Indigenous Ways of Knowing and Possibilities for Re-envisaging Globalization: Implications for Human Ecology

Norma R. A. Romm

University of South Africa, Department of Adult Basic Education and Youth Development,
P.O. Box 392 Tshwane, 0003, South Africa
Telephone: 0027824060585; Fax: 0027865543978;
Email: norma.romm@gmail.com or rommnra@unisa.ac.za

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ABSTRACT Indigenous cultural orientations across the globe offer some groundwork for us to recognize the essential connectivity of all planetary life, including human and non-human dynamisms. Furthermore, Indigenous Wisdom as it manifests across the world (for example, in the cultural symbols of Indigenous people in Africa, of Native/Indian Americans in America, and of Aboriginals in Australia) can be seen as offering an approach to knowing and being that is non-impositional. The paper spotlights some of the ways in which people in various Indigenous communities have tried to oppose forces of social and natural exploitation when living out their approaches to being-in-the-world. A case is made for arguing that in human ecological studies, our lens when addressing Indigenous approaches needs not be directed so much at the *content* of the "knowledge" that different people may put forward, but can be turned more to the *manner of tying knowing to valued ways of living*.

INTRODUCTION

The objective of this study is to explore the manner in which Indigenous ways of knowing and being can be said to contribute to what Ruiz-Ballesteros and Gual call "collective, complex and dynamic socio-ecological management schemes" (2012: 848). The aim is also to elaborate on the "complex and varied systems of interaction between humans and their environment" (Qin 2011: 233) by looking at the contribution of Indigeneity as a system of interaction.

Much attention has been given in the literature on Indigeneity to what is called "Indigenous Knowledge Systems" (IKS)—as, for example, in the *African Journal of Indigenous Knowledge Systems*—but less attention has been given to spelling out the *approach to knowing* that is invoked within Indigenous cultural orientations. For instance, the content of Indigenous Knowledge as such forms the substance of Masipa and Jideani's discussion around the use of Indigenous prickly pears and marula wild fruits for commercial purposes as a route to poverty reduction in a local municipality of Limpopo, South Africa (2014: 51). The content of Indigenous Knowledge also forms the substance of Majova's account of the potential use of traditional foods in a community in East London, South Africa (2014: 164). In these cases the focus is on *what is known about*, respectively,

the prickly pear, marula fruit, and traditional foods.

This paper proposes that in human ecological studies, the focus (when addressing Indigenous approaches) needs not be on the *content* of the "knowledge" that different people may put forward. Rather, we can turn our attention to the *manner of tying knowledge-making to valued ways of living*. This is in keeping with Kaya's suggestion that it is important to revitalize not only Indigenous "knowledge production" but Indigenous *ways of knowing* (2014: 1, my emphasis). It is also in keeping with Bainbridge et al.'s arguments for connecting "being, knowing and doing" in the enterprise of knowing (2013: 275). Furthermore, Evans et al. similarly emphasize that our focus when considering Indigenous "knowledge" systems can be on the "systems for generating knowledge", that is, on the *orientation to knowing* embodied in knowledge/knowing (2014: 179).

Ossai points out that the term "knowledge" in any case "is a term with many meanings depending on context, but as a rule it is closely associated with such concepts as meaning, information, instruction, communication, representation, learning and mental stimulus" (2010: 1). He adds that in the case of "Indigenous knowledge", this is never detached from "community practices, institutions, relationships and rituals" (Ossai 2010: 2). As such, this "knowledge" is

already linked to ways of (social) being in society—that is, to ways in which humans relate to one another, as well as to their experienced environment. Indigenous knowing is not treated as separate from (practical) decision-making and "problem solving strategies"—because knowing and doing are seen as interrelated (2010: 10). He also underscores that the quest to develop sustainable solutions does not mean that the knowledge created is static. On the contrary, it is recognized that knowing in practice requires adaptation in response to changing environments (2010: 10). Ossai proposes the exchange of Indigenous practices amongst various communities, so that each can learn from one another in their efforts to create adaptations to their local circumstances, in conjunction with "policy makers, environmental managers, administrators and [other] stakeholders" (2010: 10).[1] Ossai concludes that:

The culture and knowledge systems of Indigenous people and their institutions provide useful frameworks, ideas, guiding principles, procedures and practices that can serve as a foundation for ... restoring social, economic, and environmental resilience in many part of Africa and the developing world in general. (Ossai 2010: 10)

This paper takes forward Ossai's focus on the manner in which Indigeneity offers frameworks, guiding principles and procedures that can, in his terms, "restore resilience" in creating sustainable options for development. Indigeneity understood in this manner offers a counterfoil to current trends in globalization, with tendencies to pit "profit" (of the few) over sustainability (for the many, including for future generations). Moreover, it offers a counterfoil to what Bullard calls "environmental racism", which he defines as including:

The systematic destruction of Indigenous peoples' land and sacred sites, the poisoning of Native Americans on reservations, Africans in the Niger Delta, African-Americans in Louisiana's "Cancer Alley," Mexicans in the border towns, and Puerto Ricans on the Island of Vieques all have their roots in economic exploitation, racial oppression, devaluation of human life and the natural environment, and corporate greed. [2] (Bullard 2002: 1)

Serageldin (1994) offers a similar perspective when he argues that promoting "environmental stewardship "is about recognizing the need to give people rights to clean air, clean water, and fertile soils". Serageldin believes that it is still possible to create "win-win" strategies so that a sustainable future for all people can be created. For this to occur, synergies between development and the environment need to be established (1994: 4). This, he argues, requires "social cohesion, participation and empowerment" (1994: 7).

How then can Indigeneity—as cultural symbols and ways of living offered across the globe—be said to provide "guiding principles" for revitalizing "social cohesion, participation and empowerment"? This paper explores this question, starting off by considering some views on African Indigenous ways of knowing and living, and then comparing these with some accounts of Native American and Aboriginal Australian conceptions of Indigeneity. The paper then turns to the politics of recognizing the value of Indigeneity. Finally, the paper ends with an example of working across (so-called) "scientific" and "local" ways of knowing in a resource management system in a region of South Africa.

A CONSIDERATION OF AFRICAN INDIGENOUS KNOWING AND LIVING

Mkabela and Castiano (2012) note that generally when scholars speak about African Indigeneity, they stress that

Indigenous communities have their own Indigenous paradigms and these paradigms perceive and understand knowledge and power fundamentally differently than western alternative paradigms. They have their own philosophies, theories of knowledge, methodologies and methods. (2012: vii)

However, Mkabela and Castiano alert us that we need to guard against "separating the knowledge from the entire context (the values, ethics, world views, relationships, processes and spirituality) that gives it meaning". They caution that "this can separate knowledge from the culture within which it is embedded as well as the people who possess it" (2012: vii).

One can interpret these statements of theirs as implying that it is crucial to examine the manner in which Indigenous knowing is *always linked to considerations around valued ways of living/being*. They cite, for example, an article by Perry (2012) entitled *Sustainable and Informal: A Case Study in the Shadows of Housing*

Policy in Andhumelele Cape Town, South Africa, where he reflects on how the South African housing policy can serve to address alternatives in low income housing. They comment that:

The article traces the process of building an urban (township) house with mostly Indigenous materials. .... The case study ... reflects on debates attempting to conceptualize what formal versus informal means, in terms of constructing houses but also as it relates to debates meant to refine the South African housing policy. The success of the project was defined when innovation met local response and new knowledge was generated through discussions defining appropriate technology (Mkabela and Castiano 2012: ix).

Mkabela and Castiano underline that what was important here (as highlighted by this case) were the mechanisms by which "innovation met local response" via a "discussion defining appropriate technology" (2012: ix). In other words, as they see it, it was via a discussion, involving local conceptions of what is "appropriate" and valued, that a viable project for knowing and living could be developed. The knowing about what was appropriate could not be developed independently of a discussion involving technological options combined with value-laden concerns of participants who would be affected by the project.

Mkabela and Castiano furthermore refer to Seema, who focuses in his article on what it means (within Basotho philosophy in this case) to conceive knowledge development as inseparable from creating a way of life "that is considered good and valuable" (Seema 2012: 128). Mkabela and Castiano specify that in this article of Seema's, entitled *The Significance of Basotho Philosophy of Development as Expressed in their Proverbs*, Seema

argues that the philosophy of Botho/Ubuntu and Basotho communalism that is outlined in their proverbs contribute to their development and that there is much to draw on from Basotho proverbs that can be used to solve the Basotho's numerous problems, especially the socio-economic problems. (Mkabela and Castiano 2012: ix)

Markedly, Seema urges us to be aware that "to fully comprehend the significance of a Basotho philosophy of development as expressed in their proverbs, an Afrocentric perspective is important" (Seema 2012: 129). He argues that

Afrocentricity in this context can be considered as a quest for confronting Eurocentricity with Africanity (2012: 129). Part of what this confrontation involves, is regenerating values that became degraded via colonialism and continue to be degraded in the current process of globalization. He points out that:

It becomes evident then that the changing way of life of Basotho people can only be understood if their past is reconstructed. This means that account should be taken of every available device, including historic sources. One has seldom heard a Mosotho saying: "this is my cow", "this is my land", because they emphasized the duties towards the community not to an individual. (2012: 129)

On the basis of an examination of the proverbs he elucidates that virtues of sharing and of compassion can be seen as very important in Basotho cultural life. For instance, the proverb

Bana ba motho ba kgaolelana hlooho ya tsie (children of the same family share the head of a locust), emphasized the fact that an individual had a social commitment to share what he had with others. (2012: 130)

Seema connects this with the African notion of *Ubuntu*, as expressed by, for instance, Mbiti as (in English) "I am because we are; and since we are, therefore I am" (Mbiti 1975: 14, cited by Seema 2012: 134).

Continuing his account of socio-economic living, Seema cites Moahi (2007: 3) as indicating that Indigenous Knowledge (IK) is tied to a certain way of addressing "socio-economic, spiritual and cultural aspects" of people's lives. Seema notes in this regard that:

It is assumed that poverty is unavoidable; however IK had provided Basotho with practical solutions to the problems of drought. They knew where to find water and green shrubs that could be fed to calves during the long period of drought. There were other crops which the Basotho had known how to find in stressful times. (Seema 2012: 130)

For Seema, colonialism—continued into the forces of globalization—has threatened Basotho and more generally African cultural ways of knowing and living, where it is understood that "Basotho [and other Africans] are not separate from the cosmos which includes the spirit world, nature and the community" (Seema 2012: 134). He considers that it is this sense of "cosmological connections and differences in their world-

view" that distinguishes Basotho IK from Western knowledge (2012: 135).

This is not to say that those espousing a return to more Africanized styles of knowing and living are suggesting that Indigenous Knowledge Systems (IKS) are to be regarded as intact and incapable of adaptation to changing times. On the contrary, such systems are seen as incorporating an orientation to "resourcefulness". As Seema states, "Basotho proverbs therefore represent all the skills and innovations of a people and embody the collective wisdom and resourcefulness of the community" (2012: 136)

In addition Goduka in her article entitled *Rediscovering Indigenous Knowledge* (2012) points out that to appreciate the strengths of IK does not imply that (traditional) Indigenous knowledge always has the potential to contribute to developing a sustainable livelihood. She argues that:

There is historical and contemporary evidence that Indigenous peoples have committed environmental "sins" through over-grazing, over-hunting, over-cultivation of the land and sometimes over-reliance on their knowledge without wanting to draw on and integrate other ways of knowing. Sometimes IK that was once well adapted and effective for securing a livelihood in a particular environment becomes inappropriate under conditions of environmental degradation (Thrupp 1989, cited by Goduka 2012: 14).

Goduka advocates an openness of spirit which allows IK to be a dynamic system of knowledge development, where appropriateness (in relation to the natural and social environment) is understood to be a flexible construct. Like other authors, Goduka's primary uneasiness is when Western knowledge becomes overbearing and "perpetuates the destruction and devaluing of IK"—which she sees as "tantamount to cultural and cognitive imperialism" (2012: 15).

She is concerned especially in the light of her consideration of Western knowledge as striving to divorce itself from "land, place, spirit, language, kin, law and story" (2012: 5). She reminds us that

Like all forms of knowledge (Indigenous or Western), IK is a product of people's everyday experiences, therefore it creates meaning from forms of interaction and communication within which it is constructed. These forms of knowledge are processes of the social construction of

ideas and knowledge that are based on the perception of a community's sense of reality (2012: 4).

She here emphasizes (taking a social constructivist view) that worldviews are always created in social contexts and are inseparable from these.[3] She argues that what is specific about Indigenous modes of knowing is that they are *intentionally communally oriented*. As she puts it:

Communal knowledge ensures that knowledge is not collected and stored for personal power and ownership by individual specialists, but is rather developed, retained and shared within Indigenous groups for the benefit of the whole group (2012: 5).

As we shall see, this conception of knowing as an expression of communal togetherness is also emphasized within non-African views of the quality of Indigenous thinking (and being), which are dealt with in following sections.

A CONSIDERATION OF NATIVE AMERICAN (INDIAN) WAYS OF KNOWING AND LIVING

In their article entitled *Indigeneity, an Alternative Worldview* (2004), (La Donna) Harris and Wasilewski elaborate upon a value cluster that can be associated with Indigeneity across the globe, but which they explain primarily with reference to their involvement in the organization founded by Harris called "Americans for Indian Opportunity (AIO)". They concentrate on elucidating the four R's which they see as forming this value cluster, and which they see as having much to contribute to the global discourse on globalization. They argue that as we all share the journey towards conscious evolution, we would do well to take heed of the four R's, namely, *Relationship, Responsibility, Reciprocity,* and *Redistribution*—as a counterpoint to the two P's (*Power* and *Profit*) which thus far are dominating the global arena.

They indicate that their involvement in the identification and clarification of the values associated with Indigeneity began in the 1980s when *AIO initiated a series of meetings to discuss common tribal values in North America. Twelve different North American tribes representing the seven major Indigenous culture areas in the United States participated in these initial meetings (Harris and Wasilewski 2004: 491).*

They state that further to this, after 1985, they began to use a computer assisted method of structured dialogue geared towards creating consensus-based decisions, because a consensus orientation is one of the crucial qualities of Indigenous approaches to developing (communal) knowing.[4]

More than 70 meetings were held, using various forms of structured dialogical processes which were adapted for use by Indigenous communities. Meetings included intra-tribal, inter-tribal, and inter-governmental participants. As a result of all these meetings they were able to "identify and articulate four core values which cross generation, geography and tribe". They explain that "each of these values [the four R's] manifests itself in a core obligation in Indigenous societies" (Harris and Wasilewski 2004: 491):

Relationship is to be understood in the

profound sense that we human beings are related, not only to each other, but to all things, animals, plants, rocks—in fact, to the very stuff the stars are made of. This relationship is a kinship relationship ... . We thus live in a family that includes all creation (Harris and Wasilewski 2012: 492).

Responsibility means that we feel obligated to

care for all of our relatives. Our relatives include everything in our ecological niche, animals and plants, as well as humans, even the stones, since everything that exists is alive[5] (Harris and Wasilewski 2004: 492-493).

Reciprocity implies that

once we have encountered another, we are in relationship with them. .... At any given moment the exchanges going on in a relationship may be uneven. The Indigenous idea of reciprocity is based on very long relational dynamics (Harris and Wasilewski 2004: 493).

Redistribution amounts to what can be called a

sharing obligation. Its primary purpose is to balance and rebalance relationships. Comanche society, for example, ... had many, many ways of redistributing material and social goods ... . The point is not to acquire things. The point is to give them away. Generosity is the most highly valued human quality ... . This obligation means sharing, not only material wealth, but information, time, talent and energy, one's total self (2004: 493).

Harris and Wasilewski indicate that one of the assumptions underlying these four R's, is the possibility of seeking a complementary co-existence within and between groups of people. They explain:

The pursuit of this type of coexistence entails continuously recreating a harmonic balance [between people]. This pursuit stands in opposition to the pursuit of dominance, exclusion and exploitation[6] (Harris and Wasilewski 2004: 494).

They maintain that part of the strength of Indigenous cultural symbols as they have described them is that these can serve to create the groundwork for a "dynamically inclusive dialogic space", which

includes you, me, all of our relationships, taking place in our various personal, social, political, cultural, physical and spiritual contexts. This is a vast, interacting, overlapping— constantly changing—network.[7] (Harris and Wasilewski 2004: 494).

They explain too that one of the characteristics of such a dialogue is that people appreciate that

our strength is increased by sharing [in the process of developing communal wisdom]. We can affirm our view, expand our view, or sometimes alter or even give up our current view when we encounter a new one. We can also allow others to have contrastive views as long as they do not impose their views on us and vice versa (2004: 498).

Their concern is that in the current arena of globalization the potential for "positive relationships" where people are oriented to recognize that their fates are interconnected with one another and with Mother Earth, has been unduly threatened by the forces of "power"[8] and "profit"—to the detriment of the four R's. They summarize their argument:

As we look at the world around us, we have to recognize that existing systems based on Western models of governance are not working. The imposition model continues to cause great pain. We need to establish respectful, caring relationships of responsibility with each other. This is what is wrong with the present "free market" economic system. It is devoid of care. It is devoid of responsibility mechanisms. It has no such mechanisms at all vis-à-vis communities, whether they exist on the local, regional or even the national level. The present

economic system does not care if any of these communities, or if the Earth itself, exists into the future (Harris and Wasilewski 2004: 499).

All the above quotations from Harris and Wasilewski can be regarded as an expression of the alternative worldview as offered by what they call "Indigenous peoples" (via the dozens of meetings that they co-ordinated under the auspices of AIO). The quotations taken as a whole are meant to underline that the (Indigenous) *appreciation of the network of relationships, including the relationship with "non-human" relatives" becomes more important when considering issues of sustainability than the content of any particular knowledge claim (which in any case needs to be communally justified).*

As with the earlier discussion in this paper on African Indigenous thinking and being, the contribution of Indigeneity arguably *lies on the level of the processes for securing "collective wisdom" in relation to developing viable options for a sustainable existence in different social and natural contexts.*

The following section is devoted to briefly highlighting the contribution of Aboriginal thinking (in this case in Australia) vis à vis the significance of "the land", in order to draw out another way of regarding human beings' stewardship obligations in discussions regarding sustainability.

THE SIGNIFICANCE OF "THE LAND" TO ABORIGINAL PEOPLE

In a website entitled "creative spirits" (http://www.creativespirits.info/aboriginalculture/land/meaning-of-land-to-aboriginal-people), the authors explain that "land means different things to non-Indigenous and Aboriginal people. The latter have a spiritual, physical, social and cultural connection [to the land]". These authors set up a contrast between the worldviews of non-Indigenous people and Indigenous (Aboriginal) people, indicating that for non-Indigenous people, land owners "might consider land as something they own, a commodity to be bought and sold, an asset to make profit from, but also a means to make a living off it or simply 'home'". However, for Aboriginal people there is a profound spiritual connection to the land such that, as they see it, "the land owns them".

The land is their mother to whom they feel bonded; and the health of land and water is in-

deed central to their culture. They feel a deep responsibility to care for the land. Even living in the city, as the authors put it, one "looks beyond the buildings and concrete and feels a sense of belonging to the land".

Some Aboriginals quoted on the website portray the relationship using metaphorical language to offer a sense of the connection:

The land is my backbone… I only stand straight, happy, proud and not ashamed about my color because I still have land … I think of land as the history of my nation.—Galarrwuy Yunipingu, Aboriginal musician

In white society, a person's home is a structure made of bricks or timber, but to our people our home was the land that we hunted and gathered on and held ceremony and gatherings.—Nala Mansell-McKenna, Youth Worker, Tasmanian Aboriginal Centre

The authors on the site argue that Aboriginal people's spiritual and cultural connection to the land obliges them to look after cultural sites which are "living museums" of their ancestors and include:

- *dreaming sites,*
- *archaeological sites,*
- *water holes,*
- *burial grounds.*

Ceremonial activities help them renew or rebuild their spiritual connection to the land and the sacred sites they look after.

Similarly to the authors cited earlier (in relation to African and Native American Indigeneity), it is clear that this link to the land for Aboriginals does not render their practices "static". The authors here note that:

With their intimate connection to land Aboriginal people could be perceived as strongly opposed to any land development. The opposite is true. A national survey of Aboriginal land owners found in 2007 that although custodial responsibilities and land care were their first priority, nearly all land owners strongly supported economic development. Their goal is ultimately self-sustainability, but a lack of financial support and the ability to access it prevent many to reach this goal.

It is for this reason that pleas have been made to develop more dialogical and participative processes of participation in government decision making. As the authors state: "Land development agreements can play a vital role in helping Aboriginal people determine the course of their

future". But the point of focus is the participative manner in which this is done.

On another site (http: //www. creativespirits. info/ aboriginalculture/land/aboriginal-land-care) the authors likewise make the point that to speak of Indigenous ways of caring for the land does not necessarily mean "only the traditional way". As they indicate:

Modern carers for land, such as rangers, can both continue traditional traditions (deep knowledge about country passed on from generation to generation), as well as apply modern technologies and innovative land management practices. Combining traditional methods and contemporary practices can in fact get the best results for the environment, for example in Indigenous Protected Areas.

They point out that "Traditional owners often work in partnership with government departments and other non-Aboriginal organizations to conserve and care for land". In such relationships of mutuality, the following activities are engaged in:

- *protect cultural sites, stories and songlines,*
- *record sites of resource use and special features,*
- *recognize important cultural areas,*
- *create seasonal harvest calendars,*
- *survey catchments,*
- *record (new) plants,*
- *remove seeds and weeds,*
- *teach government departments and tourists about their connection with the land, the seasons and bush foods,*
- *perform cultural or customary activities,*
- *take Aboriginal children out on country so they can learn from their elders,*
- *help reduce greenhouse gas emissions,*
- *return threatened species to their native habitat (439 animal species were threatened in 2012, up from 353 in 2001; 1344 plant species were threatened in 2012, a 20 percent increase from 2001,*
- *contribute to prevent bush fires,*
- *help with sustainable water management, including removal of ghost nets and animal rescue.*

As Rick Hope, a Senior Ranger in Valley Conservation Reserve expresses it: "Joint [land] management is a win-win situation that provides employment, training, a better environment and a bit of hope". This echoes Serageldin's argument cited in the Introduction to this paper that it is possible to create "win-win strategies" for a sustainable future.

The authors highlight this point by noting that in drawing on Aboriginal experience and insight, the result was that in Australia, in 2012 Aboriginal people managed 20 percent of Australia's land ((http: //www.creativespirits.info/ aboriginalculture/land/aboriginal-land-care).

THE POLITICS OF INTEGRATING INDIGENOUS KNOWLEDGE INTO RESOURCE MANAGEMENT

The discussion above may seem to have discounted the struggles that have been needed in order to get to the position where Indigenous knowledge becomes (re)valued. Ross and Pickering offer an exposition around this in their article entitled *The Politics of Reintegrating Australian Aboriginal and American Indian Indigenous Knowledge into Resource Management: The Dynamics of Resource Appropriation and Cultural Revival* (2002). They compare the US and Australia on this score:

As the United States and Australia struggle with contemporary crises over competing uses of rapidly depleting natural resources, there are striking parallels between American Indian and Australian Aboriginal communities demanding a place at the management table and offering culturally based understandings of and solutions for the ecosystems at risk (2002: 187).

Ross and Pickering aver that for Indigenous people to become equal partners in land management, it needs to be recognized that the legitimacy of their "information systems" derive from "paradigms of spiritual and social relationships with nature" (rather than from detached "scientific" approaches). Using the example of a "highly developed fisheries system" they show, by way of example, how the Indigenous people of Moretan Bay in South East Queensland (Australia) and of Puget Sound area of Washington (US) developed a system that ensured the survival of fish stocks and shellfish reserves for future generations (Ross and Pickering 2002: 191). They argue that it is through using ethnographic methods that we can get a glimpse of the ways in which Indigenous people have managed resources over time and of the accompanying cultural and spiritual beliefs that lead to this style of management (Ross and Pickering 2002: 195).

In response to those who argue that no assurances exist that traditional practices will be successful in reaching similar outcomes today, they offer the rejoinder that it is indeed via the colonizing societies (which implemented the "scientific method" to the exclusion of Indigenous knowledge) that they "failed to locate a sustainable balance between consumptive uses and conservation of natural resources" (Ross and Pickering 2002: 196). On these grounds they feel that a management system grounded in people's sense of being "caretakers, users and stewards" of the natural world within a system of "spiritual, cultural and economic rights" is better equipped to provide sustainable solutions on a social and natural level.

From their article it is clear that the debate is not settled over the status of the various ways of knowing and of being in relation to "the world": there are still struggles involved in claiming a place for Indigenous approaches towards developing understandings and solutions for "ecosystems at risk" (Ross and Pickering 2002: 198). As they point out, it is still rare (in both Australia and the US) that:

Indigenous knowledge has been used to restore Indigenous control over resources or to justify partnerships between Indigenous communities and mainstream resource management authorities (2002: 198).

Despite this, they point to instances of collaboration and to how this collaboration has extended "the knowledge base upon which many land management [and sea management] decisions are made" (Ross and Pickering 2002: 198). They point again to the paradigmatic differences that can detract from this collaboration (and from enabling equal participation). They note that "Western-oriented" detractors

continue to hold up the profoundly Western European paradigm that successfully isolated the scientific "truth" from political values and religious morals. However, through the privileging of science, the demise of the ecological sustainability of the planet in the face of rapidly expanded capitalist production has also been justified in these terms.

As a counterfoil to this, they encourage "the reintegration of political values and spiritual morals into our approach to natural resource management". They thus deal with the import of IK by focusing on its offering a route to knowing which is related from the start to "values and

morals" (Ross and Pickering 2002: 199). Nevertheless, questions concerning possible links between (Western-styled) "scientific" ways of knowing and Indigenous approaches to knowing are left largely unaddressed by them. It could be suggested in this regard that insofar as people—from whatever cultural backgrounds—are able to draw on a *range of styles of knowing* and do not consider any of these as particularly superior in status, *this allows for knowledge development that can embrace a range of influences in addressing issues of social and environmental sustainability.*

To provide additional substance to the discourse in this paper, the paper now turns to providing an example of what is presented as a cooperative relationship between "local" (Indigenous) and "scientific" ways of knowing from a case in South Africa reported upon by Kaschula et al. (2005). Kaschula et al. refer to a project dealing with coppice harvesting of fuelwood species on a South African Common—where they indicate that those involved sought to engender a community-based natural resource management process. They state that this case was set in a political context where,

the spread of democratic practices and the insistence on participation, coupled with the long overdue realization that top-down approaches where people are coerced into conservation strategies are often simply not effective, have inspired a move away from a policy dominated, exclusionary approach to natural resource management towards Community Based Natural Resource Management (CBNRM) (Kaschula et al. 2005: 388).

Kaschula et al. furthermore affirm that many (human ecological) researchers

have in recent decades emphasized the wisdom of Indigenous cosmologies which treat plant, animal, and human interactions as a single spiritual, moral, and regenerative system, and energetically sought to incorporate these cosmological traits into management policy (2005: 388).

But they add that thus far when investigating ways of managing the environment, researchers tend to "battle to reconcile the problematic portion of Indigenous knowledge that fails to meet their rigorous scientific standards" (Kaschula et al. 2005: 391). They remark that "if research fails to find this coherence, … [Indigenous] people are commonly assumed to have

been subject to too rapid modernization for their Indigenous knowledge to adapt" (Kaschula et al. 2005: 392).

Against this background they assert that it is important to move outside of the "simplistic western/traditional dualities" (of so-called scientific versus Indigenous knowledge), and move towards processing "a complex collection of biological and social data with a view to implementing sustainable, locally-administered, resource management practice" (Kaschula et al. 2005: 392). Considering the different ways of generating "knowledge" in this case, they note that

coppice management has been suggested as a potential method for the sustainable utilization of woodland resources in tropical savannas—but the question for savanna systems is, given the minimal resources available to local communities in terms of controlling harvesting technique and nutrient replacement programs, how can we manage a coppice harvesting program that encompasses local understanding of tree vegetative regeneration and harvesting practices and a consideration of biological processes involved in coppice regeneration? (2005: 393).

They indicate how the researchers here were able to link biological data relating to coppicing (i.e., vegetative regenerating) to an appreciation of how local communities "understand, identify with, interpret, make use of, and manage their own natural resources". But this involved challenging the notion that it would be easy to compare "scientific" versus "local" data sets. They state that:

It is precisely this struggle to streamline data sets into comparable formats that often causes managers to ... dismiss certain data sets as irrelevant or inadmissible, or to give up on gathering a rounded, integrative data set altogether (2005: 393).

Their article reports on how in this project data sets generated via Indigenous knowing became "admitted". The research with people in the community involved semi-structured interviews as well as focus group sessions, which enabled participants to outline and discuss issues and perspectives connected with coppicing. The researchers persisted in considering the comparison between the "subjective" accounts of participants (in regard to tree regeneration) with the supposedly more objective, sci-

entific evaluations of coppicing ability. They comment that the discordance between the two data sets could be interpreted as follows:

Whereas scientific knowledge is inferred from the isolation and quantification of single variables, Indigenous knowledge tends to focus more on the bigger picture, bracketing plant responses into general trends and "rules of thumb" rather than specific categories (2005: 410).

Additionally, they point out that while the "scientific method" necessitated working at a "miniscule scale" (to isolate particular variables), the focus on sustainability demanded working "at the broadest systems-level scale", to encompass multiple levels—including social and political and not just biological levels (Kaschula et al. 2005: 410). Drawing on the work of Walter-Toews et al. (2003) they propose that it is possible to explore how social systems are nested within ecosystems. As they put it:

Using this nested systems-level approach, we are able to move beyond the apparent discordance between local and scientific paradigms, seeing Indigenous knowledge as an indicator of the symbolic and cultural values attached to natural resources. (Kaschula et al. 2005: 410).

Finally, they advocate a systems approach which is not based on looking simply for congruence or incongruence between (purportedly) "scientific" and "Indigenous" data sets, but rather on developing a "broader ecosocial understanding of community based environmental management discourse" (Kaschula et al. 2005: 413).

This example as here discussed showcases the possibility of a "community-based" natural resource management system where credence is given to different styles of knowing. Drawing on these styles, more workable social and political solutions to environmental management can be developed, while doing justice to the holistic approach that is called for within IKS.

CONCLUSION

This paper was aimed at contributing to the literature on human ecological understandings of the interaction between humans and their environment by delving specifically into the contribution of Indigenous approaches to knowing (as connected with ways of being). The ar-

gument was put forward that what is specific about IKS is that it is grounded in an epistemology where knowing is already tied to *valued ways of living* in relation to human as well as non-human "relatives". The paper concentrated on the works of a number of writers explicating African, American Indian and Australian Aboriginal lifeworlds. These writers are concerned with the dominance of a process of globalization that functions to devalue and denigrate "alternative" ways of knowing and being. The paper offered a glimpse of what is involved in restoring Indigenous contributions to knowledge-development and of how this restoration can form a counterfoil to an emphasis on profit and impositional power.

RECOMMENDATIONS

In order to explore the meaning and import of Indigeneity in the current era, it is recommended that instead of directing our attention to Indigenous Knowledge Systems (IKS) as harboring Knowledge, we should put the focus on the *cultural orientations* that are offered by those identifying with Indigeneity. Such identification does not imply a frozen allegiance to "tradition", but implies a concern with resisting forces of globalization rooted in more or less non-relational styles of knowing and being in the world, which threaten to destroy sustainable ways of living.

NOTES

1   This is similar to the advice offered by (Laura) Harris and Wasilewski (2004) when they propose that: "To introduce an idea one demonstrates the idea and invites others to observe. Then each community adopts what is suitable to its own circumstances, if anything at all" (2004: 509).

2   Bullard clarifies that race [as a social category] and class are intertwined and that "you can't really extract race out of decisions that are being made by persons who are in power and the power arrangements are unequal" (1999).

3   Ladson-Billings expresses her concerns with epistemologies which try to separate out knowing subjects from their social contexts. She sees these as rooted in the philosophy of René Descartes as an approach to knowing upon which European and Euro-American worldviews and epistemology rest—namely, that the individual mind is the source of knowledge and existence. In contrast she states that the African saying "*Ubuntu*" communicates that the individual's existence (and knowledge) is contingent upon relationships with others. (2003: 398). She argues that the former kind of episte-

mology can serve to reproduce a "dominant worldview and [attendant] knowledge production and acquisition processes" which render inferior alternative approaches to knowledge construction. See also Romm's detailed discussion of this in the context of an account of how New Racism can become perpetuated (2010: 21-23).

4   They elucidate that
Most of these meetings after 1985 were conducted according to the computer-assisted, consensus-based, complex problem-solving process that was then being developed by Dr Christakis and his colleagues at the Center for Interactive Management at George Mason University in Virginia. It was in 1985 at the World Affairs Conference in Boulder, Colorado, that AIO staff had encountered Dr Christakis, who explained the features of the software. These features included an order of speaking, everyone having a chance to speak, no evaluative comments, the speaking going on until no one had anything else to say, etc. (2004: 491)
The idea built into the software is that this way of organizing the structured dialogue process enables consensus building to "become more efficient" (2004: 491). (cf. Christakis and Bausch's exposition too, 2006).

5   This also links up with Romm's (1998) consideration of responsibility as linked to feelings of accountability to nurture the planet. Romm here expands upon Flood and Romm's (1996) account of "diversity management". Furthermore, this ties in with Romm's (2013) suggested way of shifting Social Dominance Theory so that new futures for our existence can more readily be envisaged.

6   They admit that at times wars might be engaged in between tribes. But their stance on this is that: "You can even value your enemies. Utes and Comanches were traditional rivals. We warred against each other. But we never wanted to exterminate each other. ... [And] in Comanche society, any fight had to be a fair one. How could you gain honor if the fight was not an evenly matched one?" (2004: 496). However, they also point to the potential for harmonious co-existence.

7   They suggest that words used in processes of dialogue can be considered as "a kind of 'social grooming mechanism' used in establishing relationships". Here they point out that the idea is not to engage in a war of words but to engage in more consensually-oriented fashion during the process of developing collective wisdom (2004: 497).

8   McIntyre remarks in this regard that the root cause of consumption (where currently consumption is very unequal and the gaps between rich and poor become wider and wider) is "power without responsibility". She exhorts that: "whoever comes to power needs to be held to account through mechanisms to develop social, economic and environmental indicators that secure the well being stocks for the future" (2014: Chapter 1).

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