

2012 Geography Field Seminar Research Paper

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Topic

An examination of the presence of the Indigenous voice in the evolution of environmental ethics over the past sixty years

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Title

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Research Question

In this paper, I examine the presence of the Indigenous voice in the evolution of environmental ethics over the past sixty years, focusing my attention on two inter-related themes:

- a.) the exploration of key philosophical perspectives reflected in the search for an environmental ethic in geography, and
- b.) an examination of the extent to which Indigenous perspectives are embedded, reflected or integrated in the growing body of literature.

An underlying theme informing this exploration is the accelerating global preoccupation with environmental degradation and climate change issues.

I undertake this exploration by providing a discussion on:

- 1.1 A brief overview of the evolution and influences in environmental ethics philosophy over the past sixty years, with special reference to the work of Aldo

Leopold, Lynn White Jr., Richard Sylvan (Routley), Arno Naess, Warwick Fox, J. Baird Callicott and Ian McCallum;

1.2 An examination of tangential references to Indigenous perspectives during this period;

2.1 An examination of the more formal engagement with Indigenous environmental, ecological and ethical perspectives during the past twenty-five years in two publications:

- The Gaia Atlas of First Peoples (Julian Burger) and
- Sacred Ecology (Fikret Berkes);

3.1 A preliminary exploration of the growing presence of the Indigenous voice in environmental ethics and geography over the past decade.

I conclude with an analysis of my findings, noting theoretical and conceptual frameworks that influenced the work. As well, I consider the inseparable linkages with an accelerating environmental crisis, which may have impacted this particular environmental ethics trajectory, that is, the one that incorporates a growing Indigenous presence.

Introduction

Geography, derived from the Greek word, *geographia: earth description*, studies the lands, features, inhabitants and phenomena of the earth. Modern geography is an all-encompassing and continuously developing discipline that seeks to understand the earth and its human and natural dimensions, dynamics and complexities. Geographers study the spatial and temporal nature and distribution of phenomena, features, processes, and interactions, animate and inanimate, of the world we live in.

Geography is typically divided into two main branches, physical and human geography. Physical geography examines the natural environment and how organisms, climate, soil water and landforms produce and interact; it aims to understand the lithosphere, hydrosphere, atmosphere, pedosphere and biosphere (global flora and fauna patterns). Human geography is focused on how humans create, view, manage and influence space and environment. It also examines dynamics emerging from spaces that shape human society, including human, political, cultural, social, psychological and economic dimensions, relationships, patterns and processes.

Over the past century, there has been increasing attention paid to environmental issues that are seen to be impacting life on earth, with researchers, scientists, scholars, academics and the public at large engaged in intense debates about environmental degradation and destruction, pesticides, species and resource depletion, pollution and stewardship.

Over the past two decades, global attention has been drawn to the environment with increasing urgency. This is evident in the numerous United Nations conferences and global studies since 1992: Earth Summits, Conventions on Biodiversity and Climate Change. A general literature review indicates that many factors are emerging as issues of crisis proportions and are under now under critical examination. These include:

- increasing levels of green house gas, melting ice caps, rising ocean temperatures and water levels;
- environmental catastrophes, natural disasters, pollution/depletion of soils, waters and air quality;
- dominant economies and countries driving natural resources market development and economic growth in a global context; and
- unprecedented human population growth rates, famine, food and water shortage, infectious disease.

A tremendous body of literature has emerged under the rubric of environmental ethics. It explores the intrinsic nature of the environment and the non-human world, and the moral relationship of human beings to this world. In these intense studies and debates about environmental destruction, resource depletion and stewardship, as well as natural market resource development and management, many voices are now raising questions regarding the relevance of Indigenous perspectives and practices. This rich and contested literature is contributing significantly to the continuing evolution of the discipline of geography.

My particular interest in the area of environmental ethics is the presence of the Indigenous voice in its philosophical underpinnings. I commence my research with an the exploration of key philosophical perspectives reflected in the search for an environmental ethic in geography, and then examine the extent to which Indigenous perspectives are embedded, reflected or integrated in the growing body of literature.

In my overview of the literature and research, I note three distinct threads over time:

- initially, a veiled Indigenous presence, referred to incidentally or peripherally in the literature generated between the forties and eighties;
- this is followed by a focused examination of Indigenous ethics and perspectives on environment over the past twenty five years; and
- finally there is the emerging articulation of Indigenous voice in ethics and research in geography since the turn of the century.

My research leads me to pose questions to be undertaken in further research: to what extent can Indigenous ethics be validated in geographical research, and how can it further contribute to the on-going evolution of environmental ethics.

Methodology

I conduct this research by undertaking a literature review and critical overview of the evolution of the domain of environmental ethics in geography, identifying key influential voices, core themes and arguments and shifts in thinking; examining the impact or influence of theories and concepts; and tracking the emergence of the presence of the Indigenous voice and scholarship.

The first part of the paper includes a brief overview of the evolution and influences within the discipline of environmental ethics over the past sixty years; and identifies tangential references to Indigenous perspectives in several influential writings. Environmental ethics is a fast growing field of study, with a substantial body of scholarly material. Here, I have chosen to examine research on several key themes impacting the development of a philosophical framework for environmental ethics:

Aldo Leopold call for *A Land Ethic* (1949)

Lynn White Jr's paper: *The Historical Roots of Our Environmental Crisis* (1967)

Richard Routley (Sylvan's) demand for a focused *Environmental Ethic* (1973)

Arno Naess's consideration of *Deep Ecology* (1970s)

Warwick Fox's presentation of *Transpersonal Ecology* (1990)

J. Baird Callicott (1999) and *The Search for an Environmental Ethic* (1999)

Ian McCallum's advocacy of *Ecological Intelligence* (2005)

I have chosen these works partly because of their significant impact on the evolution of environmental ethics, and partly because they are each informed to some extent by exposure to critical Indigenous ethical perspectives.

Since my focus is examining the invisible, marginalized and then growing presence of the Indigenous voice, I am limiting my exploration to this philosophical evolution thread.

Following the exploration of the mainstream research, I focus on Indigenous perspectives, as presented in two books: *The Gaia Atlas of First Peoples* (Julian Berger) and *Sacred Ecology* (Fikret Berkes). I selected the former, because it was published to coincide with the first formal presence of Indigenous Peoples in a United Nations forum; that conference was entitled *Cry of the Earth*, and launched the Indigenous voice into global environmental ethics debate. I selected the latter because it constitutes a book length exploration of Indigenous values, relationship and resource management approaches.

Next I turn to the emerging articulation of the academic Indigenous voice in ethics and research in geography since the turn of this century. Here I examine select research papers with a focus on the activist call for a place for the Indigenous voice in geography, new perspectives on ethics and legal/jurisdictional issues, and the Indigenous presence in contemporary environmental issues.

Finally, I conclude with an analysis of the information that I have reviewed, with several

core objectives in mind:

- to ascertain the extent to which the selected literature in environmental ethics reflects, reviews, incorporates, integrates and/or espouses the Indigenous voice;
- to examine the material in the context of the prevalent theories and concepts impacting and influencing research in geography during the different periods under review;
- to examine the material in the context of global environmental issues; and
- to query the potential and timeliness for a further shift in the philosophical underpinnings of environmental ethics to one that embraces Indigenous ethics.

Discussion

Background

Environmental ethics has become a central preoccupation in the study of human geography since the mid-twentieth century. Originally, however, many factors influenced the philosophical shifts toward *ethics* from outside the discipline of geography: for example, literature, music, movies, science and economics. Considerable influence at emotional and intellectual levels came from early American writers of the nineteenth hundreds like Emerson, Thoreau and Whitman, who idealized man's relationship with nature; and John Muir, the poet and environmentalist, who became founder of the *Sierra Club* and father of American conservation. In the mid-sixties, there were new voices and new environmental concerns articulated by Paul Ehrlich, in *The Population Bomb* and in the *Limits to Growth* study led by Dennis Meadows. The public was viewing *Solyent Green*, the futurist movie about the vulnerable earth, and the *hippy culture* and musicians were weighing in environmental debates. The iconic NASA image of *The Blue Planet* featured in *Scientific American* in 1970, was seen around the world as our common home, the living *Gaia*, beautiful, fragile and vulnerable to pollution and abuse.

However the watershed moment for environmental ethics studies came with the 1962 publication of Rachel Carson's timeless classic, *Silent Spring*. A scientist, marine biologist, government employee and writer, who herself died of breast cancer, she challenged pharmaceutical companies and policy makers dramatically, by lifting the

curtain on environmental degradation caused by ddt, other pesticides and pollutants. In the 1994 reprint of the book, former US vice-president Al Gore notes the following:

“In 1962, when *Silent Spring* was first published, “environment” was not even an entry in the vocabulary of public policy. ... Without this book, the environmental movement might have been long delayed or never have developed at all. ... *Silent Spring* planted the seeds of a new activism that has grown into one of the great popular forces of all time. When Rachel Carson died, in the spring of 1964, it was becoming clear that her voice would never be silenced. She had awakened not only our nation but the world. The publication of *Silent Spring* can properly be seen as the beginning of the modern environmental movement. ... The Environmental Protection Agency was established in 1970, in large part because of the concerns and consciousness Rachel Carson had raised” (p. xviii – xx, 1994).

In their comprehensive *Environmental Ethics* overview in the Stanford Encyclopedia, Brennan and Lo describe this field as the study of the moral relationship of human beings to the environment and its nonhuman contents (2011). It has become a significant feature in the academic world, with the a growing number of books, journals, associations, conferences and researchers from within human geography and beyond (e.g. philosophy, social studies, psychology and feminism) contributing to its phenomenal growth and influence over the past two decades. The global environmental crisis, global warming and

climate change preoccupations of the twenty-first century have raised its visibility and centrality at local, regional and international levels.

Key Select Philosophical Underpinnings in the Development of Environmental Ethics

In this section, I undertake a brief overview of the evolution and influences that have contributed to the philosophical underpinnings environmental ethics over the past sixty years, taking note of any peripheral references to Indigenous presence or ideas.

Aldo Leopold: *A Land Ethic* (1949)

It was amateur philosopher Aldo Leopold who made the formal call for environmental ethics with his argument for *A Land Ethic*, in his book, *Sand County Almanac: And Sketches Here and There* (1949). Leopold had spent many years as a conventional career forester promoting fishing and hunting; later in life, after observing and reflecting deeply on the increasing degradation of the natural world and its non-sustainability as a result of human actions, he came to see the need for a moral relationship with the environment. He made an articulate appeal for the extension of the philosophy of human ethics into the domain of environment.

Thus, Aldo Leopold's call for *A Land Ethic* launched the academic articulation of environmental ethics. He himself presented these key observations with respect to land:

“There is as yet no ethic dealing with man’s relation to land and to the animals and plants which grow on it. ...Land-relations is still strictly economic, entailing privileges but not obligations” (p.203).

He then quite literally examined the land, *the soil*, and developed his model of the biotic pyramid, the food chain; and he presented the individual as member of a community of interdependent parts. Finally, he noted that he

“purposely presented the land ethic as a product of social evolution because noting so important as an ethic is ever ‘written’. ... The evolution of a land ethic is an intellectual as well as emotional process. ... (A)s the ethical frontier advances from the individual to the community, its intellectual content increases. The mechanism of operation is the same for any ethic: social approbation for right actions; social disapproval for wrong actions” (p. 225).

I note a small reference to the Indian in Leopold’s chapter on Wildlife in American Culture in his book: “The culture of primitive people is often based on wildlife. Thus the plains Indian not only ate buffalo, but buffalo largely determined his architecture, dress, language, arts, and religion” (p.177). The seeds for the notion of community that Leopold comes to espouse are evident. He finds significant shortcomings in the American interface with wildlife, and expresses this poignantly in his story about the elimination of the wolf which results in the overpopulation of the deer: “The cowman who cleans his range of wolves does not realize that he is taking over the wolf’s job of

trimming the herd to fit the range. He has not learned to think like a mountain” (p. 132). Here, one might almost glimpse the shadowing *Indian*; certainly, as is noted in the chapter on the Land Ethic, this *Indian* was reflected upon: “This same landscape was ‘developed’ once before, but with quite different results. The Pueblo Indians settled in the Southwest in pre-Columbian times, but they happened not to be equipped with range livestock. Their civilization expired, but not because their land expired” (p.206). Indigenous Elder and environmentalist William Commanda has iterated the same principle – the droppings of the deer and moose and caribou are pure and good for soil; cow dung destroys the soil and contaminates the water, (a problem only exacerbated with fertilizer) and can be used to create dynamite (personal communication; contemporary account).

Brennan and Lo note that Leopold presented a challenge and opportunity for moral theorists to devise an ethical theory to justify the injunction to preserve the integrity, stability and beauty of the biosphere (2011).

Lynn White Jr. and The Historical Roots of Our Environmental Crisis (1967)

The debate about *anthropocentrism* (human-centeredness) gained attention when Rachel Carson questioned man’s control of nature in *Silent Spring* (1962). In 1966, medieval historian Lynn White, Jr. made a significant contribution to the ethics debate, when he made a presentation on *The Historical Roots of Our Ecological Crisis* to the American Association for the Advancement of Science. According to Brennan and Lo

(2011) and Warwick Fox, (1990), he struck an extremely sensitive nerve in the body of Western culture by arguing that Christianity, especially in its Western form, was is the most anthropocentric of religions. He made the following points:

- the Judeo-Christian idea that humans are created in the image of the transcendent supernatural God radically separate from nature, also, by extension, radically separates humans themselves from nature;
- this ideology opened the way for untrammelled exploitation of nature;
- further, modern Western science itself incorporated orthodox Christianity and an arrogance toward nature; and
- thus it provides the original deep-seated drive to unlimited exploitation of nature.

White pointed to a resultant deep-seated man-nature dualism, which, he posited, unless eradicated from minds and emotions, would negatively impact making fundamental changes in attitudes and actions affecting ecology (1967).

(It is noted that White attempted to soften his position regarding Christianity by affirming the nature-human beliefs of St. Francis of Assisi, but the history of the thirteenth century eco-environmentalist Sufi master Rumi indicates that the Franciscan was actually a thief in Damascus till exposure to Rumi's teachings converted him to respect for nature (*The Illuminated Rumi*, Coleman and Green, 1997)).

Richard Routley (later Sylvan): *An Environmental Ethic* (1973)

Leopold envisioned *A Land Ethic* emanating from Western philosophy. In Australia, philosopher Richard Routley (later Sylvan) asked if there was need for *A New, an Environmental, Ethic* (1973). He declared,

“If Leopold is right in his criticism of prevailing conduct, what is required is a change in ethics, in attitudes, values and evaluations. For as matters stand, ... men do not feel morally ashamed if they interfere with a wilderness, if they maltreat the land, extract from it whatever it will yield, and then move on, and such conduct is not taken to interfere with and does not arouse the moral indignation of others” (p. 47).

Thus, unlike Leopold who saw potential for an environmental ethic emanating from human ethics, Routley (later Sylvan) concluded that the main approaches in traditional western moral thinking were grounded in anthropocentrism, and incapable of recognizing that natural things have intrinsic value; he saw the need for a significant shift in attitude towards environment. Concepts pertaining to the instrumental and intrinsic value of elements of the natural world, as well as anthropocentrism, play a key role in his philosophical position. Brennan and Lo note Routley’s exposé of anthropocentrism as embedded in the dominant Western view, in his *last man* and *human chauvinism* examples (2011). It is noted that Sylvan (Routley) criticizes *western* thinking; while it is not expressed in any concrete fashion, it is clear that the conceptual frameworks he draws

upon are also reflective of the ways of thinking of the Aborigines of Australia, and it is plausible to conclude their ideology may have influenced his thinking.

Arno Naess: *Deep Ecology*

Arno Naess was the Norwegian philosopher who exerted considerable impact on the environmental ethics debate, especially in America and Australia. While he distanced himself from advocating any land ethic, Arno Naess became the primary voice associated with *Deep Ecology*. He saw *Shallow Ecology* as the fight against pollution and resource depletion for the benefit and health of developed countries, firmly entrenched under the anthropocentric umbrella. In this, he like Aldo Leopold is concerned with the ethical limitations and abuses inherent in the recreation and conservation models. As both Brennan and Lo, and also Warwick Fox, point out, *Deep Ecology* endorses *biospheric egalitarianism*, the view that all living things are alike in having value in their own right, independent of usefulness to others; Naess also rejected atomistic individualism, proposing *relationism* wherein individuals are *knots* in the *biospherical* net. The identity of a living thing is essentially constituted by its relations to other things and to the expanding boundaries of self by identification with nature (2011 and 1990 respectively).

The influence of the Indigenous is present in some trace fashion in the experiences that led Norwegian philosopher Arno Naess to his understanding of *Deep Ecology*. Brennan and Lo note that he and his colleagues Sigmund Kvaloy and Nils Faarlund shared a passion for the great mountains; once on a visit to the Himalayas, they became impressed

with aspects of *Sherpa culture*, particularly when they found that their Sherpa guides regarded certain mountains as sacred and accordingly would not venture onto them. Subsequently, Naess formulated a position which extended this reverence for the mountains to other natural things in general (2011). Again, the Indigenous voice becomes the invisible in the mind-shifted perspective that then is developed.

Warwick Fox: Towards a Transpersonal Ecology (1990)

In his scholarly work, *Towards a Transpersonal Ecology*, Warwick Fox, psychologist/philosopher and student of Naess, provides a sustained analysis of the transition of the environmental movement from human-centeredness, as reflected in *Silent Spring*, to a philosophical exploration of deep-ecology, as articulated by Naess. He examines ecophilosophical themes like instrumental value and intrinsic value theories concerning the non-human world, emerging concepts in transpersonal psychology pertaining especially to the dynamic tripartite conception of the self; and he moves the deep-ecology philosophy-based ideas of Naess toward the context of an emerging field he posits as a transpersonal ecology (1990). Thus he provides the framework for a personal and psychologically grounded linkage with environment and nature. Brennan and Lo note that, in later years, consistent with Naess's ideas of *relationism values*, Fox proposes a morally bound *responsive cohesion* to the maintenance of ecosystems and the biophysical world (2011).

Fox's book offers a very insightful examination of the evolution of environmental ethics. There is no substantial reference to Indigenous presence in his work. In the context of my studies of Indigenous ideas, he comes the closest to articulating a certain approximation of the complexities inherent in the Indigenous way of knowing. However, there are limitations to his argument for the human-nature interface. Further these limitations render him vulnerable to charges of misanthropy or totalitarianism, in his distance from the human-centred focus of most geographers of the day. Perhaps this vulnerability stems from the avoidance of the *sacred* in order to off-set challenges such as those directed against Naess(as per the following paragraph). This leaves a tangible gap in the articulation of his philosophy.

J. Baird Callicott: In Search for an Environmental Ethic (1999)

J. Baird Callicott has researched and written about environmental ethics extensively. He was Leopold's closest follower and exponent, though he has also been seen to limit the scope of Leopold's ideas. Here I reflect only on a select few points. Callicott asserts in, *In Search for an Environmental Ethic*, that:

“The environmental crisis of the mid-twentieth century is very real and very profound. It represents less a challenge to engineers than to philosophers, since in the final analysis technology only gives substance to our beliefs and serves our values. The eventual resolution of the environmental crisis and the ultimate viability of *Homo sapiens* will therefore turn on the development of a world view

and ethic more in harmony with the working principles and laws of earth's biotic community, mankind's nurturing natural home. Thus a significant new turn has been taken in philosophy during the last quarter of the twentieth century: the search for an environmental ethic. ... The ecosystemic land ethic, in complying with the criteria of consistency, adequacy, practicability and parsimony, (is posited as) a better environmental ethic than any other candidate so far proposed" (p. 383).

Callicott voiced strong objections to the perspectives of Routley (Sylvan), Naess and Fox. His text *The Search for An Environmental Ethic* makes one reference to American Indian cultures, drawing from it concepts regarding social and economic intercourse, human-environment interaction, cultural narrative, reciprocity, respect for the biotic community, human-animal relationships and instructive stories. He states that "the general ideas provided by American Indian cultures of respectful, restrained, mutually beneficial human use of the environment are certainly applicable in today's context" (p. 270). This reference, while affirmative, occupies a scant half page in fifty-four page chapter; again, once senses the fleeting presence of the shadowy Indian in the overall dismissive approach. While introducing the concept of the ecosystem into the environmental ethic discussion, Callicott retains the dominant anthropocentric lens.

Ian McCallum: Ecological Intelligence (2005)

In 2005, South African medical doctor, psychiatrist, scientist, naturalist, writer and poet Ian McCallum published *Ecological Intelligence*; *ecology*, he notes, is the study of living organisms and their environment, the study of ecosystems, and the study of the environmental conditions of existence; and *intelligence* is the capacity to learn from experience, to think in abstract or symbolic terms and to deal effectively with one's environment (2005). This is likened to the capacity of an animal to use tools, to solve problems, to find its way home and to learn by imitation. Noting Karl Popper's observation that all scientific theories have a subjective core, and noting the human/nature split, McCallum posits human as the *human animal*. Making them very visible in his exploration, he states that the *bushman* (San) hunter-gatherers of the Kalahari knew nothing of the shared genes between humans and animals; yet their thirty-thousand-year mythology teaches that all living things are connected, and modern science proves them right. These ideas constitute the premises for McCallum's call for human embracement of an ecological integration with nature.

A Post-script to this Brief Overview Key Select Philosophical Underpinnings in the Development of Environmental Ethics

A field already inundated with tremendous attention over the past two decades, consistent with the global focus on the mounting environmental crisis, newer philosophies, theories and practices have further impacted environmental ethics. It is interesting to note that

almost sixty-five years after his call for *A Land Ethic* in 1949, quite how frequently Aldo Leopold is now referenced in geographical research. Geographers are now seeking urgent answers to an ever-expanding range of environmental issues.

Increasingly, activism is a part of ethical and academic preoccupations. Writing in 2008, Nicholas Blomley, addressing the subject of *The Spaces of Critical Geography*, states that “Radical and critical geographies seek not only to interpret the world, but also to change it, through the melding of theory and political action” (p. 285, 2008). The role of the activist/academic has become a central preoccupation of Critical Geography and for *groups at the margins* (2008).

Further, Blomley notes that the *International Critical Geography Group* which emerged in 1997 now debates what constitutes activism and public engagement, attempts to come up with alternative modes of academic presentation and engagement, and recognizes the challenges of language. What is striking in this ambitious attempt at building international networks for critical geographers and related scholars is the commitment to working through differences in order to attain a *common space of action* given the potential for achieving something radically new (2008).

The emerging literature reveals the growing presence of the Indigenous perspective. It remains to be seen to what extent they might become visible and acknowledged partners in these new networks.

The next part of this paper will examine environmental ethics and ecology and Indigenous voice.

The Emerging Indigenous Presence in Environmental Ethics, as presented in The Gaia Atlas of First Peoples (J. Burger) and Sacred Ecology (F. Berkes)

Backdrop

1987 was a watershed year in the emerging global presence of Indigenous Peoples on environmental issues. Described in quasi-quantum physics language as the time of the *Great Convergence*, here in Canada, shortly after the 1982 repatriation of the Canadian Constitution, it was also the time of the Constitutional Debates on Aboriginal Issues; here, late Algonquin Elder William Commanda, keeper of the Sacred Wampum Belts, devices of both sacred and historic importance, in the midst of the political deliberations, presented the priority in the context of Mother Earth: he viewed Indigenous survival intimately integrated with the health of the earth and the challenge to address the environmental degradation, (*Maurice Bulbulian, NFB Documentary: Dancing Around the Table, 1987*); National Geographic aired a documentary on the Aborigines of Australia, and their earth knowledge globally; and documentaries about the Mayan civilization and ancient aviators became available on public broadcasts. Zulu Shaman and writer Credo Mutwa was sharing earth and animal based knowledge in Japan; West African writer Malidome Some was offering workshops in the United States. Everywhere there were examples of Indigenous presence emerging, and not as *objects of study, but in their own*

voices.

The Gaia Atlas of First Peoples, 1990

Indigenous voices coalesced in 1990 with the publication of the *Gaia Atlas of First Peoples*, by Julian Burger with campaigning groups and native peoples worldwide (1990). Burger served as consultant on the United Nations Centre for Human Rights; and the book was prepared to mark several key Indigenous themes: the five hundred years since the arrival of Columbus in the New World; the first United Nations Conference of the World's Indigenous Peoples (which, significantly, they called *The Cry of the Earth*); and the Declaration of the United Nations Year and Decade for Indigenous Peoples (1993). Presented in the manner evocative of a map of human diversity and earth-entrenched communities, the book presented the faces of 250 million people of the Fourth World to the First (highly industrialized), Second (Socialist bloc), and Third (developing) worlds, with the pivotal statement that 'The First, Second, and Third Worlds believe that "the land belongs to the people"; the Fourth World believes that *the people belong to the land*'' (Burger, p.19).

More than just a geographical or sociological book, it is also an earth-focused political manifesto, and the seeds nurtured in the nineties are transforming the environmental ethics debate with a powerful partner, *Climate Change*. Indigenous ethics as articulated. Richard Nerysoo, Inuit, state:

Being an Indian means being able to understand and live with this world in a very special way. It means living with the land, with the animals, with the birds and fish as though they were your sisters and brothers. It means saying the land is an old friend and an old friend your father knew, your people have always known....To the Indian people our land is really our life” (p.16);

Aborigine Pat Dodson states:

“land cannot be given or taken away. We belong to the land; our birth does not sever the cord of life which comes from the land. Our spirituality, our culture and our social life depend on it” (p.20).

Burger notes that:

“Although indigenous peoples vary widely in their customs, culture, and impact on the land, all consider the Earth like a parent and revere it accordingly. “Mother Earth” is the centre of the universe, the core of their culture, the origin of their identity as a people. She connects them with their past (as in home of the ancestor), with the present (as provider of their material needs), and with the future (as legacy they hold in trust for their children and grandchildren)” (p.20).

A considerably body of new research is developing to assess this challenge to the dominant *anthropocentric* worldview already criticized by Long and Routley (now Sylvan). Observing one critical factor, that the word for religion does not exist in many

Indigenous cultures, Burger notes that “First Peoples see existence as a living blend of spirits, nature, and people. All are one, inseparable and interdependent – a holistic vision shared with mystics throughout the ages” (p. 64).

The book draws into the public limelight such factors as the detailed, sophisticated and unique character of Indigenous knowledge, much of it still unknown to scientists, botanists and entomologists: of soils, rocks, climate, plants and animal-life; of medicinal plants and healing processes; and of the relevance of stars, wind, waves, moon, earth cycles, birds and fish to travel, navigation and fishing. The current public interest in the Mayan calendar is an indication of the growing recognition of the relevance of this multi-layered dynamics inherent to temporal and spatial knowledge geographical knowledge.

What then of the relevance of the new understanding of Indigenous ethics and knowledge? It comes at a time when Indigenous communities are facing further unrelenting eradication of traditional lifestyles. From the near-genocide of first contact, Indigenous peoples and their lands are now disproportionately impacted by invasion, deforestation, logging, damming, mining, militarization and nuclear/weapons testing, cultural collapse, tourism and missionary ethnocide. These are current crises that reveal the impact of neoliberalism and neocolonialism.

But, against such a bleak backdrop, Burger would say Indigenous voices are beginning to answer Gayitree Spivak’s question, *Can the Subaltern speak?* They are increasingly active on the world stage, fighting for self-determination, legal rights to land and preservation of the environment, and are also part of larger alliances with human rights

and development organizations, environmentalists, scientists, and political parties who see the significant role they are playing in the current ecological crisis. The voice is no longer in the shadows, it is there in resistance, in self-determination, in coalitions and alliances, in leadership, in local and global spheres. Further, as in the recent protest against uranium mining in the Ottawa River Watershed, the Indigenous voice encapsulated the that of the “settlers” in the unified struggle against the developers, demonstrating the viability of emerging partnerships in the environmental ethics field.

In the first portion of this paper, I examined the ideas and conditions pertaining to the environment, emerging in the nineteen hundreds and widely articulated by the middle of the twentieth century, out of which Aldo Leopold’s *Land Ethic* evolved. In a similar fashion, *The Gaia Atlas of First Peoples*, published over twenty years ago presents the *Pandora’s Box* out of which the new voice is erupting onto the environmental ethics landscape – the Indigenous presence in no longer hidden in the shadows; it is now a visible actant in the environmental dialogue. The voice is now powerfully present in the UN Conferences on Climate Change, Conventions on Biodiversity, and has been concretized in Bolivia’s 2011 Declaration on the Rights of Mother Earth.

Fikret Berkes: Sacred Ecology, 1999

I now turn to Fikret Berkes’ 1999 publication, *Sacred Ecology: Traditional Ecological Knowledge and Resource Management* to examine a full book focused on geographic research and traditional knowledge as a science. Here, the presence of the Indigenous

voice is now acknowledged, visible and provocative.

Fikret Berkes, considering Thomas Kuhn's 1970 projection that new scientific paradigms arise at the peripheries of mainstream science, when conventional paradigms prove less and less capable of explaining observations, addresses his research question about what traditional knowledge can contribute to the contemporary world.

Berkes observes that out of his personal and extensive discussion with the James Bay Cree (commenced in the seventies) he was introduced a worldview different from the mainstream Euro-Canadian one, within which nature pulsated with life, compelling in its spiritual ecology. He also noted that the environmental movement of the 1960s and 1970s had critiqued the misappropriation of the domain of irrefutable knowledge by science and technology but had offered little to broaden discussions on ecological or sacred dimensions. Following Paul Shepherd observation, he acknowledges ecology is a science, but suggests its wisdom is universal, and is accessed by different cultures by different means – mathematically, experimentally or via myth.

In this book, he explores what he calls *Sacred Ecology – Traditional Ecological Knowledge and Resource Management*, and finds that the different ways of seeing, perceiving, and doing of Indigenous peoples provide a broader knowledge base than that allowed by modernist Western science.

So what does he uncover in the new medium?

His engagement with Indigenous ecology and resource management began in the early seventies with participatory research with the James Bay Crees, and it continued with examination of comparable practices in many other parts of the world. Consistent with his early search, he looks for social and territorial regulation mechanisms to prevent resource depletion. Focusing on the field of ecology and ethic, he finds that traditional ecological knowledge systems reflect a complex of knowledge, practice and belief – and he asserts that the notion of the non-dominant, respectful human-nature relationship constitutes a *sacred* ecology. He observes that with the colonization of New England in the 1600s came the critical conflict around competing understandings of economies: i.e., the First Peoples eco-system approach which treated environment as portfolio of resources and services supporting livelihoods, compared to the colonist's transformation of environment into commodities, with resources exploited sequentially following market demands, and causing depletion and environmental degradation in the process.

The idea of the sacred enters his discussion partly because he is addressing the Western science and Judeo-Christian perspective of man's dominion of nature and partly because of observations that in traditional societies, the shaman place a key role as healer of illness and ecosystem imbalances, thus being a powerful source in the control and management of resources.

In his experience, he sees mythic knowledge, traditional knowledge and the wisdom of Cree elders as impacting the resource management and the returning presence of the

caribou; further, he sees the environment as a community of entities that are intrinsically supernatural and natural. This takes deep significance in the belief that the animal controls the hunt, that he decides to make himself available to the hunter; such availability is forged on the premise of a respectful relationship; there is also the sense that the animal is dependent on the hunter to maintain balanced ecological relationship with the land (e.g. regarding overcrowding, disease, age, frailty) in this analysis, one can see reflections of the *animal world* predator/prey relationship – such as when Ian McCallum alludes to the human animal in *Ecological Intelligence* (2005).

He learns, not using the resource is seen as being disrespectful of it. He learns about another interesting strategy to ensure the return of animals for the hunt: the practice of not taking the first three animals, these being the leaders who will bring the back the next year. The ideology, with its focus on the future availability versus depletion, reflects a different perspective from that expressed in the Western milieu: species extinction, trophy animals and commoditization.

With respect to ethics specifically, we are told that in Amerindian attitudes towards nature are components of respect to *community*, with social obligations and reciprocity, concern for future generations and humility; the *relationship* with the land and its fellow occupants is of primary importance. The contrast with the *individualization* of the Western ethic is apparent. For example, in a different venue, Berkes notes the community based cooperative sawyers engaged in tree-cutting in Dominica, gaining greater knowledge of the forest and assuming increasing responsibility for its

conservation. Thus they contribute not only to the sustainability of the timber supply but the sustainability of the forest ecosystem and its users, thus presenting viable option to conventional timber exploitation, depletion and environmental degradation.

In his participatory (relationship-based) research with the Cree, he saw their resource *preservation* management approach observable in a qualitative mental model of tracking animal/fish population through the close monitoring of population trend (increasing/decreasing) over time, fundamentally different from Western science's use of quantitative models for management-decision making. Ultimately, he found them better at reaching their fishery management objectives, than their non-Cree counterparts.

Berkes is searching for an ecological foundation to resource management and finds that nature/culture and mind/nature dichotomies embedded in Western science, and the concepts of an external environment or nature separate from human society (which is the basis of the Cartesian dichotomy of mind versus matter, human versus environment), are meaningless to many other cultures.

Further, he focuses on another issue regarding common property resources and notes that open-access regimes (versus communal ownership) leads to the tragedy of the commons "the phenomenon in which the individual offloads costs to society while pursuing private benefits, with disastrous consequences for the resource itself in the long run" (p. 142). He notes further, "The problem is that Western scientific resource management, despite all of its power, seems unable to halt the depletion of resources and the degradation of the

environment, possibly because of an exploitive, dominion-over-nature worldview of colonists and industrial developers (p. 163). Thus he wonders again about the relevance of Indigenous ethics, with its earth-centred lens, to global environmental priorities.

He finds that the resource management systems of indigenous peoples often have outcomes that are analogous to those desired by Western conservationists; however the context, motives and conceptual underpinnings of the Indigenous view is different from the views of western science regarding conservation, and so no integration appears viable.

Thus Berkes speculates that the conundrum might be resolved by *Adaptive Management*: He describes Adaptive Management as a part of the holistic tradition in Western science, comprising systems theory, gestalt psychology, quantum physics and ecology, and involving multi-equilibrium thinking and attention to system integrity and ecosystem processes rather than ecosystem products.

Berkes speculates, almost wistfully, on opportunities to collaborate with Indigenous communities, while he also notes the barriers in the differing world-views and imbalances in power. The ambivalence in making a strong appeal for a shift in perspectives to centre and embrace the Indigenous can be observed in his statement “Traditional management can be reinterpreted as Adaptive Management. Alternatively, Adaptive Management can perhaps be considered a rediscovery of traditional management” (p. 126).

Yet he hopes the knowledge-practice-belief complex of the Indigenous traditions can impact ideas about the larger whole and the place of humans in it. The environmental crisis he noted in the 70s was more compelling in 1999 when he published his book, and today, many will say, it demands a way forward. Is this the time for another of Kuhn's paradigmatic shifts in science?

Indigenous Voice in Environmental Ethics, Ecology and Geography over the Past Decade

I now turn to the direct voice of Indigenous Peoples as expressed and examined in recent geography research. As anticipated in the *Gaia Atlas of First Peoples*, the Indigenous voice has become increasingly more political, visible and compelling in geography and ethics.

Encountering Indigeneity: Re-imagining and Decolonizing Geography: W.S. Shaw, R.D.K. Herman and G.R. Dobbs (2006)

In 2003, as the UN Decade for Indigenous Peoples drew to a close, scholars at the American Geographers Association annual meeting, noting apparent decreasing engagement with Indigenous within the discipline of geography called for its decolonization (Shaw, Herman and Dobbs, 2006). This led to the publication of a special edition of *Geografiska Annaler B, Swedish Society for Anthropology and Geography*,

formally projecting the Indigenous voice into geographical research. (Other writers in this journal compilation include Mercer, Kelman, Suchet-Pearson and Lloyd; Koschade and Peters; and Nah).

Thus, if the apparent decreasing engagement with Indigenous came because of the shift from their being objects of study to subjective authors of their own geographies, this action ensured a secured place for the Indigenous researchers. Three key points accompanied this new visibility. First, the immediate attention focused on what constituted *Indigeneity*; writers in this caucus proposed three critical features: ancestral and often spiritual ties to particular land; their ancestors held that land prior to colonization by outside powers; and their nations remains submerged within the states created by those powers. Next, noting the preponderance of orally presented knowledges, the researchers pointed to the need for new methodologies. Finally, drawing on the grounding Indigenous orientation to relationship as compared to an atomist distinct entity ideology of the west, they project an understanding of fluidity between cultures and environments, which presents the opportunity to examine a space-entrenched thinking interface with a range of items like sacred sites, sovereignty and land issues, water rights and other natural-resource issues. These considerations now occupy central place in the environmental ethics discussion. (Shaw, Herman and Dobbs, 2006).

Finally, a common Indigenous epistemological position on native science is articulated, asserting notions of a vitality and energy in all aspects of the natural world, with energetic interface with the micro and macro universe, recognizing patterns of cycles and

renewal, and informed by responsibility and respect for all things – plants animals and place.

Several distinct priorities are prioritized in the new research. First there is examination of understandings of geographies evolved of empire-building and hegemony; the post-colonial voice challenges geography to resign itself of its role in the service of ‘Western’ imperialism, seeking fuller epistemological decolonization. In this way, territories are defined by walking and usage, rather than boundaries and title ((Shaw, Herman and Dobbs, 2006).

Renee Pualani Louis articulates similar sentiments from a more direct feminist, emotional and Indigenous perspective in her paper *Can you Hear us Now? Voices from the Margin: Using Indigenous Methodologies in Geographic Research (2006)*. She makes a strong case for decolonizing research and representation, and calls for the recognition of Indigenous world views, epistemologies, methodology in geographical research in both the community and the academy.

Research integrity and rights of indigenous peoples: appropriating Foucault’s critique of knowledge/power: N.K.Swazo (2004)

Norman K. Swazo examines research integrity and the rights of Indigenous peoples in the light of Foucault’s critique of knowledge/power. Indigenous knowledges are analyzed in the context of prevailing western standards of epistemology, logic, scientific method,

ethical theory and universalist assumptions in international law, yet they have their own genealogy within the context of oral tradition and relationship with nature that requires its own terms of reference and analysis. Further, in challenging the science/knowledge/power prescriptives as Foucault did, they raise the profile of the need for new discourse dimensions. For example, Indigenous groups are challenging the Human Genome Diversity Project under the rubric of biocolonization, bioethics and biopiracy, and bringing new codes of normalization into being. Thus they are challenging the *regime du savoir* – the way Western Knowledge circulates and functions, and its relation to power; this also potentially impacts *participatory research* should Indigenous communities deem it does not serve their ends (Swazo 2004).

Indigenous Rights and Environmental Justice: R.W. Perrett (1998)

The increasing clout of the Indigenous voice on environmental justice issues is apparent in Roy W. Perrett's paper on *Indigenous Rights and Environmental Justice*. Moving beyond the *participatory research* of, for example, Berkes, here now is the growing realization that Indigenous rights holds greater legal sway on environmental issues than the voice of environmental activists and groups. This comes with its complex of contradictions – environmentalists are now concerned that Indigenous communities, faced with opportunities for economic benefits through resource development partnerships, will forgo land protection ethics as apparently expressed by traditional voices. In Canada, only within the past few months, long established organizations like Sierra Club have lost their funding; and in the recent challenge to the budget omnibus

bill, environmental groups found they have little room to impact environmental policy. Indigenous communities have land rights, and now, economic development opportunities which they have to weigh out in the context of environmental ethics, as well as poverty, unemployment, and the erosion and breakdown in traditional knowledge heritages etc. Environmentalists however are viewed as likely to pit against land rights if in conflict with global environmental justice. So there are new tensions emerging in the environmental ethics debate.

Algonquin Notions of Jurisdiction: Inserting Indigenous Voices into Legal Spaces: B. Koschade and E. Peters (2006)

The issue of responsibility takes a further twist in Canada. Koschade and Peters offer an illuminating perspective on jurisdiction in their analysis of *Algonquin Notions of Jurisdiction: Inserting Indigenous Voices into Legal Spaces* (2006). Positing Indigenous knowledge as malleable, diverse and systemic, they also point out that the different worldview, context and substance of Indigenous knowledge demands a different methodology and epistemology than the western idiom. They quote the late legal scholar, Patricia Monture-Angus's statement that land-rights are essentially about the right to be responsible. This responsibility emerges from ancestral patterns of exercising a responsible and respectful relationship with land and all occupants, into the present, and incorporates a responsibility to future generations of life. This ideology, which constitutes a code of conduct and ethics across time has ramifications for jurisdiction –

and there is as yet no epistemology available within the western legal discourse to accommodate the Indigenous ethical perspective.

In another example of responsibility and cultural tension, Aileen Moreton-Robertson examines the misappropriation of Indigenous voice in Australia in the use of citizenship rights to welfare as assigning the people entitlements but not responsibility, in her paper on *Imagining the good indigenous citizen (Race, War and the Pathology of Patriarchal White Sovereignty)* (2007).

Integrating Indigenous and Scientific Knowledge bases for Disaster Risk Reduction in Papua New Guinea: J. Mercer, I. Kelman, S. Suchet-Pearson and K. Lloyd (2009)

Mercer, Kelman, Suchet-Pearson and Lloyd see positive opportunities for *Integrating Indigenous and Scientific Knowledge bases for Disaster Risk Reduction in Papua New Guinea* (2009). They describe the potential of an approach enabling communities to identify existing knowledge, scientific and indigenous, to integrate in a culturally compatible and sustainable manner to reduce vulnerability to environmental hazards – the process acknowledge the losses sustained by communities through colonization and dramatic environmental changes. This approach reflects the findings of other research that is affirming the validity of traditional knowledge; and the exploration of opportunities for respectful collaboration by accepting Indigenous ethical values.

The Rehabilitation of Indigenous Ethics in Africa: Workineh Kelbessa (2005)

As indicated in my bibliography, I note there has been influential literature illustrating environmental ethics in the works of Credo Mutwa and Malidome Some, creating the climate for geographical research. For example, Mutwa's work is contributing to the reclamation of herbal remedies for disease. Workineh Kelbessa provides an extensive and compelling discussion on the complex of beliefs that contribute to the environmental ethics of peoples in Africa in his research on *The Rehabilitation of Indigenous Ethics in Africa* (2005), and further, asserts an urgent need for the revival of a multiplicity of Indigenous and cultural environmental ethics in contemporary society. He also identifies a responsibility for those in power to produce such knowledge and transform negative attitudes towards the Indigenous knowledge – while not expressing the strong reactions to repressive colonial attitudes, as evidenced in the perspectives of Shaw, Herman and Dobbs (2006) for example, he too nonetheless sees major limitations in the narrow interpretations of Indigenous ethics by people like Callicott, and strongly encourages reassessment.

This preliminary look at Indigenous ethics from the perspective of Indigenous Peoples themselves indicates that there are many challenging new themes being articulated today that are of great relevance to environmental ethics and geography. The accelerating environmental degradation and climate change crises and global environmental priorities appear to reinforce Berkes call for the Kuhnian paradigmatic shift for new knowledge in environmental ethics. At the same time, the natural resource development agenda is powerful and global in its outreach, with major interest in the traditional lands of many

Indigenous Peoples. Today, Indigenous Peoples represent a very small percentage of the global population (250 million- Gaia Atlas of First Peoples, 1990), and are victims of centuries of colonization and oppression; and much of their traditional knowledge has been eroded, and the connection to land that created that knowledge drastically and forcibly severed. Yet, at the 2011, UN Conference on Climate Change, it was the Indigenous (and youth) voice that was most compelling in the deliberations (personal observation). To what extent will the Indigenous voice be heard in the continuing and compelling search for an environmental ethic, initiated so long ago now by Aldo Leopold?

Analysis

As articulated earlier in this paper, my particular interest in the area of environmental ethics is situated in the examination of the presence of the Indigenous voice in its philosophical underpinnings.

I commenced my research with an exploration of key philosophical perspectives reflected in the search for an environmental ethic in geography. Thereafter, I examined the extent to which Indigenous perspectives were embedded, reflected or integrated in the growing body of literature. An underlying theme informing my research was the accelerating global preoccupation with environmental degradation and climate change issues since the nineteen forties.

I reiterate that my core objectives were to

- to ascertain the extent to which the selected literature in environmental ethics reflects, reviews, incorporates, integrates and/or espouses the Indigenous voice;
- to examine the material in the context of the prevalent theories and concepts impacting and influencing research in geography during the different periods under review;
- to examine the material in the context of global environmental issues; and
- to query the potential and timeliness for a further shift in the philosophical underpinnings of environmental ethics to one that embraces Indigenous ethics.

In my overview of the literature and research, I examined three distinct threads over time:

- initially, a veiled Indigenous presence, referred to incidentally or peripherally in the literature generated between the forties and eighties;
- the focused examination of Indigenous ethics and perspectives on environment over the past twenty-five years; and
- the emerging articulation of Indigenous voice in ethics and research in geography since the turn of the century.

I now present my observations in an analysis that also takes into consideration the pertinent evolving theoretical and conceptual frameworks that influenced geographical research over this period. While I note certain time-frame boundaries with respect ethics evolution, I point out that many of the geographers researched have worked across time-lines, and have contributed to the evolving discussions continuously.

Three significant concepts played a critical role in the evolution of the *western* relationship with land: *anthropocentrism* (human-centredness), and *instrumental value* and *intrinsic value*, (*instrumental value* is the value of things as a means to further some other ends; *intrinsic value* (meaning non-instrumental value) is the value of things as ends in themselves, regardless of whether they are useful as means to other ends).

Environmental ethics emerged as a new sub-discipline of *philosophy* in the early 1970s, and it posed a critical challenge to traditional anthropocentrism and the assumed moral superiority of human beings to members of other species on earth; as well as to *instrumental and intrinsic values distinctions* by investigating the possibility of rational arguments for assigning intrinsic value to the natural environment and its nonhuman contents (Brennan and Lo, 2011). These ideas impact geographical debate to this day.

Sixty years ago, seen, as Belshaw tells us, *the godfather of modern environmentalism* (2001), Aldo Leopold (1887-1948) introduced the concept of environmental ethics into the domain of geography with the 1949 posthumous publication of his seminal book, *Sand County Almanac: And Sketches Here and There*. This focused examination launched over six decades of sustained search for the elusive environmental ethic. Leopold has been criticized for not articulating such an ethic himself, for the anthropocentric underpinnings of his arguments, for the absence of a water ethic and other perceived limitations. However, it is also noted that while situated in the ethos of the times (colonized America, patriarchal social and political structures, Judeo/Christian religious orientation, post world wars), he was a thinking man, who, as a consequence of his evolved relationship with land and nature, shifted from a career as hunting and fishing official to articulate a land ethic as amateur philosopher; his actual book at times reflects elements of the *Deep Ecology* of Arno Naess, and indeed, aspects of Indigenous ideas about nature-human relationship. One might say he was using the binary language of nature/human discourse while he was actually experiencing nature-human interface.

Perhaps it is this authentic quality in his voice that contributes to the renewed attention to *A Land Ethic* amongst geographers during this century.

It is evident that in much of the geographical literature from the turn of the last century into the seventies and even eighties, the concrete Indigenous presence is quite absent or minimal; from time to time there may be observations about Indigenous conduct, and certainly the people were objects of study and anthropological research; but their own voices were largely absent. However, in the materials reviewed for this paper, even then, there is evidence of a very conscious awareness of the *Indigenous* relationship with the natural world. For the most part there is also a tone of respect in the observations; however, an Indigenous approach was not viewed as suitable for significant input into the articulation of an environmental ethic.

Through the lens of Said's post-structuralist critique, and G. Spivak's text *Can the Subaltern Speak*, one can see how the *Eurocentric, anthropocentric* discursive voice prevails over that of the *primitive*, and thus his influence is veiled. This thread can be traced back to Thoreau, whose orientation towards nature did not come without the influence of his Penobscot guide. The influence of the *primitive* is veiled and thereby minimized, during a critical period of accelerating environmental vulnerability.

The passionate concern for the environment, however, is evident in the work of the environmentalists examined in the early portion of this paper, and has contributed in profound ways to development of the field of environmental ethics. Nonetheless, the

Indigenous voice has also been appropriated, minimized, subdued and attacked over the time period since Leopold's *Land Ethic*, (this evidenced in the 1940s petition for hearings to the United Nations by the Hopi regarding emerging environmental concerns, and the 2009 eventual signing of the UN Declaration on the Rights of Indigenous Peoples, sixty years later; further, many serious environmental issues have been ignored; these pertain to land rights, resource exploitation, colonization; and are materials for a separate study – personal records re: William Commanda). Suffice it to say at this point that, though minimally acknowledged, the Indigenous voice is evident in the environmental dialogue from its inception, the trigger for new orientations, new *paradigms* and *epistemes*.

The constraints of the dominant theories of the day on the evolving discipline of geography are apparent. There were the two meta theories produced by scientific research, which challenged each other: positivism, validating only scientific knowledge, empirical observation and universal laws, and critical theory, concerned with the historicity of social action and how human agency was influenced by capitalism. Then there was Darwinism, and a range of associated concepts: evolution, eugenics, laissez-faire individualism, environmental determinism on the one hand; and scientific theories, positive theory, quantitative research, and possibilism on the other. The interplay of these ideas contributed to *survival of the fittest* and *individualization* ideals that saw the Indigenous as expendable and his notions of community and land relationship as restrictive on capitalism, development and freedom.

The public at large become aware of environmental degradation caused by unfettered industrialization and environmental exploitation, and the deadly consequences of chemical pollution, ddt and other pesticides, on waters, wildlife and human health, through the books of Leopold and Carson. However, historical reality of colonization, war and systemic and overt racism impacted the acknowledgement and endorsement of Indigenous perspective. Further, the Indigenous indications of community and inter-relationships priorities were deemed outmoded and counter-productive to progress and individualization. Thus they remained obscured in the environmental ethics debates.

The seventies were the time of new ideas. One interesting theory came with Thomas Kuhn's introduction of the concept of paradigms as constellations of beliefs, values and techniques within a discipline that eventual experiences a crisis, which calls for a reassessment of former observational data, theoretical, speculative and philosophical thinking, and examination of methodological questions; such fundamental paradigmatic changes were deemed necessary to enable science to progress (Holt-Jensen, p. 103). These ideas take on new meaning when measured against Michel Foucault's view that there is a fundamental connection between power, knowledge and truth, truth being a relative concept; he examines world-views and structures of thought that he calls *epistemes*, noting that when epistemes change, science will. The Marxist examination of capitalism, articulated at the time of the birth of Canada, is remarkable in its futuristic anticipation of many of the outcomes of this ideology on humans, society and environment. His material analysis of society, proceeding from a critique of capitalist

control of the material base of society to proposals for social ownership of the economic material base still resonate with contemporary social scientists and geographers.

The combination of these ideas inspired grassroots environmental consciousness. William Commanda hosted and described cross-border gatherings of Indigenous peoples in the sixties and seventies, recalling one that American actress Jane Fonda attended; decades later, the participatory rapport inspired her husband Ted Turner to support the 1993 United Nations Indigenous *Cry of the Earth Conference*. This new relational dynamic also facilitated Fikret Berkes' decades of participatory research with the James Bay Cree, and the eventual articulation of a *Sacred Ecology* regarding Indigenous competence in resource management. The *Gaia Atlas of First Peoples*, the Rio Earth Summit (1992) (with the Pre-Rio Indigenous voice ignited in France by William Commanda), and the 1993 United Nations acknowledgement of Indigenous peoples in the celebratory year and decade put the Indigenous voice on environmental issues before the world, as *Agenda 20* and *Sustainable Development* became buzz words for the global focus on the environment. In 1992, scientists and environmentalists focused on managing natural resources more judiciously; Indigenous Peoples talked about a *relationship* with a living *Mother Earth* (personal records re: William Commanda).

As feminism impacted geographical studies, so did it impact environmental ethics. Brennan and Lo point out that it was in 1974 that Sheila Collins argued that male-dominated culture or patriarchy is supported by four interlocking pillars: sexism, racism, class exploitation and ecological destruction and that the core elements of dualism,

hierarchical thinking and the logic of domination are typical of male-chauvinism. Human exploitation of nature is sometimes seen as a manifestation and extension of the oppression of women but though eco-feminism presents a radical challenge to environmental thinking, it is not of consistent presence (2011). The Indigenous perspective brings a new dimension to this discourse in the context of the strong association of Earth with female – Mother Earth, *Pacha Mama*; with the affirmation of the sacred creative force within Mother Nature; and with Moon, who governs the water, tides, fish spawning patterns, with Grandmother energy (it is only Indigenous architecture that reveals knowledge of the Moon's cycle – this is tracked by the Solstice Project at *Chaco Canyon*, Arizona.) Environmental activism, for example in the Indigenous Grandmothers' *Water Walks* around the Great Lakes, constitute an emerging zone for Indigenous geographical research.

Actor-Network Theory (ANT) has evolved since the 1980s, and Johannesson and Baerenholdt note that its influence has increasingly impacted some of the sub-disciplines of Geography (2009). Focusing its lens backwards across time, once can see that its core features of viewing the world as comprising heterogeneous relations and practices through which humans and nonhumans alike are treated as possible actors in the emergence of societal order, may be applied to an examination of the multiple features led to the beginnings of the environmental movement. While key ideas such as the relational perspective of ANT, wherein the conventional distinctions between subjects and objects are imploded, and *objects*, with capacity of agency, are no longer seen as passive objects, but rather affect interaction, and stabilize social interaction

(Johannesson/Baerenholdt 2009) may have only been presented in the last three decades, they are useful in examining a more distant past. A range of varied elements can be seen to contribute to network relational reordering in time and space. Thus literature, ideas, wilderness, ddt, environmental decline, disease, visuals, music, statistics dialogue can be seen to have presented as actants (the term implying more than human) in the emergence of the environmental consciousness matrix. In this light, all those factors were critical to opening the door to environmental ethics. Within this conceptual framework one may also become aware of the significance of an invisible presence, only infrequently sensed in the shadows – the Indigenous. In this context, it is interesting to note that environmental ethics literature emerged predominantly in America and Australia, where Indigenous presence was decimated and diminished, both on the land and in the public domain and overt consciousness. However, these voices are now beginning to take their own place in the academy of geography, and creating new discourses. A critical ally performing the function of *agency* appears to be Mother Nature herself, in the form of climate change.

San Elders were at the 2011 United Nations Conference on Climate Change, bringing the Indigenous presence into the global arena. Ancient voices are now engaging in the urgent quest for *the* environmental ethic.

Conclusion

In the paper, I have examined the contributions Indigenous Peoples have made inadvertently or directly, to the evolution of environmental ethics. There are of course many other voices who have contributed to this field of study over the past 60 years. I have followed thread of philosophical explorations that have created space for the direct presentation of the Indigenous voice. The emerging literature reveals the growing presence of the Indigenous perspective. It remains to be seen to what extent they might become visible and acknowledged partners in these new networks.

Certainly the search for an environmental ethic is no more urgent than at this time. Brennan and Lo point out while it has become commonplace to refer to the present era as the *age of terror*, there is increasing agreement across the entire globe that the world is facing chronic and unprecedented environmental problems, many of them of human origin. Indeed, the United States military declared that the problems of adjustment to climate change constitute a far more severe threat to national and international security than does terrorism itself. Drought, changing weather patterns, the expected burden of caring for environmental refugees, the effects of consumerism, the health decline associated with various forms of pollution are a few of the pressing problems for human beings; the continuing destruction of natural environments and the widespread loss of both plant and animal species poses increasing problems for other life forms on the planet. Indigenous peoples assert that these are interrelated issues.

I conclude by returning to the words of the *godfather of modern environmental ethics*, Aldo Leopold. He states he has “purposely presented the land ethic as a product of social evolution because noting so important as an ethic is ever ‘written’. ... The evolution of a land ethic is an intellectual as well as emotional process. ... (A)s the ethical frontier advances from the individual to the community, its intellectual content increases. The mechanism of operation is the same for any ethic: social approbation for right actions; social disapproval for wrong actions” (p. 225).

Is Mother Nature presenting strong disapproval of wrong actions? Is it time to embrace a new environmental ethic, an *Indigenous* ethic?

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