categories albeit non-exhaustive indicate specialties within the rank and file of traditional medicine practitioners. Nonetheless, such divisions are not absolute or parochial as in Western biomedical

²⁴⁴ With the advent of Islam, almost all the categories were pressured into extinction except for the *bokaye*, the herbalists. Under Islamic (prophet medicine), two categories of practitioners became more prominent. They are the *yan bori* or the *bori* mediums, originally a *pagan* cult rooted in pre-Islamic Hausa cosmological outlook of spirit (*iskoki*) worship and therapeutic rituals often carried out in rivers, hills, trees, *et cetera*. However, according to Abdalla, “[w]hen Islam came, it brought new socio-religious factors into play. ‘Muslim’ spirits were created and added to the pantheon of Hausa *iskoki*...”. See Abdalla, *supra* note 226 at 136. *Bori* practice rid its *pagan* identity in order to conform to Islamic medicine. Perhaps the most important class of traditional therapist in the modern Islamic Hausa society especially in Nigeria and Niger, the *malam*-practitioner, is the standard bearer of Islamic medicine. About him Abdalla observes: “In him are combined some or all of the duties performed by separate individuals in Hausa society...He is a spiritual leader, an educator, political adviser, judge, secretary and practitioner all in one”. *Ibid.* at 140.

²⁴⁵ The WHO writes that two major classes of curers emerge from the data of traditional medicine: those with supernatural or magical powers who diagnose (i.e. identify the efficient cause) and who also may administer therapy, and those who accept the patient’s self-diagnoses and administer the appropriate remedies’. See George M. Foster, “Introduction to Ethnomedicine” in *Traditional Medicine and Health Care Coverage*, *supra* note 30 at 21.

²⁴⁶ Categorization of traditional healers defies any consensus. There is lack of uniformity with respect to the nomenclature assigned to each of the usual three categories. The variations in categorization reflect subtle differences in the way their roles are perceived, which in turn is a function of the dominant cultural predisposition not only of the analyst but also the cultural context in which the healer performs. Edward Ayensu’s categories illustrate the point being made here. He writes:

Generally we can identify three types of traditional medical practitioners, and the extent to which they use medicinal plants varies. The herbalists are those who enjoy the prestige and reputation of being the real practitioners of traditional medicine. The divine healers are those whose practice depends on their purported supernatural powers of diagnosis. On occasion they also administer medicines that are supposed to have spiritual powers. The witch doctor on the hand is a practitioner who is credited with the ability to intercept the evil deeds of a witch or to exorcise the evil spirit that possesses the patient. Here again plants thought to have exorcizing powers are used as part of the treatment. (Notice that the traditional midwife is not mentioned in this categorization).

See Edward, Ayensu, “Endangered Plants Used in Traditional Medicine” in *Traditional Medicine and Health Care Coverage*, *supra* note 30 at 175. It is difficult to arrive at a categorization that exhaustively incorporates all classes of traditional healers that exist in all cultures. Hence such attempts that exist speak of general categories. Precision can only be achieved when we are dealing with culture-specific contexts. For instance, among the Navajo, we identify hand tremblers, herbalists and singers; the Ojibways, three classes: the *wabeno*, the *jessakkid*, and the *mide*. See *The Medicine Man*, *supra* note 130 at 67.

²⁴⁷ The WHO favours the use of the term, traditional birth attendant, which it defines as “a person who assists the mother at childbirth and who initially acquired her skills delivering babies by herself or by working with other traditional birth attendants”. See Sheila Cosminsky, “Traditional Midwifery and Contraception” in *Traditional Medicine and Health Care Coverage*, *supra* note 30 at 142.

systems.²⁴⁸ Generally, specialist skills are applied in fair combination depending on the exigencies. It is not unusual to see traditional healers switching roles between the three principal specialties. Bonesetters, a category of traditional orthopedics, can double as herbalists in the same way as herbalists can employ forms of divination when the need is compelling.²⁴⁹ Similarly, diviners or spiritists also double as herbalists in most cases as an incidence of their elaborate paraphernalia. In the same vein, traditional midwives or birth attendants are wont to make herbal prescriptions and administration. In truth, they perform rituals, say prayers and listen to confessions particularly when a patient is undergoing a troublesome or prolonged labour.²⁵⁰

There are different ways by which traditional healers and other members of the therapeutic community preside over healing rituals. A survey of these therapeutic encounters illustrate the thesis that traditional therapy is not a parochial clinical inquiry nor is it a search for active substances, but a cultural, artistic and religious experience. Within the complex matrix of traditional therapy, the use of plants goes beyond an experience in chemotherapy. Rather it assumes the form of religious experience in an environment in which auto suggestion, placebo effect, the power of faith and belief are activated to the patient's ultimate advantage.

The medicine man as opposed to the man of medicine²⁵¹ is first and foremost a sage; a priest; a shaman; a cultural icon; a prince of the mysterious and perhaps above all, a versatile and sacred artist. In his ethnocentric depiction, Maddox describes the medicine man as "not only a primitive doctor, but he is the diviner, the rain-maker, the soothsayer, the prophet, the priest, and in some instances, the chief or king".²⁵² In some societies being a priest, automatically secures him a place in the ruling class. Furthermore, the

²⁴⁸ "In African traditional medicine the term "specialist" refers to a person dealing with a limited number of pathological conditions and not just with one organ or system of the human body, although it is possible to find traditional healers who confine themselves to fractures, cataract, or mental disorders". See Koumare, *supra* note 105 at 28.

²⁴⁹ See Maclean, *supra* note 231 at 162; see also Abdalla, *supra* note 226 at 130.

²⁵⁰ In such situation, the trauma may be ascribed to infidelity or adultery, and the midwife may call in the diviner and collaborate with her in the performance of necessary rituals. See Sheila Cosminsky, *supra* note 247 at 153.

²⁵¹ A reference to the underlying distinction between traditional *healer* and the Western physician. Lucas writes, "most of the world's inhabitants... those who prefer prayer to penicillin, find themselves in much closer agreement with the medicine man than with the man of medicine". See Value of Herbal Remedies, *supra* note 148 at xiii.

²⁵² The Medicine Man, *supra* note 130 at 25.

medicine man is usually of the elderly stock.²⁵³ Traditional medicine men and native midwives are not particularly young people.²⁵⁴ In most of Africa, old age is a synonym of wisdom, an indication of deep spirituality, and closeness to the ancestors. Longevity, as in all cultures, is ascribed to righteousness and/or good living. It is perceived as a sign of the elder's favour with the gods and ancestors. It is often interpreted as a reward for a long record of harmonious social relationships. In all of these, the medicine man is a person of influence; he has the capacity for evil and mischief as well as for good.

4.6.2 Power and Environment: The Healer and the Sick

In most cases, therapy is administered within a cultural setting familiar to the healer and the sick. The two are most likely to subscribe to or share the same worldview, including the same theories of illness. This is important not only for creating the atmosphere of faith and trust, but more importantly it confers legitimacy to the relationship of power that exists between the healer and the sick. In addition to sharing the same worldview, the sick person or her relations do not perceive the medicine man as a charlatan or imposter. They most probably were witnesses to, or aware of the medicine man's initiation into the healing cult as it is the case in some cultures. In the alternative, they know his antecedents such as from where he trained, or whether his shamanistic prowess is inherited.²⁵⁵ Furthermore, in other instance, the choice of the medicine man may have been dictated by some affiliation, totemic sometimes, which the medicine man shares with the sick.²⁵⁶ Within such a setting the herbal and ritual prescriptions, and other

²⁵³ Ayurvedic practitioners are not only much sought after for their therapeutic skills but their counsel as elders are also in demand within the community. See Kurup, "Ayurvedic Medicine", *supra* note 159 at 55.

²⁵⁴ See Ethnomedical Systems in Africa, *supra* note 24; see also Maclean, *supra* note 231 at 163 (noting that in his survey of Yoruba traditional healers in Ibadan, nearly 70% of them were over the age of forty-five, whilst young recruits were hard to come by). Similarly, Sheila Cosminsky observes that most traditional midwives range from middle-aged to elderly women, even though some may start practice at younger age, they are "freer to assume midwifery responsibility" after menopause. In her words, "age and experience usually confer respect and status". See Cominsky, *supra* note 247 at 146. Nevertheless, it is not unusual for the spirits, gods or idols to select young initiates.

²⁵⁵ This is no longer an absolute trend. Today, with rural-urban drift, many traditional societies continue to be fragmented. Medicine men are often itinerant *merchants of fortune*, settling in urban communities and attending to needs of countless clients with whom there is no ancestral affinity save perhaps for a shared worldview.

²⁵⁶ In many indigenous cultures, some families or clans or ethnic entities are associated with the curative power over a specific ailment. Consequently, they are specifically chosen as priests of the god, oracle or spirit which are linked to the particular affliction. Those who are afflicted by the ailments must consult with

forms of sacrifices recommended are received and implemented with faith and confidence. The setting satisfies three fundamental therapeutic factors in psychotherapy and psychoanalysis. According to Raymond Prince, the factors include the following: shared worldview of healer and patient, warm personal relationship between them, the expectant hope of the patient and the high prestige of the healer. These factors tap into the main therapeutic force otherwise called suggestion.²⁵⁷

4.6.2.0 Two Kinds of Therapeutic Environment

The traditional healer knows the effect of a “therapeutic environment”²⁵⁸ on the sick. In creating the therapeutic environment, the healer’s role is that of an artist of a special or sacred kind. The shaman’s shrine/locus of therapy and his official paraphernalia/regalia present two examples of therapeutic environment. I explore this artistic component in therapeutic practice beginning with those two examples.

4.6.2.1 The Medicine Man’s Paraphernalia and Therapeutic Regalia

Already, I have observed that at a professional level, the medicine man²⁵⁹ doubles as a priest and the custodian of the sacred. He is a member of the privileged class; and with respect to his office, he is set apart from the ordinary folks in the society. He is believed to commune with supernatural forces as an intercessor, a prophet; a messenger; a godly as well as an ancestral oracle. As is commonplace with priests in all traditions, he

the healer dedicated to the relevant cult. Thus, it is not unusual for the sick and the healer to have some cultic affinity which constitutes a fundamental platform for therapeutic intervention.

²⁵⁷ See Raymond Prince, “Psychiatrist and The Folk Healer: Interface and Partnership” in *Folk Medicine*, *supra* note 75, 57 at 61.

²⁵⁸ Compare Helman’s analysis of “context of consultation”. He distinguishes between two aspects of context of consultation, namely internal context, which refers to prior experience, expectations, cultural assumptions, prejudices and explanatory models, *et cetera* that parties bring to clinical encounter. The other is external context, which refers the actual setting in which clinical encounter takes place i.e. doctor’s clinic/office, hospital as well as wider social influences that mediate between parties (doctor-patient). Helman identifies some of those influences as dominant ideology, religion, economic system, class, gender and ethnicity among others. According to him, all of these factors influence the power relationship in doctor-patient encounter. See Helman, *supra* note 35 at 106.

²⁵⁹ The continued narrative and reference to the “medicine man” in the masculine gender does not exclude the fact that there are also female shamans. Over all, the use of *the medicine man expression* is prevalent in literature. As much as it may be suggestive of gender bias, it does not exclude the fact that there are female traditional medicine practitioners. My impression is that the use is perhaps indicative of a term of art. For instance, reference to Traditional Birth Attendants (TBAs) is usually in the feminine gender. See, for example, *supra* note 254 and accompanying text. However, that does not exclude the fact that men are also involved in the practice of midwifery or as TBAs.

has a dress code associated with complex symbolism. With respect to detail, the code is not only culture-specific; but it is also contingent upon the nature of the case at hand or type of sacrifice to be performed. For instance, most medicine men from Australian and North American indigenous nations have the *medicine bag* or *medicine bundle*²⁶⁰ as an indispensable component of their office. The medicine bag is usually made of the skin of a totemic animal. The bag is decorated “with feathers, beards, and porcupine quills. Inside, he [the medicine man] places bones, pebbles of quartz, and splinters, together with roots and herbs to which he attaches magical significance”.²⁶¹

Among the Igbos, the *dibia* cannot exercise his spiritual office without his *ofor*. The latter is a sacred symbol of his authority. The *ofor* depicts the noblest ideal of integrity, truth and uprightness. Among other things, it is an ethical seal and insignia of the *dibia*'s oath of office. In addition to the *ofor* are other paraphernalia of office, parallel to the medicine bag. In order to perform a sacrifice or conduct a divination or other ritualistic endeavour, the *dibia* must adhere to a dressing code for which a given situation requires. Often he paints or tattoos his body meticulously in carefully chosen symbolic colours; he adorns animal skins and herbal extracts; charms and amulets; bangles and ornaments of mystic origins. As esoteric as he may appear to the “uninitiated”, what may not be easily dismissed is the artistic ingenuity of the medicine man's costumes. Inherent in the *art* are deep symbolisms and spirituality. In this *transcendent state*, the medicine man's influence on the sick is one that provokes faith and expectation. This religio-spiritual cum therapeutic practice though culture-specific in its details is not limited to traditional settings only.

For example, Catholic priests have dress codes for saying the mass. The liturgical calendar and the nature of the celebration are determinants of what the clergy wears. A funeral mass requires a different vestment from an Easter service. Each vestment provokes emotions on the faithful. Few Catholics for instance, can doubt the spiritual and psychological effect of the purple vestments which the priests not only adorn, but which

²⁶⁰“The medicine man's bundle contains the sacred objects used in the particular ceremony, such as crystals, eagle bone whistles, a bull roarer—all ancient and associated in the mind of the medicine man, the patient and the patient's family with recollections of previous solemn occasions and often with thoughts of a great medicine man of the past of whom one's grandparents spoke with respect”. See Bergman, *supra* note 196, 84 at 92-93.

²⁶¹ The Medicine Man, *supra* note 130 at 95.

are also used to cover the statue of Christ on the crucifix throughout the Holy Week. At the secular level, recent Gallup poll in the United States indicates that higher number of patients and members of the public are averse to doctors dressing in “casual wear”. Many would prefer that physicians dressed formally. Officially dressed physician creates an impression of a responsible professional, and enhances patient confidence.²⁶² Thus, the uniqueness and symbolism of priestly dressing and regalia is common phenomena in world’s religions and health cultures.

However, the traditional healer’s mode of dressing involves a sophisticated artistic display which may even be frightening, and has often been perceived in the Eurocentric sense as bizarre or “most absurd”²⁶³ as the following somewhat exaggerated depiction of Blackfoot Indian Medicine Man suggests:

For a coat he wore the skin of a yellow bear. The skin of the head (sic) was formed into a mask...On his person in addition to the skin of the yellow bear—an article exceedingly rare and therefore in itself a powerful medicine—were skins of various wild animals which were also anomalies and deformities... There were also skins of snakes, frogs, field mice, snails, the beaks and tails of birds, hoofs, of deer, goats and antelopes, in a word, the odds and ends, the fag ends and tips, of everything that swims flies or runs. In one hand he held a magic wand in the other a fearful rattle which contained the arcana of his order.²⁶⁴

In the same vein, a Zulu *witch doctor* including his headdress are described as:

“[C]overed with a tall official cap of plaited straw...adorned with a carefully-tended beard, which reaches from his chin to his breast...Round his neck, as priestly adornment, hang strings of white coral, upon which the fetich” is thought to “descend during incantations. A silken sheet of gay colours, fantastically knotted and covered all over with charms rolls down over the dress of the priest. In his hands, h carries a wisp of rushes and a “fetich-whisk”[a kind of parallel to the biblical Moses and the magical serpent stick]. This is here and there exchanged for the tail of a cow or a buffalo, regarded as symbol of priestly office. His naked feet are adorned with sandals of red leather, his ankles with chain of coral...”²⁶⁵

²⁶² The physician’s white coat, stethoscope, prescription pad, *et cetera* are ritual symbols capable of inducing placebo effect on the patient. See Helman, *supra* note 35 at 138. Helman describes the stethoscope and the white coat as a potent symbols of medical science deployed in rituals of healing “in the same way that non-Western healers employ certain religious symbols or artifacts (such as certain plants, talismans, divination stones, holy texts and such like) that symbolize powerful healing forces (such as gods, spirits or ancestors)”. *Ibid.* at 157.

²⁶³ The Medicine Man, *supra* note 130 at 101.

²⁶⁴ *Ibid.* at 102.

For Ratzel, “a more peculiar impression cannot be conceived than is produced by the unexpected appearance” of the Zulu *ganga*, who rigged “out in the above described apparel, dancing, singing and ventriloquising.”²⁶⁶

Absurd or bizarre as his regalia may seem to the Western eyes, the point here is that in traditional therapeutic practice the healer deploys a multitude of codes, and signals transcending the narrow specifics of active compounds of herbal extracts.²⁶⁷ The artistic and metaphysical elements are deliberate, spiritual and meticulous effort. They help to sustain the relationship of power and privilege between the healer and the sick in which confidence and faith are forged in a therapeutic environment. The fundamentally spiritual significance of every component of the apparel is not compromised. Even ethnocentric commentators acknowledge the significance and effect of the medicine man’s costumes. Thus as Maddox observes, “[w]hen exercising his function as a healer, the medicine man invests himself with an attire which is calculated to act as a suggestive influence upon the minds of his patients”.²⁶⁸ Yet it is tempting and pretty easy to dismiss the medicine man as engaging in “artificial (sic) divergencies from the normal”²⁶⁹ in order to impress his helpless savage ilk. The undisputed point is that the efficacy of the herbal or other remedies prepared or prescribed after this experience may not be exclusively as a result of the herb’s pharmacological properties²⁷⁰ but a function of the holistic nature of the healing enterprise.

²⁶⁵ From Maddox’s description of Friedrich Ratzel’s narrative in *History of Mankind*, trans. A.J. Butler 2nd German ed. (New York: 1896) at 365-366. See *Medicine Man*, *supra* note 130 at 101.

²⁶⁶ Ratzel, *ibid.*

²⁶⁷ According Goldwater, “both colour and music are important adjuncts to therapy, colour for its significance and symbolism, and music as a background of divination and healing ceremonies. Music is thought to frighten away evil spirits and also to act as a form of prophylaxis”. See Goldwater, *supra* note 213 at 43.

²⁶⁸ *The Medicine Man*, *supra* note 130 at 100.

²⁶⁹ *Ibid.* at 93.

²⁷⁰ See Peter A.G.M. De Smet, *Herbs, Health and Healers: Africa As Ethnopharmacological Treasury* (Berg en Dal, The Netherlands: Afrika Museum, 1999) 11 (arguing that some plants and animal substances used in traditional therapy do not necessarily have pharmacological effect identifiable in a scientific laboratory environment. Nonetheless, a host of them have an undeniable scientific or pharmacological effects as opposed to mere magical effects—a fact of which the discipline of ethnopharmacology continues to provide ample evidence)—conclusively, traditional therapeutic experience incorporates the scientific, the spiritual, the magical and often even the inexplicable.

4.6.2.2 The Locus of Therapy

The shrine or locus of therapy is another exemplification of the healer's artistic/holistic endowment. The place of therapy not only sustains the relationship of power between the healer and the patient, it has a psychological effect on the patient. In order to have such effect, the place in which therapy is administered must be a sanctuary of sorts, capable of eliciting reverence in the worshipper, and in this case, the sick. The parallel between the place of therapy and one of worship re-enforces the dual role of the healer as a priest and agent of metaphysical forces. In all religions of the world the place of worship is a sacred sanctuary, where the priestly stock commune with the deity in intercession, prayer, sacrifice and rituals. Virtually all organized religions and cults have sacred rules and taboos associated with the place of worship. Such places may be anything else but ordinary. The traditional therapeutic practitioner invests enormous efforts in setting up his therapeutic haven similar to the effort spent in preparing his costumes. In this endeavour, he is a painstakingly creative temporal artist and of the ethereal.

The healer is not, however, confined to a single place for the performance of healing. The place of healing is often a dictate of a number of factors including the nature of the ailment and the result of a divination to mention the two. Although divination may be conducted in the healer's personal shrine, the oracle or the spirit may require that sacrifice or ritual be performed in a specific place at a given time, usually at night.²⁷¹ Such places may include community shrines, sacred groves,²⁷² ancestral burial sites, the community riverbank, at the base of a sacred tree, the village market square or at a road intersection. Yet, the healer has the responsibility not only to maintain his permanent shrine, which doubles as a diagnostic chamber, in a unique impressive form according to

²⁷¹ Among the Melanesian Sori indigenous peoples, the ritual for violation of totemic taboo is usually performed at night. See Romanucci-Ross, *supra* note 112 at 123. Also the Navajo singing ritual is usually a night affair. Across cultures, many religious rituals are performed at night believed to be the time when spirits are active. Night is usually associated with mysticism. For Shakespeare, it is a time "when dangers are most free". In man's imaginary or ideational environment which is conceived in the likeness of the physical world, night is believed to be the time when supernatural forces occupy the physical space in the likeness of man's domination during the daytime.

²⁷² Ethnomedical Systems in Africa, *supra* note 24 at xii. In some instances, what may be required is a pilgrimage to a designated shrine and participation in a special prayer with a member of a cult. See Cosminsky, *supra* note 247 at 157; see also Hand, *supra* note 138 at 48.

his cultic affiliation, but also to prepare the prescribed location for specific ritual. In all of these, the healer is both an *artist* and a powerful spiritual figure.

A meticulously arranged therapeutic environment has a positive effect on the sick. It depicts the healer as a responsible person and one who is versed in his art²⁷³ and indeed the mysterious. It is even more so with traditional healers for whom every object has a symbolism and must be placed in some pattern. Again, we can draw from the Navajo experience. The use of herbs, as I have noted, is central to Navajo traditional therapy. Yet that tradition is unique because of its elaborate ceremonies and psychotherapy which may not be successfully divorced from the use of herbs.²⁷⁴ According to Bergman, in the Navajo native therapy:

The medicine man spends hours preparing the setting for a major ceremony. Among other things, he makes sand painting by sprinkling ground rock and other coloured powders to form an elaborate, beautiful and perfectly correct depiction of the holy people in a mythic scene referred to in the ceremony. A patient seeing that the medicine man can produce this work of art is confident that the person into whose hand he has put himself is skillful, well trained and hardworking. Then during the course of the night's part of the ritual the medicine man sits the patient on the sand painting which is destroyed in the process.²⁷⁵

Even the patients may be distraught at the destruction of something so intricate and beautiful. Nonetheless, they are “convinced by the medicine man’s willingness to sacrifice his art work for their benefit [and] that he was really working to help them and not for his own self-aggrandizement”.²⁷⁶ The Navajo ritual, like other traditional therapeutic experiences, almost always ends with the prescriptions of herbal and other remedies.²⁷⁷ In essence, the therapeutic environment is an artistic creation with spiritual symbolism.²⁷⁸ It results in fostering confidence in the healer whilst sustaining the relationship of power between him and the sick which is necessary for the latter’s relief.

²⁷³ Bergman, *supra* note 196 at 90.

²⁷⁴ *Ibid.* at 85.

²⁷⁵ *Ibid.* at 90-91.

²⁷⁶ *Ibid.* 91. Apart from the idea of a sacrificed work of *art*, there are some symbolisms associated with the act. For instance, in some cultures it is indicative of, or a re-enactment of the spiritual office of the shaman as a participant in the creation/restoration or re-creation process associated with the therapeutic profession.

²⁷⁷ *Ibid.*

²⁷⁸ The Western eyes typically looks at the artistic “elements”. Yet the shaman uses the intricate designs for purposes greater than mere art. Triangles, squares, shapes, codes, colours, trapezium, *et cetera* are believed to have spiritual meanings. Ditto their arrangements in a therapeutic setting.

Thus, the artistic and spiritual ministry of the healer is a complementary skill of his therapeutic office.

4.7 The Performances of Healing

The last subsections isolated two examples of the healing environment, namely the locus of therapy and the healer's ceremonial regalia.²⁷⁹ The usual painstaking manner in which those two are set up represent part of the artistic²⁸⁰ dimension to the healer's skill. The locus of therapy and the healer's therapeutic regalia create a necessary environment in the psyche of the patient for the performance of healing. In this section, the focus is on the performance of the healing art. My interest is on the religio-cultural context of the healing art, and not on the so-called scientific or objective inquiry. The reference to art here goes beyond the literal. Underlying the artistic manifestations are deep spiritual and symbolic connotations which are not discernible through a face value conception of art.²⁸¹ I note that it is not possible to enumerate every traditional therapeutic activity found in every system. My emphasis is on central tendencies prevalent in many of the systems because the precise patterns of traditional therapies are highly individualized and case-specific.²⁸² My analytical pattern so far is conscious of the observation that "with a topic as extensive as traditional medical systems, it must be remembered that every generalization must be qualified by such adverbs and phrases as usually, commonly, or in the majority of cases".²⁸³

Already, I have noted the centrality of the use of plants in traditional therapy. It is necessary to bear in mind the notion that in traditional medicinal systems, the two principal components of any health system, namely the therapeutic and pharmaceutical aspects are intermingled. Thus, the idea of performance of healing which I discuss below incorporates the use of plants both as a component of the religious and other belief

²⁷⁹ It needs pointing out that these two are not the only examples of the artistic aspects of traditional therapy. Indeed, the elaborate initiation and apprenticeship processes preceding admittance into the *healing cult* in most non-Western cultures are rich in artistic and spiritual complement and they constitute aspects of traditional therapy. Nonetheless, the two examples depict the therapeutic process proper as opposed to the initiation process.

²⁸⁰ See *infra* nn 291 & 301 and accompanying texts.

²⁸¹ See, for example, commentary on note 278, *supra*.

²⁸² See O' Connor & Hufford, *supra* note 115 at 32.

²⁸³ See George M. Foster, *supra* note 245 at 18.

systems that underlie traditional therapeutic practice. In addition, plants or herbs constitute prescriptions in traditional therapy. In virtually all traditional therapeutic practices plants either as herbs or extracts tend to be prescribed.

4.7.1 Words As Performance

Religion and belief systems are largely determinant of the nature of traditional therapeutic practices. The reason for this is not far fetched. Traditional therapeutic practices are based on the supernatural theory of illness. So, curative processes and procedures are directed toward seeking harmony with spiritual or supernatural and social forces often associated with illness. In the real or imaginary supernatural world, emotive and sensuous invocations are communicative tools for penetrating the senses. According to Carol Laderman and Marina Roseman, the idea is that “if healing must be effective and successful, the senses must be engaged”.²⁸⁴ For mystical philosophers and those steeped in the supernatural notion the way to the soul is through the senses.²⁸⁵ Among the array of healing performances identified as the central tendencies in traditional therapeutic practices are prayers, hymns, songs and dances; sounds and rhythms; incantations; poetry; oratorical invocations; ventriloquism;²⁸⁶ recitations; exorcisms; mixing of colours; sacred paintings; ideographic signs;²⁸⁷ trances; seances or transcendental experiences; spells; oratorical performances. The list is not exhaustive. All of these provide the tool, the context and the mysticism for “multimedia communication”²⁸⁸ in

²⁸⁴ See Carol Laderman & Marina Roseman, eds., The Performance of Healing (New York; London: Routledge, 1996) [hereinafter Performance of Healing] at 4.

²⁸⁵ *Ibid.*

²⁸⁶ Even those who write from an ethnocentric mindset, such as Maddox and Franz Boas nonetheless acknowledge that the Eskimo *angakos* (medicine man) requires much skill in ventriloquism. In describing this skill Maddox quotes Boas' description of the *angakok*: “[t]hus in invoking a tornaq flying to a distant place, they can imitate a distinct voice by a sort of ventriloquism. In these performances they always have the lamps extinguished, and hide themselves behind a screen hung in the back of a hut...the resemblance of this performance to the experiments of modern spiritualists is striking”. Irrespective of the ethnocentric depictions of Maddox, the important point here is that traditional therapeutic experience is often a performance and an art. Strangers to the local culture are ill equipped to make determinations regarding the efficacy of the experience. See Franz Boas, “Central Eskimo” (US Bureau of Ethnology 6th & 7th Annual Reports, 1884-1885; 1885-1886 (Washington, 1890-1) pp. 399-675; 301-409 at p. 593-4 of vol. VI (quoted in The Medicine Man, *supra* note 130 at 53).

²⁸⁷ See Henry L. Roth, Natives of Sarawak and British Borneo (London; New York: Truslove and Hanson, 1893-1896); see also The Medicine Man, *supra* note 130 at 92.

²⁸⁸ See Performance of Healing *supra* note 284 at 2.

which the medicine man engages the sick in dramatized culture-specific rituals as acts of healing performance.

Already, I have alluded to the Navajo singers, and their elaborate singing through the healing rituals. They perform their singing not only as healers in the Navajo therapeutic heritage but also as members of the therapeutic community who identify with the sick and partner with her in the bid to restore her to the society. Songs, singing and dancing are performative accoutrements of many a traditional therapeutic systems. In Songhay villages of West Africa's Niger Republic, there are spirit possession troupes; a loosely organized healing band dedicated to the performance of *social healing*.²⁸⁹ The troupes comprise of male and female villagers who engage in special use of sounds, (violin and drums) music, praise-poetry and in dancing, all which constitute integral aspect of the Songhay traditional therapeutic heritage. The dramatics of the Songhay possession troupe, which is customarily headed by a possession priest, the *Zima* is summed up by the likening of the latter to the "impresario of a theatrical company".²⁹⁰

Words are powerful; even more so when they are dramatized, either as songs, poems, verses, incantations, ecstatic outbursts and philosophical or oratorical deliveries.²⁹¹ It is believed among a cross section of world's indigenous peoples and their healers that only those properly initiated can activate the therapeutic powers of plants or herbs by speaking appropriate words and making the right prayers.²⁹² Piero Coppo writing about African traditional medicine observes that: "the incantations accompanying the preparation and administration of a medicament, the part played by the healer as a

²⁸⁹ This is mainly prayers and community offering for rain, good harvest and ecological harmony, see Paul Stoller, "Sounds and Things: Pulsation and Power in Songhay" in *Performance of Healing* *ibid.* at 165.

²⁹⁰ For details of the nature of the possession troupe of Songhay, especially the significance of the sound of musical instrument and praise poetry, see *ibid.* at 173-181.

²⁹¹ In a Yoruba divination ceremony, the *babalawo* (chief diviner) engages in a sophisticated display rich in poetry, incantation oratory and mysticism. For instance, the following description gives some insight into the process: "A complicated divination system involves throwing sixteen Kola nuts from hand to hand and recording the result of their chance fall upon a sanded board. Once a pattern of odd and even throws is drawn the diviner refers in his mind to knowledge of 256 sayings in the corpus of sacred verses, and recites the appropriate section to his client. The message is open to the interpretation of the client, who will apply its wisdom to his own case". See Maclean, *supra* note 231 at 163. Note here the sacred nature of numbers.

²⁹² Nevertheless, the notion of *communication* between humans and plants even though an aspect of traditional reality has received scientific affirmation. See *The Secret Life of Plants*, *supra* note 179 at 23.

mediator between spirits and humans, and his occult powers are components of every therapeutic act”.²⁹³ Among the Yoruba, for instance, Maclean writes:

The collection of plants intended for use as medicines requires that appropriate incantations be pronounced. What is termed *Oriki*, praise names, make explicit reference to plant’s medicinal functions. Incantations are required during the preparation of mixture and prior to its use. This is because matter is considered powerless without the influence of appropriate spoken word, uttered according to ritual prescription.²⁹⁴

The Aryans, who migrated to the Indus Valley around 1500 B.C. wrote the vedas, a collection of classical Indian medical literature. The Rig vedas comprise as many as 1028 hymns. Many of the hymns are said to “raise a blossomless, rootless, leafless substance known as soma”²⁹⁵ Apart from having tremendous therapeutic qualities, the soma is also used in preventive medicine as well as in achieving ecstasy.²⁹⁶ In fact, it is identified as a form of psychedelic, and has been used for divination and psychotherapy.²⁹⁷

It is not only some distinct members of the therapeutic community like the Navajo singers and the Songhay possession troupes that dramatize the use of words, as songs and poetry in therapeutic and religious ceremonies. In many Pentecostal churches, “speaking in tongues”, a practice that has clear biblical and doctrinal basis²⁹⁸ is part of prayer and worship. As a practical matter, speaking in tongues, which could even occasion some transient experience, is often the norm during healing or deliverance services. The Catholic Church is still steeped in the use of Latin even though it is incomprehensible to a majority of the congregation. In many cultures, the medicine man must of necessity be an esoteric communicator. His liaison with the supernatural and the spirit world requires that he speak the “heavenly language”. Rituals are often performed by incantation; the same goes for divinations. In fact, rarely are divination, diagnosis, sacrifice or rituals by

²⁹³ See Traditional Medicine and Health Care Coverage, *supra* note 30 at 33.

²⁹⁴ *Supra* note 231 at 162.

²⁹⁵ See Krippner & Colodzin, *supra* note 149 at 16.

²⁹⁶ *Ibid.* The soma is associated with the mushroom, *Amanita muscaria*, a psychedelic fungus. See Gordon R. Wasson, *Divine Mushroom of Immortality* (New York: Harcourt Bruce Jovanovich, 1969).

²⁹⁷ Krippner & Colodzin, *supra* note 149 at 23.

²⁹⁸ See St Paul’s teachings on speaking in tongues which he describes as a believer’s communication with God in a language of which even he (the believer) does not understand, 1 Cor. 14, Rom. 8:26; see also Acts

spiritists or other initiated persons conducted in ordinary language. The mysticism behind communion with the spirits, ancestral or otherwise takes such communication outside the language of mortals or so it seems. Whether real or imaginary,²⁹⁹ the use of strange and incomprehensible language has a suggestive effect on the sick or the faithful as the case may be.

Apart from healers and special members of the therapeutic community, the sick in many traditional therapeutic experiences are also active participants in their healing process. Through the administration of certain rituals, often at the diagnostic stage, they are initiated into the healing process.³⁰⁰ The initiation enables them to participate in, and to feel the total experience of healing. The sick say the prescribed prayers and incantations, recite the prescribed words, before, during or after the administration of

2: 4-9, "They spoke as the spirit gave them utterance"; see generally Felicitas D. Goodman, Speaking in Tongues: A Cross-cultural Study of Glossolalia (Chicago: University of Chicago Press, 1972).

²⁹⁹ The notion of an altered or continuing state of consciousness in the present earth life (e.g. by micropsychoses experience such as trance or possession), or hereafter (upon demise) is the foundation of many religious or spiritualist teachings. Nonetheless, controversy surrounds the notion of existence outside the present "earth life". Skeptics have described such conception of life or existential experience after earth life as fantasy and imagination. However, in virtually all cultures, the notion holds sway and continues to generate an endless controversy, which may never be resolved. Maddox characterizes the notion as supporting the existence of an "an imaginary environment". See *The Medicine Man*, *supra* note 130 at 2. According to him, man lives under a three-fold environment, which include the natural or physical environment, the social environment, and the imaginary environment. For Maddox, the notion of the third environment, which is "composed almost entirely of notions of man concerning ghosts and spirits" applies to "primitive peoples". Murdock describes the third environment as man's ideational environment. He argues: "[t]here is probably heuristic value in analyzing the world in which man lives and functions into three components: his physical environment, his social environment, and his ideational environment". See *Theories of Illness*, *supra*, note 122 at 53. Murdock associates the ideational environment with the concepts of supernatural beings, which are derived from a human model. For him, the ideational environment are products of human imagination in both secular and religious terms. The parallel component of the ideational environment which he finds persuasive is the religious ones, perhaps because they are associated with streamlined codes of ethic as propounded by religious teachers such as Jesus Christ and Confucius. *Ibid.* at 54-5

³⁰⁰ Amongst the Igbo and Yoruba nationalities in Nigeria there is a strong belief in a wicked spirit that incarnates as a child only to die and reincarnates in order to torment its parents with an unending sorrow. Recurring and unmitigated cases of infant mortality experienced by some families are usually attributed to this evil spirit, which is called *Ogbanje* and *Abiku* in the respective cultures. An *Ogbanje* possessed 'spirit-child' is subjected to a rigorous ritual by the medicine man. In fact, the ritual usually starts with the parents at a pre-conception stage when they are made to eschew several prescribed taboos and observe certain rituals. In getting rid of the evil spirit, the medicine man initiates the child into the healing process in which she becomes an active participant. She is often led into a trance under which she breaks her alleged oath of secrecy believed to have been entered into in the spirit world. Thus, she then leads the healer into a secret location where she is believed to have buried her *iyi-uwa*—a pebble-like object—representing her bond with the spirit world which enables her to die and come back to life. The discovery and subsequent confiscation of this object guarantees that the child will not die as a result of the *Ogbanje* spirit. It is believed to bring to an end the cycle of death and birth associated with the *Ogbanje*. In this complex ritual,

herbal or other remedies as the case may. In effect, all the active participants in traditional therapeutic experience engage in the creative use of words at different dramatic levels.³⁰¹

4.7.2 Transcendental Dimension

Another central tendency in the *performative* nature of the healing art is the transcendental experience, otherwise the notion of trance. Possession state or trance suggests a state of altered consciousness used so often in traditional therapeutic procedures.³⁰² The mysticism and logic behind this experience aside, it is the drama, the performance, and the holism that engage my immediate interest. Trance is often associated with the medicinal or hallucinogenic effect of plants,³⁰³ usually the narcotic ones.³⁰⁴ Because of this, hallucinogenic plants such as coca, *ayahuasca*,³⁰⁵ cannabis,³⁰⁶ peyote, *et cetera* take on religious symbolism in many indigenous cultures.³⁰⁷

the *sick* is an active participant in the healing process. For a dramatic description of this healing process, see Achebe, *supra* note 134 at 76-85.

³⁰¹ World religions are not exempt from coveting the power of language to prop emotion, raise faith level and effect a transformative experience on their adherents. Pentecostal Christians speak in tongues; Catholics are not in a hurry to discard use of Latin in Mass. In Islam, Catholicism and some Oriental religions, recitations of the bead, or rosary, the chanting of the mantra, *et cetera* are religious indulgences believed to have spiritual or therapeutic significance.

³⁰² See Raymond Prince, *supra* note 257 at 60.

³⁰³ “[I]n some cultural groups hallucinogenic drugs are used to obtain states of transcendence and favour; and in their trance state, those who take them are “possessed” by the power inherent in the drugs. Such rituals take many hours or even days to perform. Sometimes the drug is used only by a shaman or ritual healer whose visions will reveal the source of individual or collective misfortune”. See Helman, *supra* note 35 at 154.

³⁰⁴ See Hedwig Schleiffer, ed., Sacred Narcotic Plants of the New World Indians: An Anthology of Texts From the Sixteenth Century to Date (New York: Hafner Press, 1973), Hedwig Schleiffer, Narcotic Plants of The Old World (Monticello, New York: Lubrecht & Cramer, 1979) (both texts contain rich insight and vast body of literature on the psychoactive plants and their uses in the both the New and Old World).

³⁰⁵ In Iquitos, Peru, for instance, the folk healers or *ayahuasquerors* by imbibing *ayahuasca* in a healing ritual undergo a visionary experience arising from the drug consumption. That experience is said to help them identify the cause of a patient’s illness and how it could be tackled. See Helman, *supra* note 35 at 154.

³⁰⁶ See Krippner & Colodzin, *supra* note 149 at 16.

³⁰⁷ The use of medicinal plants to induce ecstatic states in dramatized forms of worship or therapeutic experience is seemingly a common tendency across many cultures. For instance, early Mexican priests used drinks or ointment from the seed of *ollolihqui* to induce visions and delirium, Kalingas of the Philippines Islands drink base to the same effect, peyote, *rauwolfia* or snake plant are in common use among Native Americans as well as indigenous peoples in Mexico. Arizona’s Walapai medicine men have been known to consume “decoction of leaves, roots, and flowers of the ‘*Datura stramonium*’ to induce exhilaration”. The Japanese drink *sake*, Northern and parts of Eastern Africans drink *bussa*, described as a well-known hydromel made from honey and water. See The Medicine Man, *supra* note 130 at 45; see also John G. Bourke, “The Medicine Man of Apache”, US Bureau of Ethnology, 9th Annual Report, 1887-1888 (Washington: 1892) 443-617 at 455 (cited in The Medicine Man *ibid.*) Helman notes that in Medieval

The healer goes into trance through a number of methods for instance, including the inhalation of some hallucinogenic substances, recitation of some incantation, communication with the spirit world. Further, gazing consistently on sacred object for a while could equally induce trance.³⁰⁸ Nonetheless, how a healer comes by trance is a specific experience. Trance is part of the *magical* prowess of the shaman. The Shoshone medicine man employs herbs in his spiritual adventurism with "Rolling Thunder".³⁰⁹ The state of trance is required in some instances to receive prophetic revelation and insight for an appropriate diagnosis. Achieving a state of trance could be part of the therapeutic prescription. In such a case, the afflicted would be made to enter into a state of trance with the healer. Under the experience, to borrow a fitting description: "it is usually the patients (and the shaman) who attain trance, while the audience, hearing the same music and chanting, and feeling the vibration of the shaman's hands beating on the floor where they are all seated, enjoy the experience in full command of their conscious minds...".³¹⁰ Through words and rhythms the sick is led into a trance. The state of trance provides an experiential outlet for the patient to express sentiments, and relieving emotions that could otherwise be inappropriate.³¹¹

In virtually all experience of trance or possession states, use of psychedelic plants, music, singing, dancing, incantations and associated drama are acknowledged as key factors underlying the precipitation of micropsychosis.³¹² Musicotherapy especially through local dances is a basic prelude to inducing trance or hypnotism.³¹³

Europe, a number of hallucinogens were applied as "witches brew". Among them were belladonna (*Atropa belladonna*), henbane (*Hyoscyamus niger*), mandrake (*Mandragora officinarum*) and the fly agaric mushroom (*Amanita muscaria*). See Helman, *supra* note 35 at 154. For use of psychoactive plants in the Old World, see Schleiffer, *supra* note 304.

³⁰⁸ See Robert Desjarlais, "Presence" in the Performance of Healing, *supra* note 284 at 143-60.

³⁰⁹ See Krippner & Colodzin, *supra* note 149 at 24.

³¹⁰ Performance of Healing, *supra* note 284 at 8.

³¹¹ In her account, Carol Laderman writing about the Malays observes that "[i]n the Malay séance, healing messages, verbal and non verbal, are conveyed by the players to the participants and audience, both spirit and mortal. They reach out to all five senses—smell, sight, touch, and taste, but the sense most intensely involved is hearing". According to her, through the agency of the shaman the unseen spirits partake in singing and speaking. In addition to the shaman are his earthbound partner in dialogue and duet and a small band of instrumentalists, all of whom constitute the actors in séance. Excerpts from legends and songs relating to the sick's personality archetype are instrumental to their attaining the state of trance which enables them to express their *Inner Winds*. See Carol Laderman, "The Poetics of Healing in Malay Shamanistic Performances" in the Performance of Healing, *supra* note 284, 115 at 116-7.

³¹² See for instance, Performance of Healing, *supra* note 281 at 8; see also Prince, *supra* note 257 at 62.

³¹³ See Koumare, *supra* note 105 at 35.

4.8 Multivalence of Traditional Therapeutic Methods

There are many methods by which traditional therapeutic endeavours are undertaken. To fully appreciate the nature of traditional therapy as a holistic enterprise, I propose to make a fair audit or identification of the methods in which native healers execute healing or therapy. These methods differ from culture to culture; from one subculture to another;³¹⁴ and even from within a seemingly monolithic culture. Hence, my interest is on the identified common methods as opposed to specifying the details of any of them. In other words, I intend here to focus on the contexts in which traditional therapeutic skills are expressed. In doing this, I could not be exhaustive, as that may not be feasible; neither do I undertake an orthodox anthropological inquiry. Many are the ways of the shaman. My purpose is to highlight the multivalent and innumerable nature of the methods of the medicine man. By so doing it will be easy to see how the art and science of healing have become inseparable from the lived reality of the traditional peoples as culture, performance, religion, and way of life. As will become clearer, the protection of traditional knowledge in these contexts by means of intellectual property appears to underline the holistic template in which these knowledge forms are expressed. Seen from the socio-cultural and holistic perspectives, it is persuasive to insist that medical systems, as cultural systems, can better be understood from within.³¹⁵ That is in the worldview of healers and patients, as opposed to those who are inclined to judge or determine validity from without using alien concepts.

Through a sustained relationship of power, the creation of necessary therapeutic environment among other conditions, the healer's legitimacy is beyond reproach. Depending on the category of the healer, the nature of the ailment, and the cultural context, the healer makes the necessary diagnosis. He alone or along with the patient or with other members of the therapeutic community or in various other combinations embarks on the therapy. The therapeutic methods like, the healer's costumes, range from the simple, the bizarre, the bewildering, the *rational*, to the most sublime. So also is the range of prescriptions.

³¹⁴ *Ibid.* at 34.

³¹⁵ See Performance of Healing, *supra* note 284 at 13; see also Airhihenbuwa, *supra* note 93.

For example, describing the plethora of prescriptions by Yoruba traditional healers, Una Maclean observes that the “prescriptions represent a fascinating combination of empiricism and sympathetic magic. Certain of the herbs may indeed have a pharmacological action, but others seem to be included by reason of a symbolic affiliation to a diseased organ”.³¹⁶ The prescriptions, which may be more astounding to the uninitiated, are those regarding the method of treatment. Nonetheless, in all of these, the objective of the healer is toward a specific end, restoration of the sick to health and to the society.

4.8.1 The Shaman in the Centre of Epistemic Conflict

Whether as the *mulogo* of Uganda; the *ganza* of the Zulu; the *dibia* of the Igbos, the *babalawo* of the Yorubas, or howsoever called in different cultures, the medicine man and his ways are enigmatic. The *shaman* by whom he is popularly called belies the way in which he is perceived. Derived from a corruption of Sanskrit term for ‘ascetic’,³¹⁷ the shaman in accordance with his name conjures up unimaginable images of the unusual; his methods, perhaps, even more so. These impressions are more prevalent with those located outside his cultural sphere of influence. However, the shaman or traditional healer does not operate outside a cultural context. He is cultural icon of sorts. As such, the often negative perceptions of him reflect the ethnocentric divide between two worldviews: the Western and non-Western. In almost all non-Western societies, the major system of health, albeit unofficial, is the traditional system in which the native healer holds sway. Hence the disdain for the traditional therapeutic methods, and their custodians reflects the paradigmatic divide which we saw between Western biomedicine and the traditional therapeutic activities. The crux of the schism is the desire by the Western system to set the so-called scientific standard for traditional therapeutic systems generally perceived as unscientific. Traditional therapeutic systems are said not to be scientific because they are not explicable to Western science. This is so because Western medical science does not give credibility to the notion of the supernatural and the theories of illness based on it. As

³¹⁶ *Supra* note 231 at 115. This is an allusion to the signature theory.

³¹⁷ The Medicine Man, *supra* note 130 at 49.

we have seen, the theoretical foundation for traditional therapeutic method is based *inter alia* on the supernatural conception of illness.³¹⁸

4.8.2 Divination, Exorcism and Propitiation

Among the several methods of the native healer, I identify three principal but related methods: divination, exorcism and propitiation. Divination involves a diagnostic exercise preceding and determining the method of treatment. As part of its process, divination involves feats of clairvoyance, trance, séance, ecstasy, and had been associated with demonology, necromancy,³¹⁹ and such things that are wont to be described as “incomprehensible”.³²⁰ In many traditional systems, the general notion is to ascribe illness to the agency of the spirits, ancestors, gods, or other supernatural constructs. Therefore, these agencies are conceived as forces of evil as well as good.³²¹ Consequently, the traditional healer depending on his diagnosis may be required to carry out “spiritual warfare” against evil spirits, or embark on an intercessory role of mediation and appeasement.³²² Thus, he often resorts to various cultic/religious or traditional methods of exorcism or propitiation to achieve therapeutic effects. As we have seen in these procedures and processes the use of plant or their extracts and other animal or mineral substances is a common denominator. Again, in both the practice of exorcism and propitiation, various artistic forms such as musicotherapy, incantations, poetic expressions, drama and cultural displays are employed. Needless to add, these methods are by no means conventional for those who do not share the belief systems and worldviews prevalent in many indigenous cultures.

³¹⁸ It needs indicating however that it transcends the supernatural theory. See Diop, *supra* note 145.

³¹⁹ The practice, and belief in the invocation of the spirit of a person or the dead, a god or ancestral spirit and activating their powers by calling their name. See 1 Sam 28:15, see The Medicine Man, *supra* note 130 at 212.

³²⁰ *Ibid.* at 25; indeed Maddox identifies the medicine man’s way as anything incomprehensible.

³²¹ The notion of evil and (holy) benevolent spirits is a universal religious phenomenon. The bible for instance, speaks in countless number of verses about the Holy and evil spirits, about demons and their relationship with human afflictions and the way in which they can be cast out from the possessed or the afflicted.

³²² Because of his highly privileged social and spiritual role and position, the healer also has an unqualified capacity for mischief in consonance with the general notion of duality in life. However, I am here concerned with his powers as a healer, which is a positive exercise of his skill and calling. See The Medicine Man, *supra* note 130 at 105-111.

Both exorcism and propitiation involve ceremonies of prayers and sacrifices, as well as forms of physical treatment. Ritually induced trances and hypnotism, necromancy³²³ “out-of-body-travel” and other transcendental appeals are usual. These are often accomplished by various means including music, the lighting of candles, burning of incense, smoking of narcotic or hallucinogenic substances and so forth. Exorcism may involve massage therapy, acupuncture or moxibustion,³²⁴ although those may be done for purposes other than exorcism. Other forms of exorcism include herbal bath, wearing of amulets or charms. Charms or amulets, unknown to many, are often roots or herbs having medicinal value, even though popular accounts only emphasize their alleged magical signification.³²⁵ Further, methods of exorcism include sucking out of alien substances from the body;³²⁶ kneading the body, blood-letting, sweat, steam or mineral baths, sweating out, use of hot springs, spirit freezing, dietary measures, surgery especially trepanation;³²⁷ application of special ointments, enemas, taking of purgatives or emetics usually made of herbal infusions.³²⁸

In addition, exorcism could also involve blistering with hot iron, lancing and other external or internal application of herbal remedies most of which are linked to both

³²³ The practice of necromancy can be used for exorcism, as well as propitiation. Possessing the name of a god means having some power over him, which power can be used to exorcise demonic agents of disease. The older generation of traditional therapeutic healers among the Acadia Indian illustrate the application of necromancy in exorcism, Maddox’s account of it is rather engaging:

Thus among the Indians of Acadia, it was the custom of the medicine man to work himself up into ecstatic condition, at the same time invoking the names of his gods. When fully inspired by what modern spiritualists would call his “control”...would assert in firm tone what the condition of the patient was, and sometime make a fairly accurate guess”.
Ibid. at 213.

It is not as if this practice is an ancient one, it is usual in many cultures to invoke the names of gods, deceased loved ones in expression of gratitude or curses, or in appealing for safety against malevolent or fateful forces. In African traditional societies, oppressed widows or orphans often invoke the name of their late husbands or parents in defence against the oppressors.

³²⁴ Moxa is a downy substance derived principally from dried leaves of *Artamisia moxa*. It is usually burned on the skin as a counterirritant in Chinese/Japanese or Oriental medicine hence, Moxibustion.

³²⁵ The Medicine Man, *supra* note 130 at 226.

³²⁶ Suction as a method of exorcism is practised among the Dakota native healers, who are said to apply suction “to the seat of the pain to draw out the [afflicting] spirit”. *Ibid.* at 24.

³²⁷ See Peter Morley, *supra* note 203 at 3-4.

³²⁸ Cupping with horn, blistering with hot iron is practiced by the Ganda, while lancing is practiced by the Samoans. See Theories of Illness, *supra* note 122 at 4. However, African traditional headers practice lancing and blistering with hot substances during several rites of initiations. Blood-letting, sweat bath, and massaging are more common in many traditional therapies for instance among the Aztecs, Samoans, and the Ganda. See Theories of Illness *ibid.*; see also The Medicine Man, *supra* note 130 at 180-187.

spiritual and pharmacological potency.³²⁹ Apart from the foregoing there are many other methods of exorcism applied by traditional therapists across several cultures.³³⁰

Propitiation is a powerful art. It demonstrates the power of words: poetry and oratory as the complementary skill of the traditional healer. Here, the shaman seeks rapprochement with the supernatural and spiritual agent(s) implicated in the patient's ailment. Therapy as an art involves incantations, cuddling, cajoling, flattery, wheedling, coaxing, bribery, praise singing, *et cetera* directed to the supernatural power(s), or the "inhabitants of the imaginary environment".³³¹ The objective is to seek the assistance of all benevolent spirits, in persuading the one(s) directly implicated in the case at hand. Oblations and other sacrifices involved in this exercise are based on the expectation that the spirits will be persuaded on behalf of the patient to relieve her of affliction and to restore her to health.

Because the conceptions of the supernatural world are parallel to the natural one,³³² it is a common trend to offer sacrifices of food and drink to the spirits during propitiation. Among the Igbos, the *dibias* or traditional healers offer kola nuts and drinks, usually of palm wine, and then symbolically invite the supernatural forces to communion. Even in non-therapeutic experiences, pouring of libation is quite customary among many African peoples. In the context of traditional therapy Maddox recalls a parallel experience among New Caledonians in which a chief addresses ancestral spirits thus: "Compassionate fathers! here is some food for you; eat it; and be kind to us on account of it".³³³ For the Igbos, in pouring libation, an elder in a social occasion, or a native doctor in a therapeutic office, must first of all present the gifts to the spirits/ancestors. And then he invites them to partake of the offerings first, often addressing them thus: "Owners of

³²⁹ Krippner & Colodzin write that "[h]erbs are used by many spirits and are sometimes thought to contain helpful spirits themselves". See *supra* note 149 at 25.

³³⁰ For instance, Shamana therapy involves the administration of carminatives, digestives; the creation of hunger or thirst; physical exercise, exposure to sun's rays—all or some which may or may not do with the notion of exorcism. See *Theories of Illness*, *supra* note 122 at 54.

³³¹ *The Medicine Man*, *supra* note 130 at 169.

³³² See Abdalla, *supra* note 226 at 138; (reiterating that the widely held notion among philosophers, spiritualists and religionists that the supernatural operate in an invisible replica of the human environment is also shared in Hausa cosmology); see also *supra* note 299 and accompanying text.

³³³ Maddox, in *The Medicine Man*, *supra* note 130 at 175-6, quoting George Turner, *Nine Years in Polynesia* (London: 1861).

the land, here comes drink, or food; eat to your fill; live and let live”.³³⁴ There are countless ways in which the methods of propitiation are initiated, as they are cultures and traditional therapeutic practitioners. Propitiation and exorcism in their various forms reflect the multivalent nature of the methods of the traditional therapist.

4.9 The Scientific Question and Situational Logic

The methods of the traditional therapy may not be persuasive to those who evaluate them from the Western scientific paradigm; such methods need not. As will be demonstrated in the next chapter, passing the “scientific” test for instance, as required by the patent regime of intellectual property rights would mean fragmenting traditional therapeutic practice, and thereby undermining its holistic appeal. Traditional therapy transcends a narrow and reductionist view of science. It is a religion, culture and belief system of a people. In chapter one, I noted that science is a way of knowing; and that it is a culture-specific experience. Every culture has its own way of knowing and of perceiving phenomena; its own science. Hence, the distinction between what is scientific is heavily influenced by culture. Peter Morley writing in *Culture and Curing* opens up by adopting the following observation credited to F.S.C. North:

One must seriously ask one self whether superstition and myth, in the derogatory or non-scientific connotations are not due to our judging a given people from our own conceptual stand point, rather than theirs....When trouble is taken to find their concepts, then it became evident that everything made sense and that their behaviour and cultural norms followed as naturally and consistently from their particular categories of natural experiences as ours do from our own. I believe it is just as much error to suppose that there are no people anywhere who insisted on empirically and hence scientifically, verified basic concepts before Galileo. Prevalent as the latter belief is, it is nonetheless rubbish.³³⁵

We cannot therefore suggest that traditional therapeutic methods are not scientific even by the so-called Western scientific standards.³³⁶ The presence of pharmacological properties in most plants used in traditional therapy is beyond question. The historical

³³⁴ There is no codified way in which the speech is made, except to say that it must be solemn and extremely reverential, and in a manner that suggests the presence of the entity addressed.

³³⁵ *Supra* notes 112 & 201 at 1.

³³⁶ See Diop, *supra* note 145; see also discussions under *infra* 4.9.1, “the forging of scientific consensus”.

roots of most herbal remedies that have entered the modern pharmacopoeia attest to this.³³⁷ Today, the wave of bioprospecting which has led pharmaceutical companies to focus on plants extracts used in indigenous therapy is a continuation of the historical trends between the so-called science and traditional knowledge. Western or modern medical science began with what is now described as the blind “gropings of the medicine man in his effort to expel or appease malicious or angry spirits”.³³⁸ The supernatural or agency theory of illness held sway in Western traditions before the renaissance and the birth of Cartesian materialism. The evolutionary and inextricable link between traditional medicinal use of plants, phytomedicine, pharmacology and modern medicine generally reflects the hypocrisy of the notion that indigenous therapeutic culture is non-scientific even in the Western sense of *science*.

4.9.1 The Forging of ‘Scientific’ Consensus?

Traditional therapeutic systems’ emphasis on the holistic approach and hence on psychosocial paradigm is now recognized by modern medical science. Contributions from medical anthropology, aesthetic anthropology,³³⁹ behavioural psychology, sociology and public health point to the efficacy of situational logic in therapy.³⁴⁰ Thus, the effects of religion, culture, belief systems, and doctor-patient relationship even though bereft of “empirical” precision in measurement, can no more be dismissed by modern allopathic medicine.³⁴¹ For instance, the cultural and religious orientation of traditional therapeutic practices activates the power of suggestion, that is confidence and expectation of relief in the sick.

³³⁷ For the metamorphosis of ancient herbology to Western pharmacology, see Meyer, *supra* note 241, 5 at 17-27. See Generally Value of Herbal Remedies, *supra* note 150.

³³⁸ The Medicine Man, *supra* note 130 at 283.

³³⁹ Aesthetic anthropology focuses “on music, dance, fragrance, and shape, and recognizes the symbolic importance of sensuous forms like sounds, movement, odor and color performativity”. All of these features are aspects of traditional therapeutic activities. See Performance of Healing, *supra* note 284 at 5.

³⁴⁰ See Ethnomedical Systems in Africa, *supra* note 24 at 16; on situational logic, see Morley, *supra* note 203 at 13-14.

³⁴¹ See John Canary, *supra* note 98 at 92 where he observes that “the allopathic practitioner does not view a patient encounter as an isolated episode in the life of the patient but attempts to place it in the perspective of the entire life process and is as interested in the rehabilitative aspects as in the diagnostic and immediate therapeutic ones”. See also Kenneth R. Pelletier, “Psychosomatic Approaches to Healing” in Folk Medicine, *supra* note 75 at 30.

The whole of traditional therapeutic environment is such that generates hope in the sick. That is hope regarding the competence of the healer. Connected to this is faith and confidence in God or gods enhanced for example by acts of propitiation³⁴² and the appeal to supernatural forces. Modern medical science itself believes that the presence of hope in the sick person is influential to recovery. This view is strongly shared within the Judeo-Christian tradition as well. Unlike Maddox will have us believe, suggestion is not only “the stock-in-trade of the savage doctor”.³⁴³ It is a phenomenon recognized in modern medical science. Science has associated therapeutic reliefs with reflex actions induced by the law of suggestion.³⁴⁴ Again, his ethnocentric sentiments notwithstanding, Maddox could not resist admiring the effect of suggestion in indigenous healer’s methods. In his concession or more appropriately, confession:

The methods used in the hour of sickness are calculated to give the feeling of confidence; and the effect produced on the mind of the patient without doubt reacts favourably upon his physical organization...The divination, magic, prayers and the hocus pocus of the medicine man all tend to inspire in the mind of the sick the greatest hope and expectation for recovery.³⁴⁵

Another instance of situational logic in therapy shared by traditional therapy and Western medical science is the placebo phenomenon. Placebo refers roughly to “the power of one’s belief in an impotent remedy to stimulate self-healing”.³⁴⁶ Cecil G. Helman defines it as “the ‘total drug effect’, but without the presence of a drug”.³⁴⁷ Again, the underlying idea is that the mindset or *psyche* of the sick can trigger the body’s intrinsic ability to heal itself. Placebo effect is now an empirical phenomenon, patronized

³⁴² Propitiation creates a relief and ease of mind on the patient, a psychological state appropriate for efficacious recovery. See *The Medicine Man*, *supra* note 130 at 218. For references on the power of suggestion, see Bergman, *supra* note 196 at 84-85. Bergman however suggests that healers in all cultures as opposed to “medical technologist” provide relief from suffering. The medical technologist brings no relief to the sick because there is lack of connection to ignite belief in his activity; the power of belief is necessary for a therapeutic relief.

³⁴³ *The Medicine Man*, *supra* note 130 at 112.

³⁴⁴ *Ibid.* at 175 & n. 1.

³⁴⁵ *Ibid.* at 112.

³⁴⁶ See Krippner & Colodzin, *supra* note 149 at 14. Placebo is a Latin word meaning, “I will please”.

³⁴⁷ See Helman, *supra* note 35 at 137.

by Western medical science.³⁴⁸ Described as “one of the most powerful tools in any healer’s armamentarium”, Laderman and Roseman observe that:³⁴⁹

Placebos are used by contemporary Western physicians for such purposes as controlling postoperative pain, relieving anxiety, curing warts and ameliorating peptic ulcers...³⁵⁰ The placebo effect is not necessarily limited to the administration of substances, but they also include words and actions. Such as occur in a shamanistic séance or a Western physician diagnosis. The healer in engaging the mind and affecting the emotions of his patient might also initiate physiological repair.

Lastly, both traditional Chinese medicine and the ayurvedic system, represent a highly sophisticated approach to therapy. Their scientific foundation is beyond question. For instance, part of the epistemological foundation of the ayurvedic system is the close relationship between celestial bodies and human beings. Thus, astrology is a component part of the ayurvedic medical knowledge.³⁵¹ Scientific nature of astrological facts has been the basis of the relationship between astrology and medicine. To the subdiscipline of medical astrology science owes a highly structured classification of diseases based on their derivative planetary influences. From the earliest account of medical science, the study of astrology has been complementary to medical inquiry and knowledge.³⁵²

³⁴⁸ Quoting Joyce, Helman writes that “[t]here is a placebo or symbolic element in all drugs prescribed by doctors, whether they are pharmacologically active or not”. The estimate is “that nearly one in five of all prescriptions written by general practitioners in the UK are for their placebo or symbolic functions, and that there are at least 500, 000 people in the UK who each year are symbol-dependent patients”. *Ibid.* at 138.

³⁴⁹ See Performance of Healing, *supra* note 284 at 7.

³⁵⁰ Appearing in parenthesis, the omitted line reads: “and we must not forget that placebos may also cause unexpected and negative reactions”. A more common device which doctors use to achieve placebo effect is the hypodermic injection of water to sooth and induce a restless patient to sleep. See The Medicine Man, *supra* note 130 at 220. Helman also notes that placebos can cause effects for example by inducing psychological dependence on them, a phenomenon that is described as aspect of *nacebo effect* i.e. “negative effects on health of belief and expectations”. Helman, *supra* note 35 at 137.

³⁵¹ Part of the Ayurvedic theory is that the constitution of the human being parallels the universe; put succinctly, the human being is a miniature universe. Therefore his health and well being in all their ramifications “depend on the harmonious relationship or interaction between the amount of radiation or energy received from the universe and the amount radiated by his own body”. See Kurup, “Medical Astrology”, *supra* note 170 at 59.

³⁵² *Ibid.* Krippner and Colodzin write that “[i]n the 1650s, Culpeper’s thriving medical practice in London was based on the cosmology which held that the sun, moon, planets, and other heavenly bodies each had an influence on certain medicinal plants. He matched the biological effects of the various herbs and the planetary qualities to the complaints of his patients”. See Krippner & Colodzin, *supra* note 149 at 18. Similarly, P.N.V Kurup writes that: “astrological studies give the ayurvedic physician the knowledge to select requisite herbal remedies (which are ruled by the planet having opposing influence to the planets that rule *doshas* [i.e. the pathological conditions] for correcting the imbalance of *doshas* to cure the disease”. See Kurup, Medical Astrology, *supra* note 170 at 59.

Ayurveda, itself means the science of life, encompasses many scientific categories: physical, chemical and biological; and it is composed of two major schools: physicians and surgeons including various specialties within the two categories.³⁵³ Similarly, the scientific foundation of traditional Chinese medicine and therapy is not in dispute. Apart from the scientific aspects of the *yin-yang* theory, ancient Chinese medicine recognized specialty in the medical fields in four areas: nutrition, internal medicine, surgery and veterinary.³⁵⁴ It is speculated that earliest medical case-recording system is owed to the scientific nuances of Chinese medicine.³⁵⁵ It is perhaps due to the tradition of writing and record keeping that the ayurvedic and traditional Chinese medicine are today “the most developed systems of traditional medicine”.³⁵⁶ Perhaps that also accounts for their progressive integration into, or intermingling with Western medical science more than any other traditional medical system. There can be little doubt that Western science would have adopted a more progressive approach to the issue of the “scientific” status of other traditional therapeutic systems. This would have been so if those systems had the wealth of writing and record as the ayurvedic and Chinese traditional systems.

Nonetheless, the Western scientific criterion is not the best test for the validity of traditional therapeutic systems. Laderman and Roseman have observed that “treatment of the patient may be judged as scientific procedure appropriate or lacking, or as an art form whose elements are working toward a specific end”.³⁵⁷ If science is a way of knowing, then traditional therapeutic practices are for all practical purposes scientific in so far as they are rooted in peoples’ culture, religion and worldviews. These three are epistemic categories, and they are manifested or applied in divergent art forms especially in the healing arts. There is at best a faint line between what is *scientific* and what is not. Thus, traditional therapeutic practices are both science and art forms, and their validity may not depend on a narrow view of science.

³⁵³ Kurup, *Ayurvedic Medicine*, *supra* note 159 at 50-51.

³⁵⁴ Wang Pei, *supra* note 69, 68 at 69.

³⁵⁵ *Ibid.*

³⁵⁶ Canary, *supra* note 98 at 91.

³⁵⁷ See Performance of Healing, *supra* note 284 at 1.

Summary

There is no strict separation between the knowledge of therapeutic properties or active substances of plant, animal or minerals and the therapeutic practices in which they are deployed. As Battiste and Henderson and Una McLean have noted, knowing the therapeutic properties without the appropriate ritual may not procure healing in indigenous philosophy. In most cases, pharmacological properties do not exclusively influence the effect of medication on human physiology or emotional state.³⁵⁸ In traditional therapeutic systems, the two basic aspects of any medical system, the pharmaceutical and the therapeutic aspects are fused. The fusion is not only based on the holistic worldview prevalent in traditional societies, but it is re-enforced by the role of religion and belief system as well as the supernatural theory of illness. Every traditional therapeutic system is therefore a total package. It represents, in the words of Good, “the authoritative delivery of a culture’s cumulative experience with the healing arts”.³⁵⁹ Therefore, traditional therapeutic system represents a people’s cultural heritage; in other words, it “belongs to the distinct identity of a people”.³⁶⁰ No culture known to civilization operates in a health care vacuum. As Good emphasizes:

Each culture has produced over centuries its own adaptive methodologies for coping with illness. These embody an indigenous etiology, that is a system explaining the occurrence of illness and disease based on the worldview and religious of the particular people in question.³⁶¹

It is not possible to unpack the interwoven nature of pharmaceutical and therapeutic aspects of traditional therapeutic system. To do so would do serious harm to that system. Separating or fragmenting the holistic paradigm of traditional therapeutic systems will lead to the mutilation of indigenous cultural heritage and identity. As apparent from this chapter, the full essence of traditional therapeutic systems especially as it relates to the

³⁵⁸ See Helman, *supra* note 35 at 136; see also De Smet, *supra* note 270 at 11.

³⁵⁹ Ethnomedical Systems in Africa, *supra* note 24 at 2.; Good’s remark refers to “traditional medicine”, thus underscoring the point that there is an intermingling of pharmaceutical and therapeutic aspects of medical system in traditional medicine.

³⁶⁰ See Erika-Irene Daes, Protecting The Heritage of Indigenous Peoples (New York; Geneva: United Nations Human Rights Studies Series # 10, 1997) para. 24 at 3.

³⁶¹ Good in Ethnomedical System in Africa, *supra* note 24 at 10, quoting B.L.K Pillsbury, Traditional Health Care in the Near East (Washington, D.C.: USAID, 1970) at 1.

use of plant lies in its socio-cultural, religious or spiritual significance. The next chapter demonstrates how Western intellectual property rights based on scientific criteria undermine the fused and holistic nature of traditional therapeutic knowledge and practices. In placing emphasis on active substances, intellectual property reifies selective ‘scientific’ knowledge, and undermines the socio-cultural context of traditional therapeutic practices. My analysis will focus on the patent regime of intellectual property rights in a manner akin to a case study.³⁶²

³⁶² See Chapter five at 296-97 for the reasons underlining the choice of patent.

CHAPTER FIVE

Intellectual Property Rights and Traditional Knowledge of Plant-based Therapy (TKPT): The Filtration of Indigenous Knowledge

5.0 Introduction

In the last chapter, I came to the conclusion that in TKPT there is a fusion of the pharmaceutical and therapeutic aspects as a feature of the indigenous medical tradition. The socio-cultural and religious aspects of that therapeutic tradition are not clearly detachable from the knowledge of medicinal properties of plants. Separating the two is an approach alien to many indigenous or non-Western worldviews. Conversely, such an approach is the basis of the Western biomedical paradigm I have explored. The Western scientific or biomedical paradigm does not accord with the socio-cultural and religious aspects of therapy or the associated belief systems. The biomedical paradigm is a clinical enterprise based on the “scientific” and organismic theories. That model draws a clear distinction between the therapeutic and the pharmaceutical aspects. Under the biomedical model, medicinal plants are purely utilitarian products from which valuable compounds are extracted, refined and commodified for the purpose of medical treatment. Other conceptions of man’s relationship with plants are seen at best as merely romantic. Thus, I identified the operational paradigms of indigenous and Western therapy as corresponding generally to the psychosocial and the biomedical respectively.

This chapter revisits the debates over the use of intellectual property rights for the empowerment of traditional knowledge with specific reference to TKPT. In part, it aims at demonstrating that the dominant intellectual property rights arguments are suited to the biomedical and Western scientific paradigm. To a significant degree, intellectual property rights undermine the socio-cultural contexts of TKPT. Thus, the dominant concept of intellectual property results in a systematic filtration or isolation of the *traditional* character of TKPT using a narrow “scientific” yardstick. I argue that a situation whereby TKPT is at the risk of losing its relevance through the much taunted Western intellectual property mechanism which, proponents posit, promises economic empowerment of indigenous and local communities, raises concerns on three policy areas. First, Western intellectual property models applied to TKTP may not deliver the promise of

conservation of biological diversity. Second, it may not enhance the desire for medical pluralism and its benefits. Third, its ability to give impetus to the indigenous quest for self-determination and economic empowerment is open to question.

5.1 Intellectual Property Rights in the Context of TKPT

The discourse about intellectual property in the context of indigenous or local community often refers to their knowledge and cultural practices in a broad spectrum. Therefore, in that context, knowledge embraces and yet transcends such amorphous conceptions as indigenous/traditional ecological, environmental, biological, biodiversity, forest, agricultural and medicinal knowledge. All of these are interrelated and sometimes overlapping concepts. They underscore the trans-disciplinary and complex nature of the discourse. Nonetheless, in many indigenous communities these disciplinary demarcations are not as significant as they are often represented in Western disciplinary curricula. Yet, the idea of intellectual property in the more specific context of TKPT receives some direct or implied mention in virtually all the instruments on indigenous peoples I have reviewed in the preceding chapters. My emphasis on TKPT logically requires starting the unfolding analysis by a cursory review of such provisions that make references to intellectual property rights in the context of medicinal knowledge of indigenous or local peoples. However, a complete catalog of all the places where international law or legal regimes draw a link between intellectual property and TKPT or traditional medicine is not within the immediate scope of the present exercise.

5.1.1 Intellectual Property Rights and Traditional Medicine Under the ILO Convention No. 169, 1989

From the International Labour Organization Convention No. 169,¹ there is a perceived vacuum of sorts. Despite its provisions on “social security and health” in part V,² the ILO fails to make a direct linkage between intellectual property rights and

¹ Adopted by the General Conference of the International Labour Organization, Geneva, 27 June 1989 and entered into force 5 September 1991, reprinted in 28 I.L.M. 1382 (1989), (1990) 15:1 Oklahoma City University Law Review 237-253.

² See discussions in chapter four at 183-84.

5.1.2 Intellectual Property Rights and Traditional Medicine Under the United Nations Draft Declaration on the Rights of Indigenous Peoples¹⁰

While the ILO Convention No.169 indirectly makes a link between intellectual property rights and TKPT, the United Nations Draft Declaration on the Rights of Indigenous Peoples is not similarly inclined.¹¹ Article 29 provides in part as follows:

[I]ndigenous peoples are entitled to the recognition of the full ownership, control and protection of their cultural and intellectual property rights.¹²

¹⁰ See also discussions in chapter four at 184-5.

¹¹ Halewood argues that although the ILO is frequently referred to in the preambles to U.N. resolutions, the ILO does not necessarily command much significance regarding the topical subject of indigenous knowledge. According to him, part of the reason for the lowly rating of ILO Convention No. 169 is a lingering lack of international support for the document. At the time of Halewood's reference only ten countries had ratified the Convention. Seven years later in 2003, the number has increased to seventeen. For the list of some countries that have ratified the Convention, see chapter three at 151 & n. 191. Halewood argues that another reason for the unpopularity of the Convention is its disclaimer in article 1(3) to the effect that use of the words "peoples" does not carry the obligation that attaches to *peoples* in international law. See Halewood, *supra* note 3 at 970. This qualifier compromises the right to self-determination. Halewood's arguments are quite valid. However, it must be noted that ILO Convention No. 169 is directed to international law's narrow conception of indigenous peoples which under the salt-water thesis does not include indigenous peoples outside the enclave territories. Although that narrow construct may be misleading, a look at several of the countries that have ratified the Convention indicates that they are home to the largest concentration of indigenous peoples viewed from that narrow construct. Nonetheless, the ILO Convention No. 169 remains the most authoritative regime as a matter of a binding treaty in international law on indigenous peoples. Despite its shortcomings, it has been quite influential as the referential basis for the evolution of international law on indigenous peoples as now amplified by the United Nations Draft Declaration on the Rights of Indigenous peoples. See James Anaya, Indigenous Peoples in International Law (New York: Oxford University Press, 1996) at 49; see also Russel Laurence Barsh, "An Advocate's Guide to the Convention on Indigenous and Tribal Peoples" (1990) 15:1 Oklahoma City University Law Review 209 at 211 (arguing that even though Convention No. 169 did not meet the aspiration of indigenous peoples and organizations, "its actual significance will depend then, not only on ratifications, but on whether aggressive use of the convention by indigenous peoples themselves can give it a relatively more aggressive effect as its novelty fades"). Without doubt, the U.N. Draft Declaration is a remarkable improvement from the ILO Convention No. 169. Specifically, it discards the limitation regarding the interpretation of peoples. It is generally regarded as an attempt to codify issues that otherwise amount to customary international law on indigenous peoples. It must be noted that Convention No. 169 was officially transmitted to the then Working Group on Indigenous Populations, with the expectations that it will eventually be the basis for the evolution of the U.N. Draft Declaration. See Report of Working Group on Indigenous Populations, U.N. Doc. E/CN.4/Sub.2/1989/36. Para. 29; see also Barsh *ibid*.

¹² It would seem that this provision has not effectively made the connection between cultural and intellectual property rights to aspects of indigenous knowledge and cultural manifestations as listed in the following paragraph. It simply guarantees "recognition of full ownership, control and protection of indigenous cultural and intellectual property rights". Then the paragraph following confers the right to "special measures to control and develop" various indigenous cultural manifestations. It is not clear whether intellectual property includes special measures or *vice versa*. Nonetheless, it may be argued that intellectual property rights cannot be exercised in a vacuum and that by reason of the proximity between the provision guaranteeing intellectual and cultural property rights and enumeration of cultural contexts for intellectual property rights, that guarantee naturally refers to the specifics of the second paragraph. The

They have the right to special measures to control, develop and protect their sciences, technologies and cultural manifestations, including human and other genetic resources, seeds, medicines, knowledge of properties of fauna and flora, oral traditions, literatures, designs and visual arts.¹³

This is an elaborate provision. It aims at covering the divergent aspects of indigenous knowledge including traditional medical knowledge. The provision alludes to the interconnectedness of traditional knowledge forms, of which medicinal knowledge is but an aspect. From our survey of traditional therapeutic knowledge and practices in the preceding chapter, it is quite clear that the above provision covers to an extent the various cultural components of traditional medicine. Put in another form, the provision acknowledges traditional medicine as the embodiment, and at the very least a component, of indigenous cultural manifestation. Strikingly, as an aside, the provision endorses the culture-specific character of science and technology.

5.1.3 Intellectual Property Rights and Traditional Medicine Under the Draft Inter-American Declaration on the Rights of Indigenous Peoples

The Draft Inter-American Declaration on the Rights of Indigenous Peoples makes near exact provisions as the U.N. Draft Declaration. It grants to indigenous peoples “full ownership, control and protection of such intellectual property rights as they have in their cultural and artistic heritage...”¹⁴ It further confers on indigenous peoples the right to *special measures* to:

[C]ontrol, develop, and protect, and full compensation for the use of their sciences and technologies including their human genetic resources in general, seeds, medicine, knowledge of plants and animal life, original designs and procedures.¹⁵

Preceding comments on the U.N. Draft Declaration also apply to these provisions. In addition, the Inter-American Draft does not purport to provide for intellectual property

problem with this view is that the second paragraph is quite clear on the use of “special measures” which is not defined in the Draft.

¹³ See chapter three at 166 & n. 252.

¹⁴ See article XX(1). The omitted portion reads: “as well as special measures to ensure for them legal status and institutional capacity to develop, use, share, market and bequeath, that heritage to future generations.

The point, however, must not be lost that the CBD emphasizes protection of, and reward for traditional knowledge relevant for sustainable uses of bioresources.²⁰ Among other considerations, because TKPT is premised on indigenous respect for the sanctity and interconnectedness of all life forces, it falls within CBD's emphases on "traditional life styles relevant for the conservation and sustainable use of biological diversity".²¹ Furthermore, the strategic importance of biological resources for traditional medicine stems from the fact that without the non-medical²² aspects of traditional therapeutic experience, biological resources constitute the mainstay of traditional medicine.

including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.

²⁰ See Darlene Sambo Dorough, The Status and Rights of Indigenous Peoples in International Law: The Quest For Equality (Ph.D Thesis, "Law", University of British Columbia, 2002) at 79 [unpublished]. The 12th preambular paragraph of the Convention on Biological Diversity reads:

Recognizing the close and traditional dependence of many indigenous and local communities embodying traditional lifestyles on biological resources, and the desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and sustainable use of its components.

Further, the famous article 8(j) provides:

Each Contracting Part shall, as far as possible and as appropriate: Subject to its national legislation, respect, preserve, and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional life lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices that encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.

Again, article 10(c) restates the Convention's focus on traditional knowledge in the context of conservation of biodiversity:

Each Contracting Part, shall as far as possible and as appropriate: Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation and sustainable use requirements.

²¹ See further discussions in chapter six at 351-52.

²² In simple terms, traditional medicine can be broadly classified as medication and non-medication oriented. According to Dr. Xiaorui Zhang, Acting Coordinator of the WHO Traditional Medicine Program, medication-oriented form of traditional medicine relates to the use of herbal medicine, animal parts and minerals, whilst the non-medication form of traditional medicine refers to therapies without medication. The examples of the latter are: acupuncture and related techniques, chiropractic, osteopathy, manual therapies *qigong*, *tai ji*, *yoga*, naturopathy, thermal therapy and other physical, mental, spiritual and mind-body therapies. See Xiaorui Zhang, "The Role of Intellectual Property Rights in the Context of Traditional Medicine" (paper delivered at the WHO Inter-Regional Workshop on Intellectual Property Rights in the

In addition, my emphasis on uses of plants in traditional therapy presupposes a traditional medicinal regime wholly sustained by the “live wire” of plant biodiversity. Thus, the fate of traditional medicine is inescapably tied to the management or otherwise of biological diversity and genetic resources. It follows that even though the CBD may be concerned with traditional knowledge in the context of biodiversity conservation, the CBD is inextricably linked to traditional medicine. Consequently, CBD’s intellectual property rights provisions may not be wholly detached from the uses of biodiversity components for medicinal purposes. Finally, as the foremost international legal framework regime on access to genetic resources and biodiversity conservation, the CBD deals with the primary source for the empirical expression of divergent forms of indigenous knowledge—biodiversity. Only a few forms of indigenous knowledge do not involve biological diversity and the ecological imperative.

The CBD recognizes the immense value of indigenous and local knowledge and innovations. Such values transcend the indigenous and local communities from which they originate. The Convention is also conscious of the fact that such knowledge is vulnerable to exploitation by actors outside these communities.²³ Traditional medicine is arguably one of the foremost interests that drive the desire for intellectual property rights for traditional knowledge.²⁴ Furthermore, it is also probably the most susceptible and as such the most exploited form of traditional knowledge. As a gatekeeper or access regime to genetic resources, CBD is still grappling with the intricacies and fine details of a viable access modality²⁵ capable of stemming the tide of appropriation of indigenous

Context of Traditional Medicine, Bangkok, Thailand, 6-8 December 2000) [unpublished]. For a report of the workshop, and summary of Dr. Xiaorui’s paper, see WHO Doc.: WHO/EDM/TRM/2001.1 at 6-7 [hereinafter “Intellectual Property and Traditional Medicine”].

²³ Halewood, *supra* note 3 at 977.

²⁴ See Intellectual Property and Traditional Medicine, *supra* note 22 at 3.

²⁵ Article 8(j), which many analysts describe as being the heart of the Convention, as well as other ancillary provisions such as articles 10(c), 15, and 16-19 are conditional and thus provide enough room for fashioning the details of their implementation at the national levels. This trend explains in part the reason the CBD is generally regarded as a framework Convention, lacking in details. With specific regard to article 8(j), the modalities for its implementation have featured in virtually all the Conferences of Parties (COPs) of the CBD. There is currently an Ad Hoc Inter-Sessional Working Group on the Implementation of Article 8(j) and Related Provisions of the Convention. For further discussion on the Working Group, see chapter six at 359; see also Siegfried Weissner, “Current Development: Indigenous Peoples” (2000) 11 Yearbook of International Environmental Law 155-163. Similarly, the role of intellectual property rights continues to occupy the attention of the COPs of the CBD. A number of studies and policy papers have been commissioned to enhance the ongoing debate. See, for example, “The Impact of Intellectual Property Rights Systems on the Conservation and Sustainable Use of Biological Diversity and on the Equitable

knowledge. In Article 16 (5) the CBD endorses the potential role of intellectual property rights, especially patents in fostering the objective of the Convention. In this ongoing effort to protect indigenous knowledge, apart from other compensatory options being explored, intellectual property remains perhaps the most topical and highly debated subject for mitigating the appropriation of traditional innovations including medicinal uses of plants.

5.1.5 Intellectual Property Rights and Traditional Medicine Under WHO, WIPO

Attempts by legal and quasi-legal instruments such as the ILO Convention No. 169, the CBD, the U.N. and Inter-American Drafts to draw the connection between intellectual property rights and traditional medicine in specific terms are somewhat blurred and perhaps not quite eloquent. However, the picture is different at the levels of policy and regime building. To this end, the World Health Organization (WHO), the World Intellectual Property Organization (WIPO) and other intergovernmental bodies have been able to make the connection in the course of their respective roles in international law and policy.

The WHO's first global traditional medicine strategy (which I reviewed in the last chapter)²⁶ does not identify intellectual property rights as being one of its five key objectives. However, the fifth and last objective speaks of "managing information on TM/CAM [traditional medicine/complementary alternative medicine] by acting as clearing house to facilitate information exchange on TM/CAM".²⁷ It is not quite clear how this objective can be attained, but intellectual property is key to exchange of information. Nonetheless, WHO's traditional medicine strategy recognizes intellectual property as a policy consideration in an ongoing debate over the protection of traditional

Sharing of the Benefits from Its Use" (a preliminary study by the Executive Secretary prepared for the Conference Third Conference of Parties Meeting of the CBD (Buenos Aires, Argentina, 4-15 November, 1996) UNEP/CBD/COP/3/22 of 22 September 1996); see also "The Convention on Biological Diversity and the Agreement on Trade-Related Intellectual Property Rights (TRIPS): Relationship and Synergies" UNEP/CBD/COP/3/23 of 5 October 1996 (study paper also prepared for the Third COP).

²⁶ See chapter four at 193; see also World Health Organization, Traditional Medicine Strategy 2002-2005 (Geneva: WHO, 2002) at 5 [hereinafter "Traditional Medicine Strategy"]. For further discussions regarding the conference of parties meetings, see chapter six at 359.

²⁷ *Ibid.*

medicine.²⁸ It rightly characterizes “intellectual property issues” with regard to access to traditional medicine as “unresolved”.²⁹

Before launching the 2002-2005 global traditional medicine strategy, the WHO, through its traditional medicine program, had broached the question of intellectual property rights for the protection of traditional medicinal knowledge. The WHO's interest has been spurred by the increasing awareness of the value of traditional medicine and associated local knowledge as commodifiable assets, with immense trade potential. In addition to the WHO's traditional medicine/intellectual property initiative are some other related initiatives. The United Nations Conference on Trade and Development (UNCTAD) represents one such example. In 2000, UNCTAD sponsored an Expert Meeting on Systems and National Experiences for Protecting Traditional Knowledge, Innovations and Practices.³⁰ UNCTAD's program was executed in collaboration with other intergovernmental organizations, especially the CBD and WIPO Secretariats.³¹

Building on this momentum, a month later, the WHO held the first ever Inter-regional Workshop on Intellectual Property Rights in the Context of Traditional Medicine.³² Thus, the WHO's efforts are part of “tone-setting” in an ongoing debate being pursued at several intergovernmental and non-governmental forums across the globe, albeit with less specificity to traditional medicine. The broader themes are traditional knowledge in its full ramifications, and the questions of access to genetic resources of which the CBD has since 1992 provided the momentum. The WHO has helped in some measure to spotlight the intellectual property discourse in the context of traditional medicine.

²⁸ *Ibid.* at 21.

²⁹ *Ibid.* at 25.

³⁰ Held in Geneva 30 October-1 November 2000.

³¹ The UNCTAD Expert Meeting was the first of its kind in which indigenous groups attended and participated in the Conference's intergovernmental program on an impressively large scale. It attracted more than 250 indigenous delegates from about 80 countries. Among those in attendance were government representatives, representatives of non-governmental bodies, United Nations agencies, the academia and the private sector. See Intellectual Property and Traditional Medicine, *supra* note 22 at 2. For further perspectives on the *UNCTAD Biotrade Initiative*, see Graham Dutfield, *Intellectual Property Rights, Trade and Biodiversity: Seeds and Plant Varieties* (London: Earthscan/IUCN, 2000) at 100-102.

³² Organized by the WHO's Regional Office for South East Asia and held in Bangkok, Thailand, 6-8 December 2000. It is most likely that the WHO initiative was at a planning stage during the UNCTAD Expert Meeting. Indeed, the influence of the UNCTAD Meeting was quite obvious. Most intergovernmental bodies that attended the UNCTAD Meeting were active participants at the WHO

The first policy objective of WHO strategy on traditional medicine is the *integration* of traditional/complementary alternative medicine to national health care systems. According to the WHO, the second component of that policy is the “protection and preservation of indigenous TM knowledge relating to health”.³³ This involves rendering help to “countries to develop strategies to protect their indigenous TM knowledge”.³⁴ The anticipated result of this initiative is “increased recording and preservation of indigenous knowledge of TM including the development of digital TM libraries”.³⁵ The digital library concept for traditional knowledge is an intellectual property scheme, which is being elaborated by the WIPO.

The WIPO, (less than the WHO) deserves credit for the idea of digitalizing traditional knowledge and saving it on a database. The idea reflects the WIPO’s pioneering efforts on the issue of intellectual property rights in the context of traditional knowledge including traditional medicine.³⁶ The 2000 WIPO Forum on Intellectual Property Policy and Strategy in the 21st Century³⁷ resolved to take the advantage provided by information technology in order to set up a Traditional Knowledge Digital Library (TKDL). A contentious and highly debated concept, the TKDL has as many opponents as it has supporters.³⁸ In general, the idea behind the collection of traditional knowledge in a

Workshop, from which deliberations, the need for collaboration between the WHO, WIPO CBD, WTO/TRIPs, *et cetera*, was canvassed.

³³ *Ibid.* at 45.

³⁴ *Ibid.*

³⁵ *Ibid.*

³⁶ The traditional knowledge digital library is actually an Indian initiative developed to protect traditional Ayurvedic medical knowledge. It is designed to prevent India’s Ayurvedic national heritage, which have since been within the public domain, from being appropriated or transferred into private/corporate monopoly.

³⁷ Held in New Delhi, India July 2000. See K. Sharma, “National Measures and Experience for Protection of Traditional Indian Medical Knowledge of Ayurveda in the Regime of Intellectual Property Rights” (paper presented at the WHO Inter-Regional Workshop on Intellectual Property Rights in the Context of Traditional Medicine).

³⁸ The Principal argument against this measure is that it is a devaluation of traditional knowledge in the long run. First, it makes traditional knowledge readily available to all and does not accomplish the objective of protection, even though it checks misappropriation. Second, collection in a database suggests that traditional knowledge is frozen and not dynamic, a situation that does not account for incremental innovation. However, a quick retort is that databases are not absolute and are subject to being updated. Third, not all traditional knowledge can be expressed in a fixed form; translation is erosive of its originality, since most indigenous cultures are oral. Fourth, the idea of a database subscribes to the translocation of traditional knowledge from its cultural environment, and as such undermines its unique spiritual and cultural character. Fifth, the operational modality of this process raises issues of finance, questions of interpretation, questions about what details to be included and omitted, especially when there are divergences of traditional accounts even within putative monolithic indigenous cultures. India presents

Further discussion on the fact-finding mission as an aspect of the WIPO Global Intellectual Property Issues program is reserved to the last chapter.⁴⁶

The ILO Convention No. 169, the U.N. and Inter-American Draft Declarations, the CBD, the WHO, the UNCTAD and the WIPO initiatives, *et cetera*, have in some ways attempted to extricate traditional medicine and associated knowledge from the larger body of traditional knowledge for the purpose of intellectual property. This view may not be entirely persuasive. It is possible to argue that the instruments chiefly speak of traditional knowledge in broad terms. The attempts to isolate traditional medical experience are merely marginal where not situated in the larger context of traditional knowledge. Nonetheless, it cannot be wholly denied that traditional medicine or what I outline in this thesis as TKPT is a key aspect of traditional knowledge and that its protection has received specific attention in the broader policy debates. In its various manifestations, TKPT embodies cultural aspects and heritage of indigenous peoples and local communities. To that extent, there is sufficient evidence from the instruments and other policy initiatives reviewed above that TKPT either on its merit or as a component of traditional knowledge has attracted a groundswell of legal and policy consensus as a subject of intellectual property protection.

5.1.6 Intellectual Property Right and Traditional (Medicinal) Knowledge: The Demand of Indigenous Non-Governmental Organizations

In addition to the foregoing, are other non-governmental initiatives championed mainly by indigenous bodies sometimes in collaboration with inter-governmental organizations. Some of the initiatives and their sponsoring organizations are cited in the

examinations; [it is interesting how this conflicts with WIPO's Traditional Knowledge Digital Library (TKDL) concept], a reassessment of what constitutes prior art for purposes of patent examinations; the testing of options for the collective management of intellectual property rights for traditional healers' associations, a study of customary laws which protect traditional medicine in local and traditional communities; testing the applicability of the present intellectual property system for the protecting of traditional medicine, and awareness-raising as to the role of intellectual property protection in relation to traditional medicine.

See Intellectual Property and Traditional Medicine, *supra* note 22 at 12. It is important to point out that from the Final Report of the WIPO Fact-Finding Missions almost all the above concerns, needs and expectations were echoed with respect to traditional knowledge in general, but they resounded overwhelmingly in relation to traditional medicine specifically. See generally FFM, *supra* note 44.

⁴⁶ See chapter six at 364.

5.2 The Intellectual Property Debate: An Overview

At the dawn of the 21st century, there is an overwhelming pressure to reconcile indigenous knowledge with Western models of intellectual property rights for the benefits of indigenous and local communities. The traditional knowledge of the non-Western peoples has taken the centre stage of global discourse in virtually every front including trade and economic empowerment, food, agriculture, the environment (especially biodiversity conservation), health, human rights,⁵⁴ and cultural policy. Traditional knowledge continues to receive increased attention mainly because of the explosion in biotechnology and the emergence of global knowledge and information society.⁵⁵ These phenomena have generated huge insights into the values and immense contributions of indigenous knowledge systems and peoples toward humanity's quest to improve the society and protect the environment on a sustainable basis. Since intellectual property is the West's primary mechanism for the allocation of rights over knowledge, it is the dominant point of discourse in the desire to compensate the practitioners of vital indigenous knowledge. But there is no consensus on the fitness of intellectual property to accomplish the expectations or objectives its advocates have raised for holders of local knowledge. What we have to date is a raging debate, which nonetheless has influenced policy shifts regarding traditional knowledge both nationally and internationally, especially with the coming into effect of the Convention on Biological Diversity in 1993.

⁵⁴ Whilst the connection between traditional knowledge, and trade, economic empowerment, food, agriculture, biodiversity conservation and cultural policy issues may seem obvious, the linkage to human rights of indigenous peoples may not be quite as palpable. There is, however, little doubt that in a general sense the enumerated issues have human rights undertones in so far as they jointly or separately have implications for the survival of indigenous peoples. For a thorough perspective on the relationship between indigenous knowledge, intellectual property rights and human rights of indigenous peoples, see Rosemary Coombe, "Intellectual Property, Human Rights and Sovereignty: New Dilemmas: in International Law Posed by the Recognition of Indigenous Knowledge and The Conservation of Biological Diversity" (1998) 6 *Indiana Journal of Global Legal Studies* 59.

⁵⁵ See WIPO document issuing from the Roundtable on Intellectual Property and Traditional Knowledge titled "Protection of Traditional Knowledge: A Global Intellectual Property Issue", WIPO/IPRK/RT/99/2 dated 22 October 1999; see also Peter Drahos, "Indigenous Knowledge, Intellectual Property and Biopiracy: Is Global Bio-Collecting Society the Answer?" (2000) 22 *European Intellectual Property Review* 245 [hereinafter "Bio-Collecting Society"] (alluding to the notion of global knowledge society). See generally Peter Drahos & John Braithwaite, Information Feudalism—Who Owns the Knowledge Economy? (London: Earthscan, 2002), See also Hope J. Shand, "Intellectual Property: Enhancing Corporate Monopoly and Bioserfdom" in Andrew Kimbrell, ed., Fatal Harvest: The Tragedy of Industrial Agriculture (Washington D.C.: Island Press, 2002).

From chapter one, I identified the two major planks of the debate. The first posits that by its nature, indigenous knowledge is not amenable to the peculiarities of Western intellectual property rights or *vice versa*.⁵⁶ Hence, a middle of the road approach is what has been described as a hybrid or *sui generis* form of intellectual property capable of accommodating traditional knowledge forms.⁵⁷ The second plank of the debate concedes to the uniqueness of indigenous knowledge. Nonetheless, it insists that intellectual property rights, as policy instruments are historically malleable, and as such, can be tailored to accommodate and protect indigenous knowledge forms.⁵⁸ Such maneuvering, it would seem, presupposes new or hybridized forms of intellectual property rights different from the mainstream. Therefore, as I noted in chapter one, it appears that both sides of the argument find a meeting point in the notion of a *sui generis* form of intellectual property rights.⁵⁹

⁵⁶ For example, see the following: F. Yemin & D. Posey, “Indigenous Peoples, Biotechnology and Intellectual Property Rights” (1993) 2 *Review of European Community and International Environmental Law* 141; G. S. Nijar & C.Y. Ling, “The Implications of Intellectual Property Rights Regime on the Convention on Biological Diversity and GATT on Biodiversity Conservation: A Third World Perspective” in A.F. Krattiger *et al*, eds., Widening Perspectives on Biodiversity (Gland, Switzerland: IUCN/International Academy of the Environment, 1994); Kamal Puri, “Copyright Protection for Australian Aborigines in the Light of Mabo” in M.A. Stephenson & S. Ratnapala, eds., Mabo: A Judicial Revolution (St. Lucia: University of Queensland Press, 1993) 132; Rosemary Coombe, “Properties of Culture and the Politics of Possessing Identity: Native Claims in the Cultural Appropriation Controversy (1993) 6:2 *Canadian Journal of Law and Jurisprudence* 249; Michael Blakeney, “Protecting the Expressions of Australian Aboriginal Folklore Under Copyright Law” (1995) 17 *European Intellectual Property Review* 442; A.B. King & P.B. Eyzaguirre, “Intellectual Property Rights and Agriculture: Literature Addressing the Suitability of IPR for the Protection of Indigenous Knowledge” (1999) 16:1 *Agriculture and Human Values* 41-49, Bio-Collecting Society, *supra* note 55 at 247.

⁵⁷ See Kamal Puri, *supra* note 17 (arguing that that [western] “IP regime is inherently inappropriate or dysfunctional in relation to the needs of indigenous peoples... a *sui generis* legislation is the answer—consultation with indigenous people is vital”).

⁵⁸ For instance, in this regard, Mgbeoji argues that:

[T]he patent system has been used as a deliberate and malleable instrument of state policy and its legal norms may be no more than the congealed political/economic interests of powerful states. [However] the surprising thing about the rewriting and retrofitting of the patent system to accommodate certain well established interests is that most states of the South have approached the subject of patents on plants as if the patents systems was an unalterable sacrosanct apolitical regime.

See Patents and Plants: Re-Thinking the Role of International Law in Relation to the appropriation of Traditional Knowledge of The Uses of Plants (TKUP) (S.J.D. Thesis, Dalhousie University, 2001) [unpublished] [hereinafter “Patents and Plants”] at 323; see also Peter Drahos, “Indigenous Knowledge and Duties of Intellectual Property Owners” (1997) 11 *Intellectual Property Journal* at 179 at 193 [hereinafter “Duties of Intellectual Property Owners”] (arguing that “[t]he history of intellectual property protection shows that intellectual property evolves in highly selective ways”).

⁵⁹ See chapter one at 9-10

of mainstream intellectual property does not conform well to the orientation of indigenous knowledge in non-Western societies. Most indigenous societies are based on the communal mold as opposed to the capitalist structure. In that mold, market considerations are not as unbridled as they are in Western societies. Thus, generally, Western constructs of property especially intellectual property rights are somewhat alien to indigenous ideals, or perhaps more appropriately, do not fit squarely into them.

Describing intellectual property rights as “tools of capitalism”, Stephen Brush and Doreen Stabinsky warn against their “potential harm in the arena that involves indigenous peoples, peasants...”.⁶³ According to them, the idea of “intellectual property for indigenous knowledge, commoditizing knowledge and plant life, and biological prospecting are part of a rush to capitalism in times of aversion to common solutions to public problems”.⁶⁴

Acknowledging the objection to commodification, even though not persuaded by it Peter Drahos notes:

Surely, it might be said that to advocate the propertization of folklore, of indigenous knowledge, is to ask indigenous communities to embrace a foreign lifeworld, a lifeworld in which their precious abstract objects simply become tradable goods. To adopt the practices that lie behind intellectual property forms, it might be argued is to invite Marx’s fetishism of commodities.⁶⁵

Commodification of all things including knowledge is an industrial model⁶⁶ approach to biological resources. Intellectual property rights promote commodification by rewarding the physical manifestation of knowledge or ideas. In the industrial model, as we saw in chapter two, economic utility is the prime value of ecological resources and

Humanities 463; see also Christine Haight Farley, “Protecting Folklore and Indigenous Peoples: Is Intellectual Property the Answer?” (1997) 30 Connecticut Law Review 1 at 8 [hereinafter Farley].

⁶³ See chapter one at 40-41; see also Stephen Brush and Doreen Stabinsky, eds., Valuing Local Knowledge: Indigenous Peoples and Intellectual Property Rights (Washington, D.C.: Island Press, 1996) at 3 [hereinafter “Valuing Local Knowledge”].

⁶⁴ *Ibid.*

⁶⁵ See Duties of Intellectual Property Owners, *supra* note 58 at 196. Drahos argues that Western intellectual property should not be rejected. According to him, “there are also serious reasons for considering the possibility that intellectual property forms might be a viable strategy of emancipation from present dominant Western form. First to create indigenous intellectual property forms is not necessarily to imitate Western models” *ibid.* Most proponents of application intellectual property to indigenous knowledge tend to undermine this observation.

associated knowledge. In contrast to the intellectual property-backed industrial model, indigenous people maintain that their relationship with ecological forces is sacred, and transcends economic utility or the allure of market forces. Therefore, conceptually, the Western intellectual property model poses an epistemological and moral conflict to indigenous knowledge systems and worldviews. The concept of intellectual property is perceived as incompatible with indigenous moral, spiritual, religious and socio-cultural ethos which fundamentally derive from ecological sanctity and interminable relationships of all life-forms. For instance, Western intellectual property's willingness to patent and brazenly market life forms is morally reprehensible in the eyes of many indigenous peoples.⁶⁷

Nonetheless, advocates of intellectual property rights acknowledge the "legitimacy" of indigenous concerns over the "commodification" of indigenous sacred plants resources and bio cultural knowledge through the intellectual property system.⁶⁸ For them, intellectual property does not only serve the purpose of commodification. For example, they argue that patenting of indigenous knowledge does not necessarily require its exploitation.⁶⁹ The act of patenting can in some situations serve a defensive purpose⁷⁰ of frustrating or regulating the appropriation of indigenous knowledge.⁷¹ However, this argument does not address what happens when defensive patents expire and go into the public domain.

Another key conceptual issue which features in other contexts of the debate is that Western intellectual property rights legitimize a narrow view of science. For instance, the

⁶⁶ See Mark Ritchie *et al*, "Intellectual Property Rights and Biodiversity: The Industrialization of Natural Resources and Traditional Knowledge" (1996) 11 St. John's Journal of Legal Commentary 432.

⁶⁷ "The loss of moral sovereignty" occasioned by intellectual property, Peter Drahos argues, "should be countered by the development of more intellectual property forms—*sui generis* indigenous intellectual property forms". See Duties of Intellectual Property Owners, *supra* note 58 at 180.

⁶⁸ Patents and Plants, *supra* note 58 at 375-376.

⁶⁹ See Patents and Plants *ibid*. (arguing that under the TRIPs agreement there is no obligation requiring parties to use a patented invention, citing the television and the fax machine as examples of invention that were not put into any use 40 and 70 years respectively after they were patented).

⁷⁰ See Duties of Intellectual Property Owners, *supra* note 58; see also Thomas Cottier, "The Protection of Genetic Resources and Traditional Knowledge in International Law: Past, Present and Future" in Susette Biber-Klemm, ed., *Legal Claims to Biogenetic Resources* (papers presented at a Workshop held at the Institute for European and International Economic Law, University of Berne, June 1977) at 11[unpublished] (cited in Patents and Plants *supra* note 58 at 340).

⁷¹ Lending his support to this view, Drahos notes that "[p]roperty rights in indigenous knowledge do not necessarily have to lead to open trade. They can be used to regulate such a trade. Continuing, he avers, that

patent regime is based on Western science. It does not recognize an alternative cultural account of science. As will be demonstrated, tests of patentability are based on an ethnocentric Western scientific narrative in which all other ways of knowing are either completely delegitimized or filtered in order to bring them into conformity to Western episteme. Advocates of intellectual property rights do not seem to give adequate consideration to this. Rather, they are inclined to go the entire hog in order to prove that local knowledge can be pigeonholed into the narrow scientific template. Even though this may serve indigenous interests in the short run, it is doubtful if it would not compromise it in the long run.

5.2.2 The Communal Argument

This argument is closely connected to the conceptual question. Simply stated, it posits that indigenous knowledge is usually a community property.⁷² Such knowledge forms are often held in common and in trust by their holders, custodians or practitioners as the case may be. Thus, each member of the community is entitled to the knowledge. None may exercise exclusive claim, as the concept of intellectual property right requires.⁷³ There is no question that in most indigenous societies, some knowledge forms are associated with family, kinship, clan, communal and various social units. But that notion is not entirely absolute.

Apart from the perceived difficulty which an exclusive claim to indigenous knowledge portends, the communal nature of indigenous knowledge tend to (mis)represent them as being in of public domain. However, communal ownership is not a synonym for the public domain. Generally, intellectual property rights, particularly patents, do not accrue to knowledge within the public domain. One of the essential

“[i]t is a mistake to think that property only has an appropriation function. It also functions as a means for self-defence or survival”. *Ibid.* at 197.

⁷² With regard to indigenous art work, Farley notes that “most art work is essentially executed by a group. The making of art in the indigenous community is not lonely, secluded, individual process idealized in the West, but instead a group process in which people participate at various levels”. See *supra* note 62 at 30 & n. 117.

⁷³ Individualism is the conventional model for entitlements to patent rights in mainstream intellectual property regime. See Marci Hamilton, “The Trips Agreement: Imperialistic, Outdated and Overprotective” (1996) 29 *Vanderbilt Journal of Transnational Law* 613 at 617; see also Ikechi Mgbeoji, “Patents and Traditional Uses of Plants: Is a Communal Patent Regime Part of the Solution to the Scourge of Bio Piracy?” (2001) 9:1 *Indiana Journal of Global Legal Studies* 163 at 182.

characteristics of intellectual property rights is the appropriation of public goods into the private domain.⁷⁴ For societies with established communal systems of knowledge, the argument is that the individualistic nature of intellectual property may have adverse consequences.⁷⁵

There is some merit to the above arguments. However, a number of writers have argued that the regime structure in many traditional societies is not uniform. It is an overgeneralization to hold that all *knowledges* are held communally among indigenous and local communities.⁷⁶ A better view is that indigenous or traditional knowledge is riddled with cultural dynamics and complexities.⁷⁷ For instance, traditional healers in many indigenous cultures have a tendency to keep their knowledge of medicinal plants

⁷⁴ See Justin Hughes, "The Philosophy of Intellectual Property" (1988) 77 *Georgetown Law Journal* 287; Jeremy Waldron, "From Authors to Copiers: Individual Rights and Social Values in Intellectual Property" (1983) 68 *Chi-Ken Law Review* 841; see also Keith Aoki, "Neocolonialism, Anticommons Property, and Biopiracy in the (Not-So-Brave) New World Order of International Intellectual Property Protection" (1998) 6 *Indiana Journal of Global Legal Studies* 11 at 26-27. Drahos writes that "[i]ntellectual property rights can take knowledge out of intellectual commons, but this does not mean that it becomes inaccessible". See *Duties of Intellectual Property Owners*, *supra* note 58 at 182. Writing about the TRIPs agreement, Mark Ritchie and his colleagues note that "[t]he TRIPs Agreement embraces an industrial model whereby the products of scientific research become the property of its corporate sponsors". See Ritchie *et al*, *supra* note 66 at 432.

⁷⁵ See *Valuing Local Knowledge*, *supra* note 63 at 18; see also Farley, *supra* note 62 at 33 (arguing that empowering individual indigenous claimant to intellectual property rights may in the long run be destructive of traditional/indigenous cultures).

⁷⁶ See Mohammed Khalil, "Biodiversity and Conservation of Medicinal Plants: Issues from the Perspectives of the Developing World" in Timothy Swanson, ed., *Intellectual Property Rights and Biological Diversity Conservation: Interdisciplinary Analysis of the Values of Medicinal Plants* (Cambridge: Cambridge University Press, 1995) at 240 [hereinafter Khalil].

⁷⁷ For instance, in the two Australian cases of *Yumbulu v. Reserve Bank of Australia* (1991), 21 IPR 481, and *Milpurrurru v. Indofurn Pty. Ltd.* (1994), 54 FCR 240 (Austl.), the courts recognized the copyrights of individual aboriginal artists to their art works. Although the court acknowledged the concept of communal ownership, in *Yumbulu*, it lamented that the copyright law effectively empowers individual claimants over the community. In the opinion of the court in *Yumbulu*, perhaps "Australia copyright law does not provide adequate recognition of Aboriginal community claims to regulate the reproduction and use of works which are essentially communal in origin". See *ibid.* at 490; see also *Bulun Bulun & Milpurrurru v. R & T Textiles Pty. Ltd.* (1998), 41 IPR 513, Kamal Puri, *supra* note 17. Buttressing the complexity of indigenous property or intellectual rights, Peter Drahos notes:

Indigenous peoples have perhaps evolved more complex structures for access and use of knowledge than western communities...Some knowledge may be open to all (including non-indigenous people) to use,... some knowledge may be open to all clan members to use,...while other knowledge may only be available to the initiated...,and some individual may be given temporary appropriation rights over some knowledge..."

See *Duties of Intellectual Property Owners*, *supra* note 58 at 186-187.

5.2.3 Legal Personality

A somewhat related and yet subtly different version of the last argument is one based on legal personality. The argument is that the communal or collective nature of indigenous societies implies that they lack the requisite legal or juridical personality on the basis of which they can apply for, and hold intellectual property rights. The Eurocentric conception of intellectual property recognizes juristic persons such as natural and corporate entities as the appropriate holders of such rights.⁸² In some way, the legal personality argument reflects the individual centredness of intellectual property rights, which I have adumbrated earlier. In effect, it logically sprouts from the theoretical foundation of intellectual property rights as a reward mechanism for individual efforts.

Virtually all the objections against the collective/communal argument apply with equal force to the legal personality argument. In addition, legal personality is a creation of law; its categories are not closed. There is no reason it cannot be extended to indigenous collectivities in the same manner as it is accorded to corporate or artificial entities.⁸³ For all practical purposes, corporate organizations are community of investors, who enjoy the privilege of protection arising from an artificially created personality. It is the state that decides who enjoys such status. Indeed, “the creation or recognition of various types of moral or artificial persons is a function of the values, cultures and ideologies of each domestic legal system”.⁸⁴ Since October 1991, Brazil by an Act of the State recognizes the legal personality of its indigenous peoples, entitling them to apply

Knowledge” (Prepared by WIPO Secretariat for the IGC’s Third Session Geneva, June 13-21 2002) para. 26 at 13 [hereinafter “Elements of *Sui Generis*”].

⁸² Plants and Patents, *supra* note 58 at 373.

⁸³ For discussions regarding the rights and distinct identity of collective/group, communal or cultural entities, see Douglas Sanders “Collective Rights” (1991) 13 Human Rights Quarterly 368. See generally, Will Kymlicka, *The Rights of Minority Cultures* (Oxford; New York: Oxford University Press, 1995).

⁸⁴ *Ibid.* at 374. Continuing, Mgbeoji notes that:

The tragedy is that dominant culture and jurisprudence have practically insisted on defining for others, especially colonized, marginalized and disempowered peoples and cultures who or what is a legal person in the traditional domain. In this mind-set and practice, legal persons such as stools, families, kindred, clans, age-grades, the spirit of the unborn ancestral spirits, and other forms and categories of legal personalities have been reduced to exotic curiosities for Eurocentric anthropologists, sociologists and geographers.

for intellectual property rights over their collective traditional knowledge.⁸⁵ If corporate and other entities can be recognized as legal persons even more should families, kindred, clans, bands, and any other relevant social categories within indigenous customary norms. Perhaps, of all the arguments against the applicability of intellectual property rights to traditional knowledge, this is the least persuasive, and perhaps also the most self-serving.

5.2.4 Public Domain/Common Heritage Argument

Again, this argument is related to the penultimate one regarding the community/collective nature of indigenous knowledge. Here, the argument is that indigenous knowledge of plants and other biological resources does not constitute original information.⁸⁶ At best, they are seen as pieces of historical and often incremental information that reside in the public domain.⁸⁷ This argument is also enunciated in some analysis as the concept of intellectual commons: “[a] global entity constructed by the collective labours of all humanity over all time”.⁸⁸ And as such, they (indigenous knowledge forms) do not qualify for intellectual property protection. These *knowledges* are required to be available to every needing member of the society.⁸⁹

However, what appears to have been downplayed or undermined in this argument is that, historically, the concept of the commons is group-specific, and like intellectual property, territorial,⁹⁰ and not absolute. As demonstrated earlier, among indigenous

⁸⁵ See Bill PL N. 2.057 of 23 October 1991; see *Plants and Patents*, *supra* note 58, at 374-375; see also Eugenio da Costa e Silva, “Biodiversity-Related Aspects of Intellectual Property Rights (IPRs)” (UNU/IAS Working Paper # 17 July 1996); see also John Mugabe *et al*, eds., Access to Genetic Resources: Strategies for Benefit Sharing (Nairobi Kenya: ACTS Press/IUCN, 1997), Kerry ten Kate & Sarah A. Laird, The Commercial Use of Biodiversity: Access to Genetic Resources and Benefit-Sharing (London: Earthscan Publications, 1999).

⁸⁶ Patents and copyright regimes of intellectual property are granted *in alia* on the basis of originality of the work in question. Whereas copyright protects authorship and concomitant notion of originality, the patent regime emphasizes the absence of a prior art, and novelty or newness of invention. See, for example, *Feist Publications Inc. Ltd v. Rural Tel. Serv. Co.*, 499 U.S. 340 at 345; see also Farley, *supra* note 62 at 18.

⁸⁷ See Stephen Brush, “Whose Knowledge, Whose Genes, Whose Rights?” in *Valuing Local Knowledge*, *supra* note 63 at 3 (arguing that knowledge and biological resources of farmers, herbalists, *et cetera* have historical status as “common heritage held in trust for the public good”).

⁸⁸ See *Duties of Intellectual Property Owners*, *supra* note 58 at 182.

⁸⁹ See Stephen Brush, “Is Common Heritage Outmoded?” in *Valuing Local Knowledge*, *supra* note 63.

⁹⁰ For instance, Drahos argues that “[t]he belief in a territorial scientific commons may help explain the reluctance of western countries to concede to developing countries the claim that technology is the common heritage of mankind”. See *Duties of Intellectual Property Owners*, *supra* note 58 at 183.

cultures there are layers of rights regarding use and access attaching to the perceived intellectual commons even among the same socio-cultural groups.⁹¹ Many indigenous peoples regard the common heritage argument as self-serving. The argument reveals the inconsistency of Western intellectual property regime.⁹² When the same knowledge is presented “scientifically”, it ceases to reside in the public domain and becomes entitled to protection.

Generally, indigenous dealings with biological resources are perceived as not “scientific”, inventive or original enough to merit protection as intellectual property rights. The perceived “rudimentary” nature of such dealings does not involve sufficient “ingenuity”, “human intervention” or “inventive step” as to sift the bio cultural experience from the state of nature or public domain wherein they reside. This will become clearer in my subsequent discussion on patentability of inventions.

Nonetheless, opponents argue that the exclusion of indigenous knowledge and biological resources on the basis of common heritage is not sustainable on that principle.⁹³ Furthermore, the concept of distinct international cultural heritage is at its infancy in international law.⁹⁴ Even though the idea has been floated concerning objects that belong to the global cultural commons, that concept has not been suggested at the expense of national and territorial origins of the objects. Rather it speaks to the responsibility of states to preserve those objects. Moreover, the focus is on moveable cultural items, not intangible (indigenous) knowledge forms. Biological resources and associated knowledge do not equate to “common heritage” as interpreted in international law. These resources and their human custodians are located within defined territories of sovereign nations. Whereas the common heritage doctrine, even though an unsettled one,

⁹¹ See Farley, *supra* note 62 at 32.

⁹² See Lara Ewens, “Biotechnology and Intellectual Property” (2000) 23 Boston College International and Comparative Law Review 289 at 305.

⁹³ Apart from indigenous knowledge *per se*, plant genetic resources which were transferred from gene-rich countries for *ex situ* “preservation” in industrialized ones without any legal restriction was justified by the transferee countries on the basis that the germ plasms constituted a common heritage of mankind. Of truth, that principle has not been extended to resources that exist within the territories of sovereign nations; certainly their transfer under a dubious disguise could not make them common heritage.

⁹⁴ See *supra* note 58 at 183 (referring to the UNESCO Convention for the Protection of the World Cultural and Natural Heritage, 1972 (15511 U.N.T.S. 151), which not only requires state cooperation toward the preservation of cultural heritage but also expects states to recognize duties with regard to some global cultural commons; and Council of Europe, International Legal Protection of Cultural Property (Strasbourg,

generally is not conceived with respect to resources within national boundaries.⁹⁵ In addition, traditional knowledge, even though it may be held collectively as communal knowledge is not an all-comers-affair, open to the whole world. They are perfectly outside the common heritage principle as enunciated under international law. What is more, the idea of biological resources as public property has since ceased to be an accepted statement of reality. This fact derives support from the Convention on Biological Diversity (CBD)⁹⁶ jurisprudence and the emergent international law on indigenous peoples, wherein indigenous peoples' rights over their natural resources form the corpus of international law on indigenous peoples.

5.2.5 Other Considerations of A Practical Nature

The remaining strands of the arguments involve practical considerations that arise in seeking to make intellectual property rights amenable to traditional knowledge. According to the *malleability thesis*, these other considerations are not by any means insurmountable. They require some tradeoffs, which are not unusual, even within the dynamic trajectory that the mainstream intellectual property rights have trailed. I identify three such practical considerations.

The first is the oral nature of traditional knowledge, and the difficulty associated with transforming it into a written expression of a technical nature such as patent specification. Closely connected to this is the requirement of publication. Mainstream patent regimes do not give regard to undocumented knowledge. Generally stated, a prior art is determined by publication in a written form, and since traditional knowledge forms are predominantly oral, they are automatically excluded. The exclusion of traditional knowledge on this score has been seriously challenged. For example, it is the practice in

1984) which requires individual states may recognize the existence of distinct cultural commons within their territorial jurisdictions).

⁹⁵ For perspective on the evolution of the common heritage principle which is traced to the late 1960s, see Rudiger Wolfrum, "The Principle of Common Heritage of Mankind" (1983) 43 Heidelberg Journal of International Law 312. For the uncertainty and unsettled nature of the common heritage principle in international law, see Stephen Gorove, "The Concept of Common Heritage of Mankind: A Political Moral and Legal Innovation" (1972) 9 San Diego Law Review 390.

⁹⁶ Articles 3 and 5(1) endorse the sovereign rights of states over their natural (biological) resources. In December 14, 1962 the UNGA adopted a Resolution on Permanent Sovereignty over Natural Resources. See G.A. Res. 1803 (XVII) UN GAOR, 17th Sess., Supp. No. 17 at 15; U.N. Doc. A/S217 (1962), reprinted in 2 I.L.M. 223 (1963); see also G. Elian, The Principle of Permanent Sovereignty Over Natural Resources (Alphen aas den Rijn: Sijthoff & Noodhoff, 1979).

certain intellectual property regimes (like a plant breeders' right where it is not possible to fully describe an invention or a process), to deposit a sample of an invention as an alternative to written specification. Consequently, it would not be out of place to temper the requirement of writing in order to accommodate indigenous knowledge.

The second practical consideration is the fixed term of intellectual property rights. For example, most patent regimes vest rights of exploitation in the patentee for a period of twenty years; whereas copyright vests in the author for at least fifty years and additional years, upon her demise. Traditional knowledge is an immemorial and trans-generational phenomenon,⁹⁷ which evolves on an incremental basis. The idea of having a fixed tenure for intellectual property right undermines the untenured nature of traditional knowledge.⁹⁸ It is then difficult to draw a line on when/where a traditional knowledge begins and ends. As an aside, the *alibi* of untenured nature of traditional knowledge, however, does not address the policy imperative for the preservation of the public domain. Such a situation poses a major challenge to the protection of traditional knowledge.⁹⁹

Third, as a practical matter, indigenous peoples do not have the financial power to bankroll the expensive nature of intellectual property applications,¹⁰⁰ especially the patent process. In addition, the cost of policing the infringement of intellectual property across the borders is often beyond the sophistication (or lack of it) and the financial strength of many indigenous and local communities. Furthermore, when retrofitted into a "scientific" or different epistemological narrative, it becomes difficult to identify or establish the

⁹⁷ See Kamal Puri, *supra* note 17; see also UNESCO-WIPO Model Provisions for National Laws on the Protection of Expressions of Folklore Against Illicit Exploitation and Other Prejudicial Actions (Geneva: June-July, 1982), reprinted in (1982) 16:4 Copyright Bulletin 62.

⁹⁸ According to Farley, "[t]his limited term of protection means that most folkloric works [for instance] may already be in the public domain" i.e. assuming they satisfy other requirements for copyright protection. See *supra* note 62 at 18 (footnotes omitted). The argument from the untenured nature of traditional knowledge presents a major problem with regard to the public domain imperative.

⁹⁹ See Robert K. Paterson and Dennis Karjala, "Looking Beyond Intellectual Property in Resolving Protection of the Intangible Cultural Heritage of Indigenous Peoples" *Cardozo Journal of International Law and Dispute Resolution* [hereinafter Paterson & Karjala, forthcoming in 2003] (arguing for a careful balance in the desire of indigenous communities to "maintain a degree of control over their cultural heritage" and that of the society "to maintain a rich and growing public domain that promotes basic values of free thought and expression in all individuals").

¹⁰⁰ For instance, one of the advantages of a Global Bio-Collecting Society proposed by Peter Drahos, *supra* note 55 at 284 is to mitigate the cost of monitoring the use and appropriation of indigenous knowledge which most indigenous communities do not have the resources to effectively do; see also *infra* note 101.

appropriation of indigenous knowledge.¹⁰¹ Although the state confers intellectual property rights on juristic entities, it is the latter's obligation to police infringement and initiate proceedings against offending parties. This aspect of the argument is further amplified by the fact that many cases of appropriation of indigenous knowledge occur within a global network well beyond the reach of many indigenous communities.

5.3 Patents on TKPT: Investigating the Tradeoffs

The last section has outlined the core issues in the debate over the fitness of intellectual property rights to indigenous knowledge forms. The objections and counter objections have perhaps equal weight in the scale of validity or persuasiveness. To explore these arguments further, I proceed on the proposition that intellectual property rights are malleable enough to surmount all the obstacles in the way of indigenous knowledge. To put it perhaps in a more exact way is to say that traditional knowledge can be made to comply with the dictates of intellectual property rights. My inquiry proceeds to the next section. Applying the patent regime to the context of TKPT, I examine what the tradeoffs are in reconciling intellectual property rights with TKPT or *vice versa*. My choice of the patent regime is palpable.

TKPT incorporates most aspects of intellectual property rights. Comparatively, however, the patent regime perhaps bears the closest relevance to TKPT. Understandably, the patent regime happens to be the most discussed in relation to TKPT. Traditional use(s) of plants for medicinal or therapeutic purposes is essentially based on biodiversity. TKPT is therefore implicated in the discourse about biodiversity conservation, access to genetic resources and reward for indigenous knowledge. The substantive international regimes in this disciplinary intersection such as the CBD and the WTO/TRIPs agreement recognize the central role of patents as the most pertinent intellectual property regime in those contexts.¹⁰² However, as will be shown, TKPT like any other traditional knowledge

¹⁰¹ In proffering a solution to this quagmire, Peter Drahos has enunciated the setting up of what he called a Global Bio Collecting Society (GBS) akin to the collecting societies for copyright works. According to him, “[t]he GBS would help indigenous groups to solve the problem of international free-riding by offering them some prospect that the rights over their knowledge would be recognized by companies irrespective of where these companies are located”. See “Bio-Collecting Society”, *supra* note 55 at 249.

¹⁰² See, for example, articles 16(5) of the CBD (*supra* note 16) and 27 of the TRIPs Agreements (*infra* note 126).

forms is not neatly separable into specific or regime categories of intellectual properties. It manifests in more than a single category of intellectual property. Yet, other mainstream intellectual property categories such as trademark; copyright, geographical indications of origin would appear to be peripheral in terms of their empirical significance to TKPT.¹⁰³

5.3.1 The Nature of Patents

There is often no direct statutory definition of patent. Usually, reference is made in statutes to “letters patent for an invention”. Curiously, “invention” has no categorical definition; and it is open for the courts to determine¹⁰⁴ whether “any new and useful art, process, machine, manufacture or composition of matter...”¹⁰⁵ or improvements thereof amount to an invention upon which the law confers the *privilege* of a patent. All of these words provoke unsettled questions that continue to dog the patent jurisprudence. Generally defined, patent is an exclusive right conditionally granted by the state to an inventor(s) to manufacture, use, sell or to generally exploit an invention, including process, usually within national borders for a limited number of years. Patent, Malchup volunteers, is “that which confers the right to secure the enforcement power of the State in excluding unauthorized persons for a specific number of years from making

¹⁰³ Compare Paterson & Karjala, *supra* note 99. However, please note that the duo’s discussion centers on “intangible cultural heritage”. They did not specifically discuss the use of plants in traditional therapy.

¹⁰⁴ Vaver notes that the “taxonomy of invention—something by definition unexpected or unforeseeable—is a North American conceit. The United Kingdom never defined invention. Instead *the Statute of Monopoly* of 1624 spoke of granting patents for “any manner of new manufactures”, leaving the definition for judges to work out”. He observes that European patent laws now adopt a negative definition of invention by identifying what is not patentable. See David Vaver, *supra* note 61 at 120. For an insightful discussion of invention in patent jurisprudence, see Harold Potts, “The Definition of Invention in Patent Law” (1944) 7 *Modern Law Review* 113. In its brief to the IGC, WIPO notes that “most patent laws, for example, do not precisely define the concept of an “invention”. Equally, international harmonization and standard-setting in patent law have proceeded without specific or authoritative international definitions of this fundamental concept—although what constitutes an “invention” has strong elements of harmony in practice, significant differences continue to apply at the national level after some 120 years of progressive international harmonization”. See *Elements of Sui Generis*, *supra* note 81 para. 11 at 5-6.

¹⁰⁵ See s. 2 of the Canadian Patent Act RSC 1985 c. P-4; similarly, the USA Patent Act, 35 U.S.C (1994), section 101 provides: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new useful improvement thereof, may obtain a patent therefor”. On the interpretation of the scope and meaning of invention under section 2 of the Canadian Patent Act, see *Commissioner of Patents v. President and Fellows of Harvard College, Canadian Council of Churches et al.*, [2003] 21 C.P.R. 417.

commercial use of a clearly defined invention”.¹⁰⁶ A patent right is construed as a motivation for inventive endeavour and innovation.

Like intellectual property generally, patent right is a creature of national law. However, recent developments such as the WTO/TRIPs agreement—a supra national scheme—have ushered in the evolution of a global normative regime of intellectual property rights. According to Peter Drahos, “[t]he global period of intellectual property is marked by a weakening, at least in relation to property, of the principles of territoriality and sovereignty”.¹⁰⁷ Part of the consequence of the global intellectual property order is the convergence of a uniform substantive standard of intellectual property rights.¹⁰⁸ Thus, even though national governments have rights to make determinations over intellectual property rights, the TRIPs agreement provides a minimum or normative global standard of intellectual property protection, including patentability.

It is a common knowledge that the TRIPs agreement was deeply influenced by the United States,¹⁰⁹ Japan and European countries.¹¹⁰ Despite that, however, the intellectual property regimes in most colonized countries reflect the inherent cultural bias and Western origin of intellectual property. Nonetheless, before the global era, national governments were not as circumscribed as the WTO/TRIPs agreement has made possible.¹¹¹ The general conceptual structure of Western patent regimes has been outlined

¹⁰⁶ See Fritz Malchup, “An Economic Review of the Patent System, Study of the Subcommittee on Patents, Trademark and Copyright Committee on the Judiciary” (United States Senate, 85th Congress, 2nd Session, Study # 15) at 2, cited in Ikechi Mgbeoji, “Patents and Plant Resources-Related Knowledge: Toward a Regime of Communal Patents for Plant Resources-Related Knowledge” in Environmental Law in Developing Countries (Bonn: IUCN Environmental Policy & Law Paper # 43, 2001) 79 at 87.

¹⁰⁷ See Duties of Intellectual Property Owners, *supra* note 58 at 188.

¹⁰⁸ *Ibid.* at 189.

¹⁰⁹ Mgbeoji captures this sentiment in the following observation: “it is common knowledge that the TRIPs agreement on patents which is the global minimum threshold for patentability is an approximation of the United States Law on the subject”. See Patents and Plants, *supra* note 58 at 280.

¹¹⁰ For account of the making of the TRIPs agreement including the influence of the United States, Europe and other industrialized countries in shaping the agreement, see Daniel Gervias, The TRIPs Agreement: Drafting History and Analysis (London: Sweet & Maxwell, 1998).

¹¹¹ For example, before the TRIPs agreement national governments had an unfettered power to determine the terms of patent in their territories. Again, to a reasonable extent, they were not fettered in excluding some subject matters from patent protection. Many developing countries, capitalizing on these have tended to exempt pharmaceuticals and other inventions relating to food and agriculture from patent. TRIPs not only made all inventions patentable, it has also set stringent conditions for the exercise of the power of compulsory licence hitherto used by governments to check the excesses of patent holders when such excesses conflicted with national interests. The controversy surrounding South Africa and United States over the former’s exercise of compulsory licence in order to make HIV/AIDs-related drugs accessible has its roots in the tightening of compulsory licence powers by the TRIPs agreement to the delight of United

for global application in the TRIPs agreement. My discussion of patents in the analyses that follow will draw from the TRIPs agreement, and where necessary, the U.S. and other Western regimes of which that agreement is an extension.

5.3.2 Plants As Patentable Subject Matter

In the last chapter, I stressed the central role of plants in traditional therapy. Here, I examine briefly the status of plants as patentable subject matter. Like other life forms, historically, the idea of a patent on plants was not enthusiastically embraced. Hitherto, the sentiment has not quite changed amongst indigenous peoples. The journey of plants to the patent office is a checkered one, which lends credence to the thesis that intellectual property rights are not only malleable, but also, they are dynamic instruments for advancing national interests, influencing social policy and engineering change. For the present purpose, I shall bypass any discussion of the North-South geopolitical rifts that characterize the subject of patentability of plants.

The politics of plant patents are played out more at the levels of food, seed, agriculture, and horticulture than medicine and health,¹¹² which is my focus. My purpose is to establish that plants have become patentable subject matter within the national and global normative patent regimes I have identified. I restate that indigenous opposition to the patenting of life forms including plants is a reflection of their worldview in which every life form is sacred and is considered mankind's partner in life's unbroken web.

Patenting of life forms, especially plants, had its head start in United States domestic law. From there, the movement for patent on plants reached the International Convention for the Protection of New Varieties of Plants (UPOV)¹¹³ and crystallized in the global phase of intellectual property epitomized by the WTO/TRIPs agreement. In the

States and its powerful pharmaceutical lobby. For detailed discussion of this, see various contributions in the symposium edition of *Florida Journal of International Law* titled "Intellectual Property, Development and Human Rights" appearing in (2002) 14:2 of that journal. See *infra* note 128 and accompanying text for further details and commentary.

¹¹² Nonetheless, the interconnectedness of these subjects cannot be undermined. For the discussion of their relationship, see chapters one and two.

¹¹³ Of 2 December 1961, the Convention has been revised a number of times in the following order: 10 November 1972, 23 October 1978, the last revision that is yet to come into effect occurred on 19 March 1991. The UPOV is one of the Conventions administered by WIPO. Its membership was until very recently made up of elite industrialized countries of the North, especially those having major industrial interests in agriculture and biotechnology. Texts of various versions of the UPOV Convention are available, online: UPOV <<http://www.upov.int/en/publications/conventions/index.html> (accessed: 26 December 2002).

Indigenous interests are better served by *sui generis* systems which do not necessarily have to be an imitation of Western intellectual property. As will be argued later in this thesis, part of the problem with advocates of intellectual property rights for indigenous knowledge is the inability to extricate the *sui generis* construct from the stranglehold of Western intellectual property models.¹³⁵ Without diverting attention from my focus, the point of this subsection is to establish that despite the natural reluctance within indigenous communities, plants are now patentable subject matter. States are required to protect plant varieties by either patents or *sui generis* rights (e.g. PBR) or by both of them. While focusing on TKPT, the next section examines the tests of patentability as enunciated in the TRIPs agreement.

5.4 Tests of Patentability¹³⁶

Under the provisions of the TRIPs agreement reproduced in the last subsection, “patents shall be available to all “inventions” (i.e. including plants); such inventions must be “new”, must involve “inventive step” (i.e. non-obvious) and capable of “industrial application” (i.e. useful). These provisions are consistent with the requirements for patentability in most national jurisdictions. The argument, which is all too familiar, is that the requirements for patentability do not take into proper account the nature of indigenous knowledge. Nonetheless, the insistence is strong in many quarters that indigenous knowledge can be amenable to intellectual property rights, or *vice versa*. Before I examine the trade-off implicit in that argument as it relates to TKPT, I shall review the tests of patentability and the underlying debates.

¹³⁵ See Duties of Intellectual Property Owners, *supra* note 58 at 196.

¹³⁶ The following illustrations refer to the benchmark for patentability. Patent standards are, however, malleable. Often, they are subject to a number of factors including but not limited to the type of technology, applicable municipal regime and subject matter. For instance, patentability standards tend to be lower with respect to biotechnology as opposed to industrial sector. Because the idea of intellectual property rights for indigenous knowledge features mainly in the biotechnology discourse, there is perhaps no reason local knowledge cannot benefit from the malleable character of patent. The major snag here, however, is the epistemic conflict posed by the patent process’ reification of Western science. This fundamental character of patent becomes quite problematic in relation to traditional medicine as an alternative epistemic therapeutic narrative.

5.4.1 Distinction of Form: Product of Nature

As a matter of theory, a patent right does not extend to products of nature. This notion is informed by moral, ethical and empirical considerations. However, with the increasing interest in the life sciences regarding the industrialization of plants, animals and even human genetic resources, there is little doubt that the relevance of this age-old tradition may eventually lie in theory and history.¹³⁷ Plants and plant derivatives, which are now patentable, are products of nature. But the courts are inclined to require a high standard of "human intervention" in order for an invented variety of plant to be recognized as a patentable invention.¹³⁸ Nonetheless, the critical issue is the determination of what distinguishes "an invention" and sufficient "human intervention" from products of nature. Such a distinction is a crucial site of appropriation and disinheritance of indigenous knowledge forms and their practitioners.

For instance, indigenous dealings with plant resources for medicinal, agricultural and other purposes are perceived to be within the realm of nature. In indigenous *hands*, plant or animal resources are said to be naturally occurring, and indigenous intervention not sufficient or inventive enough to sift them from nature. The Indigenous peoples are said to deal with the plant and animal resources in their unpurified form. Only artificially purified "natural products" in the language of Western science qualifies as sufficient human intervention and as such, an inventive step. According to Lester Yano, "[o]ften what is required to convert the natural substance into a useable product is a minimum amount of human intervention such as grinding of a seed, boiling of a plant, and the creation of a poultice".¹³⁹ These are practices that are common to indigenous intervention. However, a patent requires more specificity. It demands the identification, isolation, synthesizing, or purification of the active substance, more so than relevant for indigenous purposes. It is these "scientific" prescriptions that are acceptable as sufficient human intervention. The argument here is that artificially purified versions are not

¹³⁷ Mgbeoji notes that "as the ambit and clout of pharmaceutical and chemical industry grew, this fundamental postulate of the patent law began to witness cracks and ultimate collapse. Hence over the years, 'the product of nature' exclusion has lost respectability in informed circles". See *Patents and Plants*, *supra* note 58 at 328.

¹³⁸ See *Pioneer Hi-Bred and Harvard Mouse* cases, *supra* note 120; see also *Patents and Plants* *ibid.* at 288.

¹³⁹ See Lester Yano, *Protection of Ethnobiological Knowledge of Indigenous Peoples* (1993) 41 *UCLA Law Review* 443 at 459 [hereinafter Yano].

naturally occurring. Hence they are products of human invention. Such a conclusion undermines the natural origins of the products. In addition, it also amounts to a misinterpretation of indigenous efforts. Query: what makes the process of scientific purification more inventive than various sophisticated processing devices of indigenous peoples by whose efforts the natural source of the compound including the method of extraction and appropriate uses are usually identified? Thus, despite the discredited nature of the product of nature exemption, Western intellectual property system is inclined to keep it alive, a situation that results in the undermining of indigenous knowledge.¹⁴⁰

5.4.2 Non-Obviousness or Inventive Step

This requirement of patentability is intertwined with the products of nature argument. It raises the same issue regarding the exclusion of indigenous knowledge. An inventive step demands that there be a minimum human ingenuity, that the invention is not trivial or obvious to persons skilled in the art. The test of obviousness is traditionally derived from common law; and it is referred to as the *kripps question*. According to that doctrine, the question is whether the invention at issue is obvious to a person ordinarily skilled in the art or subject matter of the invention without undue experimentation.¹⁴¹ If the question is answered in the affirmative, then the application will be denied. What amounts to an obvious process or invention is often a case-specific judgment.

With regard to patent on plants, it is quite clear from the analysis of the products of nature that the indigenous peoples are not in any position to interpret the process of purification in the Western scientific sense. This means that even though the scientific approach may not be substantially different from the indigenous experience in terms of purpose and end result, indigenous practitioners may not qualify as “persons skilled in the

¹⁴⁰ Part of the inconsistency regarding the product of nature debate is that while patent is granted to artificially purified natural substances which do not ordinarily occur in nature, metals which are similarly inclined have not benefited from patent protection. The most cited instance is the case of the metal, tungsten, which is used as electric bulb filament. Tungsten is impure in its natural state, requiring great effort at purification. Purified tungsten is not patentable on the basis that what results from an obvious and acknowledged laborious purification process of the element are evaluated as natural qualities of pure tungsten. It does not matter that tungsten, naturally impure was brought to a pure state before the rhetoric of natural qualities. See *General Electric Co. v. Deforest Radio Co.*, 28 F. 2d 641 (3d Cir. 1928) cert. denied, 278 U.S. 656 (1929); see Yano, *supra* note 139 at 460; see also Patents and Plants, *supra* note 58 at 332.

¹⁴¹ See *Pioneer Hi-Bred*, *supra* note 120.

art”. Yet it has been argued that since indigenous peoples possessed the material knowledge, the purified substance should be considered obvious, even so, because they (the compounds) perform the same function as the native remedy.¹⁴² Apart from the fact that native peoples may not, and need not know the so-called active substance, their belief in the therapeutic efficacy of the plant is not exclusively tied to the plant or the compound.¹⁴³ To make a determination whether indigenous practitioners are persons “skilled in the art”, we may have to address the question: what “art” is in issue? For example, can an indigenous herbalist be equated with Western-trained chemists or pharmacists in a laboratory setting? Indigenous peoples reject such ethnocentric disciplinary analogy because of inherent epistemic issues and questions about worldviews.¹⁴⁴ Furthermore, it has been suggested that the test of obviousness should be with reference to persons skilled in the art anywhere in the world.¹⁴⁵ As much as that may be desirable for fairness, the suggestion may not have given consideration to how we interpret the “art”. In all of these, a simple conclusion is that the patent regime, indeed the intellectual property system, is an exclusionary Western construct designed to legitimize and endorse the Western scientific hegemony.

5.4.3 Usefulness/Industrial Applicability and Reproducibility

Under the TRIPs agreement, the requirement of usefulness (utility) is synonymous with the prescription that the invention be capable of “industrial application”. The latter is often associated with “the requirement that the invention be reproducible in such a manner that copies from the prototypes be clones of the

¹⁴² See Yano, *supra* note 139 at 460-1.

¹⁴³ For instance, in *Merck & Co. v. Olin Mathieson Chem. Corp.*, 253 F. 2d 156 (4th cir. 1958) an initial research involved an underground work which revealed the medicinal values of vitamin B-12 in its natural and impure form. However, twenty years later a group of researchers, capitalizing on what was already known from this previous research were able to isolate the relevant active substance, and were granted a patent, without regard to the initial effort. The court merely acknowledged that the subsequent researchers owed some gratitude to the previous one but “there is nothing to suggest that she [the first researcher] envisioned anything in the nature of the composition developed by the patentees...” *ibid.* at 160.

¹⁴⁴ See Marie Battiste & James S. Henderson, Protecting Indigenous Knowledge: A Global Challenge (Saskatoon: Purich, 2000); see generally Linda Tihuwai Smith, Decolonizing Methodologies: Research and Indigenous Peoples (London: Zed Books Ltd., 1999).

¹⁴⁵ See Samuel Oddi, “TRIPs—Natural Rights and a Polite Form of Economic Imperialism” (1996) 29 *Vanderbilt Journal of Transnational Law* 415.

original”,¹⁴⁶ a kind of allusion to mass production. Originally, in some circles the industrial applicability requirement did not include inventions in the industrial or agro-chemical sector.¹⁴⁷ However, the interchange of that concept with usefulness now endorsed by the TRIPs agreement does not support such a narrow interpretation.¹⁴⁸

Beside the aspect of industrial applicability, an invention must be useful in order to be patented.¹⁴⁹ Traditionally, a minimum (albeit trivial) level of utility suffices to satisfy this requirement.¹⁵⁰ Indeed, inventions that are precluded from patentability on the basis of utility are few and far between; and they are usually those bordering on illegality or immorality. Those categories may also come under the *ordre public* provision and so, may not be patentable on the ground of public policy even though they are useful in some sense.¹⁵¹ Because of the non-controversial nature of the usefulness requirement, it is not a major obstacle to traditional knowledge.

Usefulness aside, the concepts of reproducibility and industrial application derive from the market model as the cornerstone of intellectual property rights. Put in another way, they are “tailored towards a mechanized and “conveyor belt-idea” of an industrial

¹⁴⁶ Patents and Plants, *supra* note 58 at 320. For instance, part of the reason why the plant breeder right under the UPOV is equated to the status of a patent is the industrial model of reproducibility. In accordance with article 4 of the Convention, to gain the Convention's protection, the variety sought to be protected must be distinguishable from all others, and must be capable of precise recognition and description, must be uniform or sufficiently homogenous, and stable in its essential characteristics; see also Naomi Roht-Arriaza, “Of Seeds and Shamans: The Appropriateness of Scientific and Technical Knowledge of Indigenous and Local Communities” (1997) 17 Michigan Journal of International Law 940 at 941 [hereinafter Roht- Arriaza].

¹⁴⁷ *Ibid.* at 939.

¹⁴⁸ See footnote 5, Article 27 of the TRIPs agreement, *supra* note 126. Roht-Ariazza notes that the phrase industrial application is assimilated to the requirement of usefulness in the US Patent Act. *Ibid.*

¹⁴⁹ See section 101 of the USA Patent Act, (35 USC (1994)), section 2 Canadian Patent Act, R.S.C. 1985, c. P-4, article 1, section 8 of the USA Constitution grants the Congress the power to promote the progress of science and the useful arts. This is the constitutional foundation of the US Patent Act's provision for usefulness. See Leanne M. Fecteau, “The Ayahuasca Patent Revocation: Raising Questions About Current U.S. Patent Policy” (2001) 21 Boston College Third World Law Journal 69 [hereinafter “Ayahuasca Patent Revocation”].

¹⁵⁰ See the U.S. Patent and Trademark Board of Appeal decision in *Exparte Mackay*, 200 U.S.P.Q. (BNA) 324 (1978); see also the Canadian Supreme Court decision in *Mettaliflex Ltd v. Rodi & Wienenberger Attiengesellschaft* (1960), 35 C.P.R. 49 (S.C.C.). See generally Douglas S. Jackson, “Utility: A Mixed Question of Fact and Construction” in Gordon F. Henderson *et al*, eds., Patent Law of Canada (Scarborough, Ontario: Carswell, 1994) at 63-81.

¹⁵¹ However, inventions that are denied patentability on the basis of *ordre public* may have some usefulness which may not be acceptable on the grounds of public policy. An example may be an invention for purposes of currency counterfeiting. See “Ayahuasca Patent Revocation”, *supra* note 149 at 77; see also Allan L. Durham, Patent Law Essentials: A Concise Guide (Westport, Conn.: Quorum Books, 1999) at 64.

setting.¹⁵² Roht-Ariazza succinctly captures the conceptual undertone of that approach in the following observation:

The underlying theory of TRIPs is that the inventor invents in order to sell the invention and obtain economic benefits;...the very name—Trade Related Intellectual Property Rights—indicates its application to goods potentially involved in international trade, excluding those created for local and international consumption. To the extent that patent systems privilege the protection of commodities, they reflect a limited, Western view of the purposes of intellectual inquiry and knowledge seeking, one which attributes a profit motive to peoples who may conduct their scientific inquiry for different reasons¹⁵³

Clearly, industrial application and reproducibility are concepts not quite suited to TKPT. Indigenous societies are less monetized, in the manner envisaged by the TRIPs agreement. Similarly, their dealings with nature are neither based on strict industrial standards nor on commercial valuation. Furthermore, indigenous ecological experiences, whether in the form of farming or harvesting of medicinal plants, are site and context-specific; they often have cultural undertones and associated beliefs. In other words, most traditional innovations are reproducible only in specific ecological, social and cultural environment.¹⁵⁴ Again, indigenous therapeutic experiences and breakthroughs are woven within particular belief systems. Thus, such innovations and experiences are hardly uniform. Generally, innovations are less stable in the industrial sense.¹⁵⁵ The incremental nature of traditional innovation is not one that reflects the cutting-age genetic precision, customization and cloning. With regard to TKPT, as we have seen, perhaps, there are no two therapeutic interventions or experiences that are the same. Therefore, here again, the kind of challenge intellectual property poses for indigenous knowledge or *vice versa* is quite obvious.

¹⁵² Patents and Plants, *supra* note 58 at 320.

¹⁵³ *Supra* note 146 at 939.

¹⁵⁴ *Ibid.*

¹⁵⁵ *Ibid.* Even where the uniformity and stability is not easily achievable in an industrial model, applicants could deposit a sample of biological material in question as an alternative to proving reproducibility.

5.4.4 Novelty or Newness¹⁵⁶

In order to qualify for a patent, an invention must be new.¹⁵⁷ In other words, it must not be a replication of a prior art or what is already known.¹⁵⁸ This is not as simple as it sounds. Critical issues of discrimination and appropriation of traditional knowledge arise at the point of determining newness. The TRIPs agreement only provides for newness as one of the basic criteria for patentability. It does not elaborate on a uniform or universal novelty standard. Under U.S. and Japanese patent regimes (two countries which hold the highest number of patents in the whole world), newness is a geographic concept.¹⁵⁹ Unless published in print form or described in an *acceptable* written form elsewhere, what is required is that the invention is not known or not in use¹⁶⁰ in those countries. Most prior arts, especially oral and unpublished ones outside those countries are not recognized; and as such, they cannot constitute an impediment to patentability. This narrow national, as opposed to a universal, test of newness empowers American multinational pharmaceutical and seed companies to undermine indigenous knowledge. In *Gayler v Wilder*,¹⁶¹ the U.S. Supreme Court held that the United States adopts a blind

¹⁵⁶ These two terms provoke a distinction without a difference. The U.S. Patent Act, in sections 101 and 102 has codified the newness and novelty requirements respectively. However, the court regards the two terms as the same. Practically, the inquiry focuses on determining the first inventor (for the U.S.A.), or who is the first to file for a patent in most other countries. See Yano, *supra* note 139 at 455-456.

¹⁵⁷ See 35 USC 102 (1994); see also article 27.1 of the TRIPs agreement, *supra* note 126.

¹⁵⁸ See Durham, *supra* note 151 at 80; Ayahuasca Patent Revocation, *supra* note 149 at 73.

¹⁵⁹ In addition, those are the only two jurisdictions in the world where printed publication is the criterion for determination of prior art. See John Sinnott, *World Patent Law and Practice* vols. 2b, 2c, 2d, 2e 2f 2g (New York: Matthew Bender, 1977) at 301. However, in Canada and the European Union a universal test of newness is applied. Therefore invention ought to be new not only in the country where the application is filed but also throughout the world.

¹⁶⁰ Prior use is construed rather narrowly. For instance, for a prior use to anticipate an invention, it must physically embody the invention, and it must be used in the manner the patent is intended, it must not be concealed, i.e. it must meet some requirement of publicity. See the following cases: *Coffin v. Ogden*, 85 U.S. (18 Wall.) 120 (holding that inchoate and preliminary devices cannot anticipate an invention), *U.S. v. Adams*, 383 U.S. 39, 148 U.S.P.Q. (BNA) 479 (1996) (holding that failed invention cannot be anticipatory); *Verdegaal Bros., Inc. v. Union Oil Co.*, 2 U.S.P.Q. 2d (BNA) 1051, 1053 (Fed. Cir. 1987) (holding that inherent function in a prior device can anticipate, even though the function was not recognized). On the need for non-concealment of use and publicity, see *Minnesota Mining & Mfg. Co. v. Research Medical, Inc.*, 6 U.S.P.Q. 2d (BNA) 1401, 1409-10 (D. Utah 1987). Cf. *Gayler v. Wilder* 51 U.S. 10 (How) 477, 498 (1850) (suggesting that anticipation is not compromised by failure of prior user to bring device into public use). For further discussions on the prior use requirement, see Donald Chisum, *Patents: A Treatise on the Law of Patentability, Validity and Infringement* (New York: M. Bender, 1995), section 5.03[3], see Shayana Kadidal, "Subject Matter Imperialism? Biodiversity, Foreign Prior Art and the Neem Controversy" (1996/7) 37:2 IDEA (Journal of Law and Technology) 371 at 381-384.

¹⁶¹ 51 U.S. (How) 477 (1850).

eye¹⁶² to foreign knowledge, where such knowledge is not disclosed in any printed publication. Hence the knowledge in question is open to appropriation in that country.

A U.S. patent cannot be issued if the invention is known or is used in that country prior to the application; or if the invention has been already described in a written or printed publication within or outside that country.¹⁶³ The emphasis on printed publication does not only disqualify many traditional knowledge forms, but perhaps most importantly, it makes information derived therefrom subject to appropriation with impunity. Traditional knowledge forms, we know, essentially thrive within oral cultures; and the *knowledges* are rarely published, let alone in printed form. Interestingly, the requirement of printed publication is subject to judicial hairsplitting that further circumscribes it. For instance, a typewritten patent issued in another country does not qualify as a written publication in the United States!¹⁶⁴ A patent on the same subject can be granted in the latter country just because an earlier patent in another country was not in a printed form.

Furthermore, with particular reference to indigenous use of plants for therapeutic and other purposes, the novelty requirement also operates as an exclusionary device. Here, the test of novelty would seem to depend on whether the active substance was previously available or in use in its pure form.¹⁶⁵ If the substance is found to be available

¹⁶² In the words of the court “as far as their [U.S. citizens] interests are concerned, it would be the same as if the improvement [knowledge] had never been discovered”. *Ibid.* See also Patents and Plants, *supra* note 58 at 300.

¹⁶³ Specifically section 102 of the US Patent Act reads in part:

A person shall be entitled to a patent unless-

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent, or
- (b) the invention was patented in a printed publication in this or a foreign country or in public use or sale in this country...

¹⁶⁴ See *Carter Food Inc. v. Colgate-Palmolive Co.*, 130 F. Supp. 557, 104 U.S.P.Q. (BNA) 314 (D. Md. 1955). A type-written Argentinean patent was denied a recognition as a prior art under section 102 of the U.S. Patent Act hence it could not invalidate a subsequent patent application in the United States made on the same basis as the earlier Argentinean patent. See Shayana Kadidal, *supra* note 160 at 390.

¹⁶⁵ For instance, substances such as *aniziline*, pine fiber and cellulose exist in nature in their pure form and are not novel. See the following cases which have judicially endorsed the status of those substances in a corresponding order: *Cochrane v. Badische Anilin & Soda Fabrik*, 111 U.S. 293 (1884), *Ex Parte Latimer*, 1888 Dec. Comm’r Pat 123, *American Wood Paper Co. v. Fiber Disintegrating Co.*, 90 U.S. 566 (1873); see also Lester Yano, *supra* note 139 at 459.

to nature in pure form, then it is not novel. However, where the pure form is not available in nature, and is previously unknown, the process of artificial purification and isolation leads to a revelation of a hitherto *unknown* active substance, new, and hence patentable.¹⁶⁶ Because indigenous dealings with plants and native remedies involve the active substance with its impurities as a dilute, it is not considered novel.¹⁶⁷ It does not make a difference that the knowledge of indigenous peoples focuses on the identification of a particular medicinal plant as opposed to the active substance. Neither does it matter that indigenous therapeutic and medicinal experience with plants is a cultural experience well above a parochial scientific or chemical emphasis on active substance.

Again, the marginalization of indigenous knowledge via the novelty requirement stems from the nature of local knowledge. As I have noted, traditional knowledge is mainly collective and trans-generational.¹⁶⁸ It builds on prior knowledge in an organic and incremental fashion over times. Often, it is not noticeable when an "innovation" or "invention" has occurred in the traditional context. This is quite unlike the Western intellectual property model, which is based on the individual and isolated inventor-hermit of the basement fame whose intellectual clock is continually ticking away toward *a major breakthrough*. By its nature, generally, indigenous knowledge could neither be easily credited to a single individual, nor narrowed down to a definite origin in time for purposes of novelty. Even in such regime structures where individual contributions can be identified, or such instances where knowledge is not widely held like medicinal knowledge of some shamans, the argument is that the accretion and transmission of knowledge on a generational basis would invalidate it on novelty grounds.¹⁶⁹

¹⁶⁶ Butressing the rationale for this position, Roht-Ariazza writes: "since plant-based genetic materials are simply biochemical compounds, the purification or isolation of the genetic material must be accomplished by proof that the transformed product demonstrates "unexpected properties"; see also *Ex Parte Gray*, 10 U.S.P.Q.2d (BNA) 1922, 1924 (Bd. Pat. App. & Int. 1989) (cited in Roht-Ariazza, *supra* note 146 at 937).

¹⁶⁷ Yano, *supra* note 139.

¹⁶⁸ This nature of indigenous knowledge is not at the expense of its dynamism and ability to respond to the interpenetrating nature of knowledge forms. See for example, Howard Mann's definition and the commentary of the Four Directions Council at page 34 of chapter one, both of which are endorsed in this thesis. See also the outline of the nature of indigenous knowledge at page 35 of the same chapter. The collective/communal and transgenerational nature of indigenous knowledge does not make it subject of cultural stasis or any less dynamic.

¹⁶⁹ Roht-Ariazza, *supra* note 146 at 936-7.

5.5 The Case for Patentability of TKPT

The gulf between indigenous knowledge and mainstream intellectual property continues to be scrutinized. Indigenous cries for justice will not be assuaged unless a way out of an intellectual property trap that reifies one epistemic realm and legitimizes the appropriation of local knowledge is found. The argument has been made rather forcefully that intellectual property laws are not cast in stone. They are instruments of socio-economic policy and have been known to shift over times to accommodate changing demands and times. The point is that in virtually all respects, intellectual property is known to have either lowered or compromised its standards in order to accommodate new and emerging technologies, and other peculiar situations. In some instances, intellectual property laws have yielded new or hybrid regimes; i.e. the *sui generis* genres, so called because they do not fit into the conventional model. Plant breeders' right, layout-designs (topographies) of integrated circuits, and copyright protections for architectural drawings and computer soft ware, databases, and protection of electronic commerce are few examples of how intellectual property regimes have responded and continue to respond to the demands of our ever changing society.

In the realm of traditional knowledge, both the CBD and the TRIPs agreement encourage the use of intellectual property rights or *sui generis* models to accommodate local knowledge. Currently, we are witnessing the transition phase of the CBD-instigated changes in many developing countries and several indigenous communities. In some instances, national and regional authorities are hammering out access regimes to genetic resources in accordance with the CBD provisions. Some of these regimes make provisions regarding indigenous knowledge while addressing the issues of access to genetic resources.¹⁷⁰ The operational modalities of these evolving regimes are yet to be tested out. Nonetheless, simultaneously, some contractual schemes are already in place in furtherance of indigenous knowledge-friendly schemes.¹⁷¹ In most of these, intellectual property rights remain central.

¹⁷⁰ See Bio-Collecting Society, *supra* note 55 at 246.

¹⁷¹ The Merck-INMBio Agreement, the Cooperative Biodiversity Group, National Institutes of Health, National Cancer Institute programs, *et cetera* discussed in chapter three at 176 & n. 306.

For instance, there have been various suggestions for an intellectual property scheme based on the concept of the community, as opposed to the private rights appeal of mainstream intellectual property.¹⁷² Proponents of indigenous intellectual property rights insist that the perceived barriers which IPRs pose to indigenous knowledge and peoples are self-serving to those who benefit from the delegitimization of local peoples' knowledge. There is no reason why indigenous knowledge cannot, for example, be eligible for the grant of patent, trademark, copyright *et cetera*. Still keeping our spotlight on the patent regime, I consider the tradeoff involved in making a case for a patent right on indigenous knowledge, with particular regard to TKPT.

5.5.1 Patentability of TKPT: The Epistemic *Cul-de-Sac*

In subscribing to the notion that traditional knowledge is patentable, it is assumed that all the bureaucratic impediments can be mitigated; and that most, but not all, of the conceptual barriers are maneuverable. First, it is no longer a fashionable argument to insist that indigenous communities do not have legal personality. Second, indigenous peoples, both as collectives and/or individuals can apply for patents on the basis of their local knowledge. Third, the reservation over the commodification of sacred knowledge, which is the consequence of mainstream intellectual property rights, may now seem unrealistic. Instead indigenous peoples are urged to explore the potential of conventional intellectual property as a “more astute and pragmatic response to the dilemma of appropriation”.¹⁷³ Fourth, other questions such as the duration, costs of application and the maintenance of patents can be resolved or stretched in favour of indigenous peoples. These are non-exhaustive compression of all other intricate issues inherent in the idea of patent rights for indigenous knowledge.

However, the proponents of intellectual property rights, especially patents, in the indigenous knowledge arena have perhaps not considered seriously that by insisting on the patent framework, they subordinate indigenous knowledge to Western scientific validation. The proposal for indigenous intellectual property is still couched within the

¹⁷² See Graham Dutfield, *supra* note 38 at 103; see Graham Dutfield, *supra* note 31, at 108-124; see also G. Nijar “In Defence of Indigenous Knowledge and Biodiversity: A Conceptual Framework and Essential Elements of a Rights Regime” Third World Network Paper #1 (Penang, Malaysia, 1996) see also Mgbeoji, *supra* note 73. See generally *supra* note 38.

Western scientific or epistemic concepts. I argue that in that setting, indigenous knowledge and interests may be further eroded. To buttress that position, I revisit the concept of TKPT *vis a vis* the biomedical paradigm at this point.

In chapter four, I extensively surveyed the concept of TKPT or traditional medicine which I identified as a sub-set of broader indigenous knowledge. In that chapter, I established that traditional knowledge of plant-based therapy is a scio-cultural and religious experience and a manifestation of a full complement of indigenous philosophy and worldview. The Indigenous use of plants for medicinal purpose bears this out in all the cultures I cited. For instance, I underscored the point that plants are sacred in indigenous cultures. Beyond their curative properties, the specificity of which is not much of a priority in indigenous therapy, plants are regarded as living participants in the complex web of relationships of life forms. The therapeutic bond between the healer and the sick and other members of the therapeutic community is forged on common beliefs in the supernatural and its multiple theories of sickness. Ceremonies, songs, prayers, and complex rituals are integral parts of indigenous therapy.

Furthermore, I noted that indigenous therapeutic tradition is essentially based on a psychosocial approach to sickness. Afflictions are evaluated and diagnosed with a strong focus on the social elements and circumstances in the life world of the sick.¹⁷⁴ The aim of therapy is therefore the restoration of the sick to the therapeutic community. Because of the psychosomatic foundation of indigenous therapy as well as its religious and cultural dimensions, I found that the traditional therapeutic concept represents a fusion of the healing and pharmaceutical arts.¹⁷⁵ None of those two components of the medical system can be clearly severed or isolated from the other in the indigenous context.

In contrast, loosely speaking, Western biomedicine is a clinical and organismic enterprise. Clearly cast on a strict “scientific” model, it views the supernatural theory of illness with suspicion, while giving limited consideration to the psychosocial understanding of ailment and therapy. Any phenomenon that cannot be “scientifically”

¹⁷³ Patents and Plants, *supra* note 58 at 375.

¹⁷⁴ See chapter four at 208-09 & nn. 105-108.

¹⁷⁵ See Mamadou Koumare & Piero Coppo, “Traditional Medicine and Psychiatry in Africa” in Bannerman *et al*, eds., Traditional Medicine and Health Care Coverage: A Reader For Health Administrators and Practitioners (Geneva: World Health Organization, 1983) 25-36 [hereinafter “Traditional Medicine and Health Care Coverage”].

rationalized is practically unaccounted for. The organismic and scientific approach is a fragmentary and parochial epistemic tradition. All phenomena it cannot explain, rationalize or otherwise justify in *scientific* and *empirical* terms are not useful and ought to be discarded.

Under the Western biomedical culture, the healing art and the pharmaceutical are clearly distinct. Plants' medicinal properties are explored through the pharmaceutical and chemical sciences. The target is to isolate, synthesize or purify the active substance for eventual commodification, marketing and use in therapeutic intervention that is fundamentally organismic. As we have seen, such is the approach the patent system is tailor-made to empower and legitimize. It is a reductionist and exclusionary model which reifies Western science often at the expense of alternative ways of knowing. In order to fit into the patent mold, TKTP must necessarily be subjected to fragmentation, chemical scrutiny and an interpretative form that does not recognize its most vital elements. The fusion of the pharmaceutical and the healing arts must be severed. In short, TKPT must be rid of all its associated *cultural baggage* and then, decontextualized.

Try as they may to smoothen the rough edges between indigenous knowledge and the patent system, advocates for the patentability of indigenous knowledge have not addressed the problem posed by the use of Western scientific criteria to (in)validate local knowledge. In fact, that is not within their contemplation. Rather, using the Western scientific criteria to demonstrate the validity of indigenous knowledge is central to their case.¹⁷⁶ Ironically, such a position undermines the multicultural character of science. In submitting indigenous knowledge to a narrow form of validation, the patentability advocates make indigenous peoples and indigenous knowledge victims of what Arun Agrawal calls the instrumental logic of development.¹⁷⁷ In Agrawal's thesis, that logic builds on the "conceit" or genuine belief that "scientific" knowledge is a passport to progress and the transformation of social processes.¹⁷⁸ Since indigenous knowledge is

¹⁷⁶ Arun Agrawal, "On Power and Indigenous Knowledge" in D. Posey, ed., Cultural and Spiritual Values of Biological Diversity: A Complementary Contribution to the Global Biodiversity Assessment (Nairobi; London: Intermediate Technology/United Nations Environmental Program, 1999) at 178 [hereinafter Agrawal].

¹⁷⁷ *Ibid.* For a critique of logic of development in the context of traditional and allopathic medicine, see Collin O. Airhihenbuwa, Health and Culture: Beyond Western Paradigm (California; London; New Delhi: Sage Publications, 1995) at xi-xi.

¹⁷⁸ *Ibid.* at 180.

useful to development, it therefore requires scientific validation.¹⁷⁹ Agrawal rightly argues that the workings of, and gaps in instrumental logic of development may not necessarily be in the interest of marginalized peoples.

According to him, the first step in the logic is the separation of useful indigenous knowledge from all its other components. It is science that determines what is useful. The only forms of indigenous knowledge described as relevant to development are isolated; others are discarded. Thus, *useful* indigenous knowledge is particularized. The second logic is the validation process of the particularized knowledge via “the criteria deemed appropriate by science”.¹⁸⁰ A corollary of the particularization process is what Agrawal calls abstraction. According to him:

Only the strictly useful elements need be abstracted for maximum effect. Particular rituals, or words, or movements that are the concomitant of the administration of a herbal medicine or drug can be divested and discarded as not being part of the crux of the useful practice of administering a herbal medicine. They can form no part of interest from the point of view of development.¹⁸¹

The particularization, validation and abstraction of indigenous knowledge forms facilitate their documentation, archiving and fixation. Consequently, indigenous knowledge is circulated and used widely in a process of generalization.¹⁸² Clearly, the patent regime is a process of “scientization” of indigenous knowledge, in this context, TKPT. That process is a filtration process. Rid of its cultural context, and other non-scientific rituals, it is doubtful “whether there is anything particularly indigenous in a knowledge that has undergone the sanitization implicit in the movement from particularization to generalization”.¹⁸³ The selective conversion of indigenous knowledge severs the necessary unity between indigenous people and their knowledge; hence there is

¹⁷⁹ Drawing from Foucault's Nietzschean insight, to the effect that knowledge is acquired prior to and independent of the uses to which it can be applied to gain power, Agrawal notes that:

In the case of indigenous knowledge, we need to think how its postulated relationship with development leads its advocates to inscribe a series of practices that convert indigenous knowledge into an instrument of scientific progress, development, and the institutions that claim to control both development and the knowledge needed to develop it. See *supra* note 176 at 178.

¹⁸⁰ *Ibid.*

¹⁸¹ *Ibid.* at 179.

¹⁸² *Ibid.*

¹⁸³ *Ibid.*

no compelling reason to pay attention to indigenous peoples.¹⁸⁴ The *central* thesis of the instrumental logic of development, and by extension advocates of indigenous patents, is that intellectual property will boost the economic fortunes of local peoples. A contrary claim, i.e. that intellectual property is capable of eroding indigenous interest warrants serious consideration.¹⁸⁵ Echoing the same sentiments, Agrawal again warns:

Many wish to use international patent systems to protect the interests of the poor and the marginal. The danger is that such activities on behalf of indigenous knowledge can become ends in themselves, and the interests of the marginal can become sidelined, such dangers are especially acute if the question of power remains in the background.¹⁸⁶

Scientific knowledge and power have always been willing tools in the hand of those who appropriate indigenous knowledge and dominate indigenous peoples. The patent institution and practice is sustained by the Western epistemic system. Extended to the TKPT, the patent system seeks to rid local people of all the socio-cultural, spiritual, religious, ceremonial paraphernalia, and most importantly, the psychosocial basis of therapy. It requires severing the fusion of the pharmaceutical and the healing arts in traditional medicine. By stripping TKPT of its material character, the patent regime demands the discarding or erosion of traditional medicine from its conceptual foundation. The whole emphasis and concentration of effort in the pursuit of active compounds makes little, if any, meaning in the indigenous therapeutic systems.¹⁸⁷ It may, however, not be entirely true that the indigenous peoples do not know therapeutic properties of medicinal plants.¹⁸⁸ Nonetheless, the identification of a specific active substance is hardly

¹⁸⁴ *Ibid.*

¹⁸⁵ Roht-Ariazza laments: "By attempting to manipulate the prevailing Western paradigm to suit their needs, will indigenous peoples [not] accelerate the very commodification of knowledge and living things that many find objectionable? Worse, will they [not] be forced to adopt foreign categories as their own, to shoehorn their worldviews and values into an alien set of concepts and laws?" See *supra* note 146 at 956-957.

¹⁸⁶ *Ibid.* at 178.

¹⁸⁷ This may not be entirely absolute. Part of the dynamism of traditional medical systems is its ability to respond to the changes in the society. In many urban and even rural communities, daily application of traditional medicine may be devoid of the ceremonials and rituals. In fact, the practitioners whether as professionals and freelancers are known to identify the specific components of medicinal plants with therapeutic effects such as the bark, root, sap or stem including often the ecological setting for their harvesting as well as other processing activities that involve chemical or pharmacological inquiry. Nonetheless, such activities do not involve exact *scientific* interpretation and decoding, as they are known within the paradigm of Western science.

¹⁸⁸ Processing of medicinal plants would often involve selection of the ones and parts thereof bearing the right chemical properties *ibid.* In adjusting to the pressures of urbanization and the imperative for preservation and packaging, many traditional healers are known to extract, process and label their plant,

a matter of any serious consideration in traditional therapeutic culture.¹⁸⁹ Generally, the knowledge required in native society is the identity of the plant,¹⁹⁰ along with other complex context-specific rituals within the native philosophy of health and healing.

5.5.2 Biopiracy Patents: Beyond Economic Considerations

Today, almost on a regular basis we read about the hue and cry of many indigenous peoples over the appropriation of their knowledge. Such appropriations are typified by the increasing number of patents obtained by Western-based pharmaceutical, chemical and agricultural corporations on plants or crops of indigenous origin. Biopiracy is the trendy term that captures such developments.¹⁹¹ Most charges of biopiracy insist that such patents are undeserved and undeserving. The anti-biopiracy campaigns are usually buttressed by monetary value lost, and fortunes made/stolen by indigenous peoples and multinational corporations respectively in each case of appropriation of indigenous knowledge. The campaigns for the protection of indigenous knowledge tend to project intellectual property rights as ends in themselves. Such ends are often perceived in terms of immediate financial rewards. In fact, it would seem that all that is required is for the indigenous and local peoples to swap roles with the "biopirates". The truth is that it will be shortsighted to suppose that local and indigenous peoples' interests are assuaged by letters patent or royalty dollars.

Unfortunately, however, not many voices are heard about the inestimable damage or erosion of indigenous cultures which are tied to the plants or crops at the centre of the

animal, mineral and other medicinal preparations based on the relevant therapeutic properties for ease of administration and marketing. In most such cases the romantic notion of cultural context may be mitigated, but the dealings with the substances are not in the detailed fashion required by the chemical scrutiny under *conventional* biomedical and pharmaceutical paradigms.

¹⁸⁹ See Yano *supra*, note 139 at 460.

¹⁹⁰ *Ibid.*

¹⁹¹ A new diction in intellectual discourse, simply defined, "[b]iopiracy is the unauthorized and uncompensated expropriation of genetic resources and traditional knowledge. It is seen as a new form of Western imperialism in which global seed and pharmaceutical corporations plunder the [bioresources] biodiversity and traditional knowledge of the developing world". See Sell, *supra* note 128 at 202; see also Vandana Shiva, *Biopiracy: The Plunder of Nature and Knowledge* (Boston, M.A.: South End Press, 1997). Biopiracy is counteractive term in response to the charge by the industrialized world that their inventions and intellectual property rights are infringed or pirated by developing countries whose intellectual property regimes are viewed as permissive. In the opinion of Vandana Shiva, and some Third World scholars, the amount of wealth and income lost by the Third World through the appropriation of indigenous knowledge and biological resources by Western multinational corporations and research institutes are far a cry from those which are claimed on the basis of the so called permissive intellectual property regimes.

biopiracy outrage. It is common knowledge that the aggressive bioprospecting practices targeted at indigenous medicinal plants have served as catalysts in the unsustainable harvests of those plants. In addition, such aggressive practices also negatively affect the traditional medicinal practices relating to the use of plants. It is usually attractive to embrace an industrial model in which every able bodied member of the indigenous and local communities willingly lends their labour to the harvesting of medicinal plants at the behest of multinational organizations from far-flung places or their local agents.¹⁹² The promise of a dollar token to a hungry soul provokes a fleeting interest that often overrides considerations of cultural protocols and issues of tradition and spirituality. Furthermore, bioprospecting provides an avenue for all comers to make a pittance from an endeavour hitherto perceived to be exclusive to a class of people, i.e. traditional healers.¹⁹³ This trend does not, however, diminish the truth that medicinal plants are the pivotal theatre and laboratory of indigenous therapeutic culture. Most of the medicinal plants and crops of indigenous usage at the centre of biopiracy have cultural and spiritual significance in and of themselves and in the context of the rituals surrounding their deployment.

For instance, Amazonian ayahuasca or “yage” is a ceremonial and hallucinogenic vine made from processed bark of *Banisteriopsis caapi*, a sacred medicinal herb and other rainforest plants.¹⁹⁴ For generations, shamans and others throughout the Amazon have used it to treat sickness, contact spirits and foresee the future. Ayahuasca is regarded as a sacred symbol in the cultures and religions of many native peoples of the Amazon. The American, Loren Miller’s revoked patent on a strain of ayahuasca purported to “represent a new and unique variety of ayahuasca distinct from other forms” used by indigenous peoples.¹⁹⁵ Although the patent was revoked for want of novelty, it has been

¹⁹² For accounts and instances of how intellectual property-backed industrial model of bioprospecting negatively impacts medicinal plants and their use in indigenous societies see Khalil, *supra* note 76 at 236, see also chapter two at 61 & nn. 59 & 60 and the accompanying text; see also *infra* note 253.

¹⁹³ It is not, however, suggested that traditional healers are immune from facilitating bioprospecting and biopiracy activities. In fact, in some cases where it is worth the reward, some are known to have abandoned their trade for quick income derived from harvesting medicinal plants for industrial prospectors. Yet in many cases, traditional healers are known to guard zealously the secrecy regimes, cultural protocols and spirituality that surround their therapeutic heritage.

¹⁹⁴ See David R. Downes, “How Intellectual Property Could Be a Tool to Protect Traditional Knowledge” (2000) 25:2 Columbia Journal of Environmental Law 253 at 279 [hereinafter Downes]; see also The Ayahuasca Patent Revocation, *supra* note 149.

¹⁹⁵ The ayahuasca plant patent # 5, 751 issued back in June 1986, to America’s Loren S. Miller. It granted Miller a right over a variety of *Banisteriopsis caapi*, which he named *Da-Vine*. Miller had claimed that his

wellbeing, good policy, or good morals of society".²⁰⁸ Similarly, the European Union rejects some biotechnology patents that are considered to be contrary to public order and morality.²⁰⁹

The *ordre public* doctrine recognized under the TRIPs agreement has its roots in the continental system.²¹⁰ Although similar to it, technically, it is not the same as Anglo-Saxon public policy or morality.²¹¹ One relevant departure between the doctrines (*ordre public* and public policy) is that under the *ordre public* doctrine, ordinarily applicable foreign laws can be barred if they "sanction conducts that offend against forum's conception of fundamental norms".²¹² Under the TRIPs agreement, if the commercial exploitation of an invention offends conception of *ordre public* in a member state, then such a member can decline to issue a patent on that basis. Interestingly, this provision supports traditional territoriality of patent laws. Some considerations arise with regard to granting patents on medicinal plants which have cultural and religious significance among indigenous peoples. Should the US, for instance, consider such indigenous cultural sensitivities as offensive to *ordre public* or considerations of morality or against its concept of fundamental norms? And then for that reason, decline to grant patents

²⁰⁸ See *Tol-O-Matic Inc. v. Proma Product-Und Marketing Gesellschaft, m.b.H.*, 945 f. 2d 1546, at 1552-3 (Fed. Cir. 1991). Interestingly the U.S.P.T.O has issued an advisory opinion which endorsed the *Tol-O-Matic Inc* decision. See U.S. Patent and Trademark Office, "Facts on Patenting Life Forms Having Relationship to Humans, Media Advisory 98-6", online: USPTO <<http://www.uspto.gov/web/offices/com/speeches/98-06.htm>> (1 April 1998). It needs mentioning that the *Tol-O-Matic* decision of 1991 followed the *Lowell* decision of 1817. The USPTO advisory opinion designed to preempt a proposed defensive patent application on a human animal chimera: a genetically engineered creature composed in equal half of human and animal cells. Activists, Dr. Stuart Newman and Jeremy Rifkin used the proposal as a defensive strategy to press their opposition to patenting of life forms. They have appealed the rejection of their application with hope that the rejection will eventually be endorsed by the Supreme Court so as to frustrate subsequent attempts. See *Ayahuasca Patent Revocation*, *supra* note 149 at 90-2.

²⁰⁹ See European Council Directive 98/44/EC, articles. 3 & 6. 1998 O.J. (L 213) 13.

²¹⁰ It is analogous to public policy and it derives from French law. See Ackerman *infra* note 210 at 495.

²¹¹ According to Fecteau, "[o]rdre public" encompasses few separate and distinct ideas that are not covered by the Anglo-American doctrine of public policy. First, judges have discretion to bar enforcement of contracts which they find to offend public order. Second...there are statutory requirements within the *ordre public* which limit private contracts...", *supra* note 149 at 93.

²¹² *Ibid.* Quoting Timothy Ackerman, Comment, "Dis'ordre'ly Loopholes: TRIPS Patent Protection and the ECJ", (1997) 32 *Texas International Law Journal* 489 at 495; see also M. Forde, "The Ordre Public Exception and Adjudicative Jurisdiction Convention" (1981) 29 *International and Comparative Law Quarterly* 259, at 259-260.

pursuant to the TRIPs agreement? To say that such a prospect appears to be a tough call is perhaps an understatement.²¹³

On the other hand, countries with a majority indigenous *population* may have little difficulty relying on the *ordre public* provision (or its morality connotation) in the TRIPs agreement to revoke or decline to recognize patents on medicinal plants and crops which have religious²¹⁴ and cultural significance.²¹⁵ This position will be strengthened if indigenous customary law, cultural structures and protocols are adequately empowered so as to be constitutive of the fundamental norms in such countries.²¹⁶ I shall reserve exploration of this view to the concluding chapter.

In sum, the point here is simple. Anti-biopiracy campaigns are conducted with emphasis on the financial and material exploitation of local and indigenous peoples via patents. Not much consideration is given to the cultural symbolism associated with most of the medicinal and agricultural crops at the centre of biopiracy. The patent regime of intellectual property does not yet recognize the cultural and religious practices of indigenous and local peoples as grounds for rejection or revocation of patents or patent application, especially in the Western countries. In those countries it may be hard to determine whether such cultural or religious considerations are offensive to the prevailing

²¹³ It does, however, seem that where patent on plant raises strictly constitutional question regarding freedom of worship, for instance, of Native or African Americans, then it is likely that it would be offensive to the fundamental norm. Related cases on freedom of worship deal with the use of plant drugs or hallucinogenic substances such as peyote. I am not aware of any such decisions that are raised on the basis of *ordre public* and patent rights.

²¹⁴ For instance, Quebec civil law excludes trade or commercial dealing with sacred objects otherwise called *imprescriptibles*. Such an object must be actually used in a sacred religious ceremony in order to attract this kind of protection. In *Prevost v. Fabrique de la Paroisse de l'Ange Gardien*, the trial court annulled the sale of sacred catholic sculptures to the National Gallery of Canada and the Musee du Quebec upon application by the Church Council. An appeal against this decision was dismissed. Similarly, leave to appeal to the Supreme Court was denied. This unreported case is discussed in Paterson and Karjala, *supra* note 99 and in Benoit Pelletier, "The Case for the Treasures of L' Ange Garden: An Overview (1993) 1 International Journal of Cultural Property 371.

²¹⁵ However, the TRIPs agreement contains a qualifier to the effect that patents can only be denied on the *ordre public* grounds if preventing its commercial exploitation is "necessary" to protect *ordre public* or morality. There must be a compelling linkage between commercial exploitation and morality. It does appear that an interpretation of what is necessary may be called for. Most importantly, this may not seem to apply where indigenous peoples are willing to undermine or trade their feelings of moral outrage with financial compensation, which may not be ruled out in some cases of biopiracy.

²¹⁶ The TRIPs agreement requires that patent exclusion on the basis of *ordre public* should not be premised on positive prohibition of the domestic law. Fundamental norms in societies may or may not have legal backing. It would seem that what is a fundamental norm is a factual or empirical question in a given society. Whether as a fundamental norm which has the backing of municipal law or one which does not, it

fundamental norms or *ordre public* or even morality. The real question is whose *ordre public*? From all indications, its resolution appears to favour the dominant culture. There is yet no patent revocation in the US on *ordre public* grounds. Rather, in the US, as in many Western societies, plants are regarded as purely utilitarian assets capable of all forms of industrialization and exploitation. Further, I suspect that the silence of the U.S.P.T.O. and the courts suggests a tacit endorsement of the notion that cultural and religious association with plants may not be offensive to the majority in the US; hence the patentability of religiously symbolic plants.

The contrary is true in many developing countries. Consequently, there is no reason why developing countries with majority indigenous population could not decline to recognize such patents in their countries on *ordre public* grounds. In this regard there is a compelling need for them to legally empower indigenous customary regimes, the tenets of which could arguably appropriate to the fundamental norms prevailing in the respective countries. Examples of indigenous medicinal plants or agricultural crops of cultural or religious significance cited in biopiracy discourse abound.²¹⁷ Nonetheless, it is important to point out that not all such plants or crops have cultural and religious consequence among indigenous and local communities.²¹⁸

5.6 Beyond Patenting: Folkloric Protection for TKPT

It can, however, be argued that since TKPT represents a full complement of indigenous culture, its protection should not be limited to the patent system only. Such a claim requires a brief examination. Again, from chapter four, it is evident that TKPT is a cultural enterprise, involving various artistic and cultural displays, first of all by the medicine man, the sick, members of the therapeutic community and the entire society. The healing experience is one in which the shaman and the local community indulge in diverse artistic forms such as sacred painting, ideographic signification, poetry, oratorical invocations, incantations, musicotherapy such as songs and hymns; dancing; prayer,

is argued that under TRIPs, the *ordre public* prohibition is sustainable even if it has the backing of municipal law insofar as it is not on the basis of that law that a patent is denied.

²¹⁷ More notable ones include Andean (Bolivian) *quinoa*, Indian *turmeric*, *neem*, *ayhuasca*, *et cetera*.

²¹⁸ Ethiopian zebra molusc, Mexican yellow *bean*, *et cetera*.

recitations, and various “multimedia communications”.²¹⁹ Conventionally, all of these artistic and knowledge forms fall under “folklore”,²²⁰ and they are not protected within the patent genre. This explains in part why traditional medicine is also referred to in some quarters as “folk medicine”.

The concept of folklore depicts: “a group-oriented and tradition-based creation of groups or individuals reflecting the expectations of the community as an adequate expression of its cultural and social identity; its standards are transmitted orally, by imitations or by other means”.²²¹ Forms of folklore include songs, dance, poetry, language, literature, music, incantations, games, mythology, rituals, customs, handicrafts, architecture and several other art forms.²²²

Folklore is modeled upon copyright analogues. Conventionally, folklore is an extension of copyright; and it is often spoken of in *sui generis* or *copyright plus*²²³ terms. However, unlike copyright, folklore is “an antithesis of a recorded culture”.²²⁴ It does not fit into copyright for a number of reasons including the latter's emphasis on fixation,

²¹⁹ See discussion in chapter four at 246-7.

²²⁰ The term “folklore” is controversial in some respect. It usually invokes suspicion from indigenous and local communities. Their reservation is connected with the fact that the dominant culture tends to use the term in a narrow and ethnocentric sense as a static cultural relic of uncivilized people to be archived and preserved. For the indigenous peoples, folklore encompasses all aspects of indigenous cultural heritage including scientific knowledge; it is an ever evolving and living tradition. For perspective on criticisms over the term folklore, see Report of the Joint WIPO-UNESCO World Forum on the Protection of Folklore, Phuket, 1997, WIPO Doc., UNESCO/WIPO/FOL/PKT/97/1 (17 March 1997); see also “1967, 1982, 1984: Attempt to Provide International Protection for Folklore by Intellectual Property Rights” WIPO Doc., UNESCO-WIPO/FOLK/PKT/97/19 (21 March 1997). As a result of the reservations, many indigenous peoples have desired to have a substitute term to folklore. Consequently, such term as “Indigenous cultural and Intellectual Property Rights” credited to Erica-Irene Daes has attracted the interest of many indigenous peoples. See “Working Group on Indigenous Populations: Study on the Protection of the Cultural and Intellectual Property of Indigenous Peoples”, E/CN.4/Sub.2/1993/28 (July 28 1993); see also Blakeney, *supra* note 51. In the WIPO *Report on Fact-Finding Missions on Intellectual Property and Traditional Knowledge*, it notes: “WIPO is aware that the term folklore is believed to have a pejorative meaning by many persons, particularly in certain regions. As this is, however, the term that has been used at international level for many years, WIPO has retained it for the present purpose”. See FFM, *supra* note 44 at 22.

²²¹ See Blakeney *ibid*; see also section 2 of the of the WIPO-UNESCO Model Provisions, *supra* note 97.

²²² *Ibid*.

²²³ See Blakeney, *supra* note 51 at 252.

²²⁴ Farley, *supra* note 62 at 14. This may not be entirely correct. It depends on what recording connotes. It may be misleading to limit recording to written representations, which only satisfies fixation. Indigenous and traditional artists including healers are known to recite flawlessly, long songs, poems, histories and incantations that may span hours and in some cases days, before they are completed. See Isidore Okpewho, *The Epic in Africa: Toward A Poetics of Oral Performance* (New York: Columbia University Press, 1979), Isidore Okpewho, *Oral Performance in Africa* (Ibadan, Nigeria: Spectrum Books, 1990).

originality, individuality, and economic focus of remedy.²²⁵ Since various traditional therapeutic experience and practices incorporate folkloric forms, they would seem to merit protection under this regime. For instance, the shamanic incantations, complex therapeutic rituals, including poetics, healing performances in song rendition or musicotherapy, sand paintings, *et cetera* could often take spontaneous turns and not readily amenable to fixation. It is impossible to separate them from the underlying and intangible symbolism, spiritualism and belief systems which fixation entails. For instance, a prayer when fixed could be the subject of a copyright.²²⁶ Nonetheless, fixation detracts from the deep personal, emotive and spiritual power of prayer which are fully realized in the context of individual or group specificity, ecstasy, seeming spontaneous outbursts or the like.

Further, there is no strong international regime for the protection of folklore. Understandably, the initiatives in that regard are championed by developing countries and indigenous peoples whose cultural lives are mainly oral. In 1976, several African countries forged an agreement regarding the protection of folklore amongst them. That effort resulted in the Tunis Model Law on Copyright for Developing Countries.²²⁷ The Tunis Model provides for the enactment of a comprehensive copyright legislation. It refers explicitly to folklore.²²⁸ It recognizes the importance of folklore as “an appreciable part of the [peoples'] cultural heritage...”.²²⁹ The model overrides most of the conventional intellectual property (copyright) barriers against folkloric expressions. For instance, it dispenses with the fixation requirement²³⁰ and would appear to support a

²²⁵ See Farley, *supra* note 62 at 17 for detailed elaboration on how each of those headings marks a conceptual and practical barrier between copyright and folklore.

²²⁶ See “Elements of *Sui Generis*”, *supra* note 81 para. 23 at 11. Under the Berne Convention for the Protection of Artistic Works, some prayers may fall under the category of “unpublished works of unknown authorship” protected under article 15(4)(a) of the Convention. However, most prayers, poems and incantations used in traditional therapy could not be described as of unknown authorship, particularly those that result from spontaneous outbursts or ecstasy whether of the shaman, the sick and members of the therapeutic community or all of them. In addition, arguably, some customary songs, recitations or incantations used in the administration of therapy are communally owned.

²²⁷ See Tunis Model Law on Copyright (1976), reproduced in (1976) 12 WIPO Copyright Monthly Review 165; see also Halewood, *supra* note 3 at 967.

²²⁸ It defines folklore in section 18 as “all literary, artistic, and scientific works created on national territory by authors presumed to be nationals of such countries or by ethnic communities passed from generation to generation and constituting one of the basic elements of traditional cultural heritage”.

²²⁹ Commentary, Tunis Law on Copyright (1976) 12 Copyright 165 at 166.

²³⁰ *Ibid.* See also Farley, *supra* note 62 at 44.

perpetual right for folklore in which case, there will be no fixed term.²³¹ As an aside, this undermines considerations for the public domain.

Another international initiative²³² on folklore is the 1982 WIPO-UNESCO Model Provisions on National Laws on the Expression of Folklore Against Illicit Exploitation and Other Prejudicial Actions.²³³ Like the Tunis Model, the WIPO-UNESCO Model recognizes collective ownership, perpetual protection of folklore and dispenses with the requirement of fixation.²³⁴ The attempts at elevating the WIPO-UNESCO Model to an international covenant have not yielded any results. To date, the United Nations and indeed most developed countries are yet to adopt it.²³⁵ Nevertheless, the Model has provided the basis for modern copyright regimes in a number of African countries including Nigeria, Ghana, Angola, Gabon, the Democratic Republic of Congo, Malawi and Tunisia.²³⁶

The notion that TKPT, and indeed other forms of indigenous knowledge involving plants, including agricultural endeavors are folkloric in essential respects is not in doubt.²³⁷ However, there are a number of constraints in advancing that position. First there is presently no clear international global regime on folklore. Second, even in those countries which have endorsed both the Tunis and the WIPO Models, folklore would seem to be limited to the context of artistic expression. Hence, folklore has hardly been

²³¹ Part of the reason for this is because folklore is a cultural heritage which may not be traced to definite beginning, and as such cannot be taken away from the people, even though they can share it with other cultures and peoples. The requirement of a fixed term, which is a hallmark of copyright, does not make sense in the context of folklore. However, doubt exists about whether the Tunis law is categorical about not assigning a term for copyright. The law provides for Public Domain *Payant* in section 17, which refers to payment for use of folkloric work in public domain. Section 17 may be understood as presupposing that folklore has a fixed term. Another way of looking at it is that it may be referring to folklore already in public domain. See Farley, *supra* note 62 at 43 & n. 170.

²³² The 1971 Paris Act of the Berne Convention for the Promotion of Literary and Artistic Work in section 15(4) provides for rights on anonymous works i.e. unpublished works of unknown authors who are of a Convention member country nationality. Analysts claim that this provision incorporates protection of folklore under the Berne Convention. See Sam Ricketson, Berne Convention for the Protection of Literary and Artistic Works: 1886-1986 (London: Centre for Commercial Law Studies, Queen Mary College, 1987) 313; see also Farley, *supra* note 62 at 42-43.

²³³ See Model Provisions, *supra* note 97.

²³⁴ See "United Nations Working Group on Intellectual Property Aspects of Folklore Protection" (1981) 15:2 Copyright Bulletin 19 at 22; see also Farley, *supra* note 62 at 45.

²³⁵ See Farley *ibid.* Halewood, *supra* note 3 at 968.

²³⁶ See Folarin Shyllon, "Conservation and Preservation of Folklore in Africa: A General Survey" (1998) 22:4 Copyright Bulletin 37; see also Blakeney, *supra* note 51 at 257.

extended to another sub-context of indigenous knowledge other than the arts. Third, even the WIPO itself endorses that limitation. According to that organization:

Only artistic *heritage* is covered by the Model Provisions. This means that among other things traditional beliefs, scientific views (e.g. traditional cosmogony) or mere practical traditions, such as *separated from possible traditional artistic forms of their expressions*, do not fall within the scope of the proposed definition of expression of folklore.²³⁸

As we saw in chapter one, Erica-Irene Daes describes protectable indigenous heritage in a manner that incorporates indigenous artistic heritage in all contexts including TKPT. Thus:

Heritage is everything that belongs to a distinct identity of a people...It includes those things which contemporary international law regards as the creative production of human thought such as songs, music, dances, literature, artworks, scientific research and knowledge. It also includes inheritance from the past and from nature, such as human remains, and the natural features of landscape, and naturally occurring species of plants and animals to which a people have long been connected.²³⁹

Lastly, another problem with the extension of folkloric protection to TKPT arises from the reservation on the parts of many indigenous peoples over the fragmentation of their heritage, a warning the WIPO ignores. Echoing that sentiments, Daes warns that such division implies the giving of different levels of protection to different levels of heritage²⁴⁰ thus undermining their holistic essence in the indigenous life world. That is exactly what copyright, patent, trademark, and other forms of intellectual property do. Restating that indigenous peoples regard all products of human mind and heart as interrelated and flowing from the same source, Daes elaborates:

Possessing a song, story, or medicinal knowledge carries with it certain responsibility to show respect to, and maintain a reciprocal relationship, with human beings, animals,

²³⁷ See Halewood, *supra* note 3 at 968 (endorsing the idea that indigenous and local farmers' innovations can be construed as expressions of folklore); see also Kari-Oca Declaration on Indigenous Peoples' Earth Charter, *supra* note 48.

²³⁸ Emphasis added. See FFM, *supra* note 44 at 22.

²³⁹ See Erica-Irene Daes, "Protecting the Heritage of Indigenous Peoples" (New York: United Nations Human Rights Study Series No. 10, 1997) para 34 at 3; see also FFM, *ibid.* at 23.

²⁴⁰ See Blakeney, *supra* note 51 at 252; see also T. Simpson, "Indigenous Heritage and Self-Determination" IWGA Document 86 (1997) at 55 (as cited in Blakeney *ibid.* & n. 12).

plants and places with which the song, story, or medicine is connected. For indigenous peoples heritage is a bundle of relationships, rather than a bundle of economic rights.²⁴¹

Absent the patent regime's complicity in undermining the conceptual foundation of TKPT, without question, many theoretical issues arise from the intersection of intellectual property and traditional knowledge. The discourse about folklore is an exemplification of the complexity of these issues. Gladly, the question of folklore is never foreclosed in international law. However, only recently since the 1982 WIPO-UNESCO initiative did folklore begin to receive renewed attention.²⁴² Through its recently concluded fact-finding missions on the intellectual property needs and expectations of traditional knowledge holders, the WIPO is fully apprised of the ubiquitous hold of folklore in indigenous knowledge narrative. It is interesting that WIPO has indicated its desire to shift from the exploratory or fact-finding orientation of its Global Intellectual Property Issues program: "to technical examination of existing intellectual property system, testing practical solutions and addressing *conceptual issues*".²⁴³ A good understanding of the philosophical and conceptual bias of indigenous

²⁴¹ See Daes, *supra* note 239 para 26 at 4. Compare:

The heritage of indigenous peoples includes all moveable cultural property as defined by the relevant Conventions of UNESCO; all kinds of literary and artistic works such as music, dance, song, ceremonies, symbols and designs, narratives, and poetry; all kinds of scientific, agricultural and, technical and ecological knowledge, including cultigens, medicines, and the rational use of flora and fauna, human remains; immovable cultural property such as sacred sites, sites of historical significance, and burials; and documentation of indigenous peoples' heritage on film, photographs, videotape or audiotape.

See Daes, "Draft Principles and Guidelines for the Protection of Heritage of Indigenous Peoples", (1995) para. 12; see also FFM, *supra* note 44 at 23.

²⁴² This is via the mandate of the Global Intellectual Property Issues Division (GIPID) of WIPO. In 1998 the WIPO General Assembly expanded the mandate of the GIPID, by which the latter was charged to address four topical items within a two-year time frame. Those included: "intellectual property rights for new beneficiaries", "biological diversity and biotechnology", "protections of expressions of folklore" and "intellectual property rights beyond territoriality". See Halewood, *supra* note 3 at 985.

²⁴³ Emphasis supplied. Halewood, *supra* note 3 at 987 citing interview with Richard Owens, Director, Global Intellectual Property Issues. The need to address conceptual issues is very compelling in the light of criticism of the WIPO Fact Finding Missions whose investigation of intellectual property rights in indigenous communities is faulted on the ground *inter alia* that it sought to evaluate indigenous protocols so as to merely reconcile it with Western intellectual property concepts. According to Brian Noble, what the FFM did was "selecting and enrolling only those characteristics of customary transactions which accord with [Western] intellectual property exchange principles". See Brian Noble, "Circumventing Customary Transaction: Blackfoot Tipi Transfers and WIPO's Search for the Facts of Traditional Knowledge Exchange" in T. Crook & A. Holding, eds., Innovations Around Property-thinking: Dialogues Between

and local peoples regarding the management of their knowledge from their cultural contexts has become imperative. Alien concepts, even though well intended may erode peoples' cultural values, worldviews and thereby depriving humanity the richness of *alterity*.

5.7 Intellectual Property at the Periphery: Geographical Indications

Geographical indication of origin is cited as a tool for protecting traditional knowledge.²⁴⁴ The TRIPs agreement defines geographical indication as “Indications which identify a good as originating in the territory of a Member, or region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin”. In the context of TKPT, geographical indications may not have much relevance. Geographical indication is a *sui generis* trademark-type of right. The latter (trademark) refers to “any sign, or any combination of signs, capable of distinguishing the goods and services of one undertaking from those of other undertakings”.²⁴⁵

Both forms of intellectual property (geographical indications and trademark) are market devices directed generally at the promotion of products. While trademark serves a generic marketing purpose, geographical indication conveys additional information which may promote both marketing and cultural objectives. Specifically, geographical indication is a form of certification trademark used to identify products on the basis of their quality, reputation and other effectual characteristics connected to their geographic origin.²⁴⁶

Applied to local knowledge, geographical indication aims at protecting the integrity, goodwill and reputation of local art and knowledge. In addition, indications of origin are based on collective tradition. According to David Downes, “they emphasize the

Law, Policy and Ethnography (Oxford: Berghahn Books) [forthcoming in 2003]. Further discussion is reserved to chapter six.

²⁴⁴ See David Downes, *supra* note 194 at 268-273; see also Elements of *Sui Generis*, *supra* note 81 para 26 at 13; see also WIPO Doc., WIPO/GRTKF/IC/2/9 para. 24.

²⁴⁵ See the TRIPs agreement, *supra* note 126 article 22.

²⁴⁶ *Ibid.*

relationship between human cultures and their local land and environment...they can be maintained as long as the collective tradition is maintained".²⁴⁷ Geographical indications promote the collective nature of cultural products, and ensure economic benefits to local peoples. Indications of origin are viewed as being more responsive to indigenous concerns than conventional intellectual property categories such as patents, trademark and copyrights. Nonetheless, they promote traditional knowledge in a narrow commercial-product context.

However, TKPT is a complex experience. Its focus is not upon any given product *per se* but on therapeutic intervention in its cultural contexts. The pharmaceutical is subsumed in the therapeutic. Hence, the reification and isolation of a therapeutic compound from the therapeutic environment and associated rituals for marketing purposes is not the preoccupation of traditional healing. Because of the emphasis on product marketing, indications of origin and trademarks have limited application to TKPT.

As a *sui generis* trademark-type right, indications of origin facilitate economic returns for indigenous artworks. For instance, Downes reports that artisans of several Native American tribes earn as much as \$800m annually from commercial sales of exquisite works of arts, the designs of which are considered cultural heritage.²⁴⁸ In Canada, Aboriginal artists, composers and authors or creators of tradition-based works take advantage of the relevant provisions of the copyright law and provisions regarding certification marks under the trademark law to protect their creations, which are prized tourist treasures.²⁴⁹

²⁴⁷ See Downes, *supra* note 194.

²⁴⁸ *Supra* note 194 at 270. Some examples of native arts which are distinguished by their geographic markers include pueblo pottery, silvery, jewelry, drums, *et cetera*. Mexico has enacted an Indian Arts and Crafts Protections Law. The law requires retailers of native arts and crafts to ascertain the authenticity of manual production of the goods through the use of natural products by indigenous peoples, so as to be entitled to the geographic or certification indicator as: "An authentic Indian hand-made piece". *Ibid.* at 270-271. The United States has a similar legislation, The Indian Arts and Craft Act of 1990, P.L. No. 101-644, 101st Cong., 2nd Sess (1990).

²⁴⁹ Among the tradition-based works that benefit from certification marks, copyrights and indications of origin as the case may be are carvings of Pacific Coast artists, including masks and totem poles, silver jewelry of Haida artists, songs and sound recordings of a number of Aboriginal artists. It is reported that many Aboriginal businesses have taken the initiative to register trademarks relating to traditional symbols and names. The West Baffin Estimo Cooperative are said to have filed 50 designs (under the Industrial Design Act) in the late 1960s for fabrics using traditional images of animals and Inuit peoples. See WIPO Doc., WIPO/GRKFT/IC/3/8 para. 24 at 12; see also WIPO/GRTKF/IC/2.

Indications of origin may enhance the value of local art craft or natural biological material for marketing purposes. Indications of origins or certificate trademarks appeal to the demands of the marketplace. Often times, the products in issue “derive their values from a combination of environmental and cultural factors, in particular the traditional and collectively maintained technique for production”.²⁵⁰ For instance, many local peoples capitalize on commercial sales of exquisite works of art whose designs are considered cultural heritage and are in high demand. But the flipside is that indications of origin may yield indigenous arts to cultural appropriation and dilution.²⁵¹ More often than not, corporate industrial production concerns and their superior marketing power tend to appropriate traditional artworks while undermining traditional methods of production. Such an industrial model equally undermines the need to use natural products, not to mention some cultural and ritualistic symbols of native art.

To serve their desired objectives, it is important that products benefiting from geographical indications are within the exclusive control and subject to the ownership of indigenous peoples. And perhaps most importantly, indications of origin can be beneficial to indigenous objectives if they (indications of origin) operate on the basis of a consensus among often conflicted indigenous interests. Among indigenous peoples, Farley identifies two conflicted positions. The first category are those who fear that commercial exploitation of living culture could precipitate a disruption of peoples’ religious beliefs, and the dissolution of their cultural life wire—the traditional group. The second are those “who want to be able to draw on and develop the imagery of their ancestors in a way that may lead to commercial success”—the realist group.²⁵²

All said, the short point about geographical indications is that apart from patents, there are other intellectual property rights discourses in the context of traditional knowledge. However, they do not have persuasive relevance to TKTP. Perhaps most importantly, geographic indication shows that although intellectual property may not adequately fit traditional knowledge, the fitness question should not be exaggerated. As evident from above, geographical indications may serve the interests of sections of

²⁵⁰ Downes, *supra* note 194 at 270.

²⁵¹ See Coombe, *supra* note 62 (on the dynamic roles of intellectual property rights in cultural appropriations, in suppressing, challenging and responding to *alterity*).

²⁵² See Farley, *supra* note 62 at 14-15.

indigenous communities such as artists. Yet geographic indications, like other intellectual property options, are saddled with conceptual hurdles, in this case between the "traditional" and "realist" opinions in indigenous circles.

5.8.0 Patenting TKPT: Some Reflections

5.8.1 On Self-Determination

TKPT is at the heart of indigenous knowledge. Perhaps few, if any, aspects of indigenous knowledge expressions are absent in TKPT. The latter is a component of indigenous environmental philosophy, incorporating various uses of plants, animals, mediating and interpreting the relationships between those ecological indicators and humanity. In these regards, TKPT's connection to biodiversity conservation and ecological ethics is palpable. Indigenous religious beliefs, complex therapeutic rituals centering on the supernatural phenomena, and socio-cultural and even political relationships and more are all implicated in TKPT. It amounts to oversimplification to conceive of traditional therapeutic experience outside the peoples' cultures. Health and culture have a mutually re-enforcing and inseparable affinity. It is in that context that intellectual property regime, particularly patents' tendency to compromise indigenous therapeutic culture should be understood. In view of the significance of that culture to indigenous or traditional peoples, to undermine it, or more precisely to substitute it with an epistemological alternative strikes at the root of the indigenous quest for self-determination explored in chapter three.²⁵³

²⁵³ It may be argued that patent's empowerment of industrial and scientific therapeutic narrative does not in principle forbid traditional therapeutic activities from using a patented plant. See Paterson & Karjala, *supra* note 99. This may not be as simplistic. Patent signifies a legal empowerment of alternative narrative over another. The industrial approach of patent makes it attractive, notwithstanding its parochial focus. Thus, indigenous knowledge is *compelled* to look to that narrative for validation. Even the World Health Organization's traditional medicine initiative seeks *scientific* validation and *scientific* surveillance of traditional therapy. Perhaps most importantly, patents on traditional plants have been known to erode traditional medicinal culture originally based on the patented plant. For instance, *kwao kruae*, a popular Thai herbal preparation has been used in Thai traditional medicine for several years. In fact, it sustained a number of local organizations that thrived on the *kwao kruae* medicinal preparation. However, a patent on *kwao kruae* resulted in the stifling of all other activities associated with the remedy. See Pennapa Subcharoen, "Indigenous Knowledge and Intellectual Property: Thai Study" (paper presented at the Inter-

Indigenous and local peoples have tied the protection of their knowledge and culture to self-determination.²⁵⁴ Already, I have noted that self-determination transcends the conventional theme of political participation. Within the narrow rubric of political participation, self-determination does not hold equal attraction to different indigenous peoples.²⁵⁵ Generally, it attracts global attention in relation to the indigenous peoples of the *enclave territories* more than it does to their counterparts elsewhere. Nonetheless, self-determination is now explored in the context of the socio-cultural and economic life of all indigenous and colonized peoples.²⁵⁶ Thus, self-determination takes the form of a rallying point for cultural survival of the world's indigenous peoples. TKPT conjures virtually all aspects of indigenous cultural identity.

A number of international indigenous and local peoples' declarations as well as core international instruments have endorsed indigenous peoples right to cultural life, a component of their quest for self-determination. TKPT is the hub of indigenous cultural life, their worldview and their identity which is protected under the instruments. I have extensively referred to the relevant declarations and instruments at the beginning of this chapter and elsewhere in chapters three and four. Suffice to restrict my examples to the reiteration of the provisions of a handful of the instruments at this point.

The Universal Declaration of Human Rights speaks of every one's right to freely participate in the cultural life of the community, to enjoy the arts and to share in the scientific advancement thereof.²⁵⁷ The International Covenant on Civil and Political Rights guarantees the right to enjoyment of culture, profession and practice of religion.²⁵⁸ The ILO Convention No. 169 endorses a health care policy based on indigenous healing

Regional Workshop on Intellectual Property in the Context of Traditional Medicine, Bangkok, Thailand, 6-8 Dec. 2000). See "Intellectual Property and Traditional Medicine", *supra* note 22 at 17. See also the story of *Taxus brevifolia* in chapter two at 61 & nn. 59-60; see generally *supra* note 192.

²⁵⁴ Halewood, *supra* note 3 at 990; Michael Blakeney observes that: "Today in Australia, indigenous peoples regard the protection of traditional knowledge as an issue of self-determination". See *supra* note 51 at 258; see also the list of indigenous peoples' declarations and statements, *supra* notes 48-53.

²⁵⁵ See Coombe, *supra* note 38 at 277; see generally chapter three.

²⁵⁶ See Erica-Irene Daes, "The Concept of Self-Determination and Autonomy of Indigenous Peoples in the U.N. Draft Declaration on the Rights of Indigenous Peoples" (2001) 14:2 St. Thomas Law Review 259 at 261; see also article 3 of the U.N. Draft Declaration which reads: "[I]ndigenous Peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social, and cultural development".

²⁵⁷ G.A. Res. 271A (III) 3 (I), U.N. GAOR Resolution 71, U.N. Doc. A/810 (1948), article 27.

²⁵⁸ See 999 171 U.N.T.S. (1966) article 27, see chapter three at 156 & n. 206.

practices and cultural conditions.²⁵⁹ Under the U.N. Draft Declaration on the Rights of Indigenous Peoples, the guarantee of indigenous self-determination encompasses socio-cultural, religious, health, land, environmental, economic activities and so forth.²⁶⁰ As we saw in chapter three, article 12 of the Declaration more pungently guarantees indigenous rights to the restoration, practice and revival of their cultural traditions. The Indigenous cultural manifestations listed under that provision include: artifacts, designs, ceremonies, technologies, visual and performing arts, literature, religious, and spiritual endeavours. These are further amplified by the right to traditional medicine and health practices including medicinal plants, animals and minerals.²⁶¹

Lastly, but not all, article 8(j), of the CBD provides for respect, preservation, and maintenance of knowledge and innovation of indigenous peoples embodying traditional life styles. These are indicative of the essential trend in the international law on indigenous peoples. TKPT embodies the fullest complement of indigenous cultural expressions protected under the international law on indigenous peoples. The patent regime would seem to work at cross-purpose with the tenets of what I have identified as indigenous renaissance.

5.8.2 On Medical Pluralism

In addition to its unwholesome effect on indigenous self-determination, undercutting TKPT through the patent regime hampers the promise of medical pluralism. Medical pluralism has been defined as the co-existence of more than one health system in a society.²⁶² A health system depicts "[a] patterned interrelated body of values and deliberate practices governed by a single paradigm of meaning, identification, prevention

²⁵⁹ See article 25 of ILO Convention No. 169 of 1989, *supra* note 1; see also additional discussion in chapter three.

²⁶⁰ See articles 3, 31 and the 19th Preambular paragraph.

²⁶¹ See articles 24 and 29 the U.N. Declaration on the Rights of Indigenous Peoples.

²⁶² David Phillips defines it as "the existence and use of a wide range of sources of medical care, traditional and modern, static and evolving", see David Phillips, Health Care in The Third World (New York: Youngman, 1990) at 75, Aginam defines it as "the existence in a single society of differently designed and conceived medical systems", See Obijiofor Aginam, Salvaging the Global Neighbourhood: Multilateralism and Public Health Challenges in A Divided World (Ph.D Thesis "Law" University of British Columbia, 2002) at 166 [unpublished] [hereinafter "Public Health Challenges"].

and treatment of sickness".²⁶³ In this project, I have maintained a broader notion of medical pluralism as a reference to epistemic therapeutic narratives of two worldviews: Western and non-Western. In that regard, medical pluralism may be understood simply as more than one epistemic approach to health. I have earlier identified two epistemic planks in very broad terms as the biomedical and the psychosocial.

In chapter four, I reviewed to some extent, the WHO's traditional medicine policy which aims at the *integration* of traditional medicine (and/or what the WHO terms complementary alternative medicine) with the allopathic system. I noted that the WHO insists on validating traditional medical practices by the Western scientific parameter. Nonetheless, what is clear in the WHO's approach is that traditional medicine represents an alternative epistemic approach to health. This is a realization that the WHO appears reluctant to follow through.

Where different medical systems co-exist, they either compete with, or complement one another. Humanity benefits where the complementary exchange is enhanced²⁶⁴ other than the empowerment of a stifling competition occasioned by epistemic reductionism. For instance, in traditional medical context, phenomena such as placebo, and suggestion are well developed therapeutic conventions which medical science has endorsed. Further, it is a common knowledge that the psychosocial and psychosomatic thrust of traditional therapy explains its relative success in psychiatric and other medical conditions.²⁶⁵

The patronage of traditional medicine across the globe shows mankind's desire for a cure irrespective of its source. After all, diseases and human afflictions are universal

²⁶³ See I. Press, "Problems in the Definition and Classification of Medical Systems in Africa" (1980) 14B *Social Science & Medicine* 45 at 47, Charles M. Good, *Ethnomedical Systems in Africa: Patterns of Traditional Medicine in Rural and Urban Kenya* (New York: Guilford Press, 1987) at 23; see also chapter four at 205 & n. 92.

²⁶⁴ See John M. Janzen, *The Quest For Therapy: Medical Pluralism In Lower Zaire* (Berkeley, California: University of California, 1978); see also Horatio Fabrega, "A Complimentary on African Medical Systems of Medicine" in P. Stanley Yoda, ed., *African Health and Healing Systems. Symposium Proceedings* (Los Angeles: Cross Roads, 1982); *Public Health Challenges*, *supra* note 262 at 167.

²⁶⁵ See Koumare Koumare & Piero Coppo, *supra* note 175 at 25, Raymond Prince, "The Psychiatrist and the Folk Healer: Interface and Partnership" in George Meyer *et al*, eds., *Folk Medicine and Herbal Healing* (Springfield, Illinois: Charles C. Thomas, 1981) at 57-83; T. Adeoye Lambo, "Neuropsychiatric Observations in the Western Region of Nigeria" (1959) 2 *British Medical Journal* 1388-1394; see also T.A. Lambo, "Traditional Healing and the Medical/Psychiatric Mafia" interview of T.A. Lambo, MD., [former Deputy Director General of the WHO] with Philip Singer in P. Singer, ed., *Traditional Healing: New*

phenomena. In addition, the increasing visibility of traditional medicine is an indication that neither Western medicine, nor any medical system for that matter, has a monopoly of solutions to human afflictions. However, the popular and favourable view of traditional medicine have been greeted with skepticism; in fact, directly challenged by the renowned public health law scholar, David P. Fidler.²⁶⁶

According to Fidler, the future of traditional medicine may not be bright in the extant globalization era. The attempt to regulate traditional medicine and integrate it into mainstream health care is “a move to Westernize traditional medical practices by moving them into firmer scientific and legal basis”.²⁶⁷ Thus, what is happening is one-way integration or penetration. Traditional medicine is being integrated to a point of being absolved. For Fidler, much of the talk about melding traditional medicine and Western medicine aims at enhancing the penetration of Western medical hegemony into developing societies.²⁶⁸ Fidler is of the view that “the large-scale use of traditional medicine in developing countries only serves to emphasize the extent of the failure of national and international health policy to improve conditions along Western models”.²⁶⁹ Not only does Fidler's position undermine the success of melding in China and many Asian countries, it appears to subscribe to the common error of Western narrative which virtually perceives alternative cultural practices as strictly utilitarian. Traditional medicine, I have argued in this thesis, is a multi-cultural phenomenon embracing virtually all aspect of indigenous life world.

Not surprisingly, Fidler predicts the demise of traditional medicine. According to him:

The stress placed on traditional medicine from the movement to regulate it, the plans to utilize it for better delivery of Western public health care, and general cultural erosion will eventually render the concept of “traditional medicine” less and less useful in the context of health in developing countries²⁷⁰ [and of course indigenous communities].

Science or New Colonization: Essays in Critique of Medical Anthropology (New York: Conch Magazine Publishers, 1977)242-252 at 246.

²⁶⁶ See David P. Fidler, “Neither Science Nor Shamans: Globalization of Markets and Health in the Developing World” (1999) 7:1 *Indiana Journal of Global Legal Studies* 191.

²⁶⁷ *Ibid.* at 220.

²⁶⁸ *Ibid.*

²⁶⁹ *Ibid.* at 218 & n. 106.

²⁷⁰ *Ibid.* at 223.

Fidler's bold (albeit sweeping) remarks, however, align with my view that the reification of Western science by the patent regime undermines TKPT, the idea of medical pluralism in preference to “allopathic hegemony”. Nonetheless, such a tendency does not detract from, rather it undermines, the truth that every culture brings an alternative narrative to health care. Each has so much to learn from the other. To settle for one is to limit humanity’s potential to significantly mitigate the burden of ill health. Thus, intellectual property rights, especially patents, by reifying one epistemic realm do not foster the much-desired medical pluralism.

The non-affordability of biomedical services by over 80% of the world's poor is mainly cited as the reason for their reliance on traditional medicine. However, indigenous and local peoples' dependence on traditional medicine, perhaps more importantly, derives from their time-tested beliefs, cultures and worldviews.²⁷¹ For indigenous and local peoples, traditional therapeutic culture is an independent system of health, even though it is amenable to alternative health cultures. Compared to the allopathic tradition, traditional medicine and its patrons do not foreclose alternative health care represented by Western medicine.²⁷² Indigenous and local peoples have always sought biomedical remedies especially in acute and traditionally inexplicable situations. Nonetheless, they also resort to traditional remedies and supernatural options for answers that are rooted in their worldview. Historically, however, traditional medicine is not limited to the supernatural realm of rationalization. Its uniqueness is its ability to tap into multiple theories and narratives of therapeutic experience and exchange.²⁷³

²⁷¹ In Fidler’s analysis of impact of globalization on health care delivery in developing countries, it would seem that such cultural loyalty rooted in peoples’ beliefs and life experiences regarding their patronage of traditional medicine are easily swept away by the tide of globalization of Western medicine. The truth is that in many indigenous cultures, there is a simultaneous patronage of traditional and Western medicines. It is doubtful if the availability of Western health care system (even at no cost) in all traditional societies will eradicate traditional medicine. The logic of Fidler’s thesis supports a contrary conclusion.

²⁷² See O. Ampofo & J.D. Johnson-Romauld, “Traditional Medicine and Its Role in the Development of Health Services in Services in Africa”, (Technical Discussions of the 25th -27th Sessions of WHO Regional Office for Africa, Brazzaville, Congo, 1987) at 52 (arguing that it is usual for Africans to patronize both the traditional and allopathic medical alternatives); see also Public Health Challenges, *supra* note 262 at 167 (arguing that part of the holistic approach of African traditional medicine is the juxtaposition of ethno-medicine with Western medicine. This approach sustains the patronage and popularity of traditional medical systems in Africa).

²⁷³ On the ‘scientific’ dimensions of African and Oriental traditional medicinal experiences, see Cheikh Anta Diop, Precolonial Black Africa: A Comparative Study of the Political and Social Systems of Europe and Black Africa, From Antiquity to the Formation of Modern States, trans. by Harold J. Salemson (Chicago, Illinois: Lawrence Hill Books, 1987); see also Airhihenbuwa, *supra* note 177 at 52. The author

On the contrary, limited to its organismic myopia, Western biomedicine is not tolerant of alternative accounts. The filtration of traditional therapeutic culture by the patent regime reifies the Western pharmaceutical and medical sciences in their narrow focus on extraction of ‘active substance’ for organismic remedy. Not able to make sense of its holistic and cultural baggage, the patent regime shuts out the indigenous therapeutic narrative which, as we have seen, is not *relevant* to the selective logic of development. In this show of power, in addition to indigenous cultural identity imbued in traditional medicine, what is equally at stake is medical pluralism, the importance of which, as a matter of consensus, is a globally felt need.

narrates the experience of a British medical missionary, Robert Felkin in Baganda (modern day Uganda) who in 1879 reported a high level of medical practice including successful caesarian sections with antiseptic technique performed by Baganda native surgical team as well as other experiments designed to procure a cure for local epidemic. Thus, surgical techniques and the use of antiseptics were part of the traditional therapeutic heritage of the Baganda. According to Airhihenbuwa, from Felkin’s experience, it is plausible to suggest that “the use of antiseptics by the traditional healers of Baganda predates its use by allopathic surgeons”.

CHAPTER SIX

The Dawn of Cross-Cultural Dialogue on Intellectual property Rights: Toward An Independent *Sui Generis* Protective Regime

The crucial issue is...whether we can devise regulatory forms that will allow indigenous people to pursue their own economic interest in the use of their cultures in the ways that are consistent with their aspirations for the preservation and evolution of their cultures. Devising such regulatory forms seems best left to indigenous people and the positive law of individual states....—Peter Drahos¹

6.0 Introduction

The last chapter underscored reservations about the ability of conventional intellectual property rights, especially patents, to deliver the promises made on their behalf. It concluded that applied to traditional knowledge of plant-based therapy (TKPT), intellectual property rights, especially the patent regime, based on their Western scientific thrust, may not be reliable in advancing a number of expectations. Among those expectations are biodiversity conservation, medical pluralism and the cultural integrity of indigenous knowledge, and by extension, the indigenous quest for self-determination. This chapter explores by way of conclusion to the thesis, how best the three objectives can be advanced. It does not necessarily endorse the outright discarding of Western intellectual property models or their *sui generis* constructs. Rather, it points to the direction of a cross-cultural search for a *sui generis* scheme based on the provision of legal cover for traditional knowledge, by drawing from equivalent customary protocols or traditional regimes for the protection of knowledge.

I believe that an effective international protective regime for indigenous knowledge, which does not compromise its epistemic foundation and cultural integrity, should not ignore how knowledge has been protected in indigenous communities. My objective is to point a direction. The detail of how to get to a destination is only

¹ See “Indigenous Knowledge and the Duties of Intellectual Property Owners” (1997) 11 *Intellectual Property Law Journal* 179 at 197 [hereinafter Drahos]. In a similar vein, Mohamed Khalil has observed that “what is needed by the world is not a uniform intellectual property rights system, but a diverse one which respects the rights of traditional cultures”. See “Biodiversity and Conservation of Medicinal Plants: Issues From the Perspective of the Developing World” in Timothy Swanson, ed., Intellectual Property Rights and Biodiversity Conservation: An Interdisciplinary Analysis of the Values of Medicinal Plants (Cambridge: Cambridge University Press, 1995) at 233 (hereinafter Khalil).

This shift in emphasis from the traditional political theme of self-determination defuses the divisive tendency that concept attracts within indigenous ranks.⁴ Whereas political self-determination was a priority to indigenous peoples of the enclave territories, it is not perceived as such in relation to other indigenous peoples in Africa, Asia and elsewhere.⁵ The linking of self-determination with indigenous knowledge provides a platform for the convergence of the world's indigenous and local peoples.

Relevant instruments have deliberately eschewed the controversy over the definition of indigenous peoples. In doing this, they have added concepts such as "local communities".⁶ Therefore, the world's marginalized peoples could now forge a common interest and understanding based on shared worldview and knowledge. Such awareness contrasts from peculiar internal political situations that hitherto emphasized their differences. Indigenous or local peoples have forged a connection between the protection of their knowledge and their right to self-determination and cultural survival.⁷

TKPT or traditional medicine, I have demonstrated, embodies indigenous cultural expressions and worldviews in their complexities. Intellectual property, specifically patent, is inadequate to provide the required preservation and protection of indigenous cultural identity embodied in TKPT. Like other categories of mainstream intellectual

⁴ However, see Rosemary J. Coombe, "The Recognition of Indigenous Peoples' and Community Traditional Knowledge in International Law" (2001) 14:2 St. Thomas Law Review 275 at 277 (arguing that those whose status as indigenous peoples are recognized under international law subsume their claims to indigenous knowledge under the rights to self-determination, while others not so recognized stake their claims to indigenous knowledge in the context of the search for legitimacy, political and economic advantage); see also chapter three at 155 & n. 202.

⁵ Indigenous peoples of the enclave territories or those who Franke Wilmer prefers to call the Fourth World peoples distinguished themselves from other "indigenous peoples of the Third World" where settler withdrawal resulted in political independence. It was generally perceived that Third World indigenous peoples constituted in independent sovereign states did not have the challenge of self-determination unlike their Fourth World counterparts where there was no settler withdrawal. See Franke Wilmer, Indigenous Voice In World Politics: Since Time Immemorial (Newbury Park; California: Sage Publications, 1993) 162-191. However, with regard to indigenous knowledge, both *the fourth and third world* peoples, indigenous or not, face the similar problems of exploitation and threat of extinction of their traditional knowledge and cultural identity.

⁶ See Naomi Roht-Ariazza, "Of Seeds and Shamans: Appropriation of Scientific and Technological Knowledge of Indigenous and Local Communities" (1996) 17:4 Michigan Journal of International Law 919 at 964 (arguing that although local communities somewhat overlap with indigenous peoples, the former is introduced into official international discourse in order to avoid endless debate of which people qualify as indigenous or tribal. 'Local communities' is a term which includes several categories of peoples who derive large part of their livelihood directly from the natural world). The shift or change in terms is also a function of pragmatic response to, and acceptance of political realities.

⁷ See Daes, *supra* note 3; see also Halewood, "Indigenous and Local Knowledge in International Law: A Preface to *Sui Generis* Intellectual Property Protection" (1999) 44 McGill Law Journal 953 at 990.

property rights, the conceptual foundation of patents does not recognize indigenous norms and values. In order for indigenous peoples to take the advantage of the patent regime, especially as it applies to TKPT, they are *forced* to subscribe to a discredited logic of development.⁸ Simply stated, one of the consequences of the logic of development is the assimilation of indigenous and local peoples' knowledge and value systems in Western scientific terms. Assimilation has negative multiplier effects. Such effects, which include the obliteration of indigenous identity, economic disempowerment, to mention just two, strike at the core of indigenous aspirations. Ironically, one of the highpoints of international law on indigenous peoples is the rejection of earlier policy of assimilation in preference to indigenous self-determination and cultural identity.⁹

Indigenous peoples' claim to rights over their knowledge, and insistence that such *knowledges* be preserved are legitimate claims. The need to protect indigenous knowledge is recognized under international law.¹⁰ Yet the question is how to preserve, protect and reward indigenous knowledge, and at the same time without compromising indigenous cultural identity and traditional values.

Intellectual property rights, as the primary mechanism for the allocation of rights over knowledge, are central to this discourse. I have explored intellectual property rights with emphasis on patents and TKPT or traditional medicine. There is a consensus in the relevant circles that intellectual property rights, specifically patents, do not adequately protect indigenous knowledge and interests. Mindful of its inadequacies, it is argued that

⁸ See Arun Agrawal, "On Power and Indigenous Knowledge" in Darrel A. Posey, ed., Cultural and Spiritual Values of Biodiversity: A Complementary Contribution to the Global Biodiversity Assessment (London; Nairobi: Intermediate Technology Publications/United Nations Environmental Program, 1999) 177 [hereinafter Agrawal].

⁹ See discussions at pages 118-119 of chapter three.

¹⁰ Indigenous knowledge as an aspect of indigenous culture is recognized principally under the International Bill of Rights, the ILO Convention 169 of 1989, and lately under the Convention on Biological Diversity, as well as in the regional and international momentum on the protection of indigenous peoples. Those categories of recognition should, however, be distinguished from declarations of overwhelming national and international coalition of indigenous groups affirming various manners of indigenous peoples claims and entitlements to their knowledge. Because those organizations are not entities, which have international law making capacity, their hortatory declarations do not even amount to "soft law" although such declarations may be inclined to influence what the states do. At best, such declarations have been described as "softest of soft laws". See Peter Drahos, *supra* note 1 at 195, D.N. Saraf, "Resolutions of International Organizations: Binding Norms?" (1990) 14 Cochin University Law Review 1 at 9; see also Ikechi Mgbeoji, Patents and Plants: Rethinking the Role of International Law in

the malleable and dynamic trajectory of conventional intellectual property can be invoked to accommodate the peculiar nature of indigenous knowledge. Hence, the need for a *sui generis* patent regime for instance, a community patent concept, based on the modified elements of mainstream patent.

However, such attempts seem to concentrate on reconstructing only some procedural and often limited issues such as duration of rights, legal status of indigenous or communal applicants, redefinition of prior arts, *et cetera*. They have not given serious attention to the epistemic schism between indigenous and Western ways of knowing which is re-enforced by the patent regime. In other words, the *sui generis* proposal based on the elements of extant intellectual property system, especially patents is still deficient for purpose of indigenous knowledge.

To be legitimized by the patent regime, indigenous knowledge must submit to the touchstone of Western scientific validation. The conception of science is a fundamental point of disparity between indigenous and Western ways of knowing. I subscribe to the view that science is a pluricultural phenomenon, a way of knowing which is not value neutral.¹¹ The recognition of this plurality in the ways of knowing is very critical for indigenous peoples. Alternative or *sui generis* intellectual property rights designed to accommodate indigenous knowledge must not necessarily imitate mainstream regimes.¹² It is important to bear this in mind because such regimes are forged from epistemic foundations and other priorities different from the indigenous ones. However, it is not in all cases that Western intellectual property does not serve indigenous interests. As we have seen, an imaginative deployment of indications of origin could enhance the commercialization of indigenous artworks.¹³ However, there is a need to look inwards

Relation to the Appropriation of Traditional Knowledge of Uses of Plants (S.J.D. Thesis, Dalhousie University, 2001) 349-356 [unpublished] [hereinafter "Patents and Plants"].

¹¹ See Thomas S. Kuhn, The Structure of Scientific Revolution (Chicago: University of Chicago Press, 1970); Sandra Harding, ed., Racial Economy of Science: Toward A Democratic Future (Bloomington: Indiana University Press, 1993) at 14-15, Peter Drahos, The Philosophy of Intellectual Property Rights (Aldershot: Dartmouth Publishing Co., 1996) at 63; Sandra Harding, Whose Science? Whose Knowledge? Thinking From Women's Perspectives (Ithaca, New York: Cornell University, 1991) at 10 & n. 10; Vandana Shiva, Monocultures of the Mind: Perspectives on Biodiversity and Biotechnology (Penang, Malaysia: Third World Network, 1993) at 135.

¹² See Peter Drahos, *supra* note 1 at 196.

¹³ Also there have been proposals to impose disclosure obligations in relation to patents arising from the use of genetic resources, associated traditional knowledge and applicable indigenous peoples. See Daniel Downes, "New Diplomacy for the Biodiversity Trade: Biodiversity, Biotechnology and Intellectual

within indigenous customary practices and other national regimes in the search for creative intellectual property schemes that align with the values of indigenous and local cultures.

6.2.0 Indigenous Knowledge: Economic Reward vs. Cultural Integrity

My conception of traditional medicine or TKPT emphasizes the use of plants. Biological resources, especially plant biodiversity, which I surveyed in chapter two is the mainstay of TKPT. Therefore the emerging CBD-inspired regimes on access to genetic or biological resources or perhaps more directly, the ongoing debates on the implementation of article 8(j) is important in our search for creative intellectual property rights or simply a knowledge protection scheme suitable to indigenous cultural identity. Since its inception, the CBD through its Conferences of Parties (COP) meetings has provided the platform for the discourse of the question of reward for, and protection of indigenous knowledge. This is conducted at different levels but most importantly through the debate over the implementation of article 8(j).¹⁴ While the debate continues on article 8(j) and related provisions, a number of national governments and regional authorities have taken policy and legislative steps with respect to regulating access to biological resources in accordance with article 15.

6.2.1 Access Regimes

Article 15 makes provisions regarding conditions for access to, and transfer of genetic resources, conceived as a South to North swap. The emphasis of article 15 is on economic entitlement of indigenous peoples for their custodial relationship with, and roles over genetic or biological resources. Although indigenous knowledge of these resources is often catalytic of industrial and Western scientific applications, the direct

Property in the Convention on Biological Diversity” (1993) 4:1 *Touro Journal of Transnational Law* 1; M. Gadgil & P. Davista, “Intellectual Property Rights and Biological Resources: Specifying Geographical Origins and Prior Knowledge of Uses” (1995) 69 *Current Science*, 8; The Impact of IPRs, *supra* note 2 para. 51(b); see also “Elements of A *Sui Generis* System for the Protection of Traditional Knowledge” (paper prepared by the WIPO Secretariat for the Third Session of The Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore) WIPO Doc. WIPO/GRTFK/IC/3/8 (29 March 2002) paragraph 9 [hereinafter “Elements of *Sui Generis*”].

¹⁴ For the provisions of this article, see chapter three at 161-62, see also chapter one at 4-5 & n. 15 for further mention of article 8(j).

focus of article 15 is not indigenous knowledge. Article 15 is concerned first and foremost with how useful genetic materials in indigenous communities can be transferred to Western industrial concerns. In addition, the use of the genetic materials envisaged under that article is in terms of their "scientific" deployment on Western terms, as distinct from indigenous knowledge experiences. Lastly, article 15's primary interest is the commercialization of genetic resources and the sharing of the benefits arising therefrom.¹⁵ In fact, apart from South to North transfer of genetic resources, article 15 proposes a North to South transfer of "scientific" or technological experience relating to the use of the resources.¹⁶

Clearly, it is not surprising that a number of genetic resources transfer regimes in the pre-CBD and post-CBD era conceive of indigenous interests essentially in commercial terms. Already, I have observed that indigenous and local peoples' dealings with biological resources transcend commercial considerations. They border on cultural survival, identity, and self-determination. Essentially, the intellectual property rights recognized under genetic transfer regimes are the conventional ones. Strikingly, under some of the schemes, indigenous peoples are not considered capable of holding those rights.¹⁷ At best, indigenous peoples are symbolic partakers in the accruing royalty in order to fulfil the prescription of *equity*.

Kerry ten Kate and Sarah A. Laird have provided the list of nations that have initiated access regimes in relation to biological, including genetic, resources in accordance with the provision of article 15 and other provisions of the CBD. They also

¹⁵ For instance, article 15(7) requires that legislative, administrative and policy measures relating to access to genetic resources should be geared toward "sharing in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilization of genetic resources with the Contracting Party providing such resources". In virtually all cases, genetic resources are provided by the national governments through their indigenous peoples, or directly by indigenous peoples themselves as the case may be.

¹⁶ Article 15(6) reads that "[e]ach Contracting Party shall endeavour to develop and carry out scientific research based on genetic resources provided by other Contracting Parties with the full participation of, and where possible, in such Contracting Parties". Although the Convention did not define the terms "science" or "scientific", it is quite clear that its use of terms "scientific" and "technology" in article 15 presupposes the Western paradigms of those concepts. It does not seem to matter in this regard that the Convention speaks of indigenous knowledge in terms of "innovations" throughout the text.

¹⁷ For instance, referring to the shortcoming of article 15, Halewood observes that it ultimately vests control over genetic resources in the states and makes no mention of indigenous communities or individuals in that regard. See Halewood, *supra* note 7 at 989.

mention regional initiatives with the same objectives.¹⁸ Since their 1999 study, the rank of nations initiating access regimes continues to swell. Amidst these CBD-friendly or compliant regimes are other contractual options. Most of the latter are directed to specific projects or research programs between international research organizations, local collaborators and indigenous and local communities. I have discussed this trend in chapter three.¹⁹ The focus of most of these regimes is to regulate access to biological diversity, although the laws and relevant contracts may also contain provisions that relate to the use of indigenous knowledge.²⁰

In the case of the Andean Community, two regimes, namely Decision 391 on Common Regime on Access to Genetic Resources and Decision 486 on Biological and Genetic Heritage evince separate and self-explanatory objectives. However, because the central motivation for most of the regimes is essentially the economic compensation for genetic resources qua resources, preservation of the integrity of indigenous knowledge appears not to enjoy priority. Furthermore, only conventional intellectual property rights especially patents are recognized in many of these regimes. For instance, in the famed Meck/INBio model, as well as under the National Cancer Institute (NCI) scheme, the International Cooperative Biodiversity Group (ICBG) program and the Shaman pharmaceutical's and similar corporate biodiversity exploration models, indigenous and local peoples do not hold the intellectual property rights (patent) ensuing from the

¹⁸ See The Commercial Use of Biodiversity: Access to Biodiversity and Benefit-Sharing (London: Earthscan, 1999) at 4.

¹⁹ See chapter three at 176-178.

²⁰ See Peter Drahos, "Indigenous Knowledge, Intellectual Property and Biopiracy: Is a Global Bio-Collecting Society the Answer?" (2000) 22:6 *European Intellectual Property Review* 245 at 246 [hereinafter "Global Bio-Collecting Society"]. The OAU (now African Union) draft of African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for Regulation of Access to Genetic Biological Resources is somehow an attempt to realize articles 15 and 8(j) objectives. For example, the 6th preambular paragraph reads: "Whereas, there is need to implement the relevant provisions of the Convention on Biological Diversity, in particular Article 15 on access to genetic resources, and Article 8(j) on the preservation and maintenance of knowledge, innovations and practices of indigenous and local communities". Notwithstanding the preambular declarations, this multi-purpose draft, is, in substance, concerned with access, benefit sharing, conservation and involvement of local communities especially women in the biodiversity "enterprise"; see also the following: National Biodiversity Bill (India), Rules and Regulation Implementing Act No. 8371—The Indigenous Peoples' Rights Acts of 1997 (Philippines), Biodiversity Law (Law No. 7788) of 23 April 1998 (Costa Rica), Decree on Biological Resources and Related Traditional Knowledge (Laos), and Proposal of Regime of Protection of the Collective Knowledge of the Indigenous People (Peru), Protection and Promotion of South African Indigenous Knowledge's Draft Bill. See WIPO Doc. WIPO/GRTKF titled, "Traditional Knowledge—Operational Terms and Definitions" (annex II).

programs. Absent Western scientific or industrial mediation, indigenous knowledge is not considered as capable of intellectual consequences in most of these initiatives.

A best-case scenario is where the indigenous and local peoples are allocated a predetermined and often ridiculously low percentage of patent royalty in contractual circumstances in which they are clearly disadvantaged parties. It is hardly surprising that the charge of biopiracy continues to assail quite a number of corporations and institutions purporting to comply with article 15 of the CBD. Ironically, such corporations and institutions, on the surface, spend generous public relations dollars laundering their images in a manner that suggest that they have taken indigenous interests into consideration. Nonetheless, the lingering biopiracy charges stem from apparent tokenism and surface scratching²¹ which are the hallmarks of such corporate charades.

²¹ For instance, the following is RAFI's (Rural Advancement Foundation International, now ETC Group) critique of the Merck/INBio agreement discussed in chapter three at 176 & n. 306. The Merck INBio deal is hailed as a model for bioprospecting. It was entered into in 1991. As such, it predates the CBD. Nevertheless, the deal is considered as a model which sufficiently preempts the CBD. Both Costa Rica and Merck, for reason of the agreement, are cited as models in the biodiversity/bioresource and conservation management. Nonetheless, according to RAFI:

Costa Rica's rainforests are estimated to hold 5-7% of the world's remaining biodiversity. If the Merck/INBio deal were widely replicated, the South's biodiversity could all be auctioned off for the paltry sum of about \$10 million per annum. Merck's sales in 1991 were \$8.6 billion, while Costa Rica's GNP that year [1991] was \$5.2 billion. Merck's research budget in 1991 was roughly \$1 billion. Indeed, Merck has three drugs with sales in excess of \$1 billion each. Given that pharmaceutical companies invest an average of \$231 million on research for each new drug, the discovery charge for one single new drug arising from the deal is barely loose change. For Merck, the Costa Rica contract bought exceedingly cheap labour and access to unidentified biological treasures (and superb public relations). As if to underscore the bargain price negotiated by Merck in Costa Rica, drug company Pfizer recently paid nearly double the Merck/INBio sum to the N.Y. Botanical Garden to collect drug leads from plants in the United States. See RAFI, "Bioprospecting/Biopiracy and Indigenous Peoples", online: The Hawaiian-Environmental Alliance
http://www.kahea.org/.../Genetic_Engineering/Bioprospecting_Indigenous_People.pdf
(date accessed: 8 October 2002)

Apart from Merck/INBio, Shaman Pharmaceutical and US National Health Institutes (NIH) and a host of other research institutions and multinational corporations with access "ethics" and benefit sharing practices regarding genetic resources and indigenous and local communities are cited in biopiracy charges. See for instance RAFI *ibid.* see also the list by Indigenous Peoples Biodiversity Network (IPBN), online: Cultural Survival Canada <<http://twm.co.nz/CptHook.htm>> (date accessed: 30 September 2002).

6.2.2 Article 8(j): Beyond Access to Cultural Integrity

Notwithstanding the shortcomings of these regimes, the CBD is roundly perceived as a significant instrument toward the protection of indigenous interests. Article 8(j) lends credence to this view.²² It creates responsibility on contracting parties to “respect, preserve, maintain knowledge and innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity...”²³ This is a loaded provision, which has been subjected to close scrutiny in the emerging jurisprudence of conservation and indigenous knowledge. I am interested in its linkage to TKPT, a.k.a. traditional medicine.

The CBD does not define the body of indigenous knowledge captured under article 8(j).²⁴ Nonetheless, the critical determinant for the protection of indigenous *knowledges* under article 8(j) is their relevance to conservation.²⁵ Clearly excluded are aspects of indigenous knowledge and practices that are not ecologically sound. This is an indirect acknowledgement that not all the practices of indigenous and local communities are conservation-friendly after all.²⁶ However, my discussion of the nature of TKPT evidently shows that it is a conservation friendly practice.

The use of plants for medicinal purposes represents indigenous conservation ethic at its best. For instance, I have noted that indigenous dealing with plants and indeed

²² Part of the criticism of article 8(j) is that like most of the provisions of the CBD, it is weakened by the usual qualifiers such “as far as possible and as appropriate”. See Halewood, *supra* note 7 at 989. Those qualifiers, however, do not undermine the ability of a national government determined to put in place an indigenous knowledge friendly policy or legal regime in accordance with article 8(j) prescriptions.

²³ See article 8(j) of the CBD, 31 I.L.M. 818 (1992).

²⁴ In its recommendation to the 6th Conference of Parties of the COP, held at the Hague, 7-19 April 2002 for the adoption of a draft outline of the composite report on the status and trends regarding the knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant to the conservation of biodiversity, the Ad-Hoc Open-Ended Inter-Sessional Working Group on Article 8(j) and Related Provisions observed that “[t]o date, no definition of what or who constitutes indigenous community embodying a traditional lifestyle has been advanced for the purpose of the Convention...” See annex 2 of the Working Group on Article 8(j)’s Report to the 6th COP: UNEP/CBD/COP/6/7 of 14 February 2002 [hereinafter “Working Group Report to 6th COP”].

²⁵ This position is quite obvious from a direct reading of article 8; see also Darlene Sambo Dorough, Status and Rights of Indigenous Peoples In International Law: The Quest For Equity (Ph.D Thesis, “Law”, University of British Columbia, 2002) at 79 [unpublished].

²⁶ See Robert E. Johannes, ed., Traditional Ecological Knowledge: A Collection of Essays (Gland; Switzerland: IUCN, 1989) at 7 (warning against uncritical romanticization of traditional ecological practices, and decrying their representation as a flawless conservation experience); see also Ellen Roy & Holly Harris, “Introduction” in Ellen Roy *et al*, eds., Indigenous Environmental Knowledge and Its Transformation: Critical Anthropological Perspectives (The Netherlands: Harwood Academic Publishers, 2000) at 1.

biological resources especially for medicinal purposes reflect respect for ecological sanctity as a feature of indigenous worldview.²⁷ For indigenous peoples, medicinal plants and all of biological resources constitute mankind's partners in a complex web of relationships. Hence plants are treated with utmost reverence. In fact, in many indigenous cultures, plants are sacred spiritual entities.²⁸ Understandably, medicinal plants are deliberately protected in many indigenous cultures. To ensure sustained supply for medicinal purposes, often, a traditional healer or a local community could declare the area where medicinal herbs are endemic out of bounds.²⁹ Again, sacred groves, regulated by a number of taboos, are set aside in many indigenous societies for the performance of therapeutic rituals. Strict protocols for harvesting of medicinal plants from the groves are imposed. Customary protocols of the nature mentioned are primarily for conservation. Factors such as time and mode of harvesting, as well as pre-harvesting rituals are also conservation devices which sharply contrast from the scientific and industrial model. In sum, the point here is that TKPT is a conservation-friendly practice. Therefore, it fits within the provision of article 8(j) of the CBD as a “practice embodying traditional life style relevant to conservation”.

Article 8(j) emphasizes not only the preservation of the integrity of indigenous knowledge. Additionally, it guarantees the involvement of knowledge holders in the exploitation of their knowledge. In some ways, article 8(j) seems antithetical to article 15. The latter reifies Western science and seeks the equitable sharing of its benefits, including transfer of technology arising from the use of genetic materials from gene-rich indigenous communities. On the other hand, article 8(j) focuses on the integrity of indigenous knowledge form in the exploitation and conservation of biological resources. Further, it considers indigenous knowledge as transferable, supposedly outside indigenous cultures. Indeed, article 8(j) speaks to cultural integrity of indigenous knowledge. Nonetheless, instead of being antithetical to each other, jointly construed, articles 8(j) and 15 reflect mutuality of exchange and balance in the *traffic* of knowledge.

²⁷ See discussions in chapter two, above.

²⁸ See Klaus Seeland, ed., Nature is Culture: Indigenous Knowledge and Socio-Cultural Aspects of Trees and Forests in Non-European Cultures (London: Intermediate Technologies Limited, 1997) for essays on diverse accounts of the sacred relationship between plants/trees and contemporary religio-cultural indigenous societies in the following countries: Guinea, Nepal, Japan, Thailand, India, Sierra Leone among others.

Both provisions reflect the CBD's response to interpenetration and fluidity of knowledge forms.

In keeping with the CBD's framework model, article 8(j) is an open-ended provision. It is subject to national legislation. Every member party to the Convention has a prerogative to provide the practical details for giving life to article 8(j). As a matter of fact, the meetings of Conference of Parties of the (COP) of the CBD have continued to solicit for case studies and opinions from members and other interested bodies on how to implement article 8(j). Thus, how to realize the affirmations of article 8(j) and other provisions on indigenous knowledge and cultural identity remain a challenge to both municipal and international legal regimes.

There are several ways of recognizing traditional knowledge and associated indigenous cultures as envisaged under article 8(j). Intellectual property is only one of them. Indeed, in article 16(5), the CBD acknowledges "that patents and other intellectual property rights may have an influence on the implementation of this Convention...".³⁰ The issue really boils down to another aspect of article 16(5) which requires that "such intellectual property rights are supportive of and do not run counter to the objectives of the Convention".³¹ However, because the objectives of the Convention are often contradictory, it is hard to say which objective the Convention seeks to prioritize. For example, we have seen how the patent regime promotes access to genetic resources, while undermining issues of equity in allocation of benefits of indigenous knowledge the preservation of which is the *raison d'être* for article 8(j).

Intellectual property regimes or their *sui generis* forms do not necessarily have to be in the likeness of the mainstream versions. To insist otherwise may compromise indigenous interests in relation to cultural integrity. There is a need to look inward in the direction of indigenous customary regimes, which have been neglected by most national governments in preference to colonial imposed legal traditions. The importance of this approach is that such regimes are based on indigenous values, worldviews and epistemic inclinations. In many indigenous cultures, the market economy, Western scientific and industrial approaches to the exploitation of natural resources do not fully reflect the

²⁹ See Khalil, *supra* note 1 at 243.

³⁰ See article 16(5) CBD, *supra* note 23.

³¹ *Ibid.*

nature of indigenous peoples' dealings with the natural environment. Indigenous and local peoples are interested in the integrity of their environment, spiritual and social relationships with other forces of nature in accordance with their belief systems. Yet they are not oblivious of economic imperative. But the difference here is that economic considerations are not the overarching necessity in the indigenous world, and more so in the context of their heritage. As Daes observed earlier "for indigenous peoples heritage is a bundle of relationships rather than a bundle of economic rights".³²

6.3 Indigenous Knowledge: Legal Empowerment From Within

The subject of preservation of cultural integrity of traditional knowledge of indigenous and local people is a cross-cutting one. Because of its complexity and intersecting nature, preservation of indigenous knowledge is being negotiated at different arenas. Some of the discourses and negotiations are conducted with varying emphasis within the mandate and interests of relevant United Nations and intergovernmental agencies as well as some NGOs.³³ Based on their mandates and interests, those organizations' focus is usually limited to select aspects of indigenous knowledge.

However, the imperative for collaboration by the relevant inter-governmental agencies, and other non-governmental organizations is acknowledged. At present, two important forums, namely the CBD and the World Intellectual Property Organization (WIPO) represent the most visible avenues in which the discourses of national and global policies on indigenous knowledge are fashioned. Collaboration between these two bodies enables a more holistic and coordinated approach to the obviously complex phenomenon. Recent and ongoing developments in the two forums show that they seem inclined toward the inward-looking approach in the quest for the protection of indigenous knowledge and interests. Before I discuss the developments, perhaps an overview of the inward approach is pertinent.

³² See Daes Erica-Irene, Protecting the Heritage of Indigenous Peoples (New York: United Nations Human Rights Study Series # 10, 1997) para. 24 at 3. It can be argued that to protect these "bundle of relationships" there may be a need to define them in some form. Nonetheless, how far such a definition eschews fragmentation of indigenous knowledge concept could be quite problematic.

³³ Among the relevant agencies are the FAO, WIPO, WHO, WTO, ILO, UNESCO, UNCHR, UNCTAD, UNDP, UNEP, the World Bank, *et cetera*.

The inward approach that I espouse here aims at the protection of indigenous knowledge forms, and by extension, indigenous cultural integrity, in the context of the broader quest for self-determination of indigenous and local peoples. It should be premised on the empowerment of traditional knowledge holders at the very local levels. Therefore, it ought to be an initiative of indigenous and local communities with active support of national governments. The primary thrust of that modality will be the provision of legal cover to forms of traditional or customary protocols for the protection of knowledge systems prevailing within the indigenous communities. Among other things, it goes without saying that indigenous and local communities and other legitimate holders of knowledge must be recognized as legal entities.³⁴ Brazil and the Philippines have shown a lead in this direction.³⁵ Such recognition need not be at the mercy of national governments. Rather, it serves indigenous interests and integrity if recognition emanates as of right from the customary regime prevailing in the relevant communities and recognized in the municipal legal regime. That way, national governments (especially those lacking a unity of purpose with indigenous interests) would not scuttle indigenous aspirations.

The inward approach is to empower traditional or indigenous knowledge by the provision of legal cover to existing customary regimes of right over knowledge. In virtually all indigenous cultures, there are customary rights for the protection of knowledge. For instance, there are well developed secrecy regimes in many indigenous cultures for the preservation of certain forms of knowledge held by appropriate customary custodians and practitioners. Such secrecy regime is a form of indigenous intellectual property rights. The objective of those regimes is often rooted in the religious beliefs and cultural systems which do not prioritize economic imperative. Ironically, the

³⁴ The social units and traditional concepts that have the likeness of legal personality in many indigenous cultures include stools (royalty) among many African societies, families, kindred, bands, clans, quarters, villages, age-grades, particular cults and lately, the concept of the Town Unions. Mgbeoji includes “the spirit of the unborn, and ancestral spirits” as part of such units. See Patents and Plants, *supra* note 10 at 374. Needless to indicate, there are other related constructs, which have no fitting designations in English Language. For the nature of hometown and voluntary associations and their integration into the dynamics of indigenous soci-cultural structure, see Rex Honey & Stanley Okafor, Hometown Associations: Indigenous Knowledge and Development in Nigeria (London: Intermediate Technology Publications, 1998).

³⁵ See Brazilian PL (Legislative Bill) N. 2.057 of 23 October 1991; see also Community Intellectual Property Rights Protection Act of 1994 S. 184, 9th Congress of the Republic of the Philippines.

secrecy regime recognized under the prevailing and official intellectual property law in most developed countries with indigenous and local communities is trade secret. As the name suggests, the condition precedent to a trade secret is its economic value.³⁶ There is perhaps no insurmountable reason why mainstream intellectual property's version of trade secret should be preferred to indigenous ones. However, such rights must cater for the public domain imperative. Simply stated, indigenous alternatives to intellectual property are not lacking. What is missing is their empowerment for instance, through adequate legal cover. Further discussion of the secrecy regime is reserved to subsequent pages.

Extending legal cover to indigenous customary protocols for knowledge protections is envisioned as a national agenda with potential global ramifications.³⁷ For instance, it can set the stage for a global framework for protection of indigenous knowledge based on indigenous conceptions. As a national initiative, it will need to be tailored toward recognizing the prevailing customary practices in individual countries. It is true that the globalization phase of intellectual property rights imposes a minimum intellectual property rights standard for universal application. Consequently, the TRIPs agreement may have curtailed the power of national governments over intellectual property rights. However, it has not completely dispensed with the national character of intellectual property rights.

As we have seen, states still have some leverage in determining a patentable subject matter. For example, indigenous cultural sensitivities have been linked to the *ordre public* exception under the TRIPs agreement.³⁸ If indigenous values are sufficiently

³⁶ For information to retain its worth as a trade secret, it must be capable of independent economic value, and subject to a deliberate, positive and reasonable effort directed at the maintenance of its secrecy. See Allan Gutterman, "The North-South Divide Regarding the Protection of Intellectual Property Rights" (1993) 23 Wake Forest Law Review 89 at 95-95. While mainstream intellectual property rights would require that few possess the secret, often the secrecy regime in traditional context is with reference to a family, clan or cultic or generational group or what has been described as a "small public", which may be too broad for purpose of trade secret under mainstream intellectual property.

³⁷ As a *sui generis* form specifically based on indigenous knowledge conception as opposed to one deriving from element of mainstream intellectual property rights, the WIPO has suggested to the intergovernmental committee that it (the committee) has the option to focus on systems of protection at national levels (supposedly based on indigenous norms and protocols) with a view to framing more general principles in the form of international framework. See Elements of *Sui Generis*, *supra* note 13 para. 8 at 4.

³⁸ This argument has not been tested in any "biopiracy" patent opposition. This is perhaps because the patenting of culturally symbolic objects especially plants in the Western world particularly in the United States and Europe does not provoke as much outrage as in those societies as they do in indigenous

empowered legally, they can form the basis for making a determination over what amounts to “conduct offensive to a forum's concepts of fundamental norms”,³⁹ for the purpose of revoking a patent or declining a new application therefor. National governments, especially in the developing countries, are well within their rights to decline the recognition of patents over culturally sensitive subject matters. This position can be made more tenable if the customary regimes and protocols sanctioning such sentiments in indigenous and local communities are adequately protected under national laws; better still, if they are part of the national law. Unfortunately, sometimes, political realities are often insensitive to indigenous concerns.

There is obvious need for national governments to take a proactive role in providing legal cover project to indigenous norms. National governments through the various other layers of authority in the polity are closer to indigenous peoples. For instance, with regard to TKPT, national government are in a better position to understand its cultural components and may be less inclined to be overwhelmed by the pure economic arguments based on market efficiency. Again, supposedly, national governments are in a better position to appreciate that indigenous cultural sensitivities represent irreparable "externalities" that ought not to be undermined. In fact, because such sensitivities are linked to indigenous being and identity, they should constitute a crucial national interest.⁴⁰

In some countries like Canada, some form of internal self-determination has been operative. Indigenous peoples have been vested with certain level of self-government.

societies. So, granting patents on plants considered as symbolic amongst indigenous peoples may not be offensive to the values and concepts of fundamental norms prevailing in those societies. The weakness of this argument is that it discriminates against indigenous peoples in those regions for whom the objectionable patents may raise questions of religious freedom, for instance where patented plants serve religious functions. In the cases of neem, turmeric, and ayahuasca, the patent tribunals appeared to have preferred the less controversial grounds such as novelty under which it was convenient to revoke the patents. Nonetheless, in such countries as India, (neem) and Ecuador (ayahuasca) among other grounds, it is argued the patents do not stand a good chance of being registered or remaining in the register on *ordre public* grounds. There is of yet no test case of global significance. See further discussions at pages 323-26 of chapter five.

³⁹ See Leanne M. Fecteau, “The Ayahuasca Patent Revocation: Raising Questions About Current U.S Patent Policy” (2001) 21 Boston College Third World Law Journal 69 at 93 [hereinafter “Ayahuasca Patent Revocation”]. Compare the unreported Quebec Superior Court decision (aff'd by the Quebec Court of Appeal) in *Prevost v. Fabrique de las Paroisse de l'Ange-Gardien*. See chapter five at 325 & n. 214.

⁴⁰ In some indigenous societies, knowledge protection regimes e.g. secrecy protocols whether they amount to intellectual property rights or not are perceived as safeguarding norms considered fundamental to

Nonetheless, the Westphalian State is not dead yet. National governments are still the most appropriate parties to international treaties. Thus, despite the different layers of governments existing in a polity, national governments are instrumental in multilateral negotiations. The aim of empowering indigenous and local communities would be to create an enabling environment for the eventual evolution of a regime at international level which recognizes the cultural integrity of indigenous knowledge. The dawn of a global intellectual property rights regime can no longer be wished away. It has been argued, rightly, that unless national governments provide legal cover for local knowledge, it can be least expected that external interests will champion that cause.⁴¹ The brouhaha over the review of article 27.2(b) of the TRIPs agreement could well have been avoided if national governments especially United States, Canada and other European countries with indigenous populations recognized indigenous objections over the patenting of life forms as a component of those countries' larger national interests.

6.4 The CBD and WIPO: Embracing the Cross-Cultural Dialogue

The ongoing developments at the CBD and WIPO indicate the willingness of the two bodies to give consideration to the prevailing customary practices and protocols in indigenous and local communities for the protection of knowledge. The issue, however, remains as to how far these policy debates are determined to go in that direction especially in view of alternative and competing considerations such as working within the mainstream intellectual property and the idea of indigenous knowledge databases, the pros and cons of which highlight the "Catch 22" situation in which indigenous peoples find themselves.⁴² The CBD program that have broached the inward or cross-cultural

indigenous being and identity. Interference with, or appropriation of such rights amounts to assault on a group's right to being and identity as aspects of its distinctiveness within the larger society.

⁴¹ See Khalil, *supra* note 1 at 233.

⁴² For a discussion on the indigenous knowledge database, see chapter five at 275-76 & n. 38. The indigenous knowledge database concept emanates from a school of thought inclined to work from the mainstream intellectual property concept. A "Catch 22" scenario arises from the fear that documentation process may undermine TK, by making it accessible without authorization contrary to traditional protocols, whereas such documentation is also seen as critical to the preservation of local knowledge. On the basis of these concerns the Fourth Session of the IGC has approved further development of a "toolkit" for managing the documentation of traditional knowledge which will include practical options for a scheme that do not necessarily place documented material in the public domain. It remains to be seen how this can be realized.

approach to indigenous and local knowledge protection regimes is at the instance of its Conference of Parties Meeting (COP) via the Ad Hoc Open-Ended Inter-Sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity (the Working Group). Similar inclination on the part of WIPO can be gleaned from its Global Intellectual Property Issues (GIPI) program. A brief overview of the two initiatives appears apposite since I have referred to them earlier on in chapter three.

6.4.1 The COP and the Ad Hoc Working Group on Article 8(j)

Almost from its inception, the COP of the CBD has been mindful of the fact that article 8(j) is at the heart of the Convention.⁴³ Since that article is akin to a guideline, it became imperative for the COP to commence deliberations on how to give effect to it. In 1994, the second COP opened discussions over the implementation of article 8(j).⁴⁴ Since then, article 8(j) has remained a permanent subject of subsequent COPs. Currently, discussions over the implementation of article 8(j) fall within the responsibility of the Working Group established by decision IV/9 of the Conference of Parties.⁴⁵ The additional mandate of the Working Group, namely regarding “related provisions” is inevitable because article 8(j) is at the centre of the Convention. Virtually all other provisions are related to it; but perhaps more important for the present purpose, are the

The IGC (discussed below, at 364) appears to be inclined toward the idea of digitalization and documentation of traditional knowledge, in contractual and substantive forms. A critical look at the agenda, deliberations and decisions of its Third (13-21 June 2002) and Fourth (9-17 December 2002) Sessions makes this conclusion palpable. The documentation and details of these two sessions are available, online: WIPO <<http://www.wipo.org/globalissues/igc/documents/index.html#3>> & 4 (date accessed: 4 October 2002). These trends at the IGC are significant because they prepare the background for WIPO General Assembly in Sept/Oct 2003 billed to consider the IGC recommendations. Thus, the extent of the WIPO’s interest in the prevailing customary protocols and practices is questionable. One optimistic way of looking at it is that the documentation approach may not necessarily be in conflict with indigenous law and practices. But this is a highly debatable proposition.

⁴³ In his statement at the Second Open-Ended Inter-Sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity, Montreal Canada, 4-8 February 2002, Reuben Olembo, President of Conference of Parties Meeting reiterated that: “the implementation of article 8(j) was one of the major challenges raised by the Convention on Biological Diversity”. See CBD Doc. WG8J2, online: CBD <<http://www.biodiv.org/doc/default.asp?thm=art>> (date accessed: 26 September 2002).

⁴⁴ See “Knowledge Innovations and Practices of Indigenous and Local Communities: Implementation of Article 8(j)”, (note by the Executive Secretary of the CBD for the Third COP, 4-15 November 1996), UNEP/CBD/COP/3/19; online: CBD <<http://www.biodiv.org/cop3/html/COP-3-19-e.htm>>.

⁴⁵ Held at Bratislava, Slovak Republic, 1-15 May 1998. No doubt, the committee has a loaded mandate which goes beyond 8(j) to include issues concerned with “related provisions of the Convention on Biological Diversity”. Included among the related provisions are those regarding access to genetic resources and intellectual property rights.

provisions on intellectual property rights and access to genetic resources.⁴⁶ I need not get into the details of the activities of the Working Group. What is of particular interest for the present purpose is the Working Group's inclination to encourage inquiry into the customary regimes for knowledge protection in indigenous and local communities.

So far, the Working Group has had two meetings.⁴⁷ It could be said that because of the complexity of its mandate the Group adopts multifaceted approaches toward the discussions over the implementation of article 8(j).⁴⁸ Again, the complexity of issues involved compels the Working Group to opt for a phased implementation of its mandate.⁴⁹ However, from its activities so far, it is apparent that the Working Group has set a tone in the direction of an inward approach toward traditional knowledge for the purpose of article 8(j) provisions. Topmost on the mandate of the Working Group is: "to provide advice as a priority on the application and development of legal and other appropriate forms of protection for the knowledge, innovations and practices of

⁴⁶ In virtually all the work relating to implementation of article 8(j), the COP recognizes the close linkage between article 8(j) and articles 10(c), 17.2 and 18.4, 18.6 and 18.7 as well as the linkage between article 8(j) and technology transfer, access to genetic resources, intellectual property rights, alternative systems of protection of knowledge, innovations, incentives. See decision III/14, second preambular paragraph and paragraph 10 of the substantive decision, online: CBD <<http://www.biodiv.org/decisions/default.aspdec=III/14>> (date accessed: 28 September 2002).

⁴⁷ The first meeting was held in Seville, Spain, 27-31 March 2000. The second meeting was held in Montreal, Canada, 4-8 February 2002 and the third meeting is billed for Feb/March 2004.

⁴⁸ For instance, because of the cross-cutting issues relating to article 8(j), the Working Group initiated a program for integration of the relevant tasks of its program of work into the thematic program of the Convention. The Executive Secretary prepared a progress report on integration (UNEP/CBD/WG8J/2/2) which was transmitted to the 6th COP after amendments (UNEP/CBD/WG8J/2/L.2) at the Group's plenary sessions.

⁴⁹ The Group outlines its mandate into two phases. The first phase comprises of seven key elements designed to activate and mobilize all the stakeholders implicated in article 8(j) as well as to generate appropriate guidelines and legal assistance in support of implementation of article 8(j). The key elements include: participatory mechanisms for indigenous and local peoples, guidelines to enhance equitable sharing of benefits, monitoring elements regarding the impact of developmental projects on cultural sites, and legal elements with regard to intellectual property rights that have impact on the protection of local knowledge, as well as legal assistance/guidelines for national regimes for the implementation of article 8(j). The second phase is concerned with long term objectives. It focuses on the setting up a number of guidelines and standards relating to strengthening the use of traditional knowledge, establishment of national incentive schemes to encourage indigenous conservation ethics, generating guidelines for repatriation of cultural property, recognition of indigenous customary codes and ethical conducts toward the development of model ethical codes for the conduct of research, including issues relating to exchange and dissemination of information among others. See annex to Decision IV/9 of the Fourth COP titled "Program of Work on the Implementation of Article 8(j) and Related Provisions of the Convention on Biological Diversity", online: <<http://www.biodiv.org/decisions/default.asp?dec=IV/9>> (date accessed: 28 September 2002).

indigenous and local communities...”⁵⁰ Pursuant to its mandate the Group has evolved five heads of *general principles*. Three of those are relevant for my analysis:

1. The full and effective participation of indigenous and local communities in all stages of the identification of the elements of the program of work...[of the Working Group]
2. Traditional knowledge should be valued, given the same respect and considered as useful and necessary as other forms of knowledge
3. A holistic approach consistent with the spiritual and cultural values and customary practices of the indigenous and local peoples and their rights to have control over their traditional knowledge and innovations.⁵¹

Since its inception, pursuant to its mandate, the Working Group strives toward the participation of indigenous and local communities in the search for the ways to enhance their knowledge in its cultural context.⁵² This inward approach forms the thrust of the Working Group's activities. It is remarkable that the Group gives strong consideration to the subnational and customary traditions for the protection of knowledge. Item seven of the Group's second meeting was devoted to the “assessment of the effectiveness of existing subnational, national and international instruments particularly intellectual property rights instruments that may have implications on the protection of the knowledge, innovations and practices of indigenous and local communities”.⁵³ In its deliberations at that meeting, the Group emphasized: “the urgency for Parties, Governments and international organizations to facilitate the full and effective participation of indigenous and local communities in the implementation of the Convention and in particular national and international policy process potentially leading to the development of new legal regimes”.⁵⁴

⁵⁰ See Decision IV/9 of the Fourth COP, online: CBD <<http://www.biodiv.org/decisions/default.asp?dec=IV/9>> (date accessed: 28 September 2002) para. 1(a).

⁵¹ *Ibid.*

⁵² For instance, item six of the second meeting of the Working Group considered a note by the Executive Secretary of the CBD on Participatory Mechanism on Indigenous and Local Communities. See UNEP/CBD/WG8J2/4, a finalized draft on this item proposed by the Sub-Working Group at the 4th Plenary Session, (UNEP/CBD/WG8(J)/2/L.6), was transmitted to the 6th COP.

⁵³ UNEP/CBD/COP/6/7.

⁵⁴ *Ibid.*

In responding to agenda seven of the report of the Working Group, the 6th COP requested the Working Group “to address the issue of *sui generis* system for the protection of traditional knowledge, focusing in particular on the following issues:

- a. Clarification of relevant terminology;
- b. Compiling and assessing existing indigenous, local, national and international *sui generis* systems;
- c. Making available the compilation and assessment through the clearing-house mechanism of the Convention;
- d. Studying the existing systems for handling and managing innovation at the local level and their relation to existing national and international systems of intellectual property rights with a view to ensure their complementarity;⁵⁵
- e. Assessing the need for further work on such systems at the local, national and international levels;
- f. Identifying the main elements to be taken into consideration in the development of *sui generis* systems;
- g. The equitable sharing of benefits from the utilization of traditional knowledge, innovations and practices of indigenous and local communities, taking into account the work carried out by the Intergovernmental Committee (sic) Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore with a view to promote mutual supportiveness, and existing regional, subregional, national, and local initiatives.

In the meantime, a major highlight of 6th COP’s decision on article 8(j) is the adoption of the outline of the composite report on the status and trends regarding the knowledge, innovations and practices of indigenous and local communities relevant to the conservation of and sustainable use of biodiversity. The composite report is an inward looking research project. Its focus would be on the status of traditional knowledge in indigenous and local communities with a view to seeking how they could be empowered in accordance with article 8(j). The project would among other things,

describe the current situation of the respect for, preservation and maintenance of traditional knowledge, innovations and practices relevant to the conservation and sustainable use of biological diversity at the global level, and identify what is required to ensure their continued maintenance and application, thereby laying the foundation for some form of global plan of action to reverse the loss of this vast body of knowledge essential to the maintenance of much of the planet’s biological diversity.⁵⁶

⁵⁵ This mandate is suspect to the extent that it would seem to propose the investigation of indigenous customary regimes or protocols for the protection of knowledge from a predetermined Western intellectual property paradigm. See, for example, Brain Noble’s criticism of the WIPO Fact Finding Missions, “Circumventing Customary Transaction: Blackfoot Tipi Transfers and WIPO’s Search for the Facts of Traditional Knowledge Exchange” in T. Crook & A. Holding, eds., Innovations Around Property-thinking: Dialogues Between Law, Policy and Ethnography (Oxford: Beghahn Books) [forthcoming in 2003].

⁵⁶ See paragraph 18 of the “Outline of Composite Report on the Status and Trends Regarding the Knowledge, Innovations and Practices of Indigenous and Local Communities Relevant to the Conservation

The project is divided into three phases. My concern is with the first phase. That phase will address the state of retention of traditional biodiversity-related knowledge,⁵⁷ focusing specifically on the status of traditional knowledge relating to food, medicine, conservation and sustainable use of flora and fauna, and those relating to major ecosystem categories.⁵⁸ In adopting the outline for the composite report, the COP recognized “that indigenous peoples and local communities have their own systems for the protection and transmission of traditional knowledge as part of their customary law”.⁵⁹ Among other things, the research will aim at giving effect to the need to respect, preserve and maintain traditional knowledge, innovation practices, and the capacity of indigenous and local peoples to protect traditional knowledge.⁶⁰

Accordingly, the report acknowledges that “indigenous and local communities are well suited to provide relevant assessment to the host of issues that affect the respect, preservation, maintenance and application of their traditional knowledge, innovation and practices”.⁶¹ The ongoing projects and discussion relating to article 8(j) indicates a realization of the value of pre-existing customary mechanisms at local levels for the preservation of the integrity of indigenous knowledge. It would appear that the Working Group on article 8(j) and COP are conscious of the fact that a realistic and broader global mechanism will be one which does not compromise the cultural sensitivities of indigenous knowledge. The starting point for this project is the internal or customary mechanisms within the indigenous and local communities themselves.

and Sustainable Use of Biodiversity, and the Plan and Timetable for Its Preparation” annexed to COP decision VI/10, online: CBD <<http://www.biodiv.org/decisions/default.asp?dec=VI/10>> (date accessed: 28 September 2002 [hereinafter “Composite Report”]).

⁵⁷ The Subsequent phases will deal with the following: the relationship between biological, cultural and linguistic diversity, identification of national processes that may threaten the maintenance, preservation and application of traditional knowledge, identification of processes at the local and community level that threaten the maintenance, preservation and application of traditional knowledge.

⁵⁸ The listed categories are forests, dryland and steppes ecosystems, marine and coastal ecosystems, Island ecosystems, mountain and valley ecosystems, inland waters arctic ecosystems.

⁵⁹ See Paragraph 9 of decision VI/10 of the 6th COP on article 8(j), available online: CBD <<http://www.biodiv.org/decisions.default.asp?dec=VI/10>>.

⁶⁰ See paragraph 2 of phase I of the Outline of the Composite Report, *supra* note 54 as adopted by 6th COP.

⁶¹ See paragraph 25 of the Composite Report *ibid*.

6.4.2 The WIPO's GIPI Program and the Inter-Governmental Committee

The WIPO's GIPI program is another initiative that is shaping the direction of the discourse about the protection of indigenous knowledge along the conceptions of article 8(j). Developments at the COP via the Working Group on article 8(j), which I have appraised, appears to strike a harmonious cord with the trends at the WIPO level. Perhaps of the several forums in which the knowledge of indigenous and local communities currently feature, the CBD and WIPO have taken the moral high ground. Both bodies have adopted an approach in the direction that seeks both to understand indigenous knowledge forms from indigenous perspectives with a view to according it appropriate recognition on the basis of indigenous customary norms.⁶² Accordingly, the central thrust of this trend is that it places indigenous peoples in the position where they “will continue to be major voices in articulating alternative vision for intellectual property rights”.⁶³ Indeed, we are at the birth of what a frontline scholar has tagged “a cross-cultural conversation in the intellectual property arena”.⁶⁴ It still remains to be seen how far that conversation goes.

In November 1997, the WIPO set up the Global Intellectual Property Issues Division⁶⁵ for the implementation of the GIPI program. That program is the WIPO's strategic program of action designed to make it (WIPO) responsive to increased relevance of intellectual property, as well as to meet the demand of the latter's dynamics evidenced in the fast-paced technological advancements, and the emerging topical subjects such as traditional and cultural knowledge. Among the global intellectual property issues identified as sub-programs of the GIPI program in the 1998-1999 biennium were (i) protection of traditional knowledge, innovations and creativity, (ii) biotechnology and

⁶² Although Coombe observes that “while CBD appears to place more emphasis on mechanisms to make existing [mainstream] intellectual property regimes more transparent, accountable, and equitable than on the need for a new property rights to protect traditional knowledge”, the WIPO is more disposed to the latter attraction. However, recent developments from the 6th COP in relation to article 8(j) suggest that CBD is willing to look beyond the mainstream IP regimes. Indeed Coombe agrees that the “WIPO and CBD have recognized that indigenous customary law has to be respected when considering the use of traditional knowledge and that indigenous customary law principles provide legitimate juridical resources for a consideration of alternative forms and norms of property”. See Coombe, *supra* note 4 at 282, 284; see also discussions in chapter three at 170 & n. 272.

⁶³ Coombe, *ibid.* at 285.

⁶⁴ *Ibid.* at 284.

⁶⁵ This initiative was at the instance of then newly elected Director General of WIPO, Dr. Kamil Idris.

biodiversity, (iii) protection of folklore, and (iv) intellectual property and development.⁶⁶ The WIPO's first initiative under the GIPI program was to investigate “the needs and expectations of groups which until now have little or incomplete exposure to the IP system”.⁶⁷ The first groups that fit that description according to the WIPO were “holders of traditional knowledge innovations and cultures”.⁶⁸ The primary reason for the WIPO's interest in this group is to “promote the contribution of the IP system to their social, cultural and economic empowerment”.⁶⁹

Consequently, between 1998-1999, the WIPO conducted global fact-finding missions which explored the intellectual property needs and expectations of traditional knowledge holders. According to the WIPO, the expected objective of the findings in the Report, published in April 2001, is to assist it in defining and guiding future activities on the protection of traditional knowledge.⁷⁰ In other words, the WIPO hopes that the outcome of the project will assist in providing the conceptual framework for the formulation of related policies upon which its developmental cooperation and other activities can be based. One of the highlights of the WIPO's report is the issue of indigenous customary laws and protocols for the protection of traditional knowledge. In the course of the project, indigenous peoples almost overwhelmed the WIPO *missionaries* with accounts and descriptions of various customary regimes for protecting of their knowledge. The sentiments were high amongst sections of indigenous participants in the mission on the need to protect traditional cultural expressions through the application of customary intellectual property rights in indigenous terms.⁷¹ The WIPO's experience in that regard could be summed by a symbolically resonating indigenous demand to the effect that the protection of indigenous knowledge “should

⁶⁶ See WIPO Main Program II, Global Intellectual Property Issues, WIPO Doc. A/34/2/WO/PBC/1/2 (hereinafter “WIPO Main Program II”). The GIPI although established in 1997 was empowered by the 1998-1999 biennial budget of the WIPO. The activities listed under this Main Program do not include the WIPO's other activities in relation to development of industrial property, copyright and related rights and other cooperative and technical assistance programs in developing countries.

⁶⁷ See *final Report of Fact-Finding Mission on Intellectual Property and Traditional Knowledge* (Geneva: WIPO, 2001) at 16 [hereinafter “FFM”].

⁶⁸ *Ibid.*

⁶⁹ *Ibid.*

⁷⁰ See “Executive Summary of the Intellectual Property Needs and Expectations of Traditional Knowledge Holders” in FFM, *supra* note 67 at 5.

⁷¹ *Ibid.* at 57.

begin with communities and see how they protected their cultural expressions and knowledge...[and then] use the same customary tools or tools adopted from them”.⁷²

From its interactions, the WIPO broadly identified three different informal protocols relating to the preservation of traditional knowledge. The first relates to “trade regimes” over traditional designs, songs and dances among some North American natives. For instance, elders of the Canadian Bloodtribe exemplified this with a narration of rules and obligations relating to the creation of tipi designs, customary protocols governing the reproduction, adaptation, and licensing and other forms of transfer of the design.⁷³

The second relates to ritual regimes over traditional medicinal knowledge exemplified with the South Asian experience. In South Asia, traditional medicine is in two categories: codified (e.g. the ayurvedic, siddha, and unani tibbi systems) and non-codified systems.⁷⁴ Informal intellectual property regimes are in the form of magic, ritual and spiritual beliefs associated with traditional medicine. Foremost in that category is the secrecy regime. According to the WIPO, “the secrecy regime rests on the innovator's ability to prevent the public disclosure of his or her innovation”.⁷⁵ In addition, the rituals or magical components of traditional medicine still operate as protective devices even when the secret is lost to the public. As social constructs, rituals perpetuate myths such as the imperative for healer's personal involvement. Rituals could also involve objects which are exclusively reserved to an innovator or a complex procedure hard to imitate except upon initiation.⁷⁶

The third relates to customary laws on traditional images and artistic works exemplified by the South Pacific experience, especially the Australian Aboriginal

⁷² Statement of Jacob Smet of the PNG National Cultural Commission. For the report of the fact-finding mission to the South Pacific, see FFM, *supra* note 67 at 76 & n. 42. See Brian Noble, *supra* note 55 (observing that the true import of Smet's view appears to have been missed by the WIPO).

⁷³ For detailed narration, see FFM, *supra* note 67 box 2 at 59.

⁷⁴ *Ibid.* at 59.

⁷⁵ *Ibid.* at 60. The WIPO further notes that “contrary to a commonly held view, numerous TK holders indicated that exclusive rights and monopoly powers over informal innovations are not uncommon within indigenous and local communities”. See *ibid.* at 62.

⁷⁶ For instance, authoritative healers are in a position to summon social sanctions against impostors. The WIPO notes that ritualized medicinal practices and technologies do not reflect an instrumental economic manipulation by traditional healers. In the WIPO's opinion, the healers as well as the communities are grounded in cultural practices and believe systems that imbue the rituals with a sacred meaning while protecting the concept of innovation. See *ibid.* at 63.

Noble, participation was limited to pre-selected “locally knowledgeable” persons or “TK experts” apprised of the terms and objectives of the Missions,⁸² a situation that raises questions about neutrality. Secondly, the Missions focused on “selecting and enrolling only those characteristics of...customary transactions which accord with [western] intellectual property exchange”.⁸³ The resultant tendency was to subordinate indigenous customary norms into Euro-American ones whilst the aim should have been to “articulate them as parallel authorized system of rights, practices and obligations”,⁸⁴ in order to move toward the “recognition of customary laws as of right”.⁸⁵ Consequently, Noble observes that the WIPO’s analysis of the Blackfoot tipi design exchange undermined the “complexity and plasticity of customary Blackfoot Tipi transfer practices”.⁸⁶ It is encouraging that WIPO’s objective is now to move from the exploratory nature of the fact-finding missions towards addressing practical and conceptual issues⁸⁷ arising from its indigenous knowledge initiatives. In this regard, Noble’s and other valid criticisms of the scheme merit serious consideration in the subsequent WIPO initiatives.

Pursuant to the fact-finding project, the GIPI program secured the extension of its mandate on traditional knowledge and expressions of folklore for the 2000-2001 biennium. In the latter phase, the WIPO broadened its research in direct response to a number of needs and expectations of traditional knowledge holders which derived from the fact-finding missions. Strikingly, one of the heads of the extended program is the conduct of feasibility studies on the applicability of customary laws and protocols to traditional knowledge. Taking into consideration the findings of the 1998-1999 mission, that phase among other things involved, commissioning publications and dissemination of a study on customary law and regulatory systems that apply to protection of knowledge, innovations and creativity in local and traditional setting. As its ancillary, the project required conclusions relevant for formal intellectual property system.⁸⁸ In articulating the project rationale, the WIPO writes:

⁸² *Supra*, note 55.

⁸³ *Ibid.*

⁸⁴ *Ibid.*

⁸⁵ *Ibid.*

⁸⁶ *Ibid.*

⁸⁷ See Halewood, *supra* note 7 at 987 (citing interview with Richard Owens, WIPO Director, Global Intellectual Property Issues); see also chapter five at 330 & n. 243.

⁸⁸ See the WIPO Main Program II, *supra* note 66.

Traditional knowledge holders are subject to both customary and modern legal systems, since their knowledge constitutes subject matter to which both may apply. The interfaces, similarities and differences between customary and modern legal systems require understanding and management. This activity will seek ways to manage the relationship between modern and customary understandings of IPRs and TK subject. It would record customary systems and related cultural understandings relevant for TK protection and draw implications on how the IP systems may recognize and use customary law to manage the relationship with TK holders.⁸⁹

It is pertinent to point out that the entire WIPO/GIPI mandate under its Main Programs is a censored one. The GIPI programs are not to be construed as norm-setting. According to Halewood, America's support for the extended mandate under the 2000-2001 biennium was premised on the understanding that the project is "not intended to fit into a process which would end with the creation of a treaty or recommendations".⁹⁰ However, what may be important here is that indigenous peoples and national governments would find WIPO's work beneficial, especially if the conceptual questions are addressed. Recognized as significant constituency in the cross-cultural discussion about intellectual property, their ability to benefit from and contribute to the debate is now acknowledged as never before. The GIPI program would be helpful in redesigning national laws in a manner that will incorporate indigenous customary intellectual property versions or protocols.

Discountenancing the US censorship, Halewood argues that the WIPO has influence over other related conventions such as the WTO with which it has signed a memorandum of understanding. Under that agreement, the WIPO provides technical support to the TRIPs Council.⁹¹ Remarkably, the WIPO has forged a strong collaborating with the CBD especially through the Working Group on Article 8(j). Apart from the recognition of the WIPO generally as a crucial partner, the COP has referred to former's works on virtually every decision on article 8(j) while stressing the need for a synergy between the Working Group and the WIPO.⁹² In fact, the COP muted the idea of a

⁸⁹ See FFM, *supra* note 67 at 234-235.

⁹⁰ *Supra* note 7 at 986.

⁹¹ *Ibid.*

⁹² See, for instance, the following decisions of the COP: III/14, paragraph 4 which "Requests the Executive Secretary to remain informed as to relevant international processes and bodies including inter alia...the World Intellectual Property Organization..."; decision IV/9, preambular paragraph 9, "Further recognizing the importance of making intellectual-property-related provisions of article 8(j) and related provisions of the Convention on Biological Diversity and provisions of international agreements relating to intellectual

us, it considered the elements of *sui generis* systems for the protection of traditional knowledge.¹¹⁰

6.5 *Sui Generis* Protection: Escaping the Stranglehold of Mainstream Intellectual Property Rights

From all indications, it does seem that the knotty subject of how to protect and preserve the knowledge of indigenous and local peoples which started precisely twenty years ago¹¹¹ has coalesced in the ongoing programs at the WIPO and CBD. It is pertinent to note that the whole complex arguments have been narrowed down into a search for an appropriate *sui generis* model which fits the peculiarity of indigenous knowledge without compromising its cultural content and context. As indicated above, the 6th COP mandated the Working Group to address the issue of a *sui generis* protection for traditional knowledge.¹¹²

That mandate appears to have been preempted by the IGC. At its second meeting, the IGC requested the WIPO Secretariat to prepare a document for its third session "[w]ith elements for a possible *sui generis* system".¹¹³ In the spirit of the coordination between the WIPO via the IGC and the CBD via the Working Group, the 6th COP has invited the WIPO to forward to the Executive Secretary (CBD) all documents considered relevant regarding the advances made by the IGC for incorporation into the meetings of the Working Group.¹¹⁴ Without doubt, such documents will include the one on the elements of *sui generis*.

¹¹⁰ See WIPO Doc. WIPO/GRTKF/IC/3/8 titled, "Elements of a *Sui Generis* System For The Protection of Traditional Knowledge" (29 March 2002); see also *supra* note 13.

¹¹¹ The twenty-year reference locates the debate over the protection of traditional knowledge in the 1982 the WIPO/UNESCO Model Provisions for National Laws on the Protection of Expressions of Folklore Against Illicit Exploitation and Other Prejudicial Actions. Both the Model Provisions and the 1992 Convention on Biodiversity are regarded as two major landmarks in that debate. See Elements of *Sui Generis*, *supra* note 13 para. 4 & n.10.

¹¹² See Para. 34 of decision VI/10, *supra* note 56.

¹¹³ See Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, Second Session Report, WIPO Doc. WIPO/GRTKF/IC/2/16 (14 December 2002), para. 17; see also Elements of *Sui Generis*, *supra* notes 13 & 109.

¹¹⁴ See para. 38 of decision VI/10, *supra* note 56.

In accordance with the CBD objectives, a *sui generis* protection for local knowledge must meet the needs of conservation through empowering indigenous knowledge holders without compromising their cultural identity.¹¹⁵ I have noted the inadequacies of the *sui generis* elements that have been advocated under the general IP law such as patents. Nonetheless, it is true that such elements as indications of origin may serve some, albeit limited, purposes of protecting only certain indigenous knowledge forms.¹¹⁶

One point that may be obvious at this stage but which nonetheless requires reiteration is the way the *sui generis* idea is being conceptualized.¹¹⁷ It is generally conceptualized in two ways. First, the *sui generis* notion is perceived as a legal system for the protection of knowledge. However, even though strictly such system does not conform to the mechanisms of the mainstream intellectual property, it derives its basic elements or characters therefrom.¹¹⁸ Arguments for new or intellectual property-style

¹¹⁵ The objectives as set out under article 1, taking into consideration the provisions of article 8(j).

¹¹⁶ *Sui generis* scheme based on mainstream intellectual property rights may serve defensive purposes.

¹¹⁷ Article 27 of the TRIPs Agreement which provides for a patent or an “effective *sui generis*” protection or a combination of both in relation to plant variety did not define the term *sui generis*. See Dan Leskin & Michael Flitner, “Intellectual Property Rights and Plant Genetic Resources: Options for a *Sui Generis* System”, *Issues in Genetic Resources* # 6 (International Genetic Resources Institute, Bonn, 1997) at 27 (arguing that there is little or no jurisprudence or drafting history which can be relied upon to explain the term “effective *sui generis* systems” as used under the TRIPs agreement). The connection of the term to the CBD is explained in part by article 8(j) which provides for protection of traditional knowledge. Intellectual property, being a primary mechanism for the protection of knowledge can serve the objective of article 8(j) and other relevant articles of CBD which either sanction intellectual property directly or contemplate mechanisms for protection of local knowledge in general. Since mainstream intellectual property rights do not adequately protect indigenous knowledge forms, the *sui generis* concept represents attempts at manipulating the existing regimes or the creation of new categories of rights.

¹¹⁸ Michael Halewood provides an elaboration of this notion in the following passage where he also offers a definition of *sui generis*:

Sui generis intellectual property protection, “Intellectual property-style protection” are treated as synonymous here. The phrase is occasionally shortened to “*sui generis* protection”, or “*sui generis* law”. In each instance the law is meant to denote a legal system of protection of knowledge that shares some characteristics with intellectual property law but which is different in unique ways in order to be able to protect the new subject-matter of indigenous and local peoples’ ecological Knowledge. See Halwood, *supra* note 7 at 961.

Save to say that *sui generis* is not limited in its contemplation to the protection of new subject matter of indigenous knowledge. For instance, such forms as indications of origin, copyrights on integrated circuits, plant breeder's rights *et cetera* as modern generations of intellectual property protections are *sui generis* regimes that are not exclusively limited to “new-subject matters” of indigenous and local peoples’ knowledge. Similar to the Halewood, Leskien & Flitner have argued that “the *sui generis* system must be an additional IPR conferring on holders a legally enforceable right either to exclude others from certain acts

constructs on the basis of malleability or imitation of the mainstream regime fall within this first category of *sui generis*. The second notion of *sui generis* contemplates an independent knowledge protection specifically for traditional knowledge. It may not be necessarily based on existing or mainstream intellectual property regimes; nor does it have to be "legally" recognized.¹¹⁹ Yet, it has some analogy to intellectual property rights being a device for protection of knowledge. Such an alternative form of intellectual property protection is based on indigenous or alternative cultural practices and protocols; therein lies its uniqueness.¹²⁰ It is a product of the inward looking approach or a "cross-cultural conversation" for the protection of knowledge.

As much as the importance of *sui generis* options based on the mainstream intellectual property rights may not be foreclosed, I believe further efforts should be intensified in the direction of a distinctive *sui generis* option specifically for the protection of traditional knowledge. Such an approach will benefit from the results of case studies and investigations into the customary regimes and protocols for the protection of knowledge that exist amongst various indigenous and local communities. It will signify a determination to "take customary transactions seriously"; beyond empty rhetoric designed to massage indigenous ego. Panama has taken a bold initiative in the direction of enacting a *sui generis* regime that is rooted in indigenous cultural protocols. Article 15 of Law No. 20 provides that "[t]he rights of use and commercialization of the art, crafts and other cultural expressions based on the tradition of the indigenous community must be governed by the regulation of each indigenous and local

in relation to the protected plant variety, or to obtain a remuneration in respect of at least certain uses of the plant variety". See Leskien & Flitner, *supra* note 118 at 30. Perhaps in the context of the TRIPs agreement, the idea of a *sui generis* right being an additional IPR may be more persuasive than under the CBD. Article 8(j) creates an open-ended leverage for Contracting Parties to device regimes for the protection of indigenous and local knowledge form. Creative devices for knowledge protection need not necessarily be mainstream IPRs or their likeness.

¹¹⁹ Where "legally" refers to the dominant Western or formal legal system as opposed to customary norms or protocols. Writing in reference to the Blackfoot tipi design transfer, Noble notes that since the complexity and plasticity of such transfers transcends "IP-ness", "unique localized approaches to transcultural protection and use arrangements can be achieved –without IP law *per se*". See *supra* note 55.

¹²⁰ Erica-Irene Daes refers to this as "indigenous cultural and intellectual property". See Working Group on Indigenous Populations, "Study on the Protection of the Cultural and Intellectual Property of Indigenous Peoples", UN Doc. E/CN.4/Sub.2/1993/28 (28 July 1993); see also Michael Blakeney, "The Protection of Traditional Knowledge Under Intellectual Property Law" (2000) 22 *European Intellectual Property Review* 251. As an aside, it could be argued that forms of intellectual property systems existing in indigenous communities are not *sui generis*. To describe them as such is to privilege Western forms of intellectual

communities...".¹²¹ Interestingly, despite the criticisms trailing the Merck/INBio deal, Costa Rican Biodiversity Law of 1998 contains similar provisions.¹²²

Even though the ultimate objective of a *sui generis* system could be to evolve a scheme that will be relevant internationally, the inquiry must proceed from the local. The following observation captures the importance of an inward approach:

In practice, a 'top-down' or pre-emptive approach to defining *sui generis* protection at an international level is less likely to succeed if it is shaped without reference to the experience gained from operational *national* systems that provide practical models for functioning TK [traditional knowledge] protection whether through *sui generis* protection or the application of existing IP systems to TK subject matter.¹²³

Integrating local or customary protocols into different national systems of protection will serve the objective of isolating general principles which will form the basis of an international *sui generis* framework.¹²⁴ It is needful to add that such a "national system" must be premised on prevailing customary norms, and many such norms are not necessarily operational or empowered in many societies. Hence efforts must be intensified to make them operational by making them part of the national law. In this regard, the WIPO and CBD practice of commissioning relevant case studies is a step in the right direction.

An imaginative *sui generis* model specifically for the protection of traditional knowledge will not compromise indigenous values and cultural integrity because it is a product of that system. It is one most likely to cover all manifestations and expressions of traditional knowledge forms in their full essence. Mainstream intellectual property or *sui*

property rights as the only intellectual property right system. However, that appears to be the unwritten assumption.

¹²¹ An unofficial English version of Law No. 20 of Panama appears in WIPO Document OMPI/CRTK/SLZ/02/INF/3, of 5 March 2002. The Panamanian Law adopts a narrow and almost purist view of traditional knowledge that are protected under that law's *sui generis* construct. For instance, "[o]nly elements of traditional knowledge that remain intrinsically linked to the community that has originated them, would be protected under the *sui generis* system. See Elements of Sui Generis, *supra* nn. 13 & 109 para. 39 at 18.

¹²² See article 85 of Biodiversity Law, Costa Rica, No. 7.788 of 1998. Part of the criticism against the Merck/INBio Bio Prospecting agreement is that because of its focus on the economic exploitation of biological resources, the agreement does not adequately take into account the integrity of traditional knowledge and the interests of its custodians or practitioners.

¹²³ My emphasis. See Elements of *Sui Generis*, *supra* nn. 13 & 109 para. 4 at 3.

¹²⁴ Para. 8.

generis systems deriving therefrom have a tendency to fragment traditional knowledge.¹²⁵ For instance, to fully protect the therapeutic practice of the medicine man, its different forms may be pigeonholed into different intellectual property regimes. For indigenous peoples, traditional knowledge is a means of cultural identification and essence of their life world. It has been rightly noted that “as a means of cultural identification the protection of traditional knowledge ceases to be simply a matter of economics or exclusive rights...it acquires human rights dimension for it intertwines with the issues of cultural identification and dignity of traditional communities”.¹²⁶ For indigenous and local communities, their knowledge is a holistic experience, a conservation ethic in which the reality of their survival is premised.¹²⁷ The preservation and integrity of their knowledge is a matter of survival. At their best, mainstream intellectual property regimes offer options for protection of indigenous knowledge in fragmented forms. Such options undermine the underlying issues of cultural integrity and epistemic framework of traditional heritage.

It is however interesting that the CBD/WIPO renewed initiative on the protecting of traditional knowledge includes folklore. As I have noted traditional medicine embraces

¹²⁵ See Noble, *supra* note 55.

¹²⁶ See Elements of *Sui Generis*, *supra* nn. 13 & 109 para. 14 at 6-7.

¹²⁷ In the sub-program 11.4 of Main Program II of WIPO's Global Intellectual Property Issues Program titled, “Intellectual Property and Development” the main objective is the exploration of the role of intellectual property rights as a progressive asset for meeting the developmental, social, cultural and technological aspirations of peoples. See “WIPO Main Program II”, *supra* note 66 at 96. In elaborating on sub-program 10.1, “Genetic Resources Traditional Knowledge and Folklore”, of the current GIPI, i.e. the Main Program 10, WIPO notes that “the relationship between intellectual property and economic, social and cultural rights, and human rights in general, attracted increased attention during the 2000-2001 biennium, including within the Human Rights Commission of the United Nations. Further information on the exploration of the relationship is necessary in order for the intellectual property community to participate effectively in discussions concerning intellectual property and human rights”. See *supra* note 98 at 92. Two ways are identified by which traditional knowledge can serve human rights objectives: legal and economic. A legally effective and transparent system of protection, it is argued, increases the legal security and certainly which will enhance the interests of both the traditional knowledge holders and bioprospecting organizations. Economically, formalization of traditional knowledge for example through recording and forms of fixation turns them into capital which will facilitate the emergence of traditional communities-based commercial ventures. Such ventures are instruments for the eradication of poverty. See “Elements of *Sui Generis*”, *supra* nn. 13 & 109, para. 20 & n. 27 at 10; see also Hernando de Soto, eds., The Mystery of Capital—Why Capitalism Triumphs in the West and Fails Everywhere Else (New York: Random House, 2000) (also cited in Elements of *Sui Generis* System). It may be however simplistic to suppose that what is required for local peoples to be successful is to have their intangible knowledge fixed or documented. Again, the probability that such documentation could facilitate the appropriation of knowledge and stifle creativity is as real as the benefits that can be derived from it. See *supra* note 42. To be convincing the economic plank of the argument should account for indigenous cultural values and orientation which the market economy argument undermines at best, or dispenses with, at worst.

all aspects of practices that fall within the understanding of folklore. Unfortunately, the WIPO Model Provisions unduly limits discourse and conceptions about folklore to the context of artistic creations. As the review of the Model Provisions gets underway, it is hoped that this matter will have to be revisited. The thinking is rife at the WIPO, CBD and the general international law on indigenous peoples that intellectual property in the context of indigenous knowledge is more than a utilitarian construct for commercial indulgence. For instance, I have noted the fact that the WIPO fact-finding missions under the GIPI program draws a relationship between intellectual property to the social, cultural and economic development of indigenous and local communities. Thus the linkage between indigenous knowledge, intellectual property and human rights has been made albeit coldly received by Western countries.¹²⁸

A *sui generis* arrangement that underscores the cultural context of traditional knowledge is desirable. It fits into a social planning concept of intellectual property discussed in chapter two. It depicts the potential role of intellectual property in advancing a balanced cultural vision. Such a regime reclaims the cultural dimensions of intellectual property rights, which as we saw in the last chapter, are compromised under the discredited logic of development.

The mainstream intellectual property rights and most *sui generis* categories based on them perceive traditional knowledge merely as the sum of its separated part. As it has been rightly observed, “traditional knowledge is more than that—it is the consistent and coherent combination of those elements into an indivisible piece of culture”.¹²⁹ In its cultural context traditional knowledge, as exemplified by TKPT is a conservation or ecological ethic, it is an embodiment of a peoples culture; their history; their philosophy; their religion and belief systems; their identify and worldview.

In the present era of indigenous renaissance in international law, questions about the protection of indigenous knowledge must be carefully appraised. If the objective is to

¹²⁸ See Halewood, *supra* note 7 at 986 (pointing out that under the 1998 expanded mandate of Global Intellectual Property Issues program, the earlier draft of the new mandate dealing with the subject of intellectual property for new beneficiaries supported the notion that intellectual property right should not be limited to economic rights. Instead it should be seen as component of human rights. Western countries resisted this view. Consequently, the final version of the mandate contains an introductory statement to the effect that the Universal Declaration of Human Rights identifies some forms of intellectual property as human rights).

¹²⁹ See Elements of *Sui Generis*, *supra* nn. 13 & 109 para. 27 at 14.

serve the interests of indigenous and local communities, economically and culturally, then they (indigenous and local communities) ought to be active participants in the process. Adequate regard must be given to schemes that have their basis in indigenous episteme. Indigenous and local peoples must be wary of devices, which even though attractive are capable of eroding their cultural identities.

If we are to avert inadvertently leading indigenous people to the dangerous path of epistemic and cultural assimilation, what is needed is a system that accommodates different ways of knowing. It has become compelling to shun a parochial scientific high ground and design a system that recognizes and responds to the holistic nature of traditional knowledge, a system that understands its cultural context; and one which takes a comprehensive approach to it. *Sui generis* systems for the protection of traditional knowledge must not necessarily imitate the mainstream intellectual property regimes. Schemes based on indigenous customary ethos should be explored, whilst modes of their integration into the international system beginning with the national experiences also deserve attention.

As we have seen, the mainstream intellectual property system is an industrial model which sanctions one epistemic genre. From my exploration of TKPT, we have seen how such parochial and ethnocentric tradition hampers the acknowledged potentials of medical pluralism. The Western scientific and industrial system, supported by conventional intellectual property is not flexible enough to accommodate alternative accounts of knowledge. At least that is the simple conclusion from the patent regime. We have seen that the therapeutic and the pharmaceutical are intermingled in TKPT. Consequently, we see in traditional therapeutic systems alternative conceptions of health, and healing. Protective schemes that do not reify one knowledge system over another enable humanity to maximize the immense strength and benefits that are inherent in its diversity. That is the promise of a cross-cultural approach to the intellectual property discourse.

6.6 The Cross-Cultural Approach As a Framework

The idea of an inward looking approach or cross-cultural discourse about intellectual property is a framework concept. It is proposed as a direction in the search for a culturally oriented *sui generis* model. It requires perhaps a more focused attempt to flesh out its details, which is a matter for another day. For now, it needs mentioning that the crystallization of international efforts for the protection of indigenous knowledge has been narrowed down to the amorphous concept of a *sui generis* system. That realization may seem insignificant, given that the process of arriving at that understanding took twenty years.¹³⁰ Nonetheless, it may not be really a trivial achievement; rather, it shows the extremely complex nature of the issues involved.

Another piece of good news is that despite the cross-cutting nature of the issues involved and plethora of indigenous, national, regional, international, and inter-governmental institutions concerned, the coalescing of efforts at the WIPO and CBD levels is a positive development. Notwithstanding the conceptual flaw of the Fact Finding Missions, the WIPO and the CBD have taken coordinated and authoritative initiatives which will set the tone on the discourse about indigenous knowledge while feeding into other forums with a stake on the subject. Specific mention is made of the WTO, particularly through its review of article 27.3 (b) of the TRIPs agreement. The TRIPs agreement is symbolic of the trend toward the emergence of one global economy, and the inevitable shift from the territorial character of intellectual property rights. That represents one of the challenges of a *sui generis* system conceptualized pursuant to article 8(j) of the CBD. The 2001 Doha Declaration of the 4th WTO Ministerial Meeting has also endorsed a coordinated approach for appraising the convergent issues.¹³¹

Another subject that will affect or constrain the *sui generis* discourse is the resource ownership regimes between indigenous and local peoples and national

¹³⁰ See *supra* note 111.

¹³¹ For instance, while sanctioning the continuing review of article 27.3 (b) of the TRIPs agreement and the review of the entire TRIPs agreement pursuant to the latter's 71.1, article 19 the Doha Declaration requires the consideration of other implementation issues associated with the agreement including the examination of "the relationship between the TRIPs Agreement and the Convention on Biological Diversity, the protection of traditional knowledge and folklore, and other relevant new developments raised by members pursuant to Article 71.1...". For a text of the declaration, see WTO document WT/MIN/O1/Dec/1 adopted 14 November 2001, online: WTO

governments. This is a matter of constitutional nature in many countries. Often there is no unity of purpose or sufficient confidence between indigenous and local communities and power-wielding elites in many countries. Nonetheless, the protection of indigenous knowledge would be better enhanced in an atmosphere of unity of purpose between national governments and indigenous and local communities. Because this is not always the case, some indigenous and local peoples lack the requisite trust to work with national governments. They may be inclined to rely on international efforts to protect their interests.¹³² However, the most important thing is that a viable *sui generis* whether instigated from within or without should be drawn from indigenous customary norms or protocols.

The highlight of the elements of a *sui generis* system for protection of traditional knowledge from the WIPO¹³³ reveals the enormity of the issues involved. Each of the issues raises conceptual questions in relation to the existing intellectual property system, and national or international scope of application as well as practical questions of its applicability to all forms of traditional knowledge. In conceiving a *sui generis* form, the items which demand detailing are: its general legal framework, elements which address questions about the policy objective, subject matter, criteria for protection, right owners, content of rights, mode of rights acquisition, administration, enforcement of rights¹³⁴ and concerns about the public domain. This list is by no means exhaustive. For these considerations to make any meaning toward advancing the cross-cultural conversation, they may have to be examined closely in the context of applicable indigenous customary regimes.

A number of these issues have been addressed in narrower fashion by the *sui generis* models based on existing intellectual property systems. But under distinct or independent *sui generis* systems, they take on a life of their own. We are no doubt at the beginning of a crucial stage in the twenty-year attempt to protect indigenous knowledge. Since it took the international community twenty years to arrive at this stage, predictably,

<http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm> (date accessed: 22 October 2002).

¹³² This may serve a limited purpose of awareness building and can only yield result over a very long period. Essentially, such an approach may not go far if national governments are uncooperative. This shows how self-determination is such a critical but separate need in many cases.

¹³³ See Elements of Sui Generis, *supra* nn. 13 & 109 paras. 34-57 at 16-24.

it would take much more to sort out the operational details. Yet, in the interim, national governments are in the position to realize that expectation by taking proactive steps to advance the inward looking agenda through the provision of legal cover for relevant customary protocols. Nonetheless, indigenous peoples and the imperative for the protection of their knowledge cannot be left in abeyance. Despite their inadequacies, *sui generis* systems based on existing elements of mainstream intellectual property and other contractual options, remain relevant. Their relevance may signify a stop-gap measure pending the emergence of concrete results from the cross-cultural conversations toward the protection of knowledge that have just begun.

¹³⁴ *Ibid.*

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