

INDIGENOUS KNOWLEDGE CONFERENCE

UNIVERSITY OF SASKATCHEWAN

MAY 28-30

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WITH FUNDING FROM: Saskatchewan Education, Saskatchewan Northern Education, President's Office, U of S, Cameco Access Program in Engineering, U of S, Saskatchewan Environment and Resource Management, the Federation of Saskatchewan Indian Nations, Biodiversity Convention Office, Saskatchewan Indian Cultural College, Office of the Treaty Governance Process Federation of Saskatchewan Indians, International Development Research Centre (Ottawa), College of Agriculture, U of S, Indigenous Governance Institute

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GLEN S. AIKENHEAD

REKINDLING TRADITIONS:
CROSS-CULTURAL SCIENCE & TECHNOLOGY UNITS

The project, *Rekindling Traditions: Cross-Cultural Science & Technology Units*, illustrates one way to address the under-representation of Aboriginal people in careers related to science. Unless teaching materials in schools provide students with a meaningful way to learn (i.e. in the context of the local community), many Aboriginal students find the science curriculum inaccessible to them, and they do not continue studying science in high school. In our *Rekindling Traditions* units, Western science content is taught in the context of the local community's Aboriginal knowledge of nature, a context that creates an Aboriginal point of view for each unit. Aboriginal content is treated as an *asset* in the science classroom. To achieve this, we consistently sought the wisdom of Elders throughout the two years of our project.

Our collaborative research and development team consisted of six science teachers from across northern Saskatchewan, along with a facilitator/coordinator from the University of Saskatchewan. We developed six units of study for grades 6 to 11:

- | | | |
|---------------------------------|--|-----------------|
| 1. Natures' Hidden Gifts | <i>Iyiniw Maskikiy</i> in Cree | Morris Briz |
| 2. Snowshoes | <i>Asâmak</i> in Michif or Cree | David Gold |
| 3. Survival in Our Land | <i>Kipimâcihiowininaw ôta</i>
<i>Kitaskînahk</i> in Cree | Earl Stobbe |
| 4. The Night Sky | <i>Tth'ên</i> in Dëne
<i>Acâhkosak</i> in Cree | Shaun Nagy |
| 5. Trapping | <i>Itts'usi Thëlai</i> in Dëne
<i>Wanihikewin</i> in Cree | Keith Lamaigre |
| 6. Wild Rice | <i>Mânomin</i> in Cree | Gloria Belcourt |

Each unit contains relevant background information and specific lesson plans for teachers to follow. We also wrote a *Teachers Guide* to provide general background knowledge and guidance for any cross-cultural unit. Personal advice to science teachers is found in *Stories from the Field*, which documents how to involve the community in the modification of any of our units, or in the production of a new unit, to suit the community's unique culture. The six units, the *Teacher Guide*, and the *Stories from the Field* are available at the project's web site (<http://capes.usask.ca/ccstu>) and on CD from Northern Lights School Division, La Ronge, Teacher Resource Department, Bag Service 6500, La Ronge, SK, S0J 1L0, for less than \$10.

It is anticipated that a teacher will print out a unit and take it to some people in the community who know the topic well, and ask, "How could *we* modify this unit so it fits our community?" Elders and other knowledgeable people in the community will help the teacher modify the unit by teaching local content to the students and teacher, who in turn record this knowledge appropriately; thereby producing a revised unit for their community. This process teaches students the proper protocol for gaining access to their

community's knowledge and wisdom, and it teaches them to value and respect their Aboriginal heritage.

The *Rekindling Traditions* project would not have been possible without the support and funding from the Cameco Access Program for Engineering and Science (CAPES), the Stirling McDowell Foundation (Saskatchewan Teacher's Federation), Northern Lights School Division, Ile-la-Crosse School Division, Saskatchewan Education (Northern Division), and the Colleges of Education and Engineering, University of Saskatchewan. The project was completed within two calendar years, 1999-2000.

Need for the Project

The goal of conventional science teaching has been to transmit to students the knowledge, skills, and values of the scientific community. This content conveys a Western worldview due to the fact that science is a subculture of Western culture (Pickering 156). Thus, students with a much different worldview (such as many Aboriginal students) can experience a cross-cultural event whenever they study Western science (Aikenhead 55). How can these students master and critique a Western scientific way of knowing without losing something valuable from their own cultural way of knowing?

To First Nations science educator Madeleine MacIvor, the answer is clear: "The need for the development of scientific and technical skills among our people is pressing. ... Reasserting authority in areas of economic development and health care requires community expertise in science and technology" (MacIvor 74). "Conventional science must be presented as a way, not *the* way, of contemplating the universe" (p. 88). In Australia and New Zealand this is called "two-way" learning (Ritchie & Butler 225), while in the U.S. it is often called "bi-cultural" instruction (Cajete, 165). This non-assimilative approach to teaching science is illustrated in Snively's (1990) case study of Luke, an Aboriginal boy in grade 6 whose science class had studied the Canadian seashore:

Clearly, after instruction, Luke continued to have many ideas and beliefs about seashore relationships consistent with a spiritual [Aboriginal] view of the seashore and many ideas and beliefs consistent with an ecological view of the seashore [gained from science instruction]. ... It is possible to increase a student's knowledge of science concepts without altering substantially his or her preferred orientation [worldview]. (53-54)

In other words, First Nations and Métis students can learn Western science without being assimilated into Western culture, that is, without losing their cultural identity as Aboriginals. But to make this happen, the curriculum and instruction must be cross-cultural in nature, as it was for Luke.

Central to this cross-cultural approach is the tenet that Aboriginal children are *advantaged* by their own cultural identity and language, not disadvantaged in some deficit sense. Aboriginal students have the potential of seeing the world from at least two very different points of view, rather than just one, as many of their Euro-Canadian counterparts do.

Based on the premise that future science teaching needs to be cross-cultural in nature, Glen Aikenhead and Bente Huntley (1997) conducted a research study into science teachers' views of: (1) the connection between the culture of science and the culture of Aboriginal students, (2) the possible assimilation of these students in their science classes, and (3) the degree to which teachers saw themselves as culture brokers who could smooth the transition into school science. The teachers (both Aboriginal and non-Aboriginal) taught Aboriginal students across northern Saskatchewan in grades 7 to 12. The research identified barriers to student participation in science and technology (and math). While the science teachers tended to blame various inadequacies (a lack of this and a lack of that), Aboriginal educators clearly pointed to the vast differences between Aboriginal culture and the culture of science there are two differences that make science a foreign forbidding world to most students. Several recommendations emerged from that study, two of which are relevant here:

1. Knowledge of nature learned in school science should combine both Aboriginal and Western science knowledge systems. A more relevant, culturally sensitive curriculum would refocus instruction into cross-cultural science teaching that supports potential scientists and engineers.
2. A group of teachers who are already fulfilling some of the principal roles of a culture broker should be identified, and they should form a working network with other educators who could facilitate their collaborative efforts. Together, they should develop: (a) an array of culturally responsive instruction and assessment/evaluation practices; (b) a culturally sensitive science curriculum; and (c) specific lessons, units, or modules for other teachers to use.

The study also found a great diversity in cultures from community to community across the north. Thus, instruction and teaching materials developed in one community are *not* necessarily transferable to another community. The materials must fit into a meaningful cultural context of the local community, otherwise many students will find the science curriculum inaccessible. If teachers are going to teach science in a meaningful way - in the context of the school's community as teachers need continuous professional support.

A culturally sensitive science and technology unit will present an Aboriginal framework within which Western science is introduced as *one* way of understanding nature as a way that conveys Western scientific values and worldview. Aboriginal ways are identified and contrasted with the Western way, as appropriate.

Project Initiation and Funding

When the above research was presented at the June 1998 CAPES meeting in La Ronge, Dr. Bruce Decoux (Deputy Director, Northern Lights School Division) and Dr. Bill Duffee (Director, Ile-la-Crosse School Division) encouraged Dr. Glen Aikenhead to write a proposal for a project that would implement these recommendations in a meaningful way. Over a series of summer meetings among the three educators, a final proposal was developed and submitted to possible funding agencies.

As a result, Cameco Access Program for Engineering and Science (CAPES) awarded \$50,730 while the McDowell Foundation awarded \$10,000. In addition, there

were \$66,000 in-kind costs born by the two school divisions, Saskatchewan Education (Northern Division), and the Colleges of Education and Engineering (University of Saskatchewan).

Objectives of the Project

Guided by Aboriginal educators (Battiste, 1986; Cajete, 1986; Casebolt, 1972; Ermine, 1995; Hampton, 1995; Kawagley, 1995; MacIvor, 1995; McKinley, 1996; Nelson-Barber, Trumbull & Shaw, 1996; Ogawa, 1995), research findings (Aikenhead, 1997; Allen & Crawley, 1998; Baker, 1996; Deyhle & Swisher, 1997; Fler, 1997; Harris, 1978; Jegede, 1995; Snively, 1995), and the practical knowledge of teachers, the following objectives were formulated for the *Rekindling Traditions* project:

- 1 . To establish a collaborative team of science teachers and a university science educator, along with the support of various stakeholders.
2. To develop a *prototype process* for producing culturally sensitive instructional strategies and curriculum materials that support student learning within any particular community.
3. To produce some teaching strategies and materials that exemplify culturally sensitive science teaching for Aboriginal students (grades 6 to 12), and are available to communities electronically through CD and website sources.
4. To inspire others to continue the practice of cross-cultural science teaching.

The results of our project are reported in the next four sections of this paper, organized around these four objectives.

Results: To Establish a Collaborative Team

A number of teachers were nominated by their school division as possible participants in the project. Each teacher was contacted by telephone by project facilitator/coordinator Glen Aikenhead. Seven teachers who volunteered were selected to participate in this R&D project. One withdrew midway through the first year. The collaborative R&D team of teachers became: Gloria Belcourt, Pinehouse Lake; Morris Brizinski, Beauval; David Gold, Ile-la-Crosse; Keith Lemaigre, La Loche; Shaun Nagy, La Loche; and Earl Stobbe, Timber Bay. All had a personal interest in developing their cross-cultural science teaching further. All were highly involved in school activities and projects related to their school. They were particularly busy people.

On the advice of the Northern Lights School Division, Glen Aikenhead approached Elder Henry Sanderson of the La Ronge Indian Band to ask him to be our project guide. At a meeting in La Ronge with Glen, Elder Sanderson accepted a gift, thereby agreeing to become our project's Elder. At our first project meeting in La Ronge in January 1999, he provided the team with the direction to care for Mother Earth. He continued giving us guidance throughout the project at key decision points. Other elders also kindly provided knowledge and wisdom from time to time. These were Ann Lafleur (Cree) and Alec Campbell (Dëne), both from the Beauval area.

There were a number of consultants and advisors who assisted the R&D team: (1) translators who helped us write key words and phrase in Cree and Dëne (Ken Carriere, NLSD, La Ronge; and Walter Park, La Loche Community School, La Loche); (2) technical support and advice from Saskatchewan Education, Northern Division (Tobby Greshner and Debbie Mielke); (3) computer and secretarial support from the College of Education, University of Saskatchewan (Rodger Graham, Lois McPherson, and Audrey Swan); (4) website support from the ITLC lab, College of Engineering, University of Saskatchewan (Keith Jeffrey and student assistants); (5) Aboriginal artist, Tammy Alexander of Saskatoon; and (6) a great many competent people in the teachers' communities who contributed to the project by helping students and teachers learn local Aboriginal knowledge, and by assisting teachers in the classroom and on field trips.

Results: To Develop a Prototype Process

It took concerted effort over several months to patiently develop culturally sensitive instructional strategies and curriculum materials that support student learning within any particular community. Our experiences in this development are summarized here. A detailed documentation of our experiences may be found in our *Teacher Guide* and our *Stories from the Field*, written for the purpose of guiding teachers who want to walk along our pathways. These two documents, along with the individual units themselves, convey a process for others to follow. The following summary indicates key aspects to our prototype process.

Teachers received a modicum of release time for research, writing, and working with the local experts in their units topic, throughout the first six months of the project. This release time was essential. Without it, the project could not have been successful. We also conducted six two-day meetings, attended by the R&D team and usually an Elder:

January 28-29, 1999, La Ronge (with Henry Sanderson, La Ronge)
March 18-19, 1999, Little Amyot Lake (with Ann Lafleur, Beauval)
May 20-21, 1999, Little Amyot Lake (with Alec Campbell, Beauval area)
August 20-21, 1999, Waskesui (with Dr. June George, Trinidad & Tobago)
November 18-19, 1999, Saskatoon (with Joy Star, Saskatoon Tribal Council)
May 3-5, 2000, Little Amyot Lake

Minutes of these meetings were distributed to all stakeholders, and posted on our web site. The focus of each meeting changed as time went on. We started by becoming familiar with past work in cross-cultural science education (see the *Teacher Guide* for details). Then we went on to identify themes for our units. Next we found appropriate resources, activities, and sensitive teaching methods to suit the unit. Time was taken during the later meetings to edit the units, to polish the lesson plans, and to plan professional development workshops. Some units developed faster than others. Those that related to specific seasons (e.g. trapping, wild rice, and snowshoes) could not be implemented on a trial basis until the season was right.

Significant progress in developing individual units was always achieved when the teachers interacted face to face, away from their school setting, or when an individual teacher interacted face to face with the project's facilitator in the teacher's community.

The R&D team needed uninterrupted time to share ideas, to reflect on the units, and to consider how to involve community people in the school science curriculum. Time was taken to support each other as new ideas emerged. The synergy from people interacting around a table with a common purpose proved to be very powerful. Uninterrupted time was a precious and valuable commodity. The face-to-face meetings led directly to independent initiatives being taken by each teacher. The project could not have progressed without these meetings.

Face-to-face meetings could not have been replaced by e-mail list-servers, telephones, or faxes. These modes of communication do not allow for the synergetic interaction needed, because in the culture of schools there are hourly demands on busy teachers to interact with students in terms of academic, social, personal, and parental results. These demands wrap teachers up in a whirl of responsibilities that leave them with neither the time nor the energy to interact on list-servers, telephones or faxes.

Schools are not yet structured to facilitate communication through the internet. In order to ensure internet communication, schools will need to change the time demands placed on teachers, schools will need to acquire reliable and compatible technology (a very rare commodity at the present time in the business world of computers), and schools will need to establish routines centered around the internet rather than around students' needs a development none of us would want to see, to be sure. Face-to-face meetings were a major reason for the progress of the project. Future projects should follow this pathway, rather than the "information highway."

Another major facet to the project's success can be attributed to the time spent on the project by Glen, the facilitator/coordinator. Although he worked on the project while carrying a full time teaching load for the first and last six months of the project, he was released from teaching responsibilities at the University (1) full time during the fall of 1999 (when the communities were involved with implementing the units), and (2) part time in the spring of 2000 (when the units were being edited and electronically designed for desk-top publishing on the CD). Funding for his time came from CAPES and the College of Education, respectively. Progress on the project would not have been smooth without a coordinator to organize meetings, to follow up on teachers' suggestions when needed, to visit teachers in their schools, to be a writer, to be a researcher, a "gopher", to negotiate computer software peculiarities as they arose, and to keep everyone focused on the project's goals as defined by our Elders.

Key community people (at first called "local advisory people") were essential to developing the units and lessons sensitive to students' unique community. At first it was a challenge for each teacher to involve people from the community. The challenge was very different in each community. These challenges, and our advice on how to succeed, are found in *Stories from the Field*.

One culturally sensitive instructional strategy discovered by the team was to involve students in gaining local Aboriginal knowledge about the topic of the unit. Students learned that their community was rich in knowledge, as rich as the internet and print materials. To gain access to local knowledge, students were taught the protocol for approaching people who possess the knowledge, and students learned how to conduct interviews. Most of the *Rekindling Traditions* units contain a lesson dedicated to gaining local knowledge appropriately. Interview questions are composed by a class and then used by groups of students as they interview people in the community. The local

knowledge gained by students is shared and synthesized in class. Elders and other knowledgeable people in the community taught local content to students, who in turn recorded the knowledge in a way appropriate to the wishes of the person who gave them the knowledge (some stories are not to be repeated while others may only be repeated orally). Having helped students synthesize the local Aboriginal knowledge, teachers verified the validity of the knowledge by talking with people in the community. This was one way of establishing a personal contact with community people. Alternatively, some teachers invited Elders or other local experts into the classroom. Students and teachers learned the Aboriginal content together. Either way, local knowledge was given respect. It was *foundational* to each unit. It was not a token “add-on.” In some cases, the Elders or experts helped the teacher conduct a field trip with the students, for instance, a trip to a wild rice stand or trap line.

All these instructional methods taught students the proper protocol for gaining access to their community’s knowledge and wisdom, and they teach students to value and respect their Aboriginal heritage. This has been shown to develop stronger cultural identity and self-esteem in Aboriginal students (Cajete, 1999; McKinley et al., 1992; Ritchie & Butler, 1990).

The Aboriginal knowledge found in each of our units creates a context for instruction that most Aboriginal students relate to. It is also a context into which Western science instruction logically fits. In other words, Western science content is taught in the context of the local community’s Aboriginal knowledge of nature, a context that creates an Aboriginal framework for the unit. Thus, a *Rekindling Traditions* unit brings Western science into the students world rather than insisting that students construct a worldview of a Western scientist.

When we introduced students to the science content in a unit (from the provincial curriculum), we did it with sensitivity to the authentic knowledge shared by the community. Consequently, students learned Western science without feeling the need to discredit the Aboriginal knowledge they had learned. At the same time, students become better prepared for, and sometimes more interested in, the next years science course. This interest followed from the fact that students found the Western science content more meaningful, rather than approaching it as content to be memorized.

We tried to avoid teaching science in a way that makes students feel they are being assimilated into Western science. At the same time, however, students were expected to see the world through the eyes of a Western scientist just as we would expect students to understand another person’s point of view on an issue. Understanding did not necessary mean believing, however.

Results: To Produce Some Teaching Strategies and Materials

Teaching Strategies

In Alaska, students’ standardized science test scores uniformly improved over four years to meet national averages, in classrooms where there was a strong cultural fit among the curriculum, the instruction, and the context in which students learned the science (Barnhardt, Kawagley, & Hill, 2000). Our *Rekindling Traditions* units aimed to accomplish this cultural fit.

The first strategy that made a world of difference was teaching “out of doors.” Students often behaved very differently when they were immersed in nature, away from

the school building, even for one lesson. It was as if they were sensing their natural place. This observation coincides with one of Eber Hampton's (1995) twelve standards of education for First Nations students, *a sense of place*: "Indian education recognizes the importance of an Indian sense of place, land, and territory" (p. 40). Kawagley and Barnhardt (1999) also stress the importance of place to the Alaskan Yupiaq First Nations and how science educators can be sensitive to that sense of place when planning instruction.

The integration of Aboriginal and Western sciences in the *Rekindling Traditions* units had a noticeable motivational effect on most students in our project. They tended to become more involved in science classes, even staying after school to complete projects sometimes. Voluntarily staying after school was previously all but unheard of.

A common pattern of integration found in the *Rekindling Traditions* units is the Aboriginal framework established at the beginning of each unit. This framework reflects local knowledge. In a later lesson in a unit, Western science and technology from the Saskatchewan science curriculum is introduced to students as useful knowledge from another culture (the culture of Western science). The introductory Aboriginal content takes the form of practical action relevant to a community, for example, going on a snowshoe hike, finding Indigenous plants that heal, listening to an Elder, interviewing people in the community, or assisting in a local wild rice harvest.

Central to cross-cultural strategies of teaching science is making students aware of different cultural ways of describing and explaining nature. Not only is content different in each culture, but the values attached to that content differ. Identifying values is another aspect of integration common to all our units, in keeping with an Aboriginal way of teaching (Cajete, 1999). Both scientific and Aboriginal values are made explicit in our units. Each lesson plan specifies either a scientific value (e.g. power and domination over nature) or an Aboriginal value (e.g. harmony with nature) to be conveyed by the lesson. In some cases where both cultures are compared within one lesson, both types of values are identified. Values are particularly salient in Aboriginal cultures. The introduction to a *Rekindling Traditions* unit clarifies key values that Elders expect students to learn. This practice of making values explicit is then extended to the clarification of values that underlie Western science when scientific content is studied in a unit. This happens to be a requirement of the Saskatchewan science curriculum, defined by one of its seven dimensions of scientific literacy "values that underlie science." Key scientific values can become the topic of discussion. During these discussions, values are expressed and can be critiqued. As the value structure of Western science becomes more apparent to students (e.g. the mathematical idealization of the physical world), students are freer to appropriate Western knowledge without embracing Western ways of valuing nature. This appropriation has been called "autonomous acculturation" (Aikenhead, 1997). It provides an alternative method to assimilating Aboriginal students into Western science.

Having established an Aboriginal framework and having identified key values as contexts for integration, the next mode of integration in a unit is a border crossing event into Western science, *consciously* switching:

- i) values (e.g. from harmony with nature, to power and domination over nature)
- ii) language (e.g. from mahihkan to *Canis lupis*),

- iii) conceptualizations (e.g. from “Who are these animals?” to “How are they classified?”),
- iv) assumptions about nature (e.g. from the observer being personally related to what is observed, to the observer being objectively removed), and ways of knowing (e.g. from holism to reductionism).

An effective culture brokering teacher clearly identifies the border to be crossed, guides students across that border, and helps students negotiate cultural conflicts that might arise. Each unit has a different place where border crossing first occurs. Another feature of integration often emerges when a teacher compares Aboriginal and Western science. Sometimes Western science can powerfully clarify one small aspect of Aboriginal science. For instance in the units *Snowshoes*, *Trapping*, and *Wild Rice*, the technologies associated with these topics are originally studied from the historical and cultural perspectives of the local community. Then the class takes a closer, in-depth, Western scientific look at, for example, the pressure exerted by snowshoes on snow and by traps on animals, or the habitat of wild rice. By understanding the Western scientific stories about force, pressure, energy, and habitat, students learn to predict more accurately the effects of variations in the technology associated with snowshoeing, trapping, or producing wild rice. While the Western science concepts may not improve students' know-how for snowshoeing, trapping, or growing wild rice, the concepts clarify one small aspect of the overall topic. Western science does not replace Aboriginal science, it enriches an aspect of it.

As various topics in Western science are studied within our units, additional, relevant, Aboriginal content is introduced from time to time. This is easy to do because the unit already has a framework for that content. Aboriginal content is not just tacked on for the sake of creating interest. It frames the unit in a way that nurtures the enculturation of Aboriginal students into *their community's* culture (Casebolt, 1972). This differs dramatically from the enculturation of students into Western science, the goal of past science curricula. Although it is not the goal of Saskatchewan's current science curriculum, it continues to be the goal for the so-called reform movements in, for example, the USA (NRC, 1996), the UK (Millar & Osborne, 1998), and Ontario (McNay, 2000).

The conversations among people engaged in Aboriginal science are very different from the conversations of Western scientists. Both types of conversations are integrated into a *Rekindling Traditions* unit. As students bring their community's Aboriginal knowledge, language, and values into the classroom, new relationships between a teacher and a student can replace the conventional hierarchy characterized by teachers transmitting what they know to students. In a *Rekindling Traditions* unit, teachers learn from students who themselves have just learned valid Aboriginal knowledge from people in the community. By learning from students and community people, teachers demonstrate how an educated adult learns new knowledge (i.e. life-long learning), and teachers share their own expert knowledge with students. In short, culture-brokering teachers are facilitators, cultural travel guides, and learners.

A more detailed discussion of the integrative teaching strategies used in all the units is found in our *Teacher Guide to Rekindling Traditions*.

Teaching Materials

We developed a 53 page (21,000 word) *Teacher Guide to Rekindling Traditions*. It can serve as a professional development document for cross-cultural science teaching and as a guide to the six units in *Rekindling Traditions*. In the *Teacher Guide*, we present background information and ideas that guided our work. The ideas came from several sources: Aboriginal educators from around the world, Aboriginal educators and Elders in Saskatchewan, and from our own experiences and perspectives. In addition, we discuss the integration of Aboriginal and Western knowledge of nature, drawing upon our six units to illustrate this integration. The *Teacher Guide's* table of contents (see Table 1) clearly indicates what each section in the document is about. The document gives information and general advice about teaching in a cross-cultural way.

Table 1. Table of Contents for the Teacher Guide

Chapter 1	INTRODUCTION
Chapter 2	TEACHING SCIENCE IN SASKATCHEWAN SCHOOLS
Chapter 3	THE NEED FOR CROSS-CULTURAL SCIENCE TEACHING
Chapter 4	THE <i>REKINDLING TRADITIONS</i> PROJECT
Chapter 5	BACKGROUND
	Western Science Versus Aboriginal Knowledge of Nature
	A Cross-Cultural Approach to Teaching and Learning
	Cultural Border Crossings
	Coming to Knowing
	Culture Brokering
	Different Relationships Between Western and Aboriginal Sciences
	Resolving Cultural Conflicts Between Aboriginal and Western Sciences
	Collateral Learning
	Translation is Not Enough
	Treating Aboriginal Knowledge with Respect
	Standards of Education for Aboriginal Students
Chapter 6	INTEGRATION OF WESTERN AND ABORIGINAL SCIENCES
Chapter 7	AN OVERVIEW OF THE UNITS
	Wild Rice
	Nature
	Hidden Gifts
	Survival in Our Land
	Trapping
	Snowshoes
	The Night Sky
	Summary
Chapter 8	CULTURALLY SENSITIVE STUDENT ASSESSMENT
	Principles of Assessment
	Written Tests
	Assessment Rubrics

Chapter 9	Checklists
References	Portfolios
	CONCLUSION

Some of the *Teacher Guide*'s sections (e.g. "Treating Aboriginal Knowledge with Respect") have already appeared in Aboriginal conference presentations by other people and on other web sites (e.g. <http://www.ozemail.com.au/~mmichie/network.html>).

As described earlier, in *Stories from the Field* we convey our experiences and advice related to contacting community people to learn their knowledge, involving them with the school, and gaining support from the community at large. This 19-page (8,000 word) document takes some of the mystery away from becoming involved with Elders and other people in ones community. We hope our stories will make other teachers feel more comfortable crossing the cultural border between their personal cultural identities and the culture of Elders and others in the community. This border crossing is the essence of *Rekindling Traditions*.

The main teaching materials for *Rekindling Traditions* are the six units:

- | | | |
|---------------------------------|--|-----------------|
| 1. Natures' Hidden Gifts | <i>Iyiniw Maskikiy</i> in Cree | Morris Briz |
| 2. Snowshoes | <i>Asâmak</i> in Michif or Cree | David Gold |
| 3. Survival in Our Land | <i>Kipimâcihiowininaw ôta</i>
<i>Kitaskînahk</i> in Cree | Earl Stobbe |
| 4. The Night Sky | <i>Tth'ën</i> in Dëne
<i>Acâhkosak</i> in Cree | Shaun Nagy |
| 5. Trapping | <i>Itts'usi Thëlai</i> in Dëne
<i>Wanihikewin</i> in Cree | Keith Lamaigre |
| 6. Wild Rice | <i>Mânomin</i> in Cree | Gloria Belcourt |

Because of the colored photographs throughout each unit and because several units have teacher resources placed in their appendices, the computer files for these units are very large, between 5,000 and 12,000 megabytes. They are available in two formats: (1) Microsoft Word 97 (software compatible with all schools across the north), and PDF, a format which reduces the size of the files considerably but does not allow a teacher to edit the files. Only the PDF files are on our web site. Both the PDF and Microsoft Word 97 files are on the CD.

One of the appendices to the unit *Wild Rice* is a multi-media tour of the La Ronge Wild Rice Corporation's processing plant. With the generous and continuous help of manager Bill Plunz, Glen learned about the process, took photographs, and wrote a script for a student tour of the processing plant. Debbie Mielke (Saskatchewan Education, Northern Division) took these materials and developed a NetScape file that takes students on a multimedia tour of the plant. Two announcers at the MBC radio station at La Ronge (Dallis Hicks and Jason Bekkatla) produced an oral version of the script, which was added to the NetScape file at the College of Education. As a result, teachers and their students can learn something about the processing of wild rice without travelling to La Ronge.

Our units are of most value to people when they can easily copy the units and then modify them to suit the needs of the local community. For this reason, we composed a copyright that would allow educators to do this, while at the same time, not allowing anyone (including ourselves) to make money on our units. Our copyright is shown in Table 2.

All the teaching materials are on our project's web site (maintained by the College of Engineering, University of Saskatchewan), and they are also available at cost (less than \$10) on one CD, available from Northern Lights School Division, Teacher Resource Department, Bag Service 6500, La Ronge, SK, S0J 1L0.

Table 2. The Copyright that Applies to *Rekindling Traditions* Units.

<p>© College of Education, University of Saskatchewan, Saskatoon, Canada, 2000. You may freely adapt, copy, and distribute this material provided you adhere to the following conditions:</p> <ol style="list-style-type: none">1. The copies are for educational purposes only.2. You are not selling this material for a profit. You may, however, charge the users the cost of copying and/or reasonable administrative and overhead costs.3. You will pay Cancopy for any content identified as "printed with Cancopy permission" in the normal way you pay Cancopy for photocopying copyrighted material. <p>You are not allowed to adapt, copy, and distribute any of this material for profit without the written permission of the editor. Requests for such permission should be mailed to: Dr. Glen S. Aikenhead, College of Education, University of Saskatchewan, 28 Campus Drive, Saskatoon, SK, S7N 0X1, Canada.</p>
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Results: To Inspire Others Dissemination

Our fourth objective, to inspire others to continue the practice of cross-cultural science teaching, involves our work at disseminating the results of the project. The *Rekindling Traditions* team made presentations at several teacher-related conferences. To facilitate our presentation, we created a PowerPoint presentation of the project, which we modified as the project evolved. The following were group presentations designed for the professional development of science teachers:

- Northern Lights School Division Teacher Convention, October 13, 1999, Prince Albert
- Learning From Practice Conference, STF, November 20, 1999, Saskatoon
- CAPES conference, June 8, 2000, La Ronge
- Sciematics, Saskatchewan Science Teachers' Society, Sept. 29-30, 2000, Saskatoon
(7 workshops)
- Learning From Practice Conference, STF, November 18, 2000, Saskatoon.

Pre-service science teachers at the College of Education, University of Saskatchewan, have begun to benefit from the *Rekindling Traditions* project in the science methods courses. The materials have been incorporated into the TEP sections of the elementary program, as well as into several methods classes for secondary teachers. New teachers are being made aware of the usefulness and availability of the units.

A limited number of black and white copies of *Rekindling Traditions* have been given to interested teachers at our workshops. Colored copies of the project, plus a CD, were distributed to key people, libraries, and institutions, including our funding agencies.

Letters describing the *Rekindling Traditions* project (including how to obtain a copy) were sent to the education directors of each Tribal Council in Saskatchewan. E-mail messages were posted to people worldwide who have expressed an interest in cross-cultural teaching. This has led to linking the *Rekindling Traditions* web site to some international web sites dedicated to Aboriginal education in science.

Outcomes

Although it is premature to describe definitive outcomes for the *Rekindling Traditions* project, initial reaction has been very positive such as, "This is what I've been looking for. There isn't any material like it."

Pre-service teachers at the College of Education are "hungry" for materials that show how theory can be put into practice. The *Rekindling Traditions* project concretely illustrates how a teacher can integrate Aboriginal science with Western science. The Sciematics workshops given by our team in Saskatoon (September 2000) were particularly well attended, with 25 to 30 teachers per session.

Glen has been contacted by Aboriginal science educators in the USA, New Zealand, and Australia, who learned about the project from our web site. As a result, Maori science teachers in New Zealand have arranged for Glen to spend time (in February 2002) at their Kura Kaupapa Maori school where they are beginning to develop a completely new science curriculum along the bi-cultural lines of *Rekindling Traditions*, and sanctioned by their Ministry of Education.

In the fall of 2000, two science educators from Australia involved in Aboriginal science teaching arranged to drop into Saskatoon (one in October and another in November) to see *Rekindling Traditions* for themselves; Dr. M. Flear, Camberra University, and Dr. Keith Skamp, University of the Southern Cross, Lismore.

Although it is too early to document the outcome of our project, it is interesting to note that at the "Coming Together" conference in Winnipeg, Dr. Greg Cajete took a copy of the *Rekindling Traditions* project back to New Mexico so he could give it to some colleagues in schools. "It is just what they were looking for," he mentioned. His positive reaction is of particular significance because it was Greg Cajete's (1986) original work that gave our project its initial direction. The unit "Trapping" has already been introduced into an northern Ontario community (Red Lake) by trapper/educator Kaaren Dannemann who also learned about it at the "Coming Together" conference.

Our web site has already caused people to request copies of our CD from the Northern Lights School Division office, for example, people at the University of Alaska Fairbanks. These science educators run the "Alaska Native Knowledge Network" (www.ankn.uaf.edu) which produces excellent documents about culturally responsive

schools and teachers, plus science units of interest to Alaskan Aboriginal students. A personal note of encouragement came from Buffy Saint-Marie (2000) who heads the “Cradleboard Teaching Project” which is developing a series of interactive multimedia CDs for students, *Science: Through Native Eyes*. The group has just finished three science units (sound, friction, and lodges).

A different type of outcome has given us more confidence in one of our instructional strategies in cross-cultural instruction, that is, the strategy of “border crossing,” (described earlier in the section “Results: To Produce Some Teaching Strategies And Materials”). The strategy was based on students’ difficult school experiences when they tried to learn Western science: it seemed as if students were learning a foreign culture (Aikenhead, 1997). Thus for many students, there is a cultural border to cross between a student’s everyday world and the world of Western science (i.e. between these two cultures). Smooth border crossing is essential before students can access Western science. Making border crossings smoother is a central strategy for cross-cultural science instruction. This strategy was picked up by Dr. Greg Cajete and became the content of chapter 12 (“Border Crossings ‘94) in his 1999 book *Igniting the Sparkle: An Indigenous Science Education Model*. The border-crossing strategy was incorporated into our *Rekindling Traditions* units. Time and experience will tell how effective this strategy is for various teachers and students.

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TONY BALCOMB

DESCARTES MEETS THE ISANGOMA (DIVINER):
THE ENCOUNTER BETWEEN MODERN AND INDIGENOUS KNOWLEDGE
SYSTEMS BEYOND COLONIALISM AND APARTHEID

Knowledge (including, for example, symbols, narratives and language) is a means by which some people exercise power over others ... These forms of knowledge are embedded in more familiar kinds of power (e.g. coercion, economic exploitation) and ... can be combined in different ways and used for different purposes and hence likely to be fought over (contested) by historical actors. (Elphick 182)

It is a truism to say that Indigenous Knowledge has been around longer than any other knowledge. Of course it has. Just as Africans have been around longer in Africa than Europeans, or American Indians around longer in America than Caucasian Americans. But it is also true to say that as far as mainstream knowledge systems are concerned Indigenous Knowledge has been pushed aside, if not trampled on. In Africa this has been part of the legacy of colonialism and apartheid. While in the history of the relationship between Africa and the West practitioners of IK from Africa have been more than willing to give of their expertise and, indeed, to receive the expertise of the “Other”, it was seldom the other way around. Witness this exchange between the most famous of explorers in Africa - David Livingstone, who happened also to be something of a medical practitioner, and an indigenous medical practitioner, or, in this instance, a Rain Doctor.

MEDICAL DOCTOR: So you really believe that you can command the clouds? I think that can be done by God alone.

RAIN DOCTOR: We both believe the very same thing. It is God that makes the rain, but I pray to him by means of these medicines, and, the rain coming, of course it is then mine. It was I who make it for the Bakwains for many years; through my wisdom too, their women became fat and shining. Ask them; they will tell you the same as I do.

MD: But we are distinctly told in the parting words of our Savior that we can pray to God acceptably in his name alone, and not by means of medicines.

RD: Truly! But God told us differently ... God has given us one little thing, which you know nothing of. He has given us the knowledge of certain medicines by which we can make rain. We do not despise those things which you possess, though we are ignorant of them. We don't understand your book, yet we don't despise it. You ought not despise our little knowledge, though you are ignorant of it.

MD: I don't despise what I am ignorant of; I only think you are mistaken in saying that you have medicines which can influence the rain at all.

RD: That's just the way people speak when they talk on a subject of which they have no knowledge. When first we opened our eyes, we found our forefathers making rain, and we follow in their footsteps. You, who send to Kuruman for

corn, and irrigate your garden, may do without rain, we can not manage in that way ...

MD: I quite agree with you as to the value of the rain; but you can not charm the clouds by medicines. You wait till you see the clouds come, then you use your medicines, and take the credit which belongs to God only.

RD: I use my medicines and you employ yours; we are both doctors, and doctors are not deceivers. You give a patient medicine. Sometimes God is pleased to heal him by means of your medicine; sometimes not - he dies. When he is cured, you take the credit of what God does. I do the same. Sometimes God grants us rain, sometimes not. When he does, we take the credit of the charm. When a patient dies, you don't give up trust in your medicine, neither do I when rain fails. If you wish me to leave off my medicines, why continue your own?
(Comaroff 210-211)

Case closed!

Here is a classic encounter between the North and the South, between Africa and Europe, between the modern and the primal. Two people, each at the pinnacle of their civilizations, but from other ends of the universe, talk to each other about science, medicine, and God. The one, clearly, is willing to listen, and learn, but not willing easily to give up his convictions. The other, clearly, is committed only to demonstrating that he is right and the other is not only wrong but a charlatan. Thus goes the story of the encounter between modern and Indigenous Knowledge systems, repeated endlessly, it would seem, from the first encounter until now.

The demise of colonialism and apartheid in Africa has brought with it, however, a liberation not only from foreign rule but has also opened the possibility of a serious contention between indigenous and modern knowledge systems. In South Africa crucial efforts are being made by the government to place Indigenous Knowledge(IK) on the agenda of the knowledge production sector of the society. The Human Sciences Research Council has launched an Institute for Indigenous Theory and Practice. The National Research Foundation has made available considerable sums of money for research in this area, and the Portfolio Committee on Arts, Culture, Language, Science and Technology has launched an Indigenous Knowledge Systems program that intends to mainstream IK into institutions of higher learning, science councils, structures of government, and corporate entities in the private and public sectors. Its mission statement includes, amongst other things, the aims of affirming and celebrating South Africa's Indigenous Knowledge Systems as an integral and significant component of SA's cultural knowledge diversity, affirming the right of IK to validate itself, and generating the political, legal, economic, and social support to promote and empower IKS and their owners¹.

The National Research Foundation has named IK as one of its focus areas and has defined as its aims the development of theoretical and methodological paradigms for understanding the specific characteristics of IK, shedding light on the role IK in nation

¹ See the (unpublished) report of the First National Workshop on the Indigenous Knowledge Systems Program held at the University of the North West 21-23 Sept 1998, including a report on a study visit by a delegation of the Portfolio Committee on Arts, Culture, Language, Science and Technology as part of the Audit of the Indigenous Knowledge Program.

building, and developing a research capacity in the field of Indigenous Knowledges. Submissions of proposals for research have been made in the areas of medicine and health; plants, farming and food; religion and philosophy; the retrieval of indigenous history; data capture; theatre, games, and storytelling; development and youth; and ethnomathematics. Clearly not all of these proposals have been approved for funding but the NRF has issued another call for proposals which means that not all of the money has been allocated as yet.

The above demonstrates the seriousness with which IKS is being taken on a national level in South Africa at the moment. One wonders, however, despite these initiatives, whether the IKS agenda has significantly penetrated the key knowledge producing institutions - namely the universities. Government has targeted the so-called formerly disadvantaged universities for their program but does not seem to have put the same effort into those universities, such as my own, that are generally viewed as having the most clout when it comes to the production of mainstream knowledge. This may be because the agendas of these universities are in line with most of the other leading universities of the world - and that is the agenda of modernity. The overwhelming hegemony of the so-called Enlightenment agenda on modern university institutions, and modern society as a whole, calls for a close analysis of what it is about this beast that is so influential and what it is about IK that is so different. For the remainder of this paper I wish to touch on what it is that essentially constitutes the modern versus what I shall call the "primal" universe and outline some of the thinking that has taken place in the African continent around the encounter between the two.

First I need to qualify what I mean by "primal", since it could be misunderstood. This word simply means "anterior to" or "pre-existing". The implication is that the primal comes first, before anything else. It should not, as most of the early anthropologists wanted us to believe, be associated with the notion of "primitive". On the contrary if it is primal, or first, then it must be there for very good reasons. What are those reasons? Why is it (still) there? What does it do? But, similarly, what is its opposite? In cases where it has been displaced, why has it been displaced, how has it been displaced, and to what extent has it been displaced?

I will not attempt to answer all these questions exhaustively. I intend simply to touch on some of the thinking that has been done, mainly by Africans, and there has been a great deal of this thinking in the past fifty years, that has taken place around these questions.

I would like to propose three moments in the encounter between the primal and modern universes. There is the moment of antipathy which is characterized by confrontation and rupture, the moment of sympathy which is characterized by accommodation and assimilation, and the moment, now emerging, of empathy which is characterized by reconciliation and reconstruction.

Confrontation and Rupture

We do not have to be reminded that the history of the encounter between the North and South, or colonizer and colonized, has been a violent one. What is less obvious is the fact that the violence of this encounter extended to the cognitive and epistemological realms as well as the physical and political. Berger describes what happens when two opposite knowledge systems come together:

A major occasion for the development of universe maintaining conceptualization arises when a society is confronted with another society having a greatly different history. The alternative universe presented by the other society must be met with the best possible reasons for the superiority of one's own ... The appearance of an alternative symbolic universe poses a threat because its very existence demonstrates empirically that one's own universe is less than inevitable .. This shocking fact must be accounted for theoretically, if nothing more.
(Berger and Luckmann 126)

I will illustrate this with two true stories from South Africa. One comparatively ancient and the other very recent.

Nongqawuse, the sixteen year old hearer of messages from the ancestors, hardly needs introduction. She was instrumental in the decimation of the Xhosa economy in the middle of the last century and the final subjugation of the Xhosa people to British imperialism. A more grotesque example of the consequences of the clash of cultures and the last attempt of the vanquished to contest for the re-establishment of the symbols and narratives of a culture can hardly be dreamed of.

The historical background to the Cattle-Killing is well known. The British had embarked on a systematic program of destruction of the Xhosa people under the likes of Sir Harry Smith and Colonel Eyre - particularly arrogant and ruthless soldiers. Lung sickness had already taken its toll on the Xhosa cattle herds and by the time Nongqawuse started hearing the voices of the ancestors the Xhosa people were an:

exceptionally battered and divided society, demoralized by the frustration of a long series of military defeats; by the social insecurity of expulsion from Natal lands and pastures; by the material sufferings of migrant labor and of resettlement in cramped and ecologically deficient locations; by the new wealth of those who had climbed on the military-commercial bandwagon of settler expansionism.
(Peires 124)

Nongqawuse heard the ancestors tell her that her people should destroy all their cattle and maize because they had become polluted. They were to prepare for new maize and new herds because the ancestors would rise from the dead and chase the British into the sea. Old people would become young again and people without limbs would be made whole. The Xhosa king Sarhili believed her and ordered the killing of all cattle and destruction of crops. The prophecies of Nongqawuse were not fulfilled and by the time Sarhili reversed the order it was too late.

The Nongqawuse story is one of the most famous and tragic in South African history. And it continues to be told. Zakes Mda, a leading contemporary South African poet and novelist has very recently published a book which explores the reverberations of this story right through to the modern context where, in the same region that Nongqawuse had her vision, there are still believers and non-believers in that vision (Mda).

If the story of Nongqawuse represents a clash of universes in the context of violence and conquest the next story represents a clash of universes in the context of friendship and sympathy.

Adam Ashforth, a social scientist currently teaching at the School of Social Science at the Institute for Advanced Study, Princeton, New Jersey, lives for several years in Soweto, the huge black township on the margins of Johannesburg from where crucial political uprisings occurred against the apartheid regime. He experiences life in Soweto during and after the fall of apartheid. He gets to care deeply for the people of Soweto who are involved in the struggle. After the advent of a new democratic government in 1994 a friend of his is accused by his family of using witchcraft to kill his mother. His friend, Madumo, convinced that his life is cursed, seeks help amongst Soweto's bewildering array of healers and prophets, which, according to Ashforth have sharply increased in number and effect since the demise of apartheid. Ashforth accompanies Madumo in his search for deliverance, skeptical but desperately eager to see his friend healed. By the time Ashforth leaves for the States he is exhausted and frustrated in his attempts to understand what is happening to Madumo. He describes his emotions as he gets onto the plane bound for New York.

Madumo is part of the same world that I am, a world that is simultaneously everywhere and nowhere. Were he sitting next to me on the flight to New York he could disembark at Kennedy Airport like the millions before him and make a life for himself in New York City without skipping a beat. And when he missed home, he could get on the phone like the rest of us. Most of what I know about his life, and he knows about mine, is easily understandable in the same ordinary terms we can find and use anywhere on the planet today. And even when Madumo and I discuss those aspects of life in which we seem to differ the most ... the terms we use are already translated from one language and culture to another and back again over and over through generations. There is no pristine, vocabulary of difference available to Madumo to describe his experiences that I could translate and then present to the world in terms familiar to the West; no language to make words seem unique, or the effort of translation worthwhile. The words, like the worlds, are already pre-translated. *And yet, there remains something radically and irreducibly different in his experience of these matters from mine, a difference which is not just our peculiar preferences and dispositions as two particular individuals, nor is it systematizable into some uniform scheme of difference between, say, Africa and the West.* (Ashforth 244-245) *my emphasis*

How are we to evaluate these stories? How are we to understand the complete and total rupture between their protagonists, the gulf between them? How is it that human beings made in the image of God can so completely miss and misunderstand each other?

The answer to these questions lies, I believe, in the profound dichotomy between the knowledge systems that they represent. Indigenous Knowledge systems are informed by a world view that, according to Harold Turner, has six characteristics - a kinship with nature in which animals and plants have their own spiritual existence and place in the universe as interdependent parts of the whole; a deep sense in which humankind is finite

and weak and stands in need of a power not its own; the conviction that humankind is not alone in the world but shares it with a spiritual world of powers and beings more powerful than itself; the conviction that human beings can enter into a relationship with the benevolent spiritual world and therefore share in its powers and blessings and receive protection from it; a profound conviction of the afterlife which is an extension of the present life but in heightened spiritual consciousness; and finally the sacramental nature of the universe in which there is no dichotomy between the physical and the spiritual.

Modern knowledge systems are governed by a world view that is diametrically opposed to this. As a way of understanding and ordering experienced reality, modernity is based on the objectification or depersonalization of the world. It is summed up in the famous words of Descartes - *cogito ergo sum* - I think therefore I am. A knowledge system based on this principle immediately and profoundly separates you as a person from the things around you as things capable of having personality. The relationship between yourself as thinker and the things about which you think becomes one of subject and object. This is what we mean by the objectification of reality. The purpose of such a system is essentially that of freedom and control. I free myself from a personalized view of the universe so that I might control an objective universe. To have power over the universe, to conquer nature, is the essential motivation of modern systems of knowledge. And these systems have governed the political, economic, and social arenas of humanity for the past several hundred years. Science has become the engine room that drives human society and scientific knowledge has become identified with progress.

Alexis Kagame, who has written voluminously on the topic of African philosophy, has argued that Bantu ontology cannot even translate, let alone understand, the Cartesian cogito. This is because, according to Kagame, Bantu ontology has as its basic root the suffix *ntu*, which refers to “being” or “to be”, and this can only be understood as a copula - that is in terms of connectedness.

In sum, the *ntu* is somehow a sign of a universal similitude. Its presence in beings brings them to life and attests to both their individual value and to the measure of their integration in the dialectic of vital energy. *Ntu* is both a uniting and a differentiating vital norm which explains the powers of vital inequality in terms of difference between beings. It is a sign that God, father of all beings has put a stamp on the universe, thus making it transparent in a hierarchy of sympathy. Upwards one would read the vitality which, from minerals through vegetables, animals and humans, links stones to the departed and God himself. Downwards, it is a genealogical filiation of forms of beings, engendering or relating to one another, all of them witnessing to the original source that made them possible. (Mudimbe 190)

It is this profound interconnectedness of reality that shapes the world of people inhabiting the primal universe. Not one component of this universe can be touched without impacting the whole of it. It is a delicate integration of spiritual and material forces of which human beings are an essential part. And it is this reality that has enthralled, fascinated and frustrated western observers of African, Aboriginal, Polynesian, and American Indian culture.

If interconnectedness is the essence of the primal world view out of which Indigenous Knowledge merges and disconnectedness, or objectivity, is the essence of the modern world view out of which modern knowledge systems emerge, then it is no wonder that when Livingstone meets the Rain Doctor, Nongqawuse meets the English, and Ashforth meets Madumo, the possibilities of each entering into the world of the other without major rupture of mental universes is slim indeed.

Slim, but not impossible, for these two universes cannot live cheek by jowl, as they do all over Africa, without each being affected by the other. And this brings us to the second moment in the encounter - the moment of sympathy, of accommodation and assimilation.

Accommodation and Assimilation

In their seminal study of the early encounter between the missionaries and the Tswana people the Comaroffs describe a process, which they describe as a conversation, in which both sides became influenced by the other.

In the long conversation between the colonizers and the colonized - a conversation full of arguments of words and images - many of the signifiers of the colonizing culture became unfixed. They were seized by the Africans and, sometimes refashioned, put to symbolic and practical ends previously unforeseen, certainly unintended. Conversely, some of the ways of the Africans interpolated themselves, again detached and transformed, into the habitus of the missionaries. Here, then, was a process in which signifiers were set afloat, fought over, and recaptured on both sides of the colonial encounter.
(Comaroffs 17)

If one sees all over Africa signs of discontinuity and rupture between cultures, world views, and knowledge systems, one sees also many signs of continuity and assimilation. In my annual visits to Ghana I am perpetually amazed at a society that lives so close both to the traditional and the modern. Ghana was the birth place of the Pan Africanist movement and is deeply traditional. Key traditional institutions such as that of the monarch, the chief, and the diviner, live side by side with modern institutions such as representative democracy, parliament and medical science. I once met a Ghanaian gynecologist from my own home town of Pietermaritzburg, South Africa, at a funeral celebration - and I choose that word advisedly because that is what it was - in the little village of Akropong-Akuapem, Ghana, which I visit every year. He was dressed in his traditional garb, participating in a Christian service, and pouring libations to the ancestors. This is the reality, the accommodative reality, of Africa. It has never rejected the west and its traditions, even though the west has rejected the traditions of Africa. Like the Rain Doctor above it has usually pleaded for reason and understanding in the dialogue between it and the West. But like the Medical Doctor above it has usually been met with disdain or worse hatred.

Wherein lies the capacity of Africans, and all those like them, to accommodate and assimilate the West? Why is it that the West, on the other hand, seems unable, even if

it is willing, to accommodate Africa? And what are the points of contact between the two paradigms that can take us forward in our dialogue?

In his book *The Primal Vision*, John Taylor describes the primal universe as an unbroken circle. To illustrate this he describes an occasion when he helped some people bring in the fishing nets on the shores of Lake Victoria. As he struggled with his companions at the water's edge to bring in the nets he experienced momentarily a oneness with the fisherman, the lake, and the cosmos. He felt, he says, "the edges of separateness evaporating". He sees this one-ness symbolized in the net as the they encircle their quarry and draw the ends of the net together with the captured fish struggling and splashing in the middle. The image is a startling one not only because it suggests the unified whole of the cosmos but the fact that there is a unifying principle operating in the cosmos that will draw together all the elements within it no matter how disparate they may be. So if an alternative universe impinges on the experience of the people they will simply widen the circle to include it. The tendency, in other words, is always to be inclusive rather than exclusive. It is this propensity for inclusiveness that makes Africa and Africans able to accommodate the Other. And it is precisely the lack of inclusiveness in the rationalized universe, which has an enormous propensity to separate out and compartmentalize the disparate elements within it, that makes the modern paradigm unable to accommodate, at least in the same way, the disparate elements that occur within it. The western paradigm works through the process of rationalization, which means by separation and categorization, the primal paradigm works by including and unifying. Leading scholars in the field have argued that this dynamism in traditional world views helps them cope with novel elements that might arise in their experience.

Their capacity to borrow, re-work and integrate alien ideas in the course of elaborating . . . explanations ... has given the traditional cosmologies ... tremendous durability in the face of the immense changes that the 20th century has brought to the African scene. Horton contrasts this accommodative style with the adversarial style of scientific theory, which is characterized by the way in which the main stimulus to change of belief is not novel
(Appiah 2006)

Thus far I have emphasized differences between the two systems. What about the similarities? But perhaps another question needs to be asked before we go on a journey seeking similarities. The question is - why seek for similarities? Is it not so that we have two systems of thought here that are obviously different. Horton points out that from a western point of view intellectuals are showing an increasing interest in the thought patterns of those cultures who are pre-literate, pre-industrial and pre-scientific. One root of this interest, he says:

is the belief that such thought-patterns provide us with a clue to the nature of our own lost heritage - a heritage supposedly destroyed by the advance of science. The other root is the belief that only through the study of pre-scientific thought - systems can we get a clear view of the nature of science. Only if we have some idea of what it is like to live in a world into which the scientific outlook has not

yet intruded, can we be at all certain as to what are the distinctive features of this outlook and what are simply universals of human thought.
(Horton 63)

But if these are the reasons why scientists want to talk to rain doctors why should rain doctors want to talk to scientists? They would surely be in their rights to take offence at the arrogance of most modern scientists and simply take up a similar attitude and assert their own superiority over western thought. But this, as has been argued, they have not done, and rightly so, because the problem with a dichotomous approach between the two systems in which both set themselves up across a divide is that one cannot simply ignore the existence of another approach to truth when it has proved itself efficacious in one way or another. And there is also the possibility that the strengths of one system may in fact be the weaknesses of the other and vice versa, and that through dialogue we might embark on a journey of discovery not only of each other but of ourselves. In any case it is impossible to live in one world as though the other did not exist. Most people in Africa today clearly live in two worlds - the primal and the modern. This means that many Africans are put under the enormous stress of attempting to understand and interpret their experiences in terms of different and usually opposing world views. Modern phenomena are continuously being interpreted through traditional frameworks. When vehicles break down the fault may be seen as mechanical. But when they consistently break down the fault must be found within the world of unseen spirits. Research has shown that Africans consistently interpret such things as changes in commodity prices that are caused by economic shifts in the global market that impact on them as the work of witchcraft².

What needs to happen is a process of increasing reflexiveness by thinkers on both sides of the divide on both the differences and similarities that exist between them and what can be done about bringing the two systems closer together. The fact that we interpret phenomena differently according to our world views represents one level of cognitive experience. The fact that we realize that we interpret phenomena differently is altogether another, higher, form of cognitive experience. Understanding why we interpret them differently represents yet another, even higher level of cognitive experience. Understanding that these interpretations need not always be seen as entirely contradictory is yet another, even higher level, of cognitive experience. The level of reflexivity increases in direct proportion to the ability to put oneself in the shoes of the other while staying firmly in one's own shoes. This, surely, is what true learning is about. And it is for this reason that we need to be in a position where we can draw the comparisons and seek the similarities between the two knowledge systems. This, in essence, is the principle of sympathy in ethnography. Sympathy is not just a nice thing to have. It is a key component in reflexivity and essential to the art of understanding other cultures.

Explorations into the similarities and differences between indigenous and modern knowledge systems have been made both on the level of the theoretical as well as the empirical. On the level of the theoretical level the work of Robin Horton continuously comes up in the literature. Appiah points out that the importance of Horton's work lies in

² See J. Comaroff *Modernity and its Malcontents, Ritual and Power in Postcolonial Africa*, Chicago, University of Chicago Press, 1993.

his “systematic development of the analogy between natural science and traditional religion”.

Horton’s thesis is not that traditional religion is a kind of science, but that theories in the two domains are similar in these crucial respects. The major difference in the contents of the theories, he argues, is that traditional religious theory is couched in terms of personal forces, while natural scientific theory couched in terms of impersonal forces.

(Appiah 195)

Horton’s basic thesis, which Appiah describes as “immensely plausible”, is that both African Traditional Religion and modern science are about the need for explanation, prediction, and control. In other words on a theoretical level they are both about “getting a handle” on reality. “The quest for explanatory theory”, says Horton, “is basically the quest for unity underlying apparent diversity; for simplicity underlying apparent complexity; for order underlying apparent disorder; for regularity underlying apparent anomaly.” (Ibid 197)

In complex, rapidly changing industrial societies, the human scene is in flux. Order, regularity, predictability, simplicity, all these seem lamentably absent. It is in the world of inanimate things that such qualities are most readily seen. And this ... is why the mind in quest of explanatory analogies turns most readily to the inanimate. In the traditional societies of Africa we find the situation reversed. The human scene is the locus par excellence of order, predictability, regularity. In the world of the inanimate, these qualities are far less evident here, the mind in quest of explanatory analogies turns naturally to people and their relations. (Appiah 198)

What Horton seems to be saying, therefore, is that if we can realize that modern science and indigenous beliefs have the same functional role to play - that is they help us to understand, predict, and control our environment, then we have a basis on which we can compare them³.

Other attempts to break down the walls between traditional and scientific thought have been made by demonstrating the tendency to caricature the two in such a way that puts them at opposite poles to each other when in actual fact what we attribute to one is found, at least to some degree, in the other. Take, for example, the characterization of Indigenous Knowledge systems as being closed and modern knowledge systems open.

³ It could be argued, however, that if control is the ultimate goal of knowledge then we must surely concede to modern science its superiority as it must be given first place in the control stakes. And here we need to ask the question that Ghandi put to the west : is mastery of nature the sole calling of man? The point that Harold Turner makes in his six feature analysis of the primal world view was precisely that in this system the human being is vulnerable and acknowledges his or her vulnerability and therefore his or her dependence on a higher power. This makes an enormous difference to one’s posture vis a vis one’s knowledge. While one does not want to make a virtue of vulnerability one must surely still acknowledge the virtue of humility - a particularly rare trait amongst modern scientists.

This argument says that the knowledge systems of traditional societies are passed on from time immemorial by oral tradition and therefore are not open to change and innovation. And the orality of this tradition ensures that only the ideas of the dominant are perpetuated. In other words there is no room for dissent. Conversely modern knowledge systems by definition are dynamic and innovative, constantly seeking new data so old theories can change. Gjertsen has argued, however, that these are caricatures of the truth. "Just what a scientist is even allowed to consider as an alternative" he asserts, "is highly controlled and structured, with severe penalties for violations of those controls."⁴

Gjertsen conversely argues that, contrary to the idea that traditional societies are static and intolerant of new ideas, they are, in fact, constantly exploring new and possibly more effective ways of meeting their needs. This has been demonstrated in the work of Ward and Field amongst the Ashanti people who will try a whole range of local gods and traditional remedies for their protection and healing.

The main point about this . . . is to emphasize just how far, how unlimited and unrestricted the traditional thinker is in his collection of techniques and beliefs. Not having the basic data and principles of the scientist there is no reason why he should not introduce and try anything whatsoever. Nor need he cling to it absolutely and unquestioningly ...
(Gjertsen 64)

Associated with this is the misperception that primal modes of thinking are incapable of criticality. Hallen and Sodipo have convincingly shown this not to be the case. In their work in West Africa they have demonstrated that traditional (a term that they do not like) thinkers have, in fact, a very rigorous system of critical analysis of their own methods of research. In their book *Knowledge, Belief, and Witchcraft - Analytic experiments in African Philosophy* they investigate notions of knowing and believing as understood in the English language to notions of knowing and believing in the Yoruba language. In the process they demonstrate that there is good reason to argue that there is, in fact, greater credulity on the behalf of modern scientific thinking concerning truth than there is in Yoruba thinking. This is because the Yoruba place great emphasis on first hand observation rather than believing the testimony of others as a sound basis for believing and knowing. Hallen points out that there is far greater prevalence of the so-called "charity principle", or belief in the second hand testimony of other people, in the modern paradigm than there is in this particular example of the indigenous paradigm. This in

⁴ Gjertsen, D. Closed and open belief systems, in *Second Order: An African Journal of Philosophy*, vol 7, nos 1 and 2, 1978, pg. 53 Gjertsen cites several examples of how the scientific profession has been intolerant towards established theories that are now accepted as fact. The theory of evolution is one of these. There is the case of a book by Velikovsky written in 1950 which put forward a scientific theory that dared to endorse the possibility of the truth of the biblical story of the opening of the red sea. There was such a violent reaction to this from the scientific community that the publisher had to suspend publication and the person who recommended publication, an astronomer at the American Museum of Natural History, lost his job. This story demonstrates the age old feud that has existed between the scientific and religious communities going back to the Enlightenment. A feud that started with the scientists being a dissenting minority and the traditionalists being in the majority but which has now led to the situation being reversed.

spite of much talk of empiricism within the former. He also demonstrates the so-called second order capability of Yoruba philosophy by citing numerous examples of how Yoruba thinkers reflect upon and analyze their own conceptual systems.

In this section I have attempted to describe the dynamics behind what I have called the second moment in the encounter between indigenous and modern knowledge systems. The question, remains, however, whether accommodation and assimilation between the systems can translate into the third moment in the encounter, that of reconciliation and reconstruction, which I have called the moment of empathy.

Reconciliation and Reconstruction

An attempt is being made in this paper to explore the dynamics taking place at the interface of indigenous and modern knowledge systems. I have argued that there is an initial moment of confrontation and rejection that may gradually give way to a transactional relationship in which the interface between the two could be seen as a semi-permeable membrane through which elements from each side are consciously or unconsciously absorbed into the other. However I have also argued that Indigenous Knowledge systems are more intrinsically open to this exchange than are modern systems. This means that the transaction spoken about above could easily simply become a process whereby Indigenous Knowledge is sidelined or absorbed. The question therefore must be asked whether there can be true reconciliation between the two, given the fact that the accommodation and assimilation is so one sided. At what point, one may ask, does accommodation on the side of IK ultimately lead to its annihilation?

Wide ranging debate around the theory of postcolonial discourse has deeply problematized the question of reconciliation between colonizer and colonized. How is it possible, the question is asked, for the colonized to be reconciled with the colonizer when the entire relationship is based on terms dictated by the latter? Even when the colonized attempts to reconstruct some form of indigenous identity it has to do so in the language and with the constructs of the colonizer. The rise of nationalism, which is traditionally seen as an attempt by the colonized nation to assert its own identity over and against the colonizer, frequently serves, some argue, only to reinforce the fact of its subjugation. Postcolonial literary theory talks about the possibility of the empire “writing back” to the metropole but concedes that the end result is frequently a kind of resurrected reflection of the metropole itself. However it has been equally forcefully argued that it is in the very encounter between colonizer and colonized that the colonial project ultimately expires. Modernity, says Derrida, meets its demise when it meets the “Other”. The question is has this happened in postcolonial and post apartheid Africa? Although there are many aspects of African culture that have been changed through colonialism core elements have remained extraordinarily resilient. It is precisely the ongoing strength, indeed revival, of African culture in postcolonial and post apartheid Africa that enables the discussion of dialogue between cultures in the first place. The demise of apartheid has led, as argued above, to serious consideration being given once more to African culture, including African knowledge systems.

When we talk, therefore, of reconciliation between the two knowledge systems and reconstruction of one synthesized knowledge system beyond the dichotomies that mark their histories, we cannot do so without emphasizing the need for equality between

the two. And equality needs to be understood “in terms of the power constellations that have historically constituted and ranked them as unequally different.” (Mouton 3)

In investigating the possibility of merging the two knowledge systems Prof. Mouton of the University of Stellenbosch, South Africa, takes as his departure point the connection between knowledge and power and the socio-political dimension of knowledge creation. In other words knowledge may be created in order to carry out specific societal agendas prescribed by the ruling class. In South Africa the apartheid regime attempted to use the institutions of higher learning to propagate government ideology. In post-apartheid South Africa the tertiary institutions, as the major sources of knowledge production, have become sites of struggle for varying agendas. One of these is the attempt by the government to put Indigenous Knowledge on the agenda of the universities. An urgent task of post-apartheid South Africa, claims Mouton, is therefore to “devise strategies to make spaces (institutional as well as cognitive) for these subjugated knowledges to emerge.” (ibid 4)

The first step in this process is to realize the importance of IKS. For this to happen the “gurus” of modern knowledge within the universities themselves have to change. There has to be the realization, amongst other things, that the historic moment has come for IK to be foregrounded. Rip (2000) very succinctly locates this historic moment in the following way:

Western science has become epistemologically correct and politically correct over the last two or three centuries (in the west and then elsewhere). Its practical correctness has been underpinned by claims about utility, about technological and other goodies derived from science - a sort of internal cargo cult, but one which is coming under pressure in the risk society. Indigenous Knowledge is becoming practically correct (as an, as yet, insufficiently tapped resource for development) and politically correct. Is it now also epistemically correct? For that matter, how “correct” is Western science here? It is when the two (actually, the many) meet in practice, there will be struggles, synergies, and conflicts, on all three counts. (Mouton 4)

In South Africa research is about to be undertaken in public institutions that is interested in solutions that displace and go beyond the “indigenous-western” dichotomy. The aim of this research is two-fold. The first is to provide conceptual clarity by analyzing the nature of false dichotomies associated with the indigenous-western dualism in knowledge production, and the possibilities for interaction. This will involve showing how terms such as “indigenous”, “local”, “expert” and “cosmopolitan” are embedded in different epistemological, philosophical, and sociological traditions, practices and assumptions, as well as showing how combinations occur, from one or the other side. The second is:

- a) To examine how the tensions, conflicts and synergies between the contrasting narratives of western sciences and indigenous knowledges are being approached in practice in two areas (health research and agricultural research), and also to examine what is happening in these areas in relation to curriculum transformation in higher education; and
- b) To analyze the different kinds of solutions and emerging and productive combinations proposed in each area. (Mouton 4)

This research will be based upon the “assumption that there are different modes of knowledge production, and that different types of knowledge are embedded in social and cultural frameworks and narratives which affect and define their status as ‘objective’ and ‘valid’.” The solutions to the divide take two forms - partial integration and recognition of conflict.

The first approach accepts the cultural value of indigenous knowledge, but views its cognitive contribution as an “addition of the local” to the western scientific approach. The second type of solution positions Indigenous Knowledge... as “knowledge production in its own right” , thereby seeking “cognitive justice” and “cognitive independence.”
(Mouton 4)

This research, conducted in the agricultural and medical fields, will hopefully take forward the dialogue between indigenous and modern knowledge systems. If its aims are fulfilled then it should stimulate creative possibilities and partnerships in the field of knowledge production and institutional and curriculum transformation.

Conclusion

I have attempted in this paper to show that there are three moments in the encounter between modern and Indigenous Knowledge systems. These are the moment of antipathy, characterized by rejection, the moment of sympathy, characterized by assimilation, and the moment of empathy, characterized by reconciliation. Perhaps it is not inappropriate to assert that the moment, the *kairos*, for IK has arrived, and that this, the day of postmodernity, is also the day for those things to emerge that were crushed by modernity, not least of which was indigenous knowledge. The paper began with the name of Renee Descartes, considered by many to be the father of modern science and mathematics, and perhaps it should end with his mention also. What is not commonly known about Descartes is that the turning point in his life, the discovery of his famous *cogito ergo sum*, came as a result of a vision and three dreams over a twenty four hour period. Listen to this:

In the winter of 1619, and in a house near Ulm (Descartes) gave himself over completely to reflection on methodological questions. His near obsessive meditations seem to have led, on 10 November 1619, to his experiencing a daytime vision, and that night three dreams, which revealed to him, as he thought, his task in life: to unfold a wonderful science.
(Dent xix)

If Descartes was the father of modern science and mathematics he could not have had a more unscientific initiation into the scientific method. And the only mathematical part of it was the number of visions and dreams he had! May this delightful anecdote augur better things to come for all of Descartes’ disciples in the modern sciences. May they

receive many dreams and visions and in doing so, realize that the isangomas, the diviners, were having dreams and visions long before they were.

PENNY BERNARD

SACRED WATER SITES AND INDIGENOUS HEALERS IN SOUTHERN AFRICA:
THE NEED TO PROTECT KNOWLEDGE, NATURE AND RESOURCE RIGHTS.

There has recently been a surge of interest worldwide in the way Indigenous people interact with their environment and the value of their knowledge systems. Many international organizations, such as the Convention of Biodiversity (CBD-UNCED, 1992), the United Nations Working Group on Indigenous Populations (WGIP), and the Working Group on Traditional Resource Rights (WGTRR), are calling for the recognition of Indigenous peoples rights to self-determination, the value of their knowledge, and the need for strategies to protect and preserve this knowledge (Posey & Dutfield, 1996; Gray, 1997). This has largely been precipitated by the global environmental crisis, which has revealed the shortcomings of an exclusively scientific approach, often within the western economic development paradigm, in solving the multitude of environmental problems facing present and future generations. There has been a corresponding awareness of the need to revisit how Indigenous people have managed to live sustainably within their environments, both in the past and the present. The need to document and preserve such knowledge is thus seen as crucial for humanity's long term survival on earth. It is pertinent to note that much of this knowledge is intimately connected with the broader framework of peoples' cosmology and worldview, which is embedded within their physical, spiritual and social landscapes (Tilley, 1994; Hirsch & O'Hanlon, 1996). Hence procuring and preserving existing knowledge, although crucial, is only one aspect of the equation. Knowledge is dependent on the protection and preservation of these broad features of the landscape, within which people's identity, cosmology and knowledge are embedded. In terms of the physical landscape, protection and preservation are just one aspect of the solution. Ensuring Indigenous people access to these sites is essential since such features are integral aspects of the nature, formation and transmission of knowledge. Throughout the world, over the last 200 years these communities have become increasingly marginalized and denied access to such resources, with the resultant threat to their knowledge. In South Africa Indigenous African peoples are emerging after centuries of alienation and marginalization from their landscapes, imposed on them by their colonial and apartheid masters. In the last century they were systematically denied access to a large percentage of their resources. The Land Act of 1913 is well recognized as the institutionalized mechanism which precipitated this, whereby it stipulated that over 80% of the population were to be confined to 13% of the total land mass of South Africa. Since independence in 1993, efforts have been made to correct this state of affairs but the present process of land restitution is slow, arduous, very expensive and fraught with many difficulties. Many who were uprooted from their natural landscapes have lost their knowledge and traditions, or have repudiated them in favor of monotheism, capitalism and globalization. These transformations, as well as the inevitable population pressures on the restricted resources, have led to behavior changes which have resulted in environmental degradation and abandonment of much of the traditional ecological knowledge that is no longer relevant to them. These modern forces have all contributed to the

‘disenchantment’ of the landscape whereby the respect for the spirits of the land is rapidly disappearing and with it a powerful mechanism for limiting negative human behavior.

Despite these threats to knowledge, however, there remains a strong body of belief among a core of African religious functionaries, the traditional/spiritual healers. Despite being heavily ‘demonized’ by the Christian invaders they continue to play a significant and influential role in their communities. It is estimated that over 80% of the population in South Africa still regularly consult with them.

The following summary demonstrates the intimate connection that exists between the physical, spiritual and social dimensions of southern African spiritual healers’ knowledge and practice with particular reference to water resources and the belief of water spirits. It must be noted that water sources provide just one aspect of the knowledge base. Plants, forests and mountains are also integral to the training and practice of traditional healers. The data presented comes from research I have done among the Zulu, Xhosa and Karanga/Shona speaking groups over the last four years⁵. These communities span a wide area of southern Africa, extending across several thousand kilometres and over a number of state boundaries (South Africa, Mozambique, Zimbabwe). It is worth noting that I have identified a common corpus of knowledge linking the African healing traditions with the water spirits over this whole region that is not exclusive to these groups only. It also features strongly in other Bantu speaking groups in the region such as the Swazi, Venda, Sotho, Tshangaan, Ndebele and Tswana, and they are also prevalent amongst the original autochthons of southern Africa, the Khoekhoe and the San (*e.g.* the /Xam.). My research initially commenced with the Zulu speaking people of Kwazulu Natal, after I had been informed that my ancestors were from ‘the snake of the water’ and wished me to become initiated by a very powerful *isangoma* (healer), Mr S, who had himself been taken under the sea by the ‘snake’. This would be the ancestors way of teaching me and would help me understand the significance and reality of the water spirit complex for the Zulu people. Much of my research has been guided by the responses of the healers to my dreams, particularly regarding snakes and sacred water sites, but it is not my intent to focus on such reflexive experiences in this present paper.

Before commencing research I had already been struck by the recurrent themes of the water spirits that I had encountered in the literature and myths of southern Africa. It is this complex of common core symbolic structures, which stay remarkably constant over time and space, that I now present.

Water Spirits and the ‘Snake’ in Southern Africa

Among many of the southern African Indigenous people (Khoisan and Bantu-speaking people) there exists a set of complex beliefs regarding water, river systems and riparian

⁵The financial support for this research has come from the Ernest Oppenheimer Memorial Trust Fund, the Rhodes University Joint Research Committee, and the National Research Foundation of South Africa, and is gratefully acknowledged. Ideas and opinions expressed in this paper should not be attributed to these funding bodies.

Water in itself is regarded among many African religious functionaries as a living force, a powerful symbol and medium for purification and healing, and as such water sources are regarded as essential parts of the landscape for conducting rituals to aid communication with the spirit world. The spirit world is regarded as the ultimate source of such life sustaining resources. Integral to such beliefs are various zoomorphic spirit manifestations, primarily the snake and the mermaid, who reside in or beyond the water and who interact with humans in a variety of ways. The rivers, wetlands and the sea, are the dwelling places of such manifestations and are of fundamental importance to many of the African healing traditions and their practitioners (*e.g. amagqirha , izangoma*).

The snake and the mermaid are specifically associated with the calling of healers and are seen as the providers of wisdom, knowledge and medicines, which are given to chosen individuals. This usually involves the physical submersion of the candidate under the water of a certain river pool or the sea (for a few hours, to days or even years) after which it is alleged that the individual emerges wearing the full regalia of a healer: a symbolic snake wrapped around his/her body and medicines. This experience of being taken under the water, often by a wind or a 'snake' can happen in a dream, but this is merely notification that the individual's ancestors are calling him/her to become a healer. The "calling" is usually preceded by the candidate suffering an illness (*ukuthwasa*)⁶, although sometimes, especially in the case of children they just happen to be playing near the water at the time. The age at which one is taken seems to range widely, but in many accounts such experiences occur with children and young adults. If they are taken spontaneously without any signs or warning dreams, they will have to be apprenticed to a healer who has him/herself survived the same experience, after emergence from the water. This is to complete the process of learning and acquire the uniform/insignia of office, as well as to become associated with a healer group⁷. For instance, Thoba, who was the main officiant at my initiation, was taken under the water when she was still a toddler. She was returned to her mother after three days. At the age of five she was apprenticed as a novice (*thwasa*) to my teacher, Mr S, and at the age of eight she had qualified and was training other *izangoma*. In some instances it may only happen sometime after a candidate healer has completed his/her training and is practising the art. This is what happened to my teacher Mr S. He suffered the symptoms of '*thwasa*' when he was 10 years of age. He became apprenticed to a healer from this time. Over the next 7 years he was to be sent to three other healers on the instructions of his ancestors. He had already completed his training, when at the age of 17 years he received a warning from his ancestors that he was to 'go under the water' and he was to get sacrificial animals

⁶This is a complex of symptoms that are well recognised by African healers, particularly of the south Nguni speaking groups (Xhosa, Zulu, Swazi, Ndebele). Manifestation of such symptoms is an indication that one is being called. It involves both physical (backaches, headaches *etc*) and behavioural symptoms (*eg* reclusiveness). On accepting the call the novice is referred to as a *thwasa* or an *umkwetha*.

⁷Among the southern Nguni, healers form associational 'families' where they are linked to their trainer, and trainer's trainer, through a classificatory kin based structure. The trainer is the parent and the trainer's trainer is the grandparent. All novices who train under the same teacher refer to each other as siblings. These groups attend rituals together and support one another, and to some extent ensure that members adhere to certain codes of conduct. Each *isikolisibaya* (Zulu) has its own distinctive uniform which enables one to easily identify a common member of the group.

ready for his return from submersion. It is claimed that he was taken under the sea by the snake near Durban in Kwazulu Natal.

It is the spirits that choose the client, not the other way around and resistance to the 'calling' usually leads to misfortune. Failing to accept the call of the ancestors or the river people will lead to insanity and death. Laubscher, a psychiatrist treating mentally ill patients among the Xhosa group in the Eastern Cape, reports "I know of many who were called (to the water) but were restrained and in consequence lost their senses and are now patients in the mental hospital' (1937: 4). Reasons for resisting the call vary widely but they are mainly linked to the forces of modernity, conversion of faith, and the inability of relatives to afford the expenses entailed in becoming a healer.⁸ Relatives are not allowed to display any grief at the disappearance of one who has gone under the water or he/she may never be returned to the living. This fear of relatives breaking the taboo of not mourning provokes great anxiety in those who have had warning that they may at some stage 'go under the water'. As a result they actively avoid pools of water where the spirits are known to be present, especially at the times of their peak activity: sunset, night-time and sunrise. Regarding this taboo Laubscher notes 'It is simply and credulously accepted that if the one "called" does not return alive, someone has wept; there is no need for objective evidence, since only weeping can cause his death'. Anyone who enters these water sources without the calling of the ancestors will disappear, never to return.

Skills in healing, sacred knowledge and psychic abilities seem to be the gifts that are imparted to these chosen people by the water spirits or the river people. Various tasks are expected of them whilst under water, such as removing the snake which lies on a bed of white clay and smearing ones body with it. Many claim they are taught the secrets of life, healing and medicines. In Zimbabwe mention is frequently made of the food taboos that apply whilst they are under water. The novice only being allowed to eat mud and fish.. Many claim that after such an experience they make regular visits under the water to obtain the special herbs that are used for healing. These are provided for them by the semi-daemons, the mermaids (the River people), or the ancestral spirit 'animals' (snakes and crocodiles) who they encounter whilst under water.

These key symbolic images seen under the water, are linked to the messenger animals that summon the "chosen" one to meet the spirits . They are remarkably similar within all the groups, namely : the snake or python, the water monitor (leguana), the hippopotamus, the crocodile, the dolphin, the otter, the crab, the frog, the brown fly and /or the horse fly and certain other insects. The following account given to Hirst by a Xhosa diviner illustrate the role of such messenger animals in the calling of a healer:

When you belong to the river, you are called to the river, not by accident, but because you have been called by the ancestors. Because you are going to become a diviner. I am not talking about drowning. It happens that you are not thinking of going to the river with your clothes on. You go to the river as if by magic,

⁸Poverty is a major restraining factor for healers who wish to accept the call and complete their training. The major expense is the purchase of livestock for the required rituals. Although formerly a pastoralist society, loss of access to land and overcrowding in both the urban and rural areas mitigates against the keeping of livestock for the majority of the indigenous people in southern Africa.

undressing as though you are going to swim,⁹ but you are out of your mind. What happens to you first [is that] a brown-fly sticks to your forehead. That is the one that is calling you when you are being called to the river. Where you enter there is a path by which you go into the river....When you enter there, you pass a big oval grindstone containing the white clay called *ifutha*, which is smeared on the face and body of diviners. When you have gone past there, you will see a snake. There is a snake which resides in that place. Beyond the snake, there are medicines which have been spread out' (Hirst 229).

In order to persuade the snake to release the chosen one, healers and relatives have to perform a number of rituals. Amongst most groups this usually necessitates the offering of a cow and/or a goat. In some instances the victim will have received advance warning through dreams indicating the preferred colour of the cow/goat (colour symbolism is of extreme importance in these groups) necessary for sacrifice. These sacrifices are usually performed once the victim emerges from the water, and it is said to be of crucial importance for bringing the victim back to his/her senses and this reality. The following narrative given by Mr S depicts many of these features. The narrative picks up from when he had returned from training with his third teacher in the Mount Fletcher area of the Transkei.

I came back from the Transkei and then the ancestors said the clothes (his sacred garments) are not complete yet. I haven't fetched the snake yet. They sent me to Masteshi (an *isangoma*), who trained Geza's wife, where I would raise the *amakhosi* (ancestors). The ancestors arrived while I was there (in a dream) and showed me a bull with a white tail and a white face. It was to help me take this snake out when I fetched it. Even then I had dreams related to the snake. The ancestors showed me this cow with long horns facing backwards. I didn't know where to find it. Then one day we heard a cow calling. It came here to the house, kicked the door and came in. People were shocked about what was happening. When I came out I saw it was the same cow I had seen (in the dream). I did not speak. I took a stick and beat it, thinking it would go home. It belonged to the Ndlovu family and I talked them into selling it to me as it was the one I dreamt about. Ndlovu said it gave him lots of trouble in the fields. He wanted to sell it and said it was going for R900.00. I sat there and sent someone to fetch the money. We paid and came home with it. Then someone from the Mthembu family, an old woman, asked me if there was any *thwasas* who wanted a goat because she had one which butted children to 'death'. And she was wanting to sell it. I went to see it and it was exactly the one I dreamt about. At home they were surprised and were wondering why I was collecting cows and goats. What was going to happen? Then I told them in the next week they must prepare beer (*tshwala*). That evening a woman with a stroke arrived. I tried to help her and the man with her told me they had no money to pay for the consultation. They would give me a goat instead. The very same goat I needed. The same day, by morning I

⁹Being naked before immersion is another common theme. This has been seen by some scholars as a necessary part of the symbolism of the death and rebirth theme that pervades such accounts.

had everything, two goats and a cow. Then I went to look for the cars which would take me to Durban (the sea) to look for the snake. At the taxi Mr N who lives nearby said he would take me to Durban. He asked when and I said 7 o'clock. He said I must get R280.00 for two cars to take me there. Then it was surprise because the people here at home pay me that amount. So I paid for the taxis. Then the day came and all the *sangomas* came. I was wearing *sangoma* clothes but they (the ancestors) said when I reach Durban I must take them off and burn them in *imphepho* (incense). As I came to the sea I couldn't feel I was in the water. It was like was getting through the fence of a traditional Zulu house (at this stage the snake came out of the water, wrapped around him four times and, with its head on his , took him into the water. It was at this stage that he 'lost his brains' i.e. blacked out). As I came to the Zulu round grass-houses, two old women came out. They had a present with them as if they were happy to see me. One hugged me and said take this and go back, but as she was hugging me she put something around my neck. I realised later that it was the snake (at this stage he was escorted out of the sea by a dolphin). Then as I came back the *sangomas* ran away. Only my mother took my clothes and dressed me (at this stage he had to kill the snake). My ceremony! The white goat was slaughtered and I drank its blood¹⁰. Then when we went to the *kraal* (cowpen) I drank the bull's blood where it was slaughtered. I couldn't see that it was the snake, my mind was so blind. I was only aware what was happening at 12 o'clock as if I was waking from a dream.

The ancestors, in the form of the snake, are said to dwell in the pools of the river below his house, where they maintain constant contact with him and protect him. The skins of the messenger snake and the dolphin who escorted him out of the sea, hang from the rafters of his sacred hut (*emakhosini*) above the sacred space (*umsamo*).

This account by Mr S reflects some of the key elements which are to be found in similar accounts throughout southern Africa. Inherent in this account is the awareness that the ancestors have the power to bring about events through mobilising the actions of both animals and the living. This is a fundamental aspect of their religious philosophy. Healers who have been 'taken under the water' by the snake, such as Mr S, are regarded as the most powerful and accurate with divination in the region. Both the Zulu and the Xhosa refer to them as the diviners of the *amakhosi amakhulu* (the diviners of the great ancestors), or those who work with the *emilozilabaloziloonomathotholo* spirits (the whistling spirits). They are called whistling spirit diviners because of their unique way of communicating with the ancestors through whistles which emanate from the rafters of the sacred hut above the sacred space (*umsamo*). Mr S communicates with the *amakhosi* in such a way, and when he wishes to communicate with them he burns incense (*imphepho*)¹¹ and with the aid of his *shoba* (the tail of the sacrificed cow) calls on them to

¹⁰Drinking the blood of the sacrificed beasts is an essential part of the process of becoming a healer and for connecting with the ancestors. They are ritually consecrated with *imphepho* and *ubulawu* before slaughter.

¹¹A pleasant smelling plant (*helichrysum odoratissimum*) that is burnt whenever invocations or important rituals are conducted to attract the presence of the ancestors. Used by the Zulus but not by the Xhosa.

respond to the questions posed by clients. Some claim they are taught how to interpret the whistles while they are under the water in the land of the ancestors. However I have also discovered that such interpretative ability can be induced by the imbibing of certain herbs (*imithi*) which are shown to the initiate in his/her dreams. The identity of such plants are kept strictly secret. For the Zulu this is equivalent to 'being taken up to the ancestors' and is regarded as the final and most important stage of becoming a powerful healer, in that it allows direct communication with the great ancestors (the *amakhosi*). Many healers never reach this final stage and such individuals who can communicate this way are relatively rare. Ngubane's (1977) authoritative book on Zulu healers states that those who communicate with the 'whistling great ancestors' are regarded as the highest in the graded scale of divination among Zulu healers and are frequently consulted by chiefs and kings regarding grave matters of state. Similar conceptions occur with the Xhosa. Elliott describes diviners who communicate with 'high pitched whistling voices' and says 'These diviners are not common but the Xhosa have an enormous amount of faith in them and, where they are available, the Xhosa will go to great lengths to acquire their services. The mystery of their powers apparently commands a great deal of respect and leaves the audience overawed' (1970: 118). Some scholars have attributed such whistles to ventriloquism being used by the diviner, but I have not seen any evidence to support such an assertion with the two diviners I consult regarding my own training.

Similarly healers who have 'been taken under the water' are relatively rare. Despite the relative rarity of such diviners, the water symbolism with which they are associated seem to have a profound significance for all spiritual healers, and forms a central part of their narratives in becoming a healer (Hirst 90).

Certain places are more favoured by the river spirits than others. They are believed to live in deep pools of certain rivers, often below waterfalls or fast moving "living" water or in the sea. 'Living' water is often associated with its ability to generate foam and the foam appears to be symbolically important. Berglund cites a Zulu *isangoma* informant who said "It is as I said water that is living, running in the river. That is the living water. If the water had been in a dam as you asked (a while ago), then there would not be a snake in it. It is the living waters" (1976: 146).

It is believed the ancestors or spirits of the water live in a dry area at the bottom of these pools and they have a very similar life style to people living on earth *i.e.* they have houses, cattle, chickens *etc.* and they are prosperous, peaceful and happy. In fact they lead an idyllic life.

The occurrence of certain plants near pools and river sources indicate the presence of the water spirits. Palmer (22) notes that in the Eastern Cape the presence of the *umkumzi* reed, *typha capensis*, on the edge of pools is seen as sure sign of habitation by the water spirits. The reed is a key symbol in Zulu religion and in one origin myth they claim that they emerged from a bed of reeds (Callaway 37). The reed mat is an essential accoutrement of diviners and this is directly linked to its association with water, healing and creation. For the /Xam the presence of reeds and water-buchu indicates the location of the Water Snake's dwelling place (Hoff 24). The foam generated from certain plants, the sacred *ubulawu*, used by the Zulu and Xhosa for washing and eating in order to purify and connect an individual to the ancestors through dreams. Many of these

species come from trees, bushes and vines that grow near water sources (Hirst 90). *Ubulawu* is very often administered to healers during rituals conducted in river pools¹².

Snakes and Mermaids - Determining their Identity

Snakes and mermaids seem to interweave with the experiences and myths of the water spirits., the so-called River People. The latter are known as the *abantu bomlambo* (people of the river) by the Xhosa, and the *njuzu/njuvu/ndusu* for the *Shona/Karanga*. Both of these groups describe these beings as mermaids (half-fish, half-human beings). Surprisingly this term ‘river people’, indicative of a polymorphic group, does not seem to occur among the Zulu. The mermaid as a singular entity, however, is revered and addressed as *iNkosazana*, the daughter of the Lord of the Sky, *iNkosi yaphezulu*. In the course of my research it has been made very evident that the snake and the mermaid are differing entities. They are however intricately associated, hence a fair amount of confusion arises. Added to the confusion is the metamorphosing ability of these creatures. For the Zulu, the python or snake are the metamorphosed amalgam of the ancestors. They come to visit an individual either in dreams or in reality. Snakes that enter the house and are unthreatening are viewed as ‘family’ and as such should never be harmed. They often appear in the house when they are trying to attract someone to be a healer. They not only manifest as snakes, but also as birds or other animals. The Xhosa and Shona have a similar view of ‘shade snakes’ or their other ancestral animal manifestations (*izilo*).

The emergence of the initiate out of the water with a snake around his/her neck is a recurring theme of apparent key significance. In the majority of accounts the snake has to be killed by the victim thus conferring to him/her the newly earned status as a powerful healer. Another recurrent theme regarding the snake which takes the person under the water, is that it emits a mesmerising bright light from its eyes and this is the mechanism for sending people into a trance before they are taken to the spirit dimension.

There seems to be some discrepancy between the various areas as to whether the water spirits are regarded as shades (recently deceased relatives), of either paternal or maternal origin, or belong to a generalised amalgam of non-specific or very old ancestors. In Natal the water spirits in the form of the snake are referred to as the ‘*amakhosi*’ (the great ancestors). They have explicitly stated that the snake is the metamorphosed amalgam of ones ancestors who live under the water. Both Berglund’s informant (148) and my informants suggest that they distinguish between the snake(s) that is/are a manifestation of the ‘family’ (shade snakes) and the big one ‘The one which

¹²The primary focus of training among the south Nguni groups is to enhance ones awareness of the various forms of communication that we receive from the spirit world. Dreams are of utmost importance and they serve as a guide for the training process. To enhance the clarity and reception of powerful message dreams, a variety of species of plant are imbibed (the Zulu use over thirty species of plant, ranging from rare grassland flowers to large forest and riverine trees and shrubs). These are collectively known as *ubulawu* and the distinction of their administration is that they are soaked in cold water and beaten into a thick white foam which is then eaten. The foam is regarded as having a special cleansing ability. Purging is often induced following administration and the foam is also used as a body wash. *Ubulawu* is imbibed in special ritual contexts (often in pools and rivers) and may also be taken by novices and healers on a daily or occasional basis. These plants not only clean the person, but they are also said to ‘clean’ the ancestors. The power of the healer is dependent on the power of the ancestors. Through the ‘cleaning’ with *ubulawu* and periodic ritual sacrifices of goats, chickens and cattle, the ancestors are thereby ‘strengthened’, thus enabling the healer to do his/her tasks more effectively.

is the Lord', representing the Supreme Deity *i.e.* Berglund's informant describes the python as *iNkosi yamadlozi* ('the lord of the shades' or 'the one above') who resides in the pool. He is in the pool 'because the pool is the place of *uhlanga*' and *uhlanga* 'is the origin, the place of the coming out of men,' furthermore it is the 'snake of the waters that gives life' (Berglund 144). For Mr S, who is also a Zionist priest, Jesus occupies the higher realms of the hierarchy of the *amakhosi* and as such can manifest as the snake. Like Berglund's informant, he asserts that the snake has been present since 'the making of men'. The link with the mermaids and the snake as the source of humanity is demonstrated in the Xhosa 'River Myth,' as told to Hirst, which relates back to the beginning of time: 'According to diviners, the river myth records what happened to the first diviner long ago and it constitutes the final part of the diviner's instruction to the candidate'. From myths derived from the Wahungwe people in the Rusape district of Zimbabwe, Frobenius states 'the *dzivoa* (pool) is a water of origin. In the same way as the rain comes from it, as does the knowledge of the arts and sciences, so the ancestors of the original inhabitants of the land are descended, according to the Wahungwe, from Wadzivoa' (1973: 200). Latham (1986), Ashwanden (1989), Ranger (1995) and Daneel (1971) have indicated a close link between the Shona/Karanga Supreme deity, *Dzivaguru* (or *Mwari*), the original autochthon, from whence comes rain and fertility and the spirits of the pool. The Nyamakati pool, the sacred pool of *Dzivaguru*, in NE Zimbabwe, was where *Dzivaguru* is said to have resided on earth after his emergence from the pool. It is also the pool where his son Kuruva took his followers to reside when invaders arrived in the area.

The reason why the ancestors, or even God, come to the living in various animal forms was explained to me in the following way: 'The ancestors come with different forms, they come with the snake, with the birds . . . they can talk with you, just because if you see them you can die. They are very strong, that's why they come with different animals.' The big snake, identified as the Lord-of Lords or the 'one above', by Berglund's informant, is described as being so powerful that to observe him would bring instant insanity and death. If he comes to earth 'then everybody would be eaten up by fire' (Berglund 143). He is in the pool 'because of the coolness of water. It gives coolness to him.' The great snake gives power to the ancestral snakes, who give the power to the living. This power must be used for good purposes or it will be removed and the healer could be destroyed. Similar moral injunctions exist with the mermaids. Although many accounts tend to represent the water spirits as capricious, the fault lies not with the water spirits, but with the transgressions of the victim. Not only do they punish breaches of moral taboo but they also punish harmful environmental practices (to be discussed below). Hence they act as the ultimate guardians of ecology and human morality.

The symbolism of the snake as one experiences them in real life or in dreams are thus connected with the great ancestors, the so called *amakhosi*, or even the great *iNkosi*.

They are not the same as the mermaid. However for the Zulu the mermaid can also sometimes manifest in the form of the snake. Although she is not an ancestor she is closely associated with them. She is principally linked to the great creative forces of this world. She ensures fertility of the land and its creatures, including humans, hence she is linked to rain making and fertility rites. Amongst the Shona and Xhosa, the mermaids takes on a more polymorphic form, but they still have the important role of giving fertility, making rain and causing the rivers to flow. The Zulu *iNkosazana* has amazing

transformative powers, manifesting as the mermaid, snake, rainbow (referred to as *uthingo lweNkosazana*/ the bow of *iNkosazana*), soft gentle rain and mist. She is not spirit but semi-daemon. She is tangible and in her watery medium she straddles this world of the living and that of the spirit. In all areas it is believed that the mermaid/s reveal themselves to those who are pure of heart and she does this in a physically tangible way. Healers and chiefs/kings are regarded as being the only people who may approach her pools. She prefers to live at the base of waterfalls which are protected by forests and overhanging trees. The following explanation was given to me by a healer who claimed he had seen *iNkosazana*:

The people that must go there are the izangoma and the kings (chiefs) of the Zulu people..... She stays in a perfect place with water coming from an upper place to the pool (waterfall) where she stays and she moves from one pool to another waterfall. You will never find her in (just) one place, and she stays near the forest so that when she comes out in her own time, no one should ever see her. It is lucky when the rainbow comes in the rain. You never get a rainbow anywhere without rain, the sea or the river. The river came with *iNkosazana*, there is no way you find it anywhere else. (If she calls you in a dream) I think maybe there is something she wants you to do. You go there with a goat or chicken to talk with her, after that you listen to *iNkosazana* and do what she tells you. She does not trust other people whose hearts are changing. Maybe you trust that person but his heart is cruel. *Inkosazana* is disturbed by the heart of that person. *Inkosazana* cannot hear because (of the presence) of that person. She does not want to see people she does not trust....that is why *iNkosazana* stays in a secret place, in a dangerous place. Nobody can come to play, stay or visit there without permission. If you go there on your own (i.e. decide to go there on your own), you will get your punishment, you will die.

The Zulu emphasise that she is a generous benevolent being, but she can be extremely dangerous to people with a bad heart. The *isangoma* went on to say;

So the basic point here is don't be afraid of *iNkosazana*. *Inkosazana* is a beautiful thing. She brings good luck. When you pray to her you get what you want. When you listen and go with their rules that they give you and you do not break any of them, you get what you want.

In all three areas where I have conducted research I have met healers who claim they have witnessed the mermaid. The descriptions of her appearance are remarkably similar. Her upper torso is human and she is fair skinned with blond hair (three healers have told me I bear as striking resemblance to her) and she has a fish tail. These descriptions are reflected in other documented accounts. Samuelson (1930) reported a similar response when she visited Chief Mpande's kraal in 1872 in the company of her father. While admiring her braids Chief Mpande likened her appearance to *iNkosazana* from under the sea.

In Zimbabwe certain mediums can be possessed by spirits of deceased *njuzu* that will give them healing powers. Very often the mediumship is passed down through families.

The *njuzu* (mermaids) are said to be closely linked within the python and the puffadder, all of which feature very strongly at the shrines to the Shona high God, Mwari (Mlimo), at the Matonjeni cave complex in the Matopos region of SW Zimbabwe, as well as at the Nyamakati pool shrine to Dzivaguru in NE Zimbabwe. The aforementioned shrines are central to the rainmaking cult in the region. This link with the rain making forces and fertility is a common theme throughout southern Africa. *Inkosazana* (also referred to as *Nomkhubulwana*¹³), the Zulu heavenly princess, as the bringer of soft soaking rains, is responsible for both agricultural and human fertility. Propitiation and appeals are made to her by virgins at the beginning of spring each year, appealing to her to bestow her gifts of fertility and to help them select a suitable husband. There has been a recent revival of these ceremonies in response to a healer who claimed *iNkosazana* had appeared to her and asked her to re-instate the annual propitiation rituals. The traditional practice of virginity testing has been incorporated into this ritual in response to the recent AIDS epidemic. They have proved immensely popular in many regions in Kwazulu Natal, with between 7000 to 10000 young virgins attending the ceremonies in the Bulwer region in any one year.

There are many other rituals that are performed for the water spirits at rivers throughout southern Africa. The purposes for conducting them and the ritual process may vary from group to group. They are mainly conducted for diviners at various stages of their training, but some households will propitiate periodically to appeal to the spirits to bestow them with wealth, rain, good harvests and fertility. Among some Nguni groups propitiation rituals are still made prior to planting in spring. A portion of the seeds to be planted are placed on the surface of the sacred pools. The river spirits will accept half of them and return the other half to mix with the remaining seed so as to enhance the fertility and yield. If none of the seed sinks, but just spreads over the water, this is an indication that the ancestors and spirit world are offended by the misdeeds of the living. Should this happen the participants will immediately seek to determine the cause of their anger and frequently confessions of social tensions and jealousies get brought to the fore. These are discussed and resolved as speedily as possible, thus reaffirming the intricate balance that exists between the social and spiritual world.

Sacred Pools, Behavioural Taboos and Ecology

As a result of the profound sacred status that the many rivers, pools and water sources hold for southern African Indigenous communities, there exists a range of taboos surrounding their access and utilisation. Pools, rivers and expanses of water are held with a mixture of awe, fear and reverence. In many of the more traditional rural areas great care is taken to avoid disturbing or angering the water spirits. Common people are forbidden to go near sacred pools where the snake, mermaids and spirits were known to exist. This injunction is re-enforced with the fear that uninvited people would be taken under the water never to return.

¹³These two terms *iNkosazana* and *Nomkhubulwana* are used interchangeably by many of my informants. A few assert they are different beings, but the majority insist they are one and the same.

Only healers associated with the water are allowed to approach such areas. I have accompanied the *izangoma* to a number of these pools and they are always approached with singing and prayer. The healer will inform the spirits who is approaching and reassures them that they come as friends. It was strictly taboo for anyone to extract plants or resources from the waters edge. This could only be done by healers who were allowed plants for medicinal use. Traditionally healers approach the plant with humble clapping of the hands and appeal to the ancestors to allow them to utilise the plant for healing purposes. After removing the plant they replace it with white beads as a sign of thanks. Similarly when approaching water they often make offerings of beads and silver money.

Killing or injuring any of the messengers of the water (such as crabs, snakes, frogs or water birds) is also regarded as a great offence and there are many groups in southern Africa for whom the eating of fish is strictly taboo. Transgression of such taboos could result in the drying up of the water source and droughts. Many groups limit the distance to which residential units can be erected near rivers and where cultivation may take place. Hoff noted that the /Xam prefer not to live very close to a water source because of their belief that "Water Snakes wander in the immediate vicinity of their homes, making these areas particularly dangerous" (Berglund 24). In many places the effects of modernity and the pressures for population resettlement have overwhelmed these traditional fears and restraints, leading to catastrophic results. Many people living in squatter settlements along rivers and streams in urban areas of South Africa have lost their lives and homes to flash floods in recent years.

The effect of this diminishing respect for the water snake and ancestors in recent years is well demonstrated in the following case from Zimbabwe. In 1994 Matowanyika *et al* described a sacred pool that existed in the Nyataure district of Nyanga

Birira pool and a number of other pools are sacred and inaccessible to the living. Birira pool is inhabited by a mermaid (*njuzu*) and strange things happen there. When the mermaid is cooking its meal one can see smoke spiralling from the pool and hear the hissing of the mermaid's great pot as it boils. At other times one hears cocks crowing and cattle lowing. People who have gone much closer have reported seeing a reed-mat (*bonde*) on the surface of the water and on top of it a bar of gold. Those who have the opportunity to see the mermaid basking on the mat say it is a feminine looking creature which is half-fish and half-human. No-one dares enters such pools except those who want to disappear into them and emerge in later generations as diviners and medicine men. (1994: 89).

This area is very close to where I was brought up as a child and on a recent visit there this story was confirmed to me by a man who lived near the pool. As a child, he and his friends were terrified of venturing close to it for fear of disappearing. The pool is on a mountain slope and is heavily surrounded by trees. These trees, because of their proximity to the pool, were sacred and no one was allowed to cut them for wood. Unfortunately in recent years, under the government's resettlement programme, strangers from other areas have been resettled in the area. The new inhabitants disregarded the warnings from the local population and proceeded to chop down the trees and plant their crops close to the waters edge. This resulted in heavy siltation and damage to the river,

but the final blow came when following a heavy storm, a large portion of the granite rock face above the pool dislodged and the resulting rock fall swept away all the trees and crops and destroyed the river course. A similar event occurred on the exact same night to another sacred pool thirty kilometres to the south. The local inhabitants have attributed this double calamity to the anger of the *njuzu* as a result of the disrespect shown to them.

The water spirits are generally believed to live in pools and swamps that never dry out. It is said that their role is to protect water sources and keep them alive. They are the guardians of the river. In Zimbabwe, Aschwanden reports that local opinion is that:

In the past - before the arrival of the white man - there are said to have been more pools and springs with water-snakes. The many noises that came with the Europeans made many *njuzu* leave their habitats for ever, which caused aridity. However, disobedience by many people is also said to have prompted the *njuzu* to retreat (Aschwanden 189).

Damming or channelling water from rivers can also upset the river snake. Well known examples of this was the resistance given by the valley Tonga when Kariba Dam was constructed. Their main fears were that the great water serpent *Nyaminyami* would be angered. The many disasters that beset the project were largely attributed to *Nyaminyami's* distress from being separated from its mate downstream from the wall. The more recent Lesotho Highlands Water project encountered similar resistance from the local inhabitants who attributed the seismic motions to the great snake's distress with the project.

How people harness the idiom of the water spirits to mount powerful community opposition to social, political and developmental projects was clearly demonstrated in the Ambuya Juliana movement that swept through southern Zimbabwe in the early 1990s. This was in response to certain environmental catastrophes such as severe drought and rodent plagues. The movement was inspired by a prophetess by the name of Juliana who claimed to be an emissary of the water spirits (*njuzu*), with whom she had resided under water for a period of 4 years. She made her first appearance in the Zvishavane, Mberengwa region at the height of the drought of 1992. She attributed the drought to the breakdown of respect that people had for the earth's resources, particularly water sources, for lack of social harmony and abandonment of traditional practices and beliefs, and for the failure of the government and state to acknowledge the role of the spirits in the War of Liberation. The major grievances of the *njuzu* were the construction of dams and the drilling of boreholes. She stated that the smell of cement drove away the *njuzu* who were pivotal in the provision of drinking water for the people. It was stated that 'The government is wrong in the manner in which they are blocking quite a number of streams to make dams. The government is also sinking boreholes and wells in a bad way, making explosions which frighten away the spirits and all other creatures' (Mawere & Wilson 252-287). She instituted a set of harsh taboos¹⁴ which the community had to observe

¹⁴According to Mawere & Wilson (1995: 257) these taboos/rules included the following:

- i) A complete ban on such work activities normally done on Sunday and Wednesday *chisi* 'holidays', such as fetching firewood, sweeping yards, making how handles and yokes, drawing water and washing clothes.

should they wish the drought to break and to facilitate the return of the *njuzu* who would regenerate mountain springs, underwater and surface rivers. Among these was the banning of the construction of dams and the drilling of boreholes as well as the use of soaps or the immersion of metal or enamel containers into the rivers. It was also forbidden to kill any wild animal or to collect wild fruit or plants for sale as these attract the rain. The thousands of people who responded to her pronouncements, and adhered to the harsh taboos and restrictions which she imposed, is a graphic example of the great respect many people still hold for the water spirits in this region. A glance through the complete list of taboos listed in the footnote reveals how these rules reflected a collective rejection of the modern economic forces of capitalism, agriculture and religious (especially Christian) intrusion into the area. All these are seen as a threat to the maintenance of traditional practices.

This desire to return to tradition has been witnessed recently in the Mvoti valley area of the Kwazulu Natal Midlands where certain rural communities have re-instituted the ancient day of rest for the heavenly princess, *iNkosazana*. This day was known traditionally as *lesuku lweNkosazana*, and was regarded as the day when no-one was allowed to utilise the river or to tend their fields. The re-institution of this day of rest was in response to a claim made by a lady (*isangoma*) who claimed that *iNkosazana* had visited her whilst she was hoeing her field. She said her children's names were Saturday and Monday and that on those days no-one should use the rivers but should leave them in peace to recuperate and so she and her children could enjoy them in. The message was to be relayed to all five chiefdoms in the area. Collecting water, washing or utilising any water directly from the river on her day (Mondays and Saturdays) is now strictly prohibited. This recent revival of *lesuku lweNkosazana* in this valley bears a striking resemblance to an account given by Bryant many years ago. In discussing a series of cultivation rituals that were performed for *iNkosazana/Nomkhubulwana* he says

‘She is attributed to giving man corn and for teaching them how to brew it. Nomkhubulwana, ‘who moveth with the mist.’ From time to time she even herself appeared ‘mostly to women-folk, while hoeing in their fields, and dressed in white’, her purpose being to give them some new law or foretell them something

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- ii) A ban on referring to baboons by their Karanga name (*makudo*); since these belong to the same monkey totem as the spirits of Matobo (Matopos - the cult centre). They should be referred to as ‘grandfathers’ (*vanesekuru*).
 - iii) A ban on commercial beer brewing.
 - iv) A ban on drum beating and other Zionist music.
 - v) A ban on using borehole water, since the drilling of boreholes frightens the spirits. People were told to draw water from the sand in the river beds and from natural wells.
 - vi) A ban on referring to mice by their Karanga names, during the period when their post-bumper rains epidemic was leading to severe crop damage. They had to be called sacks (*masaga*) or blankets (*machira*).
 - vii) A ban on the trade of indigenous fruits.
 - viii) A stated opposition to the grazing scheme in Indaba Ward, on the grounds that the spirits do not want to be enclosed by wire fences.
 - ix) A number of price regulations on local produce, most significantly goats.
 - x) A ban on starting farming for four days after the rains has started falling (in this area even such a small delay in ploughing and planting can severely affect yields).

that will happen. On one of these occasions he forbade the Zulu women to tend their grainfields on a Saturday. Then another year she came and forbade them to work on a Monday. Hence it came about that in that district the more pious women confined their work on Saturdays and Mondays solely to sweet-potatoes and such like (apparently outside her jurisdiction), and cultivated their cereals on whiteman's Sunday" (Bryant, 1949 : 667-668)¹⁵.

Connected with the taboos in respect of *iNkosazana* is the revival of the planting ceremonies for her in spring. In the Mvoti area all members of the chiefdom have to contribute a portion of their crop seeds, and some money to purchase a goat, to the chief prior to planting. On a designated day all the people in the chiefdom awake early in the morning. Taking with them their hoes and spades, traditional beer (*tshwala*) and sour milk (*amasi*), they congregate together in a forested valley above the river. The men demarcate a piece of land which is to be dedicated to *iNkosazana* and construct a fence around it. The soil inside the area is dug by all present. Then the chief's mother and wife and all the elder women plant to grain which has been collected from the households (those households which do not contribute are fined). They then sit down and eat and drink the food and beer that they brought with them. They do not consume all of the food and drink though. The remaining portions are sprinkled on the field. An elder addresses *iNkosazana* saying "Here is your food *Nkosazane*, we have cultivated this field for you." A goat is sacrificed near the river and an elder takes the bile from the gallbladder and sprinkles some of it into the river. He then ascends the mountain to the forest where the field is located and sprinkles the remaining bile on the field. I was told that this is a crucial part of the ritual since a connection has to be made between the water and the field "This is done to show the significance that the garden, the goat and the river, all belong to *Nomkhubulwana*". Traditional songs are sung and there is much dancing performed. Following this the women, who are dressed in leaves from the *Msenge* tree (cabbage tree), a tree sacred to *iNkosazana*, descend together to the river to take a bath. The *Msenge* leaves are stripped off their bodies and thrown into the water, and all naked, the women wash themselves in the water. No males - young or old - are allowed anywhere near the river at this stage. This is to emphasise respect for the women's' bodies, as much as respect for the heavenly princess, the bearer of fertility. No woman is allowed to return home until she has taken the bath. The bath signifies the end of the ritual.

I conducted a small survey (n = 32) in this valley in early 2001 to evaluate how popular such rituals and constraints on using the river were to the local community. The majority of the respondents were very happy to be participating in the rituals even though many of them did not have a clear idea of exactly who *iNkosazana* was, as these things had been long forgotten. It was noted however that those who don't observe the day of rest or participate in the rituals, have very poor and unproductive gardens. Those who had some hesitation or doubts about the practices were converted Christians who claimed

¹⁵One wonders if there may be a link between these days of rest for the mermaid *iNkosazana*, and that which has been traditionally observed in Zimbabwe, namely, the *chisi* day. The abandonment of the *chisi* day of rest by present rural communities in Zimbabwe was one of the major complaints reported to Juliana by the *njuzu* (Mafu, 1995)

they had abandoned the ways of their ancestors. One such respondent even went so far as to say that these practices 'were things of darkness' and that ever since she had met Jesus she refrained from the practices of *Nomkhubulwana*. All the respondents endorsed their support for traditional leadership through the chiefs. This is of interest since I believe traditional governance through the chiefs has a powerful role to play in ecological management, particularly where it has been sanctioned by the spirit world.

While these examples can be seen as convenient idioms in which communities object to the forces of modernity, capitalism, monotheism, land invasion and loss of control of resources, it cannot be denied that they have all experienced the negative ecological and social consequences that development has brought. These negative consequences merely confirm the communities' conviction that the divine powers of the water have been disturbed and this idiomatic expression is the most effective means by which protest can be voiced.

I now want to briefly examine some of the negative impacts of development and modernisation and the threats these pose to Indigenous knowledge.

Environmental Threats to Sacred Pool Sites - Implications for Indigenous Knowledge

In the majority of the areas where I have conducted research, sacred pool sites of key significance for healers are being systematically threatened by development projects, mining and modern agricultural practices. The privatisation of land has led to many of the sacred pools being inaccessible to healers and I am aware that a number of healers have been arrested and imprisoned for crossing private land in order to get to the sacred pools. These restrictions can severely hinder a healers training process.

Examples of environmental threats to the status of pools are many. For instance in Zimbabwe the Pungwe River is viewed throughout the country as having the most sacred pools for the *njuzu*. Gelfand's (1959) informants stated that no matter where a healer gets taken under the water he/she will land up in the Pungwe River. In the early 1990's following the severe drought, the government awarded a contract to a European construction company (with many rumours of backhand bribes being accepted) to channel water from the Pungwe to a dam near the town of Mutare. Little consultation was made with the local communities. After construction had commenced the local healers became aware of what was happening and mounted an opposition campaign against to project. After much negotiation it was agreed that the projected amount of water to be channelled out of the river would be halved - still an unsatisfactory outcome for those who see the river as sacred.

Another example is to be found in the Venda region of South Africa. A recent newspaper report has highlighted the environmental damage that is being inflicted on Lake Fundudzi (sacred to the Venda people) and other river systems in the region, by large scale mining, chemical and industrial development projects in the area.. Many of the rivers in the region are so polluted with chemicals and radiation that livestock and humans who drink from the water are suffering from multiple health problems, including birth defects. The newspaper reports:

The threat to Lake Fundudzi were caused...because the province failed to allocate enough staff to its environmental impact assessment division and expected two

staff to process 15 environmental impact assessments, 35 mining applications and roughly 15 other large development applications a month. The government therefore simply allowed subsistence farmers to invade and begin ploughing the steep hills above Lake Fundudzi on poorly constructed terraces without conducting environmental impact assessments or obeying other land use laws' (Nkosi & Arenstein 4).

This report perhaps overemphasise the role of environmental impact assessments in curtailing such negative effects (they are well recognised as being biased in favour of developers who pay for their services), and does not investigate more deeply into the benefits and disadvantages of such large scale development projects in the region, or why there has been a need for local peasant farmers to move into the area in the first place. In the past the region around the Lake has been strictly monitored.

Van de Waal documents the difficulties researchers had in gaining access to the sacred Lake and he describes the 'myths and superstitions' regarding it in the Venda region. These are completely in keeping with the general conceptions of the snake (python) and the water spirits that I have already outlined.

This lake itself is alleged to be inhabited by the ancestral spirits of the Vhatavhatsindi people. Even today, the foreign public is not allowed access to the lake. Only Gota (headman) Netshiavha can give permission to visit the lake itself. In an attempt to conduct surveys on the lake, lengthy negotiations with the headman and his Tshivase Tribal authority at Mukumbane and Chief Tshivase himself were required, after which temporary permission was given to conduct a short pilot survey on the lake in 1988 which was later withdrawn (1997: 51).

The impact of large scale agroforestry in many of the areas where sacred pools exist pose another serious threat to their well-being. The Mvoti river, which I have already discussed, is under serious threat by intensive agroforestry (pine, gum, wattle and poplar plantations) and sugar cane farming. Most of the privately owned farms upstream have been bought out by large multinational agroforestry companies whose principle objectives are profits above any environmental concerns. This is evident in their indiscriminate planting of water hungry trees directly into river valleys and mountain slopes. The general consensus of the community surveyed in the valley is that the water levels of the river have dropped considerably in recent years.

Similarly I am working in another area in the NE Cape where there is a pool of great significance to the local Xhosa/Mpondomise people. This was a pool I was led to in my dreams and it is confirmed by the local community to be the home of the snake and the mermaids. In my dream I was led to the pool by children. This is exactly what happened when I was eventually able to locate it. I was to discover that the pool is so sacred that no-one is allowed to approach it unless being led by children. This pool has recently become a popular trout fishing spot for many South African anglers, which has the potential to threaten its sacred status. Furthermore this pool is now under threat from large agroforestry plantations that are being planted over an extensive area upstream, in the rivers main catchment area. Local white farmers in this region are very bitter about these recent developments as they assert they were led to sell their farms to the same

multinational agroforestry firms under false pretences. They were told the land was to be used for beef production.

It is with these concerns that my present research is focussing towards steps that can be implemented to protect such water sites. At present there are scarcely any mechanisms by which healers can appeal for protection of sites and access to them. One option would be to campaign for the introduction of 'culture significance' legislation in line with sacred site protection laws that have been introduced in other countries such as Australia (Ritchie 47) Scientists and developers have very little awareness or knowledge of these beliefs and in general I have found them to be sympathetic when these are explained to them. At present I am working in collaboration with water research scientists to see if there is a way such beliefs and practices can be recognised by the new Water Act through the concept of the reserve. The notion of the Reserve consists of two parts:

- the quantity and quality of water required for basic human use (including religious and cultural needs).
- the ecological Reserve, which is defined as the water required to protect the aquatic ecosystems of the water resource.

The basis of this approach is in agreement with Carmichael *et al* who maintain:

There are different ways of knowing about the earth, about sacred places.....some ways are scientific and some are spiritual. One way of knowing does not negate the validity of another. Although the world-views and goals of Indigenous peoples and archaeologists (or scientists) will not always correspond, the protection of cultural sites should be an instance where they can. Anti-science and anti-spiritual sentiments are both counterproductive. It is essential that scientific knowledge and influence are accepted, but at the same way the legitimacy of traditional Indigenous ways of knowing must also be recognised (Carmichael et al 7).

In conclusion this paper has demonstrated the scope and complexity of common African perceptions of water sources in southern Africa and the need to recognise the importance of Indigenous beliefs and practices in issues of riverine management. The repository of much of this knowledge comes from Indigenous healers who are regarded as the custodians of very ancient traditional wisdom and knowledge. This transferred knowledge is augmented through spiritual insight and communication with the ancestral world, and passed on to future generations through rigorous systems of training and apprenticeship. This knowledge is dependent on the availability and accessibility of resources. Without the plants needed to get spiritual insight, or without the presence of healthy water sources where the spirit forces reside, access to such knowledge will be denied. Moreover knowledge is now under tremendous threat of being discarded and forgotten as many communities are abandoning their traditional ways in favour of western education and capitalist enterprise, where the priorities for individual accumulation override collective needs of the group, with resulting devastating effects on the environment, both physical and spiritual, the source of their knowledge.

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DR R. S. CHAPHOLE

THE PLACE OF THE INDIGENOUS LANGUAGES
IN A "LATE" MULTILINGUAL SOUTH AFRICA

Abstract

It was indeed heartwarming to receive the announcement of the Indigenous Knowledge Conference - the interregnum could not last forever.

Two years before the birth of Democracy in South Africa, Linguists, Politicians, Educators and NGO's were working frantically trying to come up with a language policy for the country overnight. The result was that the nine Indigenous languages should take their place along side English and Afrikaans as official languages. Fact is that these languages do not play a role in the economic, political, industrial, and administrative life of the country. The Indigenous languages have been left in the cold -- undeveloped for over 300 years. All of a sudden they are expected to perform with the same sophistication as English and Afrikaans. Is this linguistic reality or political expediency?

The purpose of this paper is to share Indigenous Knowledge (there is non-Indigenous Knowledge as well) about the plight of nine Indigenous languages of South Africa, the arrested growth and development of these languages over the years; and very late attempts now (post 1994) to protect and preserve them.

Introduction

In recognition of the negative estimation in which Indigenous African Languages are generally held in Africa by the public, [it has become necessary] . . . to mount a sustained campaign of educating or re-educating the national population about the inherent or potential practical utility of African Languages to counter the present widespread negative attitudes in Africa towards these languages. (OAU Language Plan of Action for Africa; 1986: 5-6).

The Harare Declaration of 1997 took this matter even further and appealed to member countries to encourage institutions and research departments involved in the initiation into teaching of African languages to intensify and reinforce their activities in order to play a catalytic role in the global effort to achieve the development of Africa.

In response to this laudable commitment, the Democratic South African government accorded the Indigenous Languages official status in the 1996 Constitution of the country. Section 6 of the Constitution contains most of the provisions pertaining to language matters in South Africa. Section 6(1) recognizes eleven official languages. These include English and Afrikaans on the one hand and the nine Indigenous languages (Sepedi, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga, isiNdebele, isiXhosa and isiZulu) which were marginalized in the past. Section 6(2) of the Constitution requires mechanisms to be put in place to develop these Indigenous languages. Section 6(3) and (4) contains language - related provisions for national and provincial governments. They may use any of the official languages for the purposes of government, taking into account usage, practicality, expense, regional circumstances and the balance of the needs and preferences of the population concerned. The national government and each provincial

government must use at least two of the official languages. The Constitution views our linguistic diversity as an asset.

The Language Problem

South Africa is a multilingual country of eleven official languages but some of the languages are more equal and more official than others. The reasons are well known - political deprivation and arrested development of the Indigenous languages of the country over the years. The differences between the former official languages on the one hand and the Indigenous Languages on the other, can be seen in the syllabus designs of the two groups of languages. A comparative example is apposite.

Syllabus for English First Language

Standards 8, 9, 10

General Aim No. 1

- II) to promote, within the range of their ability and potential, the pupils' intellectual, emotional and social development to help them to understand themselves and others, so that they may live more fully, happily and responsibly.

Syllabus for Zulu (African Language)

Standards 8, 9, 10

General Aim No. 1

- III) to help the pupil to develop language skills which will enable him to communicate as effectively as possible, i.e. that he will be able to listen, read, speak and write. From this objective it is clear that the study of language as an end in itself is a self-defeating effort. The aim should be effective communication. Syntactical and grammatical relations, applicability of vocabulary and logical presentation of thoughts are all conducive to accurate communication.

I do not have space here to subject the two extracts given above to detailed analyses. However, one or two points may be in order. The extract from the English syllabus places the learner at center stage, through helping the learners to understand themselves in the first place. In the representative IsiZulu syllabus the teacher is the center of attraction. The teacher knows accurate communication, logical presentation, vocabulary and grammar.

Secondly, the Zulu syllabus concentrates on teaching grammar and dissecting words as though they were frogs in a biology class. The reasons for this are not hard to find. The syllabuses for Indigenous African Languages were designed by missionaries who did not speak these languages. This tradition was taken further by White professors of African Languages. To this day, we still find White teachers who cannot speak African languages teaching these languages in White schools.

A Brief Historical Background

In South Africa the issue of language has always been an extremely political one. Language has been used as a basis for classifying and dividing people, and as the cornerstone of segregationist education policies. Indigenous languages have never

enjoyed equal status in South Africa. During the colonial and apartheid eras English and Afrikaans were the two official languages while the Indigenous African Languages were the languages of the Bantustans (Mda 156).

During the colonial period which covers almost 300 years, education was controlled and influenced first by the colonial settlers and later by the missionaries. To their credit, the missionaries recorded some African languages in written form. The missionaries managed to codify the African Languages and to develop a Christian religious terminology and register. They managed to group the African community into different groups that were marked by different languages and frequently by a different Christian Church. Although they produced orthographies and wrote texts in those orthographies, they often did not manage to standardize the languages. This pattern was repeated in many parts of African Countries and was quite clear in South Africa. The intention however, was not to promote the African Languages to the level of English; but to enable the African people to read the Bible. The Indigenous Languages, therefore, were neglected as subjects and as languages of learning. (Cf Mda 1997(a); Gerard 1981; Jahn 1968).

The introduction of the colonial languages into African Societies and their media of education and as communicative instruments for the modernizing process, froze the opportunities for functional development of almost all the African Languages. It also froze linguistic competition between languages for access to new domains, and to some extent, the European languages retarded the extension of existing African Languages (Spencer; 1985:394). An example of the impact of freezing or arrested development of these African Languages can be demonstrated by looking at the difference in status today between Afrikaans and the Indigenous Languages of South Africa (Mda, 2000:157) Lawyers, medical doctors, engineers, chartered accountants and others can be trained in Afrikaans. Resources are there, both human and material, but not in the Indigenous Languages.

Inhibiting Factors

The policy and the principles behind the Constitution are aimed at the development and empowerment of languages that were formerly disadvantaged by past language policies. However, there are many factors that inhibit the realization of these principles and goals.

i. Preference For English

A perception exists that English is dominant in many spheres of life. It is felt that there should be an equitable balance between access to English for those who want to use it and access to other languages to ensure that those who do not know English do not suffer in the process (LANGTAG Report, 1996:49). Many African language speakers - and other South Africans - perceive English as offering greater socio-economic and educational opportunities and as potentially 'unifying' a linguistically diverse nation. English is therefore preferred as a *lingua franca* and a language of learning. The recognition of all languages is seen to bring conflict, to be divisive, and to lead to inequities.

Most people also fear the cost implications of recognizing 11 languages and argue that recognizing only English would be cheaper and more sensible since English is a world/international language.

African languages are perceived to be underdeveloped and unable to cope with scientific, technical and technological subjects (PRAESA, 1998: 3). This view may have some validity because African languages were only taught as subjects and were not used as languages of learning across the curriculum - especially beyond the foundation phase - and were not developed to have more functions and roles. English and Afrikaans, on the other hand, were developed for specialized purposes and have, for instance, 'Business English' and 'Sake Afrikaans' applications. However, most of the arguments against the use of African languages for such purposes - especially when propagated by African language speakers - are evidence of self-depreciation and dependence, resulting from years of colonialism and oppression (Mda 1997b).

In South Africa, African children in multicultural schools speak English to one another and with their parents. They adopt English and forget, or prefer not to speak, their own languages in favor of English and in so doing reject African languages and "Africanness". Of course, there is the desire to fit into, and not to be different from, the norm. This unfortunately reproduces power imbalances between language groups and maintains the status quo. In view of this tendency, the principle of choice as contained in the Constitution, the Schools Act, and the LIEP, may contradict and defeat affirmative action measures for African languages, as there is no guarantee that African language speakers will choose their languages as the language of learning.

The principle of choosing the language of learning is also constrained by pragmatic requirements such as the availability of resources. In racially, culturally and ethnically integrated schools, teachers are not usually multilingual. Hence the right of the learner or parents to request a particular language of learning from the provincial education department may not be easy to grant and implement, as it calls for effective resource deployment and redeployment.

ii Socio-Political Factors

Unfortunately, one of the leading factors militating against the success of the policy is lack of political will in the leaders and in the South African society. On paper, all languages are equal and are to be treated equally. In real life, the two former official languages, English and Afrikaans, are still held in high esteem by all who aspire to be socially and economically successful. The continuing state of inequality between the languages points to the difficulty of achieving respect for all languages.

Lemmer (1996:20), having studied the establishment of language policies in Namibia and Zimbabwe, cautions:

language in education policies designed to redress former racial inequality may unintentionally create new class stratifications. Moreover, the proposed equal treatment of the Indigenous African languages embodied in Constitutional documents often means their decline in practice in the light of their impotency to compete with the popularity of and perceived advantages associated with English.

In the South African context, apartheid policies contributed to this situation since the “African languages [were] deliberately underdeveloped and neglected” (Alexander, 1998:4).

Since the two former official languages are still very powerful and continue to enjoy privileges as the favored languages, there are no incentives for non-African language speakers to learn African languages, nor for African learners to exercise their rights pertaining to their languages.

The fears of many English and Afrikaans-speaking parents about the future of their languages and the implications that integration and multilingualism in schools may have for their children play a major role in the marginalization of African languages and their use as languages of learning. In addition, many African parents fear that their children could lack socio-economic access and mobility if they are taught in their home languages. Many White (and sometimes Indian and Black) parents fear the loss of privilege (usually articulated as a fear of lowering of academic standards); Afrikaans parents fear the extinction of their language and culture; and African parents fear polarization and non-access to the perceived economic benefits attached to English and Afrikaans (Mda 1997a). These fears pose a real threat to the redress and democratization process in South Africa (Mda and Mothata 162-164).

Promoting Multilingualism

Fortunately, the segregationist language policy of the past has been dealt a huge blow by South Africa’s Constitution of 1996. The Constitution embraces the notion of multilingualism and provides for language promotion and development with special redress for the historically marginalized Indigenous languages. Further, the Constitution emphasizes language as a basic human right and explicitly enshrines the right of the citizens to receive education in the official language or languages of their choice where that education is reasonably practicable. In the process of transforming the South African Society, language in general, and language-in-education in particular, have received considerable attention. A National Language-in-Education Policy for schools was introduced by the Department of Education in 1997. The policy aims to promote multilingualism by means of the development of all the official language, while maintaining the home language for learning and teaching, the learners are encouraged to acquire additional languages.

At a recent Ministerial Conference on Values, Education and Democracy in February 2001; multilingualism was identified as one of six values to be promoted. Regarding the promotion of multilingualism the Report of the Working Group on Values in Education had this to say:

There are two main values we wish to promote in the area of language: firstly, the importance of studying through the language one knows best, or as it is popularly referred to, *mother tongue* education; and secondly, the fostering of multilingualism. We do believe that an initial grounding in mother-tongue learning is a pedagogically sound approach to learning. We also believe that multi-cultural communication requires clear governmental support and direction.

It is often assumed that by using English as a medium of instruction, learners will gain access to opportunities in the world of work and leisure. The value of English as the main language of the formal sector of the urban economy hardly needs elaboration. Sepedi, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga, isiNdebele, isiXhosa and isiZulu are valuable because they offer access to the largest number of consumers in many sectors of the market. Afrikaans is valuable because it is the language of most employers in many parts of the rural areas and because Afrikaans-speakers form the language community with probably the largest buying power in the consumer market. Our recommendation would therefore be that all learners acquire at least one official language other than English and Afrikaans as a subject throughout their school years. Which language this is likely to be ought to be determined at a provincial level. Such a step would add considerably to reconciliation processes and the promotion of a common South African citizenship. It is also likely to lead to pressure on the relevant government authorities to make learning and teaching resources available in Sepedi, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga, isiNdebele, isiXhosa and isiZulu.

The implications of these recommendations are: firstly the reorganization of teacher training to accommodate the new language policy; secondly, the introduction of appropriate short courses in the provincially determined second or third language with in-service learning opportunities at universities and technikons; thirdly, the improvement in the training of language teachers; fourthly, the enhancement of the resources and partnerships available to develop Sepedi, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga, isiNdebele, isiXhosa and isiZulu, in relation particularly to the *Pan South African Language Board* (PANSALB), the publishers, lexicographers, terminologists and materials developers; and fifthly, the development of quality and appropriate reading materials.

A language-in-education policy must perforce be supported by initiatives in the wider society. We believe therefore that multilingual proficiency must be rewarded in other institutions. The public sector as a major employer needs to give preference to citizens who are at least trilingual. Promotion in the civil service should in part depend on mastering accredited courses in at least one language other than English or Afrikaans, appropriate to a province or region. Similarly, private sector companies who are multilingual in their practices need to be affirmed, in the same way that companies that employ women and black people are given preferential treatment when it comes to government contracts. Educational, training and non-governmental institutions, in the training of employees and potential employees in the service sector, should require that they be able to communicate at the very least in a language other than Afrikaans or English. (Values, Education and Democracy 2001: 30-33).

Strategies to Promote Indigenous Languages

Despite the difficulties and negatives experienced with the promotion of language diversity, the following are some of the classroom strategies identified:

- Conducting, at the beginning of the year, a survey of languages spoken by learners in the classroom, of languages used in their families and communities. This would help the teacher in planning lessons and identifying skills the teacher may draw on;

- Making the classroom and school environment friendly and welcoming by putting up signs and posters in the languages spoken by the learners. The objects may be labeled in different languages. The pictures and posters should represent people from different backgrounds and walks of life to avoid stereotypical images;
- Letting learners speak their languages among themselves when playing, in group - discussions or when asking questions. If the teacher does not speak the language of the learner, another learner may interpret for the teacher;
- Giving learners opportunities to read and write in their home languages even if the teacher does not understand the language. The teacher may still ask questions in English. The principles used here are that reading in one language supports reading in another, and that “it is more valuable that children learn to express themselves in writing than that they are able to always write correctly” (PRAESA, 1998:4);
- Using a bilingual approach as much as possible, if there are teachers who speak the learners’ language;
- Grouping learners who speak the same language to work together, or organizing groups in such a way that there are at least two learners who speak the same language in each group;
- Collecting and creating parallel texts, books, alphabets, numbers, scripts, posters and story tapes in various languages; tape recorders; blank tapes; two-way dictionaries; pictures from magazines showing diversity and variety stories in different languages, written by the class and by senior students;
- Studying and talking about the names of the different learners in the classroom, noting cultural differences in names and characteristics of names from various languages. Learners may tell or write a story about how they got their names. Some names, like biblical names, are found in almost every language. Learners may be asked to give different language versions of English names. (Mda, 2000: 167-168).
- Some of the strategies to be attempted outside the classroom include the following:
 - to pilot language attitudes and practice among parents and students towards the use of the Indigenous languages as languages of tuition at primary, secondary and tertiary levels, OAU Language Plan of Action (1986); LANGTAG Report (1996). Harare Declaration (1997));
 - to change attitudes towards the use of the Indigenous languages in education. The LANGTAG Report (83) identifies three strategies to be followed in this regard:
 - the introduction of (optional) university courses taught through the medium of an Indigenous language [we need learning & teaching materials for this].
 - the translation of high quality literature into the Indigenous languages.
 - the promotion of African drama and literature by awarding prizes for the best of these works and by prescribing them in schools.
 - to develop the Indigenous languages of South Africa. This has three to four aspects:
 - the development, elaboration and modernisation of the vocabulary.
 - the creation of new registers such as those used in education, law, business, commerce, industry, science and health (LANGTAG Report 68).
 - the production of literary and linguistic reference books, pocket and desk dictionaries, and the translation of standard, high quality texts.

The development of a standard orthography and spelling system in the Indigenous languages has been adequately dealt with by the missionaries, the early scholars and the Language Boards (Chaphole 3-4).

Conclusion

In conclusion, we could say that it took Afrikaans fifty years to become an official language; and another fifty years to become a powerful language. How long will it take nine languages spoken by poor South Africans to attain the status of Afrikaans especially when political will in the leaders of South Africa appears to be in doubt (Mda 162).

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ERIKA HAUG

BEYOND MERE INCLUSION: LEARNING TO RECOVER WHAT WE HAVE LOST

Introduction:

Locating Myself in the Intersection of Western and Indigenous Knowledge Systems

Being unaware or unconscious of one's cultural location within White-privileged culture can allow individuals to remain distanced from accepting responsibility for the historical abuses of their Ancestors as well as their own and those of their peers in daily life (Graveline 108).

I want to start by naming the various ways I stand at the intersection of Western and Indigenous Knowledge systems. Graveline asserts that "resurrecting one's own history to find out how it has contributed to the history of the world" is essential to the process of all decolonisation work (Graveline 37). Thus I begin by identifying myself as a child of third and fourth generation immigrants from Scandinavia, who came to Saskatchewan in the early part of this past century, as settlers upon stolen land. My ancestors knew very little and cared even less about the people who had lived here for at least twelve thousand years before them (Brizinski 29), whose lives were permanently displaced by their arrival. There was no two-way sharing of knowledge and expertise between the two groups, for it was unquestioned that the White¹⁶ way was inherently superior in all areas. My ancestors did not consider that they had anything to learn from the 'primitive' people who had perfected living in harmony with the harsh prairie landscape, and so they struggled and starved through their first winters, wearing wool instead of fur, planting crops that would not grow, and suffering malnutrition.

If "how humans live on and use the Earth is foundational to any worldview" (Graveline 19), the way my ancestors carved the prairies with straight, right-angle grid lines, reflects their world-view which focused on linear progression, order and control. The Indigenous perspective of life as a circle, based on the belief in the earth as Mother; in nature as a sacred source whose balance needed to be respected, was replaced by the White belief that nature is wild and in need of being 'tamed', 'developed' and 'domesticated'. Myth and magic were replaced with rationality and positivism. The rich oral histories of multiple clans which focused on meaning and connection, were replaced with the white man's way of recording history as fact and footnote, through 'paper stories' (Graveline 68). (And I say man advisedly because it was white men who wrote 'definitive' accounts of history about other white men and called it knowledge). In this encounter, the perspectives of the elite of one race, gender and ethnicity came to define 'valid' knowledge and dismiss all other previously established ways of knowing.

The ethnocentric and exclusive White claim to knowledge has been played out not only in the history of my ancestors on the prairies, but also on the opposite side of the world in rural Nepal, where the bulk of my formative years were spent as a child of

¹⁶¹⁶The term 'White' can convey "a mind-set, a worldview that is a product of the development of European culture. People are not genetically encoded to hold this outlook; they are acculturated to hold it" (Means, 1980: 28, -Ibid.).

missionary parents. The rationalisation behind my parents' presence in this tiny mountain kingdom, was that Nepalese people were in need of White religious, educational, scientific, and cultural knowledge systems. Again, in this interface between White and Indigenous cultures, there was almost no real mutual exchange of knowledge and expertise because the Nepalese, who had lived in harmony with the land for millennia, were seen as irrational, ignorant, spiritually oppressed, and backward. So much emphasis was placed on teaching White knowledge and skills that the idea that White people need to learn from the Nepalese cultural, health, agricultural, and spiritual traditions, was almost totally absent. Indigenous cultures in Canada have interpreted and rationalised by White 'experts' both in Canada and in Nepal.

Close bonds I developed with Nepalese friends as a young teenager spurred me to challenge and question the unequal power relations I was a part of. Though I lacked the words to express it at the time, I struggled with the multiple contradictions, paternalism, ethnocentrism and racism played out in the meeting of White and Indigenous Nepali cultures. Looking back upon my childhood as an adult, it strikes me as an excellent example of how – despite all the rhetoric to the contrary – if unexamined, the power relations in which individuals are embedded can supersede all well meaning desires of helpfulness and respect. My experiences bear witness to the anti-racist tenet that White is dominant *globally*, even when White is the demographic minority.

In my adult life, the ongoing exploration of the themes of paradox, power, voice and privilege have been woven into my paid employment, social activism, and academic work. I recently completed a master's thesis in social work that explores these dynamics within the context of the emerging 'discourse' of 'international social work'. For the past two and a half years I have supported my 'academic habit' by working part-time for CUSO- an international development organization that sends Canadian volunteers overseas for two year community-based placements. During this time I have also held the position of co-chair of the board of directors of a local social justice center that seeks to implement an anti-oppression framework into all its activities and structures. In each of these contexts, I have found myself struggling at the interface of where White and Indigenous Knowledge meet. In this search I continually struggle with the tension of how, as a White person, I can respectfully engage with Indigenous Knowledge systems with integrity; without appropriating, tokenizing, romanticizing or displacing.

In my academic work, I wrestle with these questions from within the social sciences. As "constructed by white males with a few generally marginalized and quieted alternate voices" (Hartman 483), the social sciences have generally reflected the experiences and perspectives of white men. The 'scientific knowledge' they are built upon is the dichotomist, mechanistic paradigm initiated by Rene Descartes (1596-1650)- that has dominated and fractured thinking in the Western world for close to four centuries (Ramsay 3). As a globalized local tradition, the social sciences have been presented as a unitary knowledge system –globally applicable and superior to all other pre-existing traditions of social care. As Graveline describes, "One version of reality, Eurocentrism, has been widely accepted as knowledge " (Graveline 118). In the grandiosity of White knowledge, previously established local, popular and Indigenous Knowledge systems are disqualified as "beneath the required level of cognition or scientificity" (Foucault 82).

Problematics of Inclusion

In contemporary times, writing about culture and cultural “exchange” involves thinking critically about structures of domination and multiple historical precedents of forcible appropriation. (Graveline 238).

In response to postmodern critiques of White knowledge systems, and the increasingly visible presence of Indigenous voices within post-secondary institutions, the importance of incorporating Indigenous Knowledge in mainstream curriculum content is increasingly being recognized. Rarely however, are such actions carefully examined within the context of power relations between different knowledge systems. As long as power relationships, locus of expertise and knowledge and ‘superiority’ remain unchallenged, exposure to Indigenous Knowledge does little to create meaningful change to the dominant systems, and can simply reinforce pre-existing assumptions and racist stereotypes. As the organizational diversity literature suggests, the liberal agenda of simply ‘meeting quotas’ of more brown faces, people in wheelchairs, etc., may be a necessary first step in changing an organization (or discipline), but it is insufficient if the goal is to deeply integrate the experiences and perspectives of those previously excluded. If the purpose of ‘diversifying’ is simply to meet externally imposed standards, or to become ‘politically correct’, the potential benefit to the whole is likely to be compromised by those who failed to ‘buy in’ in the first place.

As all bodies of knowledge are situated within the contested territory between oppressed and oppressors, all academic disciplines are inherently political. Thus it is impossible for the act of including Indigenous Knowledge to be somehow a ‘neutral add-on’. *What* bodies of knowledge and *whose* expertise is recognised, are political decisions with political ramifications. As Vandana Shiva elaborates,

The political implications of the dominant knowledge system are inconsistent with equality and justice. It is disrupting of cohesion within local communities and polarizes society into those with access and those without it, both in respect to the knowledge systems and the power system (Shiva 60).

On a global level, the world we now live in is very much a product of the hegemony of White knowledge systems, taken to their extreme conclusion. Many of the most pressing problems facing the world such as the global ecological crisis, stem directly from the modernist scientific paradigm that has come to dominate globally. In the past two centuries we have moved from the majority of the world living in harmony with the land, to the majority living in unlovely cities, dispossessed from a direct relationship to the land and all the other symptoms of urbanization. The technological and economic progress of the White model of progress has cost us the meaning and practice of community, as control of local economies has been almost completely transferred to the hands of multinational elite. Spiritual values have been replaced with materialism, and dis-connection from the land leading to massive poverty and human displacement. In sum, the hegemony of White knowledge systems has led to a state of profound state of imbalance globally. *Koyaanisqatsi* is a Hopi word which means crazy life; life in turmoil; life out of balance; life disintegrating; a state of life that calls for another way of living (Reggio 1982). *Koyaanisqatsi* quite nicely describes our current global condition.

Rather than being seen as necessary for healing what has been fractured in White knowledge systems, efforts toward inclusion of Indigenous Knowledge are often motivated by a sense of guilt, romanticism, ‘anthropological curiosity’, or an externalized need to appear ‘politically correct’, and thus take a tokenistic form. Talk about ‘reciprocity’ and ‘mutual exchange’ can be seen as a well-meaning attempt to establish dialogue and atone for the sins of the past. I wonder though, can we really speak of genuine ‘mutual exchange’ as long as one group remains oppressed and excluded in so many ways? My training in counselling has taught me that if in doing couple therapy, one partner has dominated the other for many years, it would be ridiculous to tell them to now engage in a ‘mutual exchange’ without first addressing and compensating for the power differential between them. I have therefore come to believe that, insofar as power and privilege structures remain unchallenged, it is problematic for academic institutions to speak of inclusion of Indigenous knowledge, or even of ‘two-way exchange’.

Unless those currently controlling the discussion are willing to critically examine their own conflicted location within power structures, and the role they play in the suppression of Indigenous voices, such well-meaning gestures risk further appropriating, romanticizing, and trivializing Indigenous Knowledge systems. Only when there is an active giving up of power and control, replacing White expertise with humility as learners can we, with integrity invite our Aboriginal brothers and sisters to join us in our places of learning as teachers. On the other hand, as long as the essential belief that White knowledge is the most accurate and is inherently superior, there can be no end of friendly, ostensibly ‘mutual’ exchanges (through academic exchanges, conferences, and sabbaticals) that do little to change the status quo. And, as Eduardo Galeano reminds us, “perpetuation of the existing order of things is perpetuation of the crime” (Galeano 18)

Beyond Mere Inclusion: Learning to Recover What We Have Lost

In a rapidly changing and interdependent world, single models are more likely to go awry. The effort to combine multiple models risks the disasters of conflict and runaway misunderstanding, but the effort to adhere blindly to some traditional model . . . risks disaster not only for the person who follows it but for the entire system in which he or she is embedded, indeed for all the other living systems with which that life is linked.

-M. C. Bateson, (8)

In order to achieve a real shift from the inequitable power relations that have been so deeply inscribed in White knowledge systems, and in order for meaningful learning to occur, a profound and painful disruption of all the foundations of Western thought is required. Such a process will challenge the most basic beliefs and assumptions of ‘expertise’ upon which the social sciences have been created. The post-modern ideal that all voices and perspectives are equally valid precludes any one perspective from being privileged as superior. Thus, the security, clarity and uncomplicated vision offered by the assumed superiority of White knowledge systems would be replaced with an unsettling and confusing multiplicity of competing and even contradictory models, realities, perspectives, experiences and ‘paradigms’. Like the art of West Coast First Nations, the integration of multiple perspectives leave us with no clear sense of what is up or down or

what is separate from what. But at what cost is carefully controlled order of knowledge maintained?

In the process of opening to Indigenous knowledge, those who have been dominating the discussion must lose their carefully secured expertise and replace it with an attitude of humility as learners. Einstein is said to have observed that no problem can be solved by the same consciousness that created it. Many are now recognising that the answers, innovations and insights to get us through our current mess will come not from those traditionally seen as the experts, but from those on the margins; from knowledge systems that are holistic and integrative of all aspects of being. Rather than a benevolent gesture motivated by guilt, the incorporation of Indigenous Knowledge systems needs to be recognized as an imperative in order to recover what has been lost, to heal what has been fractured, and to get us off the current course toward destruction on which we are set. Ultimately, the incorporation of Indigenous Knowledge is a profound act of hope for planetary survival.

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KARIE JOHN KAWOWO

BIOPIRACY IN THE PACIFIC

Abstract

Existing international Intellectual Property Rights laws favor those with the technology, the expertise and the capital. We have none of these. All we have is the raw material – our blood. We should not sell our children so cheaply’’. – Lopeti Senituli.

Introduction

I bring warm greetings from the Binandere tribal peoples from Oro Province, Papua New Guinea. First let me acknowledge the great ancestors of this *butu* (land) for accepting me in this as a visitor. I also would like to thank the organizers of this conference for giving me this opportunity to be here. When I first meet Ms. Priscilla Settee as a part of the Canadian delegation to the 1996 Nuclear Free Independent Pacific conference in the Fiji Islands, I thought the problems we faced in the South Pacific were never faced by the Indigenous peoples of Canada. This conference revealed these assumptions to be untrue. We all face the same problems as Aboriginal People. Since that conference I have remained in contact with Ms. Priscilla Settee, and it is because of her involvement that I am here today.

I am thankful and honored to stand before you today as one of the guest speakers at this conference on Indigenous Knowledge. The theme of this conference is very challenging and topical as the Indigenous peoples of the world are mobilizing and speaking out against the injustices that had lived with us for centuries. We are gathered here today to take stock of our past and our present and to address our weakness and strategize a direction for the future in order continue our struggle to protect our Indigenous peoples and knowledge.

Let me give a brief background of Pacific and Papua New Guinea to put this work in context.

The Pacific provides a unique opportunity to examine the role of Indigenous peoples in environmental conservation and the initiatives required to support conservation efforts. In the Pacific island countries, the majority of peoples are Indigenous, and because of the retention of substantial elements of their traditional cultures and their close ties to their land and its ecology, Papua New Guinea is an ideal case study linking Indigenous people and the use and conservation of biological diversity. In addition I will identify key challenges and initiatives needed to support Indigenous cultures and biological diversity. The Indigenous peoples of the world are custodians of outstanding global significance. Unfortunately, our land and culture are becoming the victims of exploitation. This presentation will sight some initiatives that have been taken in the Pacific with the hope that Indigenous peoples of the world will share their expertise and information with fellow Indigenous peoples.

Cultural and Biological Diversity in Papua New Guinea

Papua New Guinea is a Melanesian nation with 6 million people and is the largest, and the richest nation in flora and fauna in the Pacific. Papua New Guinea

comprises the eastern half of the sub-continental island of New Guinea, and is part of the islands of the Bismarck Archipelago of the Solomon Islands. Papua New Guinea's borders stretch from the equator to 12 degrees south latitude, and encompass 465,000 sq. km of land and over 3 million sq. km of coastal seas.

Papua New Guinea's tropical environments range from high alpine meadows to extensive tracts of lowland rainforest, major rivers and fresh water swamps, coastal lagoons, and coral reef systems. More than 700 species of birds inhabit Papua New Guinea's varied terrestrial environments, and the diversity flora is one of the richest on earth. According to one projection, by the end of this century or shortly thereafter, only 4 large blocs of the world's tropical forest biomes are likely to be intact: the western Brazilian Amazon, the Zaire basin, the Guyana shield of northern South America, and Papua New Guinea.

This biological diversity is mirrored by a rich cultural diversity represented in the 700 + distinct language groups. For over 50,000 years, Humans have lived in Papua New Guinea in a closely inter-dependent relationship with the natural environment and the wildlife. Most people still live in a rural setting and depend, directly or indirectly, on the natural environment and the integrity of the environment for their subsistence.

Indigenous People and Their Environment

By definition, Indigenous people are those who, originated, have been living, or occurring "naturally" in a particular region or for a period extending beyond histories annals. It is worth noting that over hundreds of generations, the culture of Indigenous people will be influenced by the environment, and that they themselves will influence that same environment. Over many generations, a close relationship between culture and environment has developed.

Most of Papua New Guinea retains complex "natural" ecosystems where peoples' relationship with the environment has not grossly altered the environment. In some areas of Papua New Guinea, such as parts of the Central Highlands, higher population levels and intensive agriculture have led to the gross modification of some complex forest ecosystems and grassland systems.

Most of the Indigenous people in Papua New Guinea still rely to some extent on the use of its biologically rich ecosystems for their subsistence, economies, materials, medicines, and, through their relationship with the environment, their world view. This relationship is intimate and continuous, and most Indigenous people view themselves as part of a personalized ecosystem encompassing both the human and non-human inhabitants. They have developed a relationship with the natural environment, maintaining high levels of biodiversity. This has occurred through deliberate resource use limitations on the use of resources and technology..

This time-evolved relationship with the natural environment includes a large body of traditional knowledge of the functions and responses of the ecosystem. It also embodies a relationship that goes beyond the material, to the spiritual.

Thus, the relationship between culture and biological diversity in many parts of Papua New Guinea as in other Pacific regions, is inter-dependent with Indigenous culture. The inter-dependence between cultural and biological survival remains tenuous due to the introduction of cash economies and other outside forces. Elements of the Constitution and laws of Papua New Guinea have contributed to the maintenance of cultural and

biological balance and provide an interesting example of modern legislation designed to maintain this complex relationship between Indigenous peoples and environment. A key element in this success has been the recognition of Melanesian land tenure systems within the country's legal framework.

Biopiracy in the Pacific

Many people here today have little knowledge of the ecology of Papua New Guinea. We are rich in resources but poor in technology and economy; we have become victims of racism, globalization and exploitation structured to destroy us both culturally and environmentally.

Because of our location on the planet, Pacific Islands Countries receive an abundance of sunlight, energy and rain. The islands are rich in marine and terrestrial biodiversity. All Indigenous peoples of the Pacific have inherited this richness. In contrast to this wealth of flora and fauna, our economy is very weak. Conversely, the countries of the North are poor in terms of their biodiversity but economically strong and technologically rich.

Because of recent advances in science, the biodiversity we have taken for granted, which has fed, nurtured, and healed us, is of increasing interest to northern researchers. The arrival of researchers and scientists in our countries, taking samples and plants for analysis overseas, is not a new event. The early explorers did this and, until recently, this practice has remained unregulated. The resources of the south seem to be considered the "common heritage of humanity". That is to say, there was a free for all. There was no respect for the knowledge of the Indigenous peoples. Researchers were able to collect, study and market our national resources, profiting from our ancient knowledge.

This has changed since the Convention on Biological Diversity, because we've come to realize that there is value not only in our plants, but especially in the knowledge and traditional ingenuity that is now gaining a respect born of profit and need. How different is this traditional science from the science we have in laboratories conducted by men in white coats? Why is one compensated and protected by the law, while others are ignored and called "the common heritage of humanity", open for all to exploit. The world's biodiversity exists within aboriginal territories. The world's human genetic diversity exists among Indigenous peoples. So whether we like it or not, we are high priority research subject by scientist of the North today.

The Pacific is rich in resources not only in the flora and fauna, but in the human gene. Scientist are now to collect genetic material from Indigenous peoples. We are now finding ourselves in danger of genetic colonization. Our bodies are considered as much a commodity as our traditional medicines and knowledge.

As I stated at the beginning of my presentation, we must look at our past and present, replenish ourselves and strategize for our future. The Pacific has some very fine examples of past mistakes that may help us plan for a better future.

- In 1997/8 in Samoa, an American ethnobotanist working in a village in Samoa discovered a compound in the Mamala plant which is common throughout the Pacific. He took it back for testing and they found it as promising anti-VIS properties. There was nothing else of significance published until a patent was

registered by the National Health Unit of the US Army and Brigham Young University in 1999.

- In 1993, the Hagahai people in the remote areas of the Madang Province, Papua New Guinea had had very little exposure with the outside world. Their DNA was taken for testing. Without the consent of the people or the government, the Hagahai DNA was patented in the United States. A Hagahai DNA cell line is now available for sale on internet. You can order a copy of their human DNA, full of the life essence of the Hagahai people, for \$218 from the American Culture Collections in Maryland in the USA.
- In 1992, The US Department of Commerce filed a patent claim on the human T-cells of a 40 year-old woman from the Western Province in Solomon Islands and a 58 year-old man from Guadalcanal. The cell lines could be useful in producing vaccines and/or diagnosing human T-lyphotropic virus type 1. Because of the protests by the governments of Solomon Islands and Papua New Guinea, these biopiracy claims were withdrawn.
- The Norfolk Islands signed a DNA research agreement in 2000 with researchers from the Griffith University in Australia.
- The Australian company Autogen Limited plans to collect DNA samples in Tonga, to analyze them and to identify genes predisposing people to medical conditions such as obesity, diabetes and heart disease. Under the agreement, the Tongan government had given Autogen the exclusive rights to sell this genetic information to medical researchers.
- Cross species – genetic manipulation – some Indigenous peoples of Aotearoa (New Zealand) have had part of their DNA combined with that of animals such as sheep. They have the ability to cross species barriers with genetic manipulation into plants, animals and humans.

The list continues in the Pacific. We are vulnerable and have less access to education, we need global help.

Conclusion

Why was I interested in this conference? When RAFI sent out information about the Hagahai DNA patenting some years ago, I was amazed and thought to myself, are these people mad?! I thought this people were civilized! Then I checked through the list of those 500-700 Indigenous peoples who are targeted by these scientist and found that more than 10 of the targeted people peoples are from Papua New Guinea, and among other groups was the *Binandere tribal people*, my tribal people. This discovery is what has inspired my work towards protecting the rights and Indigenous peoples started.

My great ancestors say that you can see your past experience and acknowledge from it to build the present. The future is behind a veil. You can not see the future and all

you can see is the past to work for present. We don't know what tomorrow brings. It's dark.

My reasons for participating in this conference is not to gain recognition for myself but to establish contact with Indigenous peoples and experts from around the world in order to build solidarity between our nations in our struggle to maintain our rights.

Having seeing the past and present, our challenge is how do we replenish our weakness and strategize our direction for the future to continue our struggle. Maybe sharing of information and networking at such conference is the beginning.

Awara einda doturena ae atega jiwae deda. Thank you.

Sources: 08th NFIP Conference report, Convention on Biodiversity, Indigenous Peoples and Intellectual Property Rights', Department of the Parliament Library of Australia, Research Paper 20, 1996-7. Jonathan Kin and Doreen Stabinky: "Biotechnology under globalization: the corporate expropriations of plants, animal and microbial species: in Race and Class, Vol.40, N0.2/3 (1998-9)

MOGEGE MOSIMEGE

THE DEVELOPMENTS AND CHALLENGES FACING INDIGENOUS
KNOWLEDGE SYSTEMS PROGRAM: SOUTH AFRICAN EXPERIENCES

The past 3 to 4 years have seen an increase into the research on Indigenous Knowledge Systems in South Africa. This increase in interest and research has given rise to a variety of challenges that continue to face all those involved in Indigenous Knowledge Systems. Among the many challenges are: Differences in the understanding of the various components of Indigenous Knowledge Systems and its focuses among those involved in IKS; The role of Indigenous Practitioners in the various processes; The Protection and Promotion of Indigenous Knowledge Systems; The funding for research into Indigenous Knowledge Systems; The co-ordination of all the existing and renewed interest in Indigenous Knowledge Systems; The Relation between all the knowledge and international agreements that seem to be in conflict with Indigenous Knowledge processes. This paper reports on research into Indigenous Knowledge Systems in South Africa over the past few years in the context of these challenges. It considers the advances that have been made but also looks at the difficulties that have been experienced. It explores what the increase in interest in Indigenous Knowledge Systems has meant to both researchers and practitioners. Finally, it considers challenges and the implications thereof in terms of advancement of all the work in Indigenous Knowledge Systems.

**Overview and Development of Indigenous Knowledge System from 1996-1999
Audit of Indigenous Technologies**

The Indigenous Knowledge Systems (IK) Program as presently understood and conceptualised in South Africa is a program which was initiated jointly by the Parliamentary Portfolio Committee of Arts, Culture, Science and Technology and the Council for Scientific and Industrial Research (CSIR) towards the end of 1996. After the discussions between the Chairperson of the Portfolio Committee and two Vice-Presidents at the CSIR and the conceptualisation of the idea, the CSIR then requested the University of The North in the Northern Province to conduct a pilot of the audit of Indigenous Technologies. This commenced in December 1996, and the results of this pilot were presented at the university in a workshop which took place in February 1997. The results of this workshop gave an indication of the variety of Indigenous technologies which were found in many of the communities in the Northern Province and on a very small scale in the Mpumalanga Province. It also set the stage to carry out similar audits throughout the rest of South Africa in order to record the various Indigenous technologies in existence throughout the country. Other universities were requested to carry out similar audits in other provinces and most of these took place during the university holidays either in December - January vacation or the Easter vacation. Some of the universities made a follow up to some of the communities during the university term when students and staff could combine this with their regular work. These universities also subsequently conducted similar workshops to the one conducted by the University of The North over an average period of two days throughout 1998 to present their findings. In most instances, the presentations of the findings were done by the students with the guidance

of their lecturers who had been involved in the audit, but in some cases (very few cases) the Indigenous Technologists were also involved in both presentations and exhibitions of their work. This is one of the challenges facing IKS which will be discussed later. The IKS office at the CSIR together with the Inter-Provincial Operating Structure (IPOS) encouraged, wherever possible, inclusion of Indigenous Technologists and their active participation during presentations as this afforded an opportunity for the Universities and Communities to work even more closely in IKS work and in the process build a rapport between the two stakeholders. However, there was very little success in the encouragement of actively working together with technologists as evinced by minimal participation of the technologists in most of the open and public forums.

Although by design this research program (audit) was located in Historically Disadvantaged Universities (HDUs), universities like the University of South Africa were also involved through collaboration and co-operation with one of the HDUs, Vista University - Mamelodi. The focus on the audit by Historically Disadvantaged Universities resulted in some of the Provinces not being audited as these Provinces (Mpumalanga and Northern Cape) did not have such universities. In the case of the Western Cape plans to start similar audit never materialised due to other difficulties which are not elaborated upon in this paper. At the First National Workshop on IKS in Mafikeng in the North West Province other universities - Historically Advantaged Universities (HAUs)- were also invited to share of their experiences in their involvement in research in IKS. This was an acknowledgement and recognition of the fact that these universities had conducted research and done work on IKS, even though it may have not necessarily conformed to the new IKS framework.

The audit of Indigenous technologies program which was managed at the CSIR involved a research team comprising an average number of 6 members of staff and a total number of between 30 and 60 students at each of the universities involved. Due to the nature of the research project which was interdisciplinary, the staff and students were selected from a combination of faculties at each university, although this was left to the discretion of the research team member at each of the universities. However, most of the students participating in each of the projects were chosen mostly from the Faculty of Science.

Objectives of the Audit

The objectives of the IKS audit were as follows:

1. Identify different Indigenous technologies in the different communities in South Africa and compile a record of these.
2. Compile a national database of the technologies which could be updated at different stages when other related projects are engaged in.
3. Explore and investigate these technologies to determine those that have potential to be developed into business enterprises for possible job creation.
4. Assist the Indigenous technologists and other community members in the development of the technologies into business enterprises.
5. Establish a policy on the research and interaction with the different communities for the advancement of work on Indigenous Knowledge Systems.
6. Establish legislation for the protection of Intellectual Property which will protect both

- the researchers and the community within which the research is done.
7. Other objectives and benefits which by the nature and design of the program became part and parcel of the audit are:
 8. Capacity building for the students, the research team members in interacting with Indigenous technologists and the communities from which the technologists come.
 9. Provision of assistance for members of the communities in business development skills in relation to the different technologies.
 10. Training of members of staff and in some cases students in Microsoft Access Database.
 11. Training of students in research methods for interaction with communities.

The Extent of the Attainment of the Objectives

Reflecting on the objectives of the audit, it may be concluded that some of them were easier to attain, whereas others have proved very difficult to attain. Those objectives that can be regarded as fairly well attained are (i), (ii), (ix), and (x). Those that can be regarded as minimally to partly attained are (iii), (v), (vi), (vii) and (viii). Very little was attained in terms of objective (iv). This objective has not only proved to be very difficult to attain, but continues to be an important challenge for the IKS Program in South Africa. I think it was very optimistic of the audit to consider attaining this objective as the nature of the composition of the audit teams could do very little in terms of its attainment. Such an objective required much more than just available funding from the CSIR and a team of enthusiastic and motivated lecturers and students to develop further. It required massive involvement from stakeholders such as the Government and the Business community. The developments in IKS in South Africa have shown that it takes much longer to establish Policy and Legislation in IKS. It was therefore very ambitious to probably think that such an objective and those that were partly attained could be attained from an audit which at most, was very superficial in terms of revealing all the necessary details regarding the different Indigenous technologies. However, what can be regarded as the greatest achievement of the audit, which was not even thought about as a possibility at the conceptualisation of the audit, is the extent to which conscientization about IKS has been raised and debates on IKS have been started. Since the audit, debates in IKS have increased and permeated most of the South African Society. The following activities relating to IKS have taken place at regular intervals since the audit: meetings, seminars, workshops, forums, brainstorming sessions, researches and debates on funding and co-ordination. A variety of structures have been established with a purpose of focussing on various components of IKS. It is hoped such activities and structures will ultimately prove useful to the advancement of IKS in South Africa.

From Indigenous Technologies to Indigenous Knowledge Systems

The results of the audit showed that it was necessary to expand from technologies into knowledge systems as the former was very narrow to adequately describe all the processes and products that the Indigenous technologists were involved with. In fact as outlined in the *Prolegomena to a Policy Framework on Indigenous Knowledge Systems in South Africa* (7) 'technology is about skill or applied expertise whereas IKS is about social capital'. This reference to IKS introduces the different kinds and meanings of IKS that are found in the literature which I will refer to later on in the paper. However, in

order to contextualize the differentiation between Indigenous technologies and IKS, I would like to draw upon the definition that is used by the National Research Foundation (NRF). In their rationale for the IKS focus area, they define IKS as ‘the complex set of knowledge and technologies existing and developed around specific conditions of populations and communities Indigenous to a particular geographic area’. Without analysing this definition to any great lengths, I need to point out that it acknowledges the existence of technologies in addition to other forms of knowledge that make a complete knowledge systems.

At the time when there was the consciousness about the breadth of the knowledge systems, international trends also pointed to the usage of knowledge systems as opposed to technologies. An example here is the *Indigenous Knowledge and Development Monitor* which is published by the Centre for International Research and Advisory Networks (CIRAN) in The Netherlands. The seminal work of Michael Warren also acknowledges this trend. Examples thereof are given in Regional Workshop on Integration of Indigenous Knowledge in to Nigerian Education Curriculum (1996). The structures outlined below then moved the debates further from referring to Indigenous technologies to Indigenous Knowledge system.

Structures Established for the Management of IKS

A number of committees were established for the duration of the IKS audit and a considerable time beyond the audit. These committees have served a variety of purposes in decision making. Their composition, although at times not inclusive of all the necessary stakeholders, made it possible for many stakeholders to make a contribution to a variety of matters in IKS. The different stakeholders that have taken part in the different committees are: Science Councils: Agricultural Research Council (ARC); Council for GeoScience (CGS); Council for Scientific and Industrial Research (CSIR); Human Sciences Research Council (HSRC); Medical Research Council (MRC); South African Bureau of Standards (SABS); Council for Mineral Technology (MINTEK). Government Departments: Department Agriculture; Department of Arts, Culture Science and Technology; Department of Health; Department of Trade and Industry. Representatives of the House of Traditional Leaders. Representatives of Indigenous Technologists. Representatives of the Business Industry.

Most of these committees listed below are not in operation anymore as their functions ceased soon after the completion of the audit.

Working Committee

The role of the Working Committee was to make decisions relating to the Indigenous Knowledge Systems (IKS) around policy, strategy, operational matters, etc. This committee also acted as an Executive Committee of the National Steering Committee. It was made up of the IKS Manager at the CSIR, the two Vice Presidents at the CSIR and the Chairperson of the Portfolio Committee.

Steering Committee

This was the highest decision-making body in IKS. It dealt mainly with policy, funding and strategic matters on IKS. It comprised members from all the stakeholders mentioned above.

Inter-Provincial Operating Structure

This was a body made up of representatives of Universities and Provincial Departments taking part in the audit. Its purpose was to discuss all the issues relating to the running of IKS in each university and province. Universities who were members of this Committee by virtue of having taken part in the audit were: University of Venda; University of The North; University of North West; Vista University (Mamelodi) together with University of South Africa; University of The North – Qwaqwa Campus; University of Zululand; University of Fort Hare together with University of Transkei.

Technical Committee

This committee was made up of various individuals who had expertise in various aspects relating to IKS. Its role was to debate issues around IKS and make suggestions and recommendations to the Steering Committee.

National Workshop Organisation Committee

This committee was made up of some members of the Technical Committee and staff members of the University of North West which would host the Workshop. Its role was to make all the necessary arrangements for the First National Workshop in IKS.

Draft Discussion Document Policy Subcommittee

This committee which got established much later than the other committees was made up of a few individuals who had been involved in IKS largely since the beginning. Its role was to advance the discussion on Policy in IKS and finalise the process for incorporation into each departmental structure. The sub-committee reported directly to the Steering Committee.

National and Provincial Workshops on IKS

Each of the Universities involved in the audit of the Knowledge Systems was required to conduct a workshop on the results of the audit which had been conducted in the provinces. This took place over a period of two or three days throughout 1998. The workshops which were attended by an average number of 80 participants, reported on the results obtained during the audits. The presentations covered the following:

1. The different villages and communities visited for the audit and the technologists interviewed.
- ii) The Indigenous technologies found in the communities, including the uses or how the technologies were used.
- iii) The possibilities that may arise out of the uses of the technologies.
- iv) The technologies that have potential to be developed into business enterprises.

In all the presentation an attempt was made to ensure that Intellectual Property Rights as they relate to Indigenous technologies were not violated. This means that details around how specific medicines were made and used by traditional healers or specific skills were used to make various artefacts were not disclosed. In instances where there was a danger of revealing and in the process compromising the Rights and Knowledge of practitioners,

the presentations were adapted accordingly. However, this safety precaution did not necessarily guarantee that the rights and knowledge of practitioners was not violated in any way. In fact this presented one of the most difficult challenges for IKS in South Africa.

A national workshop on IKS was held at the University of North West from 21 - 23 September 1998. The following stakeholders were represented: Universities - staff and students; Science Councils; Government Departments; Technologists; Members of Parliament; International Guests. The National Workshop covered, among others, the following:

- i) Discussion of the Policy on IKS.
- ii) Discussion of Legislative Mechanisms in IKS.
- iii) Active involvement of the different stakeholders in the promotion and protection of intellectual property in IKS.
- iv) Closer and appropriate working relations between Indigenous technologists and the different researchers in IKS.
- v) Development of different technologies into Small, Micro and Medium Enterprises (SMMEs) for the purpose of creating jobs for the majority of South Africans.
- vi) Improvement of skills to be used in Indigenous technologies.
- vii) Active involvement of other National Departments in the advancement of work in IKS.
- viii) Plans for Regional collaboration (Southern Africa) and plans to hold a Regional Conference were made.

Due to the length of the Workshop (3 days) and the number of issues to be discussed, progress on the identified issues was not as much as had been anticipated. However, this is not necessarily seen as a failure as it served very important purpose in IKS debates.

Database on IKS

Each university which took part in the audit of Indigenous Technologies was required to compile a Database of all the technologies that were found during the audit. Microsoft Access Database was used for this purpose as this was the database which had been used by the university which conducted the pilot. The Databases from the different universities were compiled by the *Icomtek* division at the CSIR using the Oracle Database. At the moment this composite database is held in custody at the CSIR, although each university holds its own database.

An example of technology found in the audit done in the Gauteng Province. This is a medicine which is made and used by traditional healers to heal a variety of diseases like sugar diabetes, and swollen parts of the body. It is made up from mixing a variety of herbs (not specified here) and following a number of processes which ultimately result in the medicine.

Clay Pot making at Mamokgadi

Mamokgadi is a village in the Northern Province. The process of clay pot making reported here involves collection of various types of clay – red, green and brown. The

collection is followed by the grinding and sifting of the clay to remove small stones that could cause cracks on the pots. The rest of the steps in clay pot making are moulding; decoration; closing the base of the pot; air crack prevention; heating process; and polishing. This elaborate process results in very beautiful pots that are an attraction for tourists. One of the main challenges is finding a market for these Indigenous technologies.

The four examples are just a sample of the different kinds of technologies that were found during the audit. They are indicative of the many different kinds of technologies that were reported upon in the audits by the different universities. These few technologies are selected to give the reader a sense of the kinds of technologies unearthed during the audit.

Developments in Indigenous Knowledges Since 2000 Establishment of Science Councils IKS Champions

As pointed out earlier, most of the Science Councils have done work related to IKS with respect to their specific mandates. For instance, the Agricultural Research Council has been doing work with Indigenous food crops, and in the case of Medical Research Council work has been done on medicinal plants and the work of traditional healers. The IKS work of the two Science Councils is not strictly confined to them, but is in some instances similar to work done by other Science Councils. For instances, the BiochemTek Division at the CSIR has done some work on Indigenous food. Given this situation it became necessary for these Science Councils to work together. Over and above individual collaboration between Science Councils and other tertiary institutions, the Committee of Heads of Organisations of Research and Technology (COHORT) established a body called IKS Champions as a response to an enquiry about their involvement in IKS by the Portfolio Committee on Arts, Culture, Science and Technology.

The Science Councils IKS Champions is a body comprising of representatives from the Science Councils and other Research Organisations whose responsibility is co-ordination of IKS activities within their individual organisations. Towards the end of 2000 this body was expanded to include other institutions like the Water Research Commission, the National Botanical Institute, the Museums, the representative of Universities Committee, etc. Although progress at the beginning was slow, this body has now embarked on IKS research activities in which each Council contributes on the basis of its expertise. One of the important activities that has taken place under the auspices of this body is the 'Development of a Conceptual and Methodological Framework for Indigenous Knowledge and the Integration of knowledge Systems'. Another important project that this body has embarked upon is entitled 'Local Economic Model Integrating Indigenous Knowledge System'. This project strives to add value to Indigenous Knowledge through integrating local economic development with Indigenous Knowledge Systems. It hopes to harness the value of knowledge to provide an operational framework, which will enable researchers and planners to engage in constructive dialogue with communities to ensure sustainable development.

Funding for IKS at the National Research Foundation

The audit of IKS was completely funded by the CSIR. However, as the interest and research on IKS increased, there was a need to find a way to systematically fund this in a manner that would ensure continuity and not be done as a gesture or individual effort of any particular organisation. The National Research Foundation (NRF) is a Science Council whose role is to fund research activities by individuals and institutions. In fact the objective of the NRF is to support and promote research through funding, human resource development, and the provision of the necessary research facilities, in order to facilitate the creation of knowledge, innovation and development in all fields of science and technology. In view of developments in IKS, in the first quarter of 2000 the NRF established a dedicated programme to support and promote research in IKS. The establishment was made possible by an allocation of an amount of R10 million by the Department of Arts, Culture, Science and Technology. The NRF has just made allocations for research in IKS for the year 2001 and has made another call for proposals for some additional allocation for IKS research in the same year. It is hoped that the NRF will be given more money for IKS research for the ensuing years, otherwise the efforts made thus far in IKS will not be sustained any further.

Public Hearings on Indigenous Knowledge Systems Bill

As pointed out earlier one of the objectives of the audit was to contribute to the development of the Legislation for the Protection and the Promotion of South African Indigenous Knowledge. In fact the audit merely contributed to all the processes that were put in place by the Portfolio Committee on Arts, Culture, Science and Technology. In other words the Portfolio Committee through its chairperson were the driving force of the Legislation. Throughout 2000 the Portfolio Committee embarked upon the Public Hearings in the different Provinces. The purpose of the hearings was to receive inputs from a variety of stakeholders about the Legislation before its introduction in Parliament. Some of the comments raised on the Bill during the Hearings are the following:

1. Exclusion of biodiversity from the ambit of the Bill
 - Terminology employed in the Bill. The Bill uses the terms 'Indigenous knowledge', 'traditional knowledge' and 'cultural property' interchangeably and this created difficulties around the definitions of IKS.
 - The manner in which Intellectual Property Rights were extended to IKS did not adequately cover Indigenous Knowledge in the medicinal, agricultural and technological fields and as a result they may not be protected.
 - Difficulties pertaining to retroactivity.

The situation regarding the Bill (Draft Legislation) presently is that it has not yet been introduced in Parliament. This is despite the fact that the processes on the Draft Legislation have been going on since 1998. Other difficulties that have surfaced regarding the Draft Legislation relate to the proper process of the introduction of such a Legislation. For instance, whose responsibility it should be for the advancement and conclusion of such processes within the Government Framework. In fact the debates raging on presently also relates to which Government Department should be introducing such a Legislation. Is it the Department of Arts, Culture, Science and Technology or the

Department of Trade and Industry? In recent discussions with the representatives of each Department it looks like the former will focus upon the IKS Policy and the latter upon the Protection and Promotion of IKS, although this does not necessarily lay the matter to rest.

Initiation of IKS Projects and Programs at Tertiary Institutions and Establishment of IKS Centres

As a result of their participation in the Audit of Indigenous Technologies, some universities and members thereof have embarked upon IK related activities. The examples given below do not include all the initiatives in South Africa, but those that I am aware of.

- IKS Study Program at University of North West: With effect from 2001 the University of North West has introduced both undergraduate and post-graduate degrees in IKS. Even prior to this initiative, a number of post-graduate students, mostly in the Faculty of Science, were pursuing studies related to IKS.
- IKS Institute at the University of Fort Hare: The National Heritage and Cultural Studies Center (NAHECS) at the University of Fort Hare which spearheaded the audit of IKS in the Eastern Cape Province has embarked on a collaboration with a variety of stakeholders, especially those that are community based, to establish an IKS Institute. The purpose of the Institute is to embark upon IKS research to explore various Indigenous technologies in the Eastern Cape Province with a purpose of identifying the potential for job opportunities.
- Indigenous Knowledge System Institute at Technikon South Africa: A member of staff who was involved in the audit of Indigenous technologies moved to Technikon South Africa in 1999. Since his arrival at the Technikon he has been engaged in efforts to start on IKS activities. Plans for the establishment of an IKS Institute at the Technikon are advanced.

The CSIR and the University of Pretoria recently embarked on collaboration in a variety of activities. This resulted in the establishment of the Southern Education and Research Alliance (SERA) in which a variety of Task Teams were established focussing on specific activities. One of the task Teams which was established is on IKS which has ultimately led to the establishment of the Center for Indigenous Knowledge(CINDEK). This Center is presently attached and managed through the Department of Anthropology at the University of Pretoria, but it is envisaged that very soon it will be more directly related to SERA.

Indigenous Knowledge Systems and African Renaissance

In April 1997, addressing the Corporate Council on Africa in Chantilly in the United States of America, The President of South Africa Thabo Mbeki said: ‘Those who have eyes to see, let them see. The African Renaissance is upon us’. Since this statement he has gone to be the most outspoken exponent of the concept which has presently engulfed the debates in South Africa. Arguments have been and are still raging on since his statement about the meaning of African Renaissance and when it was first expounded upon. For instance, in his presentation at the First African Renaissance Conference in 1998 Mamdani, like many other scholars, started his presentation by asking the following

question: ‘When did the African Renaissance begin – in 1994 or earlier’? Unfortunately, for some scholars, preoccupation with this question has prohibited them from engaging in other important aspects that are equally important in African Renaissance. In terms of the meaning of African Renaissance, the various explanations range from that of Magubane (11) which explains that ‘it is about the ancient pride of the peoples of the continent’ to the detailed five broad foreign policy objectives of the Renaissance by Stremlau (102):

1. economic recovery of Africa;
2. the establishment of political democracy throughout Africa;
3. the end of neocolonial relations between Africa and the world’s economic powers;
4. the mobilization of the people of Africa to take their destiny into their own hands...;
5. fast development of people-driven and people-centered economic growth and development aimed at meeting basic needs.

Many other scholars have given various important aspects that comprise African Renaissance which have not been referred to nor interrogated in this paper.

In order to advance the ideas of African Renaissance, 12 Commissions have been established, ranging from Commission on Gender to Commission on Continental Affairs. The latter Commission has identified IKS as one of its main Projects. In fact this Commission has gone even further to organize a Southern African gathering to further interrogate IKS as a vehicle for African Renaissance. The organization of this brainstorming session brought together members of the South African Chapter of African Renaissance (SACAR) and other Chapters in Southern Africa who spent the weekend of 23 – 25 February 2001 discussing how IKS can advance the course of African Renaissance. This gathering helped to achieve to an extent one of the outcomes of the First National Workshop on IKS in 1998 which was to organize a regional conference on IKS.

The interest of this Commission in IKS has served a purpose of advancing the debates on IKS even further, specifically looking at how it can serve the purpose of contributing to the rebirth of the African people by recognizing the wealth of their knowledge which has sustained them for centuries.

Challenges as a Result of Advances in IKS Activities in South Africa

Understanding of the Present Conceptual Framework by all the Researchers in IKS

The establishment of the Science Councils IKS Champions Body has resulted in the development of a Conceptual Framework document which addresses critical issues that are necessary for researchers in IKS. This document which was spearheaded by Catherine Odora-Hoppers at the Human Sciences Research Council (HSRC) and actively supported and contributed to by the Science Councils IK Champions (3-5) identifies a number of important tenets for IK that need to be considered by all researchers:

- (i) What type of knowledge is being generated in scientific institutions, what type of research questions are being asked, and what are the existing rules and regulations governing legitimisation and accreditation of scientific knowledge?
- (ii) How can the study, and validation of IKS assist directly in the economic and socio-cultural empowerment of the communities?

- (iii) Internal to IKS, there is also a separate need to engage in its critical evaluation and careful validation, while recognising its inner truths and coherence in order to facilitate its active re-appropriation and authentication into current, living research work.
- (iv) Realising the fundamental intolerance of modern science towards the legitimacy of folk or ethnic knowledges, coupled with our increasing inability to develop an ecologically coded society, engaging with IKS therefore enables us to re-open crucial files that were summarily closed somewhere in the chaos and violence of colonialism.
- (v) IKS enables us to move the frontiers of discourse and understanding in the sciences as a whole and to open new moral and cognitive spaces within which constructive dialogue and engagement for sustainable development can begin.
- (vi) IKS humanises our practice, and enables to become part of an empowering process

for those silent witnesses of marginalisation i.e. those regarded as refractory to the scientific gaze, and strengthen their capacity to take active part in questioning the competence and ethics of the professional expert.

These tenets deeply question the work of the scientific researchers and force them to look again at their work. They question the status quo and force the researcher to look afresh at his practice, re-evaluating in the light of these tenets and determining whether it serves or marginalises the majority of the custodians of Indigenous knowledge. I don't think the researchers have been challenged to look anew at their work as this framework is designed to do. However, this framework cannot make any contribution if it is not preached by those who believe in it, and accepted by those who are at the moment not familiar with it and are therefore continuing to work in IKS or IKS related work in the same old mode.

Legislation for the Protection and Promotion of IKS

Despite all the hard work that has been done on the Legislation for the Protection and Promotion of IKS and the public hearings that have been held, there is still no legislation in place. While others feel that this is not necessarily bad as the best way of protecting Indigenous Knowledge is no protection at all, and others think that the Indigenous Knowledge is in the public domain and therefore do not warrant any protection, this situation works against further collaboration with Indigenous technologists. For every researcher who approaches Indigenous technologists on any project, the question at the back of the mind of the technologist is 'how safe is it for me to share this knowledge with this researcher without giving, in many cases, the deep knowledge that has been gained and refined over many years without anything benefiting me'? This question which was posed on a number of occasions during the audit, is still surfacing today. No proper answer has been provided for it. In view of the fact that finalisation of legislation specific to IKS is taking much longer to develop, attempts are being made to investigate protection and patent laws to determine how issues related to IKS can be protected in the meantime. The Department of Trade and Industry is playing a leading role in this respect.

Involvement and Role of Indigenous Practitioners

Despite all the work that has been done in IKS since the start of the Audit in 1997, the Indigenous practitioners still seem to be cast in to the background in IKS activities. This seems to be the case despite the fact that practitioners are regarded as custodians of the Indigenous knowledge. Examples of lack of proper inclusion of practitioners are the following:

- i) Minimal representation, in some cases none at all, in structures that were established for the management of IKS.
- ii) Very little integration and involvement of practitioners in various workshops, especially Provincial Workshops. The universities of North – Qwaqwa Campus, Zululand and Fort Hare/Transkei did very well in the inclusion of practitioners during their workshops (this is based on what I observed during the workshops which I attended and the Workshop Reports that have been submitted to my office). Although attempts were made at the National Workshop to actively involve practitioners, this was not as successful as intended.
- iii) The relationship between practitioners and researchers in Science Councils and Universities is still highly untenable. This relationship still resembles and seems to be perpetuating the ills of the past. The practitioners’ knowledge is still being taken without proper benefit sharing taking place. In instances where this is done, it is an individual agreement between the practitioners and the researchers or their organisations which does not necessarily guarantee appropriate benefits for the practitioner.
- iv) Greater Involvement of Other Stakeholders (Universities, Business Sector, Government Departments, etc)
- v) The First National Workshop prepared a Strategic Framework in which it identified a variety of stakeholders, their interests, relevant objectives and the action to be taken.

TABLE 1

Stakeholders	Interest	Objectives	Action
IKS Practitioners	Empowerment	Protection/Promotion; Validation of IKS; Partnership in Knowledge; Equity	Create Forums
Universities	Centres of Excellence	Human Resource Development; Knowledge Creation	Interdisciplinary Student-based field research
Science Councils	Innovation	Promotion of IKS; Knowledge Creation	Collaborative consortia
Government	Regulatory Framework	Protection/Promotion of Innovation; Develop Equity	Policy Formulation; Enabling Legislation
Business and Industry	Marketable Products	Wealth Creation	Sponsorship Collaboration

This blueprint clearly identifies some of the specific activities that can be undertaken by a variety of stakeholders. It is very unfortunate that most of the activities specified in the Table above have not taken place. Even those that were started seem to have ground to a halt. For instance, a process was set in place soon after the workshop for the establishment of Indigenous Practitioners' Forums but these have since stopped. The only thing that seems to still be going on, albeit at a minimal level and moving at a very slow pace, is the establishment of the Science Councils IKS Champions which have started to explore in greater depth possibilities of collaboration. The challenge for the IKS Programme in South Africa is to determine how the rest of the activities can be advanced further.

IK Activities at School Level

All attempts at inclusion of IKS in the curricula have been focussed at tertiary level. In fact, one of the breakaway sessions at the First IKS National Workshop in 1998 focussed on 'Exploring the Possibility of the inclusion of IKS in Tertiary Curricula' (17). As compared to tertiary level, nothing seems to have been done in terms of inclusion of IKS at school level. If the youth are to regard IKS as important and pursue as study programmes at tertiary institutions, the seed has to be planted at school level. On a broader level, IKS needs to be properly integrated into the curriculum at all levels, especially school level. This does not only present a challenge for researchers in IKS, but it equally presents a challenge for the curriculum developers in the Department of National Education. Unfortunately this Department has not played an active role thus far in IKS activities. This is not completely their own fault as the structures that were established for the management of IKS could have found ways to involve the variety of stakeholders. Making plans for the inclusion of IKS at school level presents another important challenge in IKS.

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JANE MUFAMADI

A GROUP OF TRADITIONAL HEALERS' PERCEPTIONS OF AND APPROACHES
TO THE TREATMENT OF MENTAL ILLNESS

Abstract

This study sought to investigate a group of traditional healers' perceptions of and approaches to the treatment of mental illness. Eight traditional healers from the Venda community were interviewed with the view of understanding their approaches to the treatment of mental illness. The interviews were audio-taped, transcribed and translated into English. The protocols were analyzed in terms of the four phases of phenomenological explication as recommended by Giorgi (1985) and Kruger (1988). It is interesting to note that the 'call' to become a healer was perceived by traditional healers who participated in this study as one of the causes of mental illness. It was also found that divination and a physical examination are the most popular diagnostic strategies employed by traditional healers. Treatment mostly takes two forms, namely herbal medication and psychological or ritualistic interventions. Lastly it was found that the successful completion of domestic tasks was widely used by the traditional healers interviewed to assess the patient's progress.

Introduction

Traditional healing is an integral part of South African society. This healing system is said to be effective in healing illness in both its mental and physical manifestations. Traditional healers are in a unique position to understand and heal the illness of their patients because they have a thorough knowledge and understanding of the history of their patients and they also share similar customs and beliefs.

Several studies have indicated that traditional healers are effective in the milieu in which they operate (Harner, 1990; Walsh, 1990). For example, in a study of patients that were seen by shamans (traditional healers) in Taiwan, Kleinman and Sung (1979) found that ten of the twelve cases treated by these health care providers rated themselves as cured. Kleinman and Sung suggested the following reasons for the effectiveness of the traditional healers. Firstly, the traditional healer's view of the disease is usually more in line with the patient's beliefs than is the Western medical conception of disease. Secondly, the traditional healer treats both the "invading ghost" (disease), as well as the symptoms and the psychosocial problems (illness) produced by the disease. Thirdly, healing includes two interrelated functions: (a) providing effective control of the disease and illness manifestations, and (b) attributing personal and social meaning to the experience of being ill in a particular cultural setting.

However, other authors have dismissed traditional healing as unhealthy and dangerous. Motlana, (Freeman and Motsei 92) condemned traditional healing as superstitious, "meaningless pseudo-psychological mumbo-jumbo, by dangerous charlatans". It is also argued that traditional medicine is made from bizarre ingredients. Bourdillon (1989) in his study reported that several women informed him that they were instructed to collect menstrual secretions, debris from underarms, vomit and dirt from under the nails to be mixed with certain herbs by the traditional healer in order to make a

concoction that will be put in the husband's food to improve the marriage relationship. Claims such as these have created a decidedly negative impression of traditional healing.

Other people would also argue that traditional healing depends on "magical ideas" and that there is no proof that their medicines are effective in treating the ailments they are used for. Indeed, it is often claimed that some of the medicines can actually be detrimental to the patients. Moreover traditional healing is perceived as diametrically opposed to the clinical procedures and logical thought sequences of the Western medicine. Sodi (1996) found that traditional healers do not have an official and universal system to determine qualifications. Despite these misgivings, others authors have argued that Western science can be viewed as a symbolic system, and as such, shares critical features of logic closure and discontinuities with African cosmologies and therefore, deserves to be judged in a parallel way, (Yoder 156).

In South Africa, there are a number of studies that have also investigated traditional healing as practiced in various Indigenous African communities (Buhrman 1556). In a study of the psychological relevance of traditional healers in the Zulu community, Mkhwanazi (1989) found that the three therapeutic conditions of empathy, warmth and genuineness as identified by Carl Rogers (1957) are present in varying degrees in the clinical practice of an *Isangoma* (traditional healer). Mkhwanazi maintained that besides being persuasive, charismatic, self-confident, directive and authoritative, the traditional healer is empathic, genuine and able to display controlled warmth towards his or her clients. In a phenomenological study of Indigenous healing in a Northern Sotho community, Sodi (1998) found that traditional healers attach culturally congruent labels to clusters of physical and psychological symptoms presented by their clients. Sodi maintained that traditional healers have evolved a nosological system that helps them to understand, classify and label clusters of symptoms that are a source of distress to their patients. The traditional healer communicates these diagnostic labels in a language that is understandable and consistent with the patient's cultural worldview. Whilst the studies by Mkhwanazi (1989), Sodi (1998) and a few others have provided useful insights on the psychological relevance of traditional healing in the Nguni and Sotho-Tswana communities, there are very few such comparable studies that have focused on traditional healing in other Indigenous African communities of South Africa. It is against this background that the aims and objectives of the present study have evolved.

Aims and Objectives of the Study

In the present study, the researcher's aim was to investigate Venda's traditional healers treatment of mental illness (Venda forms part of the now disbanded home lands in the far North region of South Africa). Specifically, the objectives of the study were the following:

- To identify what traditional healers perceive as mental illness.
- To determine what traditional healers regard as the causes of mental illness.
- To identify diagnostic methods that traditional healers use in order to establish the causes of mental illness.
- To assess specific intervention methods that traditional healers use in helping clients who present with mental illness.

- To determine how traditional healers judge the success or failure of their intervention methods.

Significance of the Study

It is hoped that this study will (a) help Western trained practitioners to better understand traditional healing as an alternative health care system that is utilized by a large section of South Africans; (b) contribute new insights to current debates on whether or not traditional healers in South Africa should be officially recognized as health care providers; and (c) deepen social scientists' understanding of the role of culture in mental health.

Design

In the collection of data, a qualitative method of design was adopted. According to Berg (1995) qualitative researchers are mainly interested in how humans arrange themselves and their settings and how inhabitants of these settings make sense of their surroundings through symbols, rituals, social structures and social roles. Qualitative researchers also share the understandings and perceptions of others and explore how people structure and give meaning to their daily life. Mouton and Marais (1992) argue that a major distinguishing characteristic of qualitative research is that the researcher attempts to understand people in terms of their own definition of the world. In view of the above arguments, as well as the fact that the present study dealt with the meaning systems associated with traditional healing, it should be obvious why a qualitative approach was deemed most appropriate for the study. Specifically, a phenomenological method of inquiry was decided upon.

Valle (1998) maintains that phenomenology has to do with the day-to-day living of the people and further seeks to understand a phenomenon in its pure essence, prior to any reflective interpretation. Phenomenology also offers descriptive structural analyses of any lived experience and describes qualities of being. Phenomenologists are also concerned with understanding social and psychological phenomena from the perspectives of the persons involved in the study (Huysamen, 1994). It was in view of the above factors that, for the purpose of the present study, this method of inquiry was selected.

Sampling

For the purpose of the study, a selection of traditional healers from the Greater Nzhelele area and the Greater Thohoyandou Municipality was made. These two areas are part of the now disbanded Venda homeland. Born and bred in the Nzhelele area and now studying in the Thohoyandou area, the researcher is familiar with both the language and culture of the inhabitants of the two areas. Against the above factors, the two areas were considered to be reasonable research sites for the present study.

Having identified the research sites, the researcher moved to consider the items of sampling. In accordance with Kruger (1988) suggestions, the following guidelines for conducting a phenomenological study were followed in choosing the participants: (a) participants should have had an experience related to the phenomenon to be investigated. (b) participants should speak the same language as the researcher, since this will limit the possible loss of subtle semantic nuances resulting from translating textual material from

one language to another.

The eight Venda speaking traditional healers who participated in this study were thus selected on the basis of the above considerations. The purposive method of sampling was used as recommended by Miller (1975). The researcher contacted a well-known traditional healer who resides in the same village as she. After interviewing this healer the researcher then asked him to suggest a name of another healer known to him who also specializes in treating mental illness. This procedure was followed with all the other healers who were interviewed. It can thus be argued that the sample comprises traditional healers who were reported by their own colleagues to be experts in the treatment of mental illness.

Procedure

The researcher firstly informed the subjects about the purpose of her interviews with them. In order to establish rapport, the healers were told that their names had been suggested by their own colleagues (thus mentioning the name of the healer(s) who recommended them as experts in the field of mental illness and thus making them suitable subjects for the research). Two interviews were conducted with each healer. The duration of the interviews ranged from one to two hours each.

Interviews

The interviews were conducted in Tshivenda. The researcher transcribed the audio taped interviews. Two independent translators subjected the protocols to translation. The first independent translator was asked to translate the protocols from Tshivenda to English. The second independent translator was requested to translate the protocols back to Tshivenda. The protocols were read again to ensure that objectivity was maintained and that there was no loss of information due to the process of translation. Since the interviews were unstructured, the researcher only introduced the theme and motivated the subjects to participate spontaneously as is recommended by Schrunink (1988).

Data analysis

The translated protocols were analyzed in terms of the four phases of phenomenological explication that are recommended by Giorgi (1985) and Kruger (1988). The four phases are briefly discussed hereunder:

1. Sense of the whole: During this phase the text is read several times in order to understand the language of the subjects.
2. Discrimination of natural meaning units (NMUs): This phase involves the breaking down of the text into naturally occurring meaning units that will be easily managed and analyzed.
3. Transformation of NMUs into psychologically expressed themes: The researcher reflects on the NMUs, which are still in the ordinary language of the subject. A related activity is that of imaginative variation whereby the researcher reflects on the imagined possibilities found in each central theme and leaves out those that fail to withstand criticism.
4. Synthesis of emerging themes into a consistent psychological structure: Kruger (1988) divides this into two steps. In the first step, all the central themes are

synthesized so that they communicate the psychological insight contained. During the second step a description of the phenomena under investigation would be developed by putting together the psychological insights contained.

Perceived causes and symptoms of mental illness

Mental illness vary according to the causes. The distinction between the causes is usually made in terms of the symptoms that an individual displays. The physical and psychological symptoms will usually include uttering senseless things, being confused and deranged, aggression and also having a destructive nature.

[Makhovha]: "...it means that the person is uttering something that does not make sense. Even the person's behavior will be different from the way other people behave. And also when you try to give him/her medication the person would fight, we say that he/she is mentally ill."

[Badzhabadzha]: "...the relatives bring him because he would have destroyed and smashed everything at home."

According to these healers, it is the relatives, usually the aunts and the elders, who take the decision to consult the healer. There are several factors that are perceived as causing mental illness.

[Mathivha]: "Most of us Africans, know that the first type of mental illness... I can say that there are people who are born with the illness (hereditary), there are people who experience problems in their lives and as a result find it difficult to deal with them, there are people who abuse drugs and as a result incur the illness, there are people who inhale glue and as a result become mentally ill. There are people who have so many debts or other things that make their lives difficult. There are also people who have been bewitched..."

[Badzhabadzha]: "...whether he was thinking too much because that can also cause mental illness, or he was angered by something and as a result got mental illness, such things do happen... sometimes a person might have had too much alcohol or drugs. Or if the person was infected with 'drop' (a sexually transmitted disease) because it can also cause mental illness."

[Mashavha]: "...then the bones will tell you that the patient is possessed by the ancestral spirits."

From the above extracts it is evident that various factors are seen to cause mental illness. Different symptoms would be presented by these patients. An interesting finding is the fact that traditional healers believes that a person who is 'called' to the healing profession would first present the symptoms of mental illness. It would appear that it is for this reason that they put much emphasis on making a correct diagnosis and also prescribing the correct herbs for the particular illness.

Besides giving an appropriate causal explanation, the healer also suggests an intervention program that will be directed at the restoration of the distressed patient's good health. It could also be argued that the causal explanation given by the healer would invoke feelings of faith in the healer in the sense that since he/she knows where the illness is coming from, he/she (the healer) would be able to cure it. This faith in the healer would psychologically strengthen the patient.

Diagnosis of mental illness

Diagnosis is linked to the patient's culture. There are two popular ways of diagnosis that traditional healers employ, namely, bone-throwing and observation/physical examination. Once rapport has been established between the healer and the relatives of the patient, the healer will seek to establish the nature of the illness that is troubling the patient. Using the divination bones (*thangu*) the healer will arrive at a diagnostic formulation on which the treatment procedure will be based.

[Mashavha]: " So when that happens we would throw the divination bones to find out why this is happening."

[Makhovha]: " We consult the bones to see the type of illness that the person has."

[Makuya]: " When we throw the bones the aim is to find out if the patient has just an ordinary or if the illness comes from the ancestors."

Although most healers use bone throwing as their method of diagnosis, there are some healers who rely on a physical examination or both.

[Mathivha]: "... there are people who have the ability to 'see' the origin of the person's problems... so with us we detect the cause of the illness..."

[Badzhabadzha]: " Then we talk to these people to find out what happened and then from there we would listen to his heartbeat. We also check the temperature because such a person's is very high... For mental illness we just check whether it is blood or something else that is causing the illness or if it is something in the stomach."

From the above extracts one would say that bone throwing and physical examination are the most commonly utilized methods for the diagnosis of mental illness. Some of the healers, for example, Mrs. Makuya and Mrs. Ramambiea, use divination to identify the herbs to be prescribed for the particular type of mental illness. During this step the ancestors are perceived as playing a crucial role in helping the healers to prescribe the correct medicines. Some healers perform certain rituals in order to invoke their power.

[Mashavha]: " ...you cannot treat the patient without the help of the ancestors...Then the bones will tell you that the patient is possessed by the ancestral spirits."

The position in which the bones fall, will be regarded by traditional healers as having been influenced by the ancestors who are seen as being directly involved in the whole procedure. The healer will give an appropriate interpretation whereby the consultees are free to accept or to reject the diagnosis. It could be argued that in the diagnosis, the healer advances a definite conceptual system that will guide him/her to make sense of the patient's symptoms. This diagnosis will be formulated in a language that is culturally understandable to the patient.

Treatment of mental illness

The treatment offered by traditional healers involved in this study is administered at two levels, namely herbal treatment and rituals.

[Makhovha]: “ There are some herbs that we firstly give to a patient if we see that the patient is too strong for us to handle... If he drinks that medicine he becomes tired and weak and then I can do whatever I want to do with him.”

[Mathivha]: “ We have herbs that can weaken or strengthen a person. We have medicines that can make the person to stay in one place.”

Herbal treatments could be perceived as mainly directed at the individual patient so as to restore his/her level of contact with reality. In the case of *'thuri'* the physical symptoms presented will be interpreted as a manifestation of the spirit inside the patient's body.

Steaming is another popular way of treating mental illness. This procedure could be viewed as both herbal and symbolic:

[Makhovha]: “ We use *dzitsemo* to steam the patient.”

[Mavhaga]: “We also use *dzitsemo* to steam the patient....”

[Badzhabadzha]: “We steam, we do that and things will go well.”

Treatment also involves the performance of some rituals:

[Tshinakaho]: “...And then they would whip the patient lightly on the back and when they do that they will be talking, telling the spirit to leave the patient alone....Then from there the healer would also protect his body so that he becomes strong.”

[Makuya]: “From there I told them that I need to *femba* (conduct some protective rituals) her. And so her mother came and the rituals were performed. Then from there we went to her home to protect the homestead.”

From the above extracts it can be concluded that treatment involves both herbal and ritual forms. Steaming (which could be regarded as both herbal and ritualistic) is the common form of treatment for mental illness. It is believed to force out the illness from the body and also to chase out the spirits that are causing mental illness. The *malombo* ritual is perceived as an emotional and physical therapy. It is believed to summon the ancestors to

come closer so that their relationship with the patient can be re-established and strengthened. *Malombo, u thwasa* and the performance of some other rituals could be interpreted as facilitating the attainment of transcendence and connectedness with the spiritual realm.

Protecting the homestead could be viewed as a preventive mechanism that aims to protect and strengthen the whole family against future potential harm. In other words, the whole treatment procedure could be perceived as a way of restoring a family that is not in harmony. It does appear that the whole treatment procedure has some psychological value, for example, vomiting, sweating, sneezing and releasing mucus are interpreted as signs that the illness is leaving the body. Other family members are also actively involved in observing and supporting the patient during this crucial period of the therapeutic procedure. As Mashavha puts it: "...when you treat a mental patient there must always be someone, either a parent or anyone who is taking care of the patient. You don't do it alone..."

Assessment of the treatment

Traditional healers apply various treatment strategies that appear to be aimed at testing whether the patient has regained his/her level of contact with reality or not:

[Mashavha]: "It is very easy to see a healthy person. She would take a broom and sweep the floor, or she would take a bucket and go to the river to fetch some water... so, when we arrive home we listen to her comments to find out if she would say anything about being tired and also if she will do things typical of a tired person like bathing or resting."

[Tshinakaho]: "Then I would ask him to take a bucket and fetch water. He would do that without spilling the water."

[Makuya]: "Well that is easy to know, when the patient is still ill she usually do not sweep, wash the dishes or do anything at all. So when she gets better she would start by waking up in the morning and ask for a basin wherein she will wash herself. Then she would ask for a soap..."

Successful completion of domestic tasks is regarded by healers involved in this study as the most common and simplest way of assessing whether the treatment was successful or not. The relatives will also be invited to make their own assessment of the patient's progress.

[Mashavha]: "...then I will call the relatives and ask them to assess the patient. And they will tell me what they see, especially the person who is taking care of the patient..."

It could be argued that the presence of family members facilitates a family therapeutic process whereby the patient makes a re-entry into the family system. This could also create a chance for the family to resolve some of the tensions and conflicts between them.

There are other assessment techniques that are employed by traditional healers to determine the patient's adjustive skills in dealing with the external world:

[Tshinakaho]: "Then you also observe when he is chatting with other people. You listen if he is talking some sense because if he is still ill he would say some nasty remarks at an innocent comment. So we study this patient carefully and check if he is behaving normally."

[Mavhaga]: "We listen to what the patient says. It means that the person would have stopped shouting during the night and also he would be able to say sensible things like other people who are normal."

In the case of failure, traditional healers would either seek informed advice from their colleagues or refer patients somewhere else.

[Mavhaga]: "... if we find that we are failing to heal the patient we refer the patient to other healers. Yes but usually we only treat those illnesses that we know we can heal. If we see that we cannot cure the illness that the patient has, we refer the patient to those people who are experts in healing that particular illness."

From the above extract it would appear that traditional healers have a working relationship with each other. They also would not normally treat something that they are not sure of as failure could lead them into trouble with the relatives, the community as well as the ancestors:

[Mathivha]: "If a patient dies under my care I would also experience problems when I am asleep because the ancestors would blame me for making a mistake while treating the patient."

Results

The present study found that heredity, witchcraft, sorcery, disregard of cultural norms and spirit possession (which include the call to become a healer) were regarded by the traditional healers involved in this study as some of the causes of mental illness. In his study Bodibe (1992) found that mental illness and physical afflictions are caused by the failure to propitiate the gods or heed their wise counsel. In a study conducted by Wessels (1985) it was discovered that, driven by jealousy, some people would place something in a person's body to harm him or her. As in the previous studies, the present study found that in the case of non-spiritual causes of mental illness, the healer seeks to discover the origin of the illness in terms of the 'why' question.

Non-spiritual causes of mental illness include drug abuse, sexually transmitted diseases, emotional problems and other untreated illnesses. Chavunduka (1994) found that traditional healers often also consider mental illness to result from psychological causes such as worry, strain and tension. What the present study also found is that drug abuse and sexually transmitted diseases were often mentioned by traditional healers as frequent causes of mental illness, along with witchcraft.

Most traditional healers who were interviewed in this study considered aggression, uttering incoherently, isolation, shouting, confusion and strange behavior as common symptoms associated with mental illness. According to Buhrman (1982) traditional healers believe that a person with mental illness will present with various physical and psychological complaints which include restlessness, irritability, aggression and social withdrawal. Beneduce (1996) in his study found that speaking loudly, even in the presence of the elders and the refusal to be with others of his/her own age group is considered by the Dogon of Mali as some of the symptoms of mental illness. Other symptoms identified by Beneduce (1996) include aggression, laughing and singing in a loud voice, immodesty and incoherence. Most of the symptoms presented in this study are similar to those presented by other studies in other countries and ethnic groups. It can be argued that although there might be slight differences in the interpretations of mental illness across different African cultures, the general approaches to the treatment are the same.

What the present study also found is that traditional healers commonly use bone throwing and observation or history taking in the diagnosis of mental illness. Buhrman (1984) argues that the most common method in Nguni practice is a '*vumisa*' (cause to agree). This method was also found to be the most commonly used by the participants in the present study. Kruger (1978) in his study suggested that diagnostic procedures might vary due to factors like the healer's preferences and the nature of the training he or she had received.

Peltzer (1995) found that Zimbabwean healers would first examine the patient physically and psychologically before a diagnosis is made. This study also found that although divination is commonly used by the majority of healers, there are also those who indicated that they examine the patient physically and psychologically in order to come up with a diagnosis. One healer stated that he only relies on the physical observation of the patient.

On the physical level, Hadebe (1986) found that some intervention strategies include enema, steaming, taking medicine nasally and vaccinations. These medicines are prepared in various forms, for example, powder, solutions, soup and ointment. What the present study found is that the common intervention strategies used by traditional healers involved in this study include steaming, taking medicine nasally and orally. These medicines are prepared as powder, solution and soup. No mention was made of medicines that are prepared as ointment. The present study also found that the reason for inhaling some of these medicines is to induce vomiting, sneezing and the release of mucus that is regarded as an indication that the illness is leaving the body. Another interesting finding is that traditional healers assume that they have specific herbs that sedate violent patients. Traditional healers also use different herbs to treat different types of mental illness.

On the psychological level, therapy is based on rituals and a group of symbols and beliefs. Patients are given objects like medicine bundles that have been blessed or 'worked on' by the healer. These objects are believed to protect the patient from re-infliction or from evil influences (Jilek, 1989). This is regarded as therapeutic since the knowledge that they have been 'worked on' by the healer offers the patient tranquility and peace of mind.

Sodi (1998) found that traditional healers aim at the total home environment, which is made out of people, animals, crops, houses and all entities within the parameters of the homestead. According to Awanbor (1982), Frigge (1989) and Kiev (1989) treatment may involve only the healer and the patient or it may involve the patient's family as well as the community. Whilst in the present study there was no indication that the community is involved in the treatment, it is evident that the family is involved in the decision making and the treatment of the patient because they are usually present during the treatment procedures and they are also asked to assess the patient's progress. The presence of family members during treatment was also found to be important in enlisting support for the patient during this crucial period.

The present study also found that sweating, vomiting, sneezing and releasing mucus are seen to have some therapeutic value since they are regarded as signs that the illness is leaving the body. This will arouse anticipation that the patient will be cured and is in itself psychological in nature. The *malombo* (ritualistic dance) ritual is perceived as an emotional and physical therapy which is believed to 'call upon' the ancestors to come closer. Olivier (1985) suggests that *malopo* (in Sotho) has some resemblance to a hypnotic trance that results in a change in emotional expression and feelings of rejuvenation and hyper-suggestibility.

On the basis of their own clinical observations, which are supplemented by the subjective reports of the patient's relatives, traditional healers will establish whether or not the treatment has been successful. The present study found that traditional healers regard completion of domestic tasks as the most common way of assessing whether the treatment was successful or not. For example, a female cleaning the pots, cooking, sweeping the floor or successfully fetching water from the river would be seen as an indication of the success of the treatment. Other assessment techniques include listening to the conversations that the patient engages in, observing the skin color, eye movements, and personal hygiene of the patient.

Traditional healers also invite the relatives to make their own assessment of the patient's progress. It was also found that traditional healers would seek informed advice from other healers who are regarded as more knowledgeable when they are faced with difficult cases of mental illness. Another option would be to transfer the patient to a hospital.

Some similarities between traditional healers and Western healers have been identified. For example, the present study found that some healers rely on observation of the patient in order to form a diagnosis. This is similar (in a way) to a behaviorist approach of studying observable behavior. Like behavior therapists, traditional healers are directive and they give instructions to patients. Mkhwanazi(1989) found that besides being empathic, the traditional healer is persuasive, charismatic, self-confident, directive and authoritative. Traditional healers consider dreams as important in their diagnosis. Dream interpretation is one of Freud's main techniques used during therapy. During therapy, family therapists usually involve all members of a family in order to resolve conflicts within family members. The present study also found that traditional healers regarded the presence of family members as important during therapy sessions.

Like any other healing approach, traditional healing has limitations: There seem to be no clear definition of what they regard as mental illness. Most traditional healers who were interviewed in this study defined mental illness in terms of the symptoms exhibited by the

patient, thus individualizing the illness. Traditional healers' definition of a "healthy" person is vague. Traditional healers seem to be satisfied with the fact that a person is able to complete domestic tasks and make meaningful conversations with other people. This would imply that they are mainly concerned with maintaining social stability and do not consider the issue of personal happiness or well-being.

Although the symptoms of mental illness appear to be universal, some of them are culture bound and cannot be generalized to other cultures. For example, shouting, aggression and speaking loudly. To another culture aggression might be regarded as a sign of courage or strength, rather than an indication that one is suffering from mental illness. The traditional healers' method of treatment involves some aspects that leave much to be desired. For example, whipping. Mrs. Rambau said "...and then they would whip the patient lightly on the back". There is no indication as to what would be regarded as "light whipping". Therefore, it can be argued that although psychological, this kind of treatment might lead to physical harm. Excessive vomiting, which was also found to be common during the treatment of mental illness, can be detrimental to one's health.

There also seems to be a lack of a clear distinction between the different types of mental illness. This can create problems for health care practitioners as there are severe cases and mild cases of mental illness which might require different treatment strategies. Traditional healers' assessment techniques are also too simplistic to be utilized in all cases of mental illness. Some types of mental illness might require more complex assessment techniques than successful completion of domestic tasks, as some form of mental illness might not affect the person's ability to perform those tasks. Finally, most of the tasks utilized to assess the patient's progress are fairly gender-typed, for example, female patients' progress is assessed on the basis of their cooking and cleaning skills.

Traditional healers seem to go to great lengths to show how successful they are in their field. Only a few of those who were interviewed for the purpose of this study reluctantly admitted failure to cure some of the illnesses. The majority of them claimed 100% success in the treatment of mental illness. Although this might be true, there is also a high possibility that it is an exaggeration.

On the basis of the above themes, it can be argued that traditional healers' approaches to the treatment of mental illness are valid if utilized in their relevant cultural contexts. It can also be argued that traditional healers' view of disease is more in line with the African patient's beliefs than is the Western medical concept of disease.

Limitations of the Study

The researcher is aware of the considerable limitations of this study. Firstly, translating the interview data from Tshivenda into English before a phenomenological explication was done may have led to omissions or inappropriate substitutions of the original rich material provided by the participants. Secondly, this study only focused on the traditional healers' accounts of their treatment approaches. Other people, for example some of the patients who were treated for mental illness, were not interviewed and as such, the present study gave a one-sided interpretation of the traditional healers' approaches to the treatment of mental illness. Thirdly, some of the themes that were arrived at could have called for a more in-depth study. Lastly, the present study did not seek to establish the medicinal and psychological effects of the treatments that traditional

healers use. This study could therefore be seen as exploratory and pointing to areas that need further research.

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GRACE NKUMANE

THE TRADITIONAL DRESS OF THE ZULU WOMAN:
A RETURN TO THE ROOTS

Over the past decades the dress code for the Zulu woman has changed drastically. Much of the change has been largely influenced by Westernization, with its emphasis on feminism which seeks to liberate women from all kinds of oppression. I have no doubt that the traditional dress of the Zulu woman, which partly consisted of skins of dead animals, did not appeal to the aesthetic tastes of some and its appearance was and is viewed as backward. This change of dress was obviously accompanied by a change in behaviour because Westernization tends to pull people away from their roots.

The prevalent emphasis on African Renaissance has revived a sense of searching for one's roots in many Africans, especially in South Africa. This is marked by the increasing number of Africans who appear in their traditional attires when traditional ceremonies are celebrated. The focus in this paper is based on three groups of women from three different Zulu clans in Kwa-Zulu Natal (South Africa). Among the questions the paper addresses are: Does the dress confer any status on a woman? What purposes does the traditional dress serve, both past and present? And how does the traditional dress differentiate among Zulu women of different Zulu clans?

Introduction

The prevalent emphasis on an African Renaissance has revived a sense of belonging and of searching for one's roots in many Africans, especially in South Africa. The sense of going back to one's roots has revived an interest in the knowledge of our traditional customs which provide a source of identity for many Africans. The yearning to honour our identity as Africans is nowadays widely marked by an increasing number of Africans who appear in their colourful traditional attire when prestigious cultural and national festivities are celebrated.

The wearing of traditional attire has been on the decline because of popularity of western modes of dress. A number of Africans took up new, modern styles of dressing. This change of dress marked a cultural transformation. It is important to point out though, that traditional dress did not die out completely in South Africa. In some parts of the country, especially in the rural areas, traditional dress was and is of great importance. In Kwa Zulu-Natal for example, there are historical, traditional Zulu ceremonies that are performed every year and these calls for the Zulu nation to honour such occasions by wearing the Zulu traditional attire. On the celebration of the national Zulu historical day, Shaka's Day, on the 24th September, which is today known as Heritage Day in KwaZulu-Natal, the Zulu always appeared in large numbers in their traditional Zulu attire. Also of great importance are the popular traditional Zulu reed dance and the *UNomkhubulwana*, the Zulu rain goddess ceremonies. These traditional ceremonies are duly honoured by putting on the Zulu traditional attire.

In the black urban townships, traditional attires are commonly worn at wedding celebrations. The wedding normally consists of two parts: the western, where the couple put on western clothes and the traditional, where they put on traditional attires. The traditional part in most African communities in South Africa is accompanied by the

performance of the *ukuhlambisa* ceremony. *Ukuhlambisa*, is a traditional part of the wedding where the bride gives presents to her in-laws. The traditional dress has a symbolic meaning during the wedding because it conveys the idea that the couple identifies with their traditions and customs, which connect them with their ancestors. Mbiti (1969:133) puts it nicely when he says: “For African peoples, marriage is the focus of existence. It is the point where all the members of a given community meet: the departed, the living and those yet to be born.”

Nowadays there is a noticeable, gradual shift in dressing from the western type to the traditional type of dress. At the opening of the South African Parliament, on the 9th of February 2001, South Africa’s First Lady, Zanele Mbeki appeared in her Zulu traditional attire. The South African newspaper, City Press, dated 11 February 2001, reported thus:

“President Thabo Mbeki and his wife Zanele, who was dressed in traditional Zulu attire, arrive for the commencement of parliamentary proceedings.” It was not only the First Lady who appeared in traditional attire but a number of parliamentarians. There are many other instances that one can count which represent this important gesture of the cultural renaissance.

The evident occasional return to the traditional dress seems to be a concern with the past. It indicates a struggle to reclaim our Africanness. Over the past decades the dress code for almost all Africans has changed drastically and the Zulu woman was no exception. Nicholas Cope, the biographer of King Solomon kaDinuzulu (Reyher xi), states that:

Christina epitomised Solomon’s determination to modernise the dress and adornment of his wives and to have his kitchen and domestic arrangements managed in the *kholwa* (Christianised) fashion of the Christian Zulu.

Christina Sibiya was the wife of the Zulu King, Solomon kaDinuzulu. Christina’s story in the book: *The Zulu woman: The Life Story of Christina Sibiya*, written by Rebecca Reyher, dates back to the year 1900. A Zulu girl, born to Christian parents, she grew up in a Lutheran mission. It is therefore, evident that changes in clothing for the Zulu woman could be traced back to this period. If Zulu Kings could not resist the impact of Christianity, neither could the Zulu woman. Wright (Reyher xvii) expresses the strong impact of colonisation when she says: “Women caught in a maelstrom of the modernising, neotraditionalist, colonised Zulu monarchy were more than pawns in a game of political consolidation.”

The Zulu woman changed to and identified with the dress code that was furthest from her culture. Dress carries culture, and culture carries the entire body of values by which we come to perceive ourselves and our place in the world. Culture tolerance is of utmost importance. It can make us understand one another.

The focus of this paper is based on different categories of Zulu women. It will cover the dress of *intombazane* (a young girl), *itshitshi* (a teenage girl), *iqhikiza* (a full grown girl with fully developed breasts), *ingodusi* (an engaged woman), *umalokazana* (a bride) and of *inkosi kazi* (a married woman). Among the questions that this paper aims to address are: Does the dress confer any status on women? What purpose did it serve in the past and what purpose does it serve today? We shall also try to indicate how the traditional dress differentiates Zulu women of different clans.

Historical Background of the Traditional Dress of the Zulu Woman

Kennedy (1978:7) confirms that descriptions in early written accounts suggest that the most important elements of Zulu dress in the early nineteenth century were animal skins, bird feathers, and vegetable fibres. Ornaments were commonly made of seeds, grasses, fur, and, sometimes, shells. By the mid-nineteenth century, as increasing numbers of white settlers penetrated Zululand, glass beads became plentiful and they were often used instead of local substances. From then on, beads became more readily available and they became an important adornment for the Zulu population. Beadwork is a conspicuous element of the Zulu woman's traditional dress. One might ask the question: why? The reason would be that, Zulu women used their unique and intricate artistry in their beadwork which could not be traced to the colonial countries that brought the glass beads to South Africa. It seems evident that from the very beginning of the Zulu kingdom beads were involved in nearly all facets of Zulu culture. Woods (1996:144) states that: "Thus when, in 1824, the first British traders settled at Port Natal (Durban) they found that the Zulus already possessed glass beads and had in many ways incorporated them into their culture."

The most interesting factor of beadwork, as used by the Zulu, is the fact that they carry personal messages. Simply put, this means that "beads speak." Zulu women could even write love letters by using beads. In other words beads have language and meaning for the Zulu. The communication message was determined by the colour of the beads. Most pieces of beadwork with encoded messages were made during courtship. To give an illustration we shall make use of the examples provided by Wood (1996:152-153):

White beads (*obumhlophe*): Proclaims that a girl is a virgin.

Pink (*obumpofu*): Even though you are poor, I still love you.

Vaseline yellow (*obuphuzi*): She loves the boy like she loves sugar.

Turquoise blue (*obulwandle*): This describes the intensity and purity of her love for him. The love is like the sea sand which is pure and clean.

Green (*Obuluhlaza okotshani*): I am a young child but old enough to be courted.

Black (*obumnyama*): She is ready to dress in her *isidwaba* (a woman's leather kilt) but he must first pay *lobolo*.

Red (*obubomvu*): This represents the *isicholo* (coiffure), a married woman's headdress, and along with the black beads which represent the leather kilt are a sign that she is ready to marry.

Royal blue (*obuluhlaza okwesibhakabhaka*): This blue represents a dove. She cries because she is not like the dove that can fly to his home to see him and peck crumbs from his doorway.

The variety of forms and stylistic variations to be seen, makes beadwork the most significant category of the Zulu dress and material culture. At the same time, it is important to remember that even today Zulu clothing is also distinguished by other equally significant categories of material, including animal skins, bird feathers, grass and vegetable fibres and various metal ornaments, in addition to beadwork.

The Traditional Dress of the Zulu Woman

The term woman is used as an umbrella term that refers to the female sex. Hilda Kuper (in Kennedy, 1978: 13) defines the concept of dress as "*part of the total structure*

of personal appearance which includes hairstyles, ornaments, masks, decorations and mutilations.” Kuper’s definition is relevant to the Zulu traditional dress because the ensuing discussion touches on Zulu hairstyles such as *isicholo*, a coiffure; it touches on ornamentations that enhance the person’s beauty such as *umgingqo*, a beaded necklace. It also describes mutilations such as *ukuklekla*, the piercing of the lobe of an ear in order to be able to wear an *isiqhaza*, a wooden earplug.

The Traditional Dress of the Zulu Woman According to Different Age Groups

Small infants irrespective of sex, wear only a single string of beads called *ucu*, but as children grow older, clothing takes on greater significance.

The traditional dress of a young girl, *intombazane*, whose breasts are just blossoming, consists of only a loindress, *umutsha*, and nothing else. This beaded loindress is for young girls up to the age of twelve.

Ear-piercing was performed during this stage of life. It was regarded as a important ceremony among the Zulu and was performed on every Zulu child before reaching puberty, at the time of the new moon or the full moon. It was the first of the number of rituals marking the transition from childhood to adulthood. It confers a higher status on the child because she is now able to hear and understand and therefore her ears have been opened in order that she may hear well. The ear-lobe is pierced with a piece of iron. Into the newly-made hole in each ear is placed the top of a corn stalk which has been cut into small pieces. As the ear heals larger and larger pieces are put into the hole. Further more, pierced ears were and still are regarded as the distinguishing mark of the whole Zulu nation.

Itshitshi is a teenage girl who is just about to see her menstruation, *ukuthomba*, in Zulu. Teenage girls assumed various loindresses distinguished from those of younger girls by a frontal covering piece. They include *isigege*, a small square or rectangular piece of beadwork attached to a bead string. The frontal covering marks the developmental stage of the girl. It serves to cover the pubic area. Similar to *isigege* is the *umayidi ka*, which is distinguished by freely dangling bead strings in place of the square tab of beadwork. There is also the *isiheshe* or *udidla*, a short skirt made of bead strings. As a girl grows up, there is a more conscious effort to conceal her pubic area. A girl therefore, is taught at her puberty stage to conceal and respect her pubic area because menstruation is an important sign of womanhood.

Iqhi kiza is a young woman who has been given the right to fall in love (*ukujutshwa*, in Zulu) with the man of her choice. Her dress then, differs from that of *itshitshi*. She is supposed to cover her head as a sign of respect with a hat that is either decorated with beads or with thorns. This hat, however, does not cover the whole head. She wears a flat beaded necklace, *imibhijo*, or *ulimi*, that hangs between her breasts.

The beaded neckpiece should not conceal her breasts. She also wears a loindress. The *iqhi kiza* wears her loindress on top of a very short woman’s leather kilt, *isidwaba*, made of wart-hogskin or of goatskin. Today this type of leather kilt is replaced by a short towel. The wearing of a hat and the short leather kilt is a sign of respect to the prospective boyfriend’s family. It is evident that besides covering the woman’s body, among the Zulu, social differentiation based on age and sex is clearly indicated by the traditional Zulu dress. Each phase of life, to adulthood, is identifiable by subtle variations in dress and ornamentation.

The dress of an *ingodusi*, a betrothed woman, indicates that women assume specific elements of dress to signify their marital status. The status of a betrothed woman differs from those who are not betrothed because she assumes certain traditional tasks in society. The *ingodusi* has the right to teach traditional dance to young girls and to lead them in dancing at wedding celebrations. In such gatherings she is likely to come into contact with her in-laws, therefore, she always has to dress appropriately by covering her body.

As a betrothed woman, she covers her head with a beaded hat similar to that of an *iqhi kiza*. She puts on a beaded breastband around her breasts. This, however, does not conceal her breasts since it is worn on top of the breasts. As soon as the in-laws pay the bride-price, *ilobolo*, in full, this young woman is no longer called *ingodusi*, but an *inkehli*. To be an *inkehli* means that the woman has entered a new developmental stage, that of an engaged woman who is about to get married. At this stage she covers her head by wearing a coiffure, *isicholo*, which is made of her own hair. The coiffure is an equivalent of an engagement ring in Zulu culture. It is made of the woman's hair which is given enough time to grow to a length of several centimetres. The hair is mixed with red ochre, called *insoyi*. The hair is then neatly sewn together to form a truncated cone by using fibre that is used for a thread. The red ochre is mixed with ox fat and then smeared on the truncated cone of hair. At the base of the coiffure she puts two or three beaded headbands, *imigingqo*.

She decorates her neck by wearing bead necklaces and covers her breast with an *isigege*, the loindress with a frontal covering that she used to wear when she was a young girl. The purpose is to show respect by concealing her breasts. She covers her belly button with a loindress called *uvalinkaba*, the concealer of the belly button. This loindress has many names. If it is made of grass mixed with beads it is called *ixhama*. The one made of beads only is called *isibhamba*. This loindress is normally worn on top of the *umcwayo* (a traditional apron-like attire worn by Zulu women). The loindress is specifically used to support the abdomen before and after childbirth.

Her leather kilt, *isidwaba*, is of a knee-length height. It is stitched together to give it the appearance of being pleated. The pleats hold the skirt tight so that it should not move even when there is a lot of wind or when the woman walks at a fast pace. The pleated leather kilt is the most distinctive element of a married woman's traditional dress. Fashioned by a specialist, the *isidwaba*, is carefully rubbed with fat, blackened with charcoal, and perfumed with a powder made from the branches and leaves of pleasant smelling trees and plants. On top of her leather kilt she wears a loindress that has a frontal covering that looks like an apron. She covers her shoulders with *utshodo*, usually red or dark blue in colour. Today this attire is made of a cotton cloth and is decorated with beads on its edges. It hangs like a shawl at the back of the shoulders up to the length of the pleated leather kilt. In the olden days it was made of gossamer material (*ithwathwasi*, in Zulu).

After her wedding the *inkehli* is called *umalokazana*. Her dress does not differ much from that of an engaged woman. She always wears the coiffure. The only difference in her dress is that she covers her breasts with *umcwayo* which is a breast covering beaded cotton cloth. This attire is like a long apron. It is worn around the breasts. When worn it comes on top of the leather kilt and its length comes just above that of the skirt.

Exactly two months after her wedding the bride according to the custom of Zulu culture known as *ukuphindumkhondo*, must visit her parents for a period of two weeks, during which the old coiffure is shaved. To mark this ceremony a goat is slaughtered for the bride. New hair is allowed to grow for a new coiffure. After this ceremony the bride changes the cotton apron, *umcwayo*, and puts on *isibhodiya*, an apron-like breast covering made of buckskin. Its length comes just above the loindress. It is decorated with pieces of metal or with beads. This attire was also worn by pregnant women. The buckskin was believed to bring vitality and well-being to the unborn child. The belief was that, the child would be as active as a live buck inside the mother's womb. The woman would wear this attire until she gave birth to her first baby. If the first-born baby was a boy his *ibheshu*, a skin buttock-covering, was made by using the same breast covering.

A newly married bride also covers her face with *isiyendle*. This is an eye covering beadwork that is tied around the head. It hangs below the beadwork which is beneath the coiffure up to the nose. The mother-in-law slaughters a goat for the removal of the eye covering beadwork when the bride comes from *ukuphindumkhondo*. She also covers her shoulders with the shawl-like attire, *utshodo*.

Inki kazi (married woman) is the *umalokazana* (newly-wed woman). In addition to the kilt (*isidwaba*) and the coiffure (*isicholo*), a married woman wears a woven grass or fibre loindress called *isifociya*, following the birth of her first child. The *isifociya* is smaller in size as compared to the *ixhama* and the *isibhamba*. At the base of the coiffure she wears a headband called *umnqwazi* as a sign of respect to the male members of her husband's family. A Zulu old woman, *isalukazi*, wears the same dress as an *inkois kazi*.

When looking back, at all the developmental stages that have been discussed thus far, it has become clear that the blackened goatskin or oxbide skirt (*isidwaba*) has remained virtually unchanged while the coiffure (*isicholo*) has undergone significant alterations. Today a coiffure is no longer made of a woman's hair but of wool or cotton cloth. They vary according to regional styles, from tall cylindrical structures like those of the Shembe church, to those with wide flaring sides typical of Tugela Ferry.

Conclusion

Each of us is shaped in the non-biological portion of our being by the culture into which we are born. We are not only shaped by our culture, we also influence it and contribute to its reshaping. Kraft (1981:46) describes the link between human beings and culture in the following manner: "between culture and human beings is in many respects similar to that between water and fish."

The surfacing of a cultural rebirth in relation to the Zulu traditional dress demonstrates that, irrespective of the western modes of dress, the Zulu woman is still a cultural being. The Indigenous nature of the traditional dress of the Zulu woman could be appreciated by other nations if they have more knowledge about it. It is the bedrock of a Zulu woman's identity. As a traditional attire, it can only be preserved by being worn without shame. The occasional return to the traditional dress by the Zulu woman, is an indication of the re-evaluation of her Zulu world view in a positive manner that seeks to assert her Africanness overtly. Aimé Cesaire, quoted in Egudu (31), concurs that:

To set our own and effective revolution, we had first to put off our borrowed dresses, those of assimilation, and affirm our being, that is our (Africanness) negritude ...To be ourselves, we ought to embody the (Zulu) negro-African culture in the realities of

the twentieth century. For our (Africanness) negritude to be an effective instrument of liberation... we had to shake off the dust and assert it in the international movement of the contemporary world. (Emphasis mine.)

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OTSILE NTSOANE

COMMUNITY-BASED KNOWLEDGE AND ITS UTILIZATION FOR
SUSTAINABLE LIVELIHOODS AMONG THE BAKGATLA PEOPLE , NORTH-
WEST PROVINCE
(SOUTH AFRICA)

The Bakgatla are an Indigenous African ethnic group in South Africa located in the North-West Province near the Pilanesberg area. An ethnographic study conducted among this ethnic group showed that before the impact of colonialism and apartheid these people had rich knowledge about the cultural and bio-diversity of their environment and managed to utilize these cultural and natural resources for their sustainable livelihoods. Sustainable livelihood is often defined as "the capacity of people to make a living and improve their quality of life without jeopardizing the livelihood options of others either now or in the future". Livelihood refers to the means, activities, entitlements and assets by which people make a living. These assets that people utilize in their efforts to secure their livelihoods range from natural (land and water), physical (roads, buildings), human (knowledge, creativity) and social assets (community, family and social networks). The study found that in spite of the negligence and decline in the utilization of these local knowledge systems among the Bakgatla due to the impact of colonialism and apartheid, these knowledge systems are still popular among the elderly in the 28 villages of the Bakgatla people. These local knowledge systems can be discussed under the following aspects:

Indigenous Food Security Systems

Food Security, defined as access to food needed for healthy life by people at all times, was a pivotal part of sustainable livelihoods among the Bakgatla people. Knowledge about food security is too often not found in systematic records or documentation and therefore the appropriateness of its utilization is based on the knowledge of previous generations. Indigenous Knowledge as a systematic body of knowledge acquired by local people through the accumulation of experience include informal experiments and intimate understanding of the environment. This intimate understanding was used in areas of agricultural productivities including husbandry, poultry, plant, etc.

Community members worked individually and collectively as a labor force (*Letsema*), to ensure that the community had enough food for survival under different natural and human-made adverse conditions such as drought, flood, famine, war, etc.

The local people had different knowledge and technological skills of preserving and storing food stuff, water supply and soil fertility. For instance, different types of silos were constructed using clay, cow dung, wood and other local materials. Grains were stored in these silos for future use. Some of these grains were refined while others were stored in their natural form. In order to protect the grains against decay and destruction by various types of insects, the grains were either smoked or mixed with ashes. Other forms of preserving food stuffs such as meat or vegetables included boiling, sun drying, smoking and salting. Thereafter, the vegetable or meat was stored in clay pots or sacks.

The Indigenous method of preserving water among the Bakgatla was known as '*go dirisa Ditsaga*'. This method ensured that there was adequate clean water supply in the household. This involved preserving the water in large and small clay pots. The small clay pots were used for immediate utilization within and outside the household. In order to keep the water cool, a hole was dug in the ground where there was always shade.

Indigenous Healing Systems

Bakgatla had various forms of healing knowledge systems including medicinal plants and animals. The custodians of these knowledge systems and technologies were the traditional healers and herbalists. The diviners used various methods of healing which included animal, plants, water and spiritual. In spite of the introduction of western healing systems among the Bakgatla, the study found that most of the respondents expressed high regard for the Indigenous healing systems. An example is *mogaga*, a plant used by local people for cleansing after attending a funeral. This practice is performed by both Christian and non-Christian Bakgatla. This reflects the strong adherence to local belief systems among the Bakgatla.

Furthermore, the respondents indicated the tendency for most community members (both Christian and non-Christians) to consult traditional healers before and after consulting western medical practitioners.

Medicinal Plants and Veldt Food

The region of Bakgatla is rich with biodiversity where community-based knowledge plays a pivotal role in the utilization and conservation of natural resources. As stated above, many people consult traditional healers who use these plants for healing various diseases. In addition to medicinal plants, Indigenous veldt fruit and vegetables form part of the natural resource providing food stuff. The study found that there is need for further development of the resource base and utilization of modern storage systems since demand for medicinal plants has tremendously increased. Also that the knowledge rich Bakgatla community can increase their economic growth if they can be assisted with seed funding to develop natural resources for socio-economic sustenance.

Handicraft Technology

Bakgatla depends heavily on their natural environment for life sustainability. Both men and women possess special skills and technical knowledge used for producing items such as clay pots, sculptures, musical instruments etc.

Tanning hide remains a specialized skills only possessed by a few men. Hide is used for making shoes, twines, cloths etc. These products are sold to both outside markets and to members of the community.

Clay pots are symbolic and technical in that they are traditionally used for burying the dead (in *Tsaga*); for storing water (*nkgo*); for distribution (*nkgoana*). *Tsaga* (the big clay pot) was used for storing water as indicated by the Indigenous Food Security Systems. The skill for making these clay pots was exclusively feminine; it was a woman's task to symbolically give birth to life. They are the ones who carry life from the womb to the cradle to the grave. So the making of the clay pots was a special responsibility to which taboo is attached. For example, from the time the clay is mixed until the clay pots are burned in the underground oven; women who are menstruating

may not come near to where the clay pots are made. If they do so. It is said that the clay pots will crack.

Like clay pots, iron smelting remain a specialized skill; with only few male elders remaining as masters of this skill.

Bio-Diversity and the Environment

Biological Diversity is generally explained as the total of all living organisms (plants, animals, micro-organisms and the ecosystem in which these organisms live. Bakgatla demonstrate and possess great knowledge about bio-diversity of their area. This demands that the use of these plants for medicinal and nutritional purposes is transmitted to younger generations both orally and through observation. Also common among traditional leaders is ecological knowledge and utilization of animal tissues. With the advent of colonial western education system and its popular culture, youth have lost interest in the Indigenous Knowledge.

Knowledge of bio-diversity largely depended on the African philosophic and orientation approach. It was this orientation that was used for environmental management systems. Among the members of the community there were those who had specialized knowledge about utilization of animal remains and tissues for healing. They also learnt to deal with the animals for the purposes of conservation.

Through socio-ecological programs the Parks Board has began to use the Living Heritage Knowledge of the elders within the community to explain those things that are unknown about the bio-diversity to both tourists and other community members.

Knowledge about the cosmology, the stars, and the relatedness of human beings, their existence and the universe was a collected memory that was found in prose, story telling, dance, song and art.

Bakgatla hold a belief that if you happen to kill, for example, a python (*Tlhware*) a great storm will come and destroy the village. The killing of this snake should not only be avoided but it is known that this snake can also cause draught if killed in September.

In studying a plant, one must at the same time study the soil in which it grows, the water it absorbs, the air it breathes and the light it absorbs. Nothing in this world is an entirely independent entity. According to Credo Mutwa, no zoologist can claim that he understands a particular animal unless he understands it ecologically.

Management of the environment was largely maintained by practicing taboo. Members of the community had a collective responsibility over the sustainable utilization of veldt products as components of bio-diversity.

Social Institutions

Community-based knowledge is vital in all areas of productivity, politics, and belief systems. The local people build their plans on the basis of what they already know and understand as a result of centuries of trial and error. Hence the establishment of social institutions. Among the Bakgatla community-based knowledge used to be generated, engineered and transmitted at different institutions the main being the initiation (*Bogwera*, for boys and *Bojale*, for girls). Other institutions Indigenous Knowledge *Bongaka* (traditional healing), *kgotla* (traditional courts), *lenyalo* (marriage) etc., are still in place although they are corrupt to some extent by the colonial influence, they still maintain certain core-aspects of traditions.

Indigenous Knowledge that is relevant to the role of *Bogwera*, for example, is disappearing due to the fact that the early Christianization made the chief disregard *Bogwera*. However, those who happened to have undergone the passage to manhood have great respect for the institution. In explaining the significance of the *Bogwera/Bojale* institution Bakgatla maintained that it:

- It prepared boys and girls in their youth for community involvement in all areas of service provisioning.
- It assist in empowering youth on matters of living heritage , culture, biological diversity and related knowledge that strengthen youth with the necessary knowledge to deal with challenges of life.
- It ensures that sacredness and secrecy about the institution are kept.
- It puts in place the roles of men and women in society and community.
- It brings awareness about matters of sexuality and reproduction.
- It produces human capacity for knowledge productivity.
- Defines dignity and identity of the clan or community

The *Kgotla* is an important institution where all the issues concerning the tribe and its members are handled. It is at this place that consultation takes place, where consensus is reached, fines are imposed and discipline is maintained. The knowledge about governance, administration and conflict resolution are expressed here. Norms and values that are entrenched in the customs are openly respected, with sanctions administered to offenders.

Bongaka as an institution is frequently utilized for leadership issues, for family consultation, to assist in finding a missing object, to get luck, and general utilization of medicine other than curing diseases. *Bongaka* is close to *Bogosi* (Chiefstainship) since all the functions of the tribe undergo a ritual of check-up before and thanksgiving after it had taken place. Unlike other institutions, *Bongaka* is highly specialized.

Community-based knowledge played a crucial role in informing the development both in the Western and Third World Countries. Knowledge generated from the above mentioned institutions was broadly used for the development of technology, problems solving, child rearing, agriculture,

Conclusion

Indigenous Knowledge has the potential for industrialization, job creation, living heritage protection and the general emergence of new enterprises in food, conservation, tourism, environment industries, medicinal etc. According to Serote the manner in which we apply and utilize Indigenous Knowledge Systems as a means of organized knowledge and how we use it for quality of life and how we involved Indigenous intellectual in the processes, also has the potential for our ‘suicide’ as a social group. Indigenous Knowledge has the potential also to transformation and shift within institutions the orientation that human beings come first and that our resources, both natural and human, must be conserved and preserved.

From these Community-based knowledges one realizes the bases for development is locked in the local resources, the peoples own understanding of their environment, living heritage and natural heritage. The potential that lies in the natural resource base of

the Indigenous community in the North-West Province can be utilized in many projects to alleviate poverty and include the rural peoples' knowledge in planning for the 21st. The African Century and the renaissance of the cultures, arts, and the transformation of society poses questions of what were the African people, and what was our continent, before our enslavement, colonization and neo-colonization? The answer to these questions including that of human origin can be found in the expression that say, *SeSetho, Motho ke motho ka batho ba bangwe*. -A person is a person because of other persons

It is from this the Bakgatla community that I learnt the need to realize that 'local knowledge will come to occupy an increasingly important place in accredited learning course, and as a resource in research, as academic and the public alike come to disregard the distinction between academic and local knowledge'(Kraak, 2000). That community-based knowledge can be linked to 'this complex of thought and feeling that is referred to as the 'African system of thought' because scholars attempt to understand both the practical and the theoretical images through which they interpret their lives (Martin & O'Meara195).

The healing systems as reflected within the Indigenous community like 'medical practice, like the priesthood, was hereditary: just as the priest passed on his knowledge (sacred words rites, etc) to the one among his children chosen to succeed him after his death, so did the physician pass his knowledge on to the son who was to succeed him. Is it necessary to say that situation is the same in Black Africa today? (Diop 188).

I hope that you found the insight from the community-based knowledge useful as a vehicle to bring to the world knowledge of the significance of the Indigenous people in matters of biodiversity, culture and sustainable livelihoods. It is also my pleasure to note that this community-based knowledge assisted me and many other in finding ourselves as people, as possessing own world view and paradigm for the benefit of mankind.

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IVON PEREIRA

A PARTICIPATORY COMMUNITY-BASED EXPLORATION
OF SUCCESS FACTORS IN FOOD PRODUCTION, INCOME GENERATION AND
ENVIRONMENTAL PROTECTION

Introduction

Human ecology's mission is the creation and maintenance of "an optimum balance between people and their environments" (Sontag and Bubolz 125). This paper is a component of an MSc graduate research Project. The intent is for urban farmers to achieve the ecological balance necessary to sustain their individual, family, and community development by using locally appropriate agricultural resources and knowledge. Two aspects were considered essential. The first is the exploration of new knowledge through research. "Research is ...a systematic inquiry aimed at the discovery and interpretation of new knowledge" (Gibson and Gibson 3). The second is the creation of an appropriate approach for participants to pursue their own development through capacity building and empowerment. Both of these objectives were met.

The paper introduces the Ecological Participatory Action Research (EPAR) model created to explore the role of Indigenous Knowledge (IK) for micro-entrepreneurs to build new opportunities for food production, income generation, and environmental protection. The paper is based on participatory fieldwork that took place from June to October 2000 in the communities San José Cortez, Mireya II, and El Limón of the capital city, San Salvador in El Salvador. Nine families -three per community- for a total of 74 people, participated in the research (see Table 1).

Table 1

Age in years	Mireya II		San José Cortez		El Limón		Totals by gender		Total
	F	M	F	M	F	M	F	M	
< 10	1	1	6	1	2	4	9	6	15
11 - 20	3	0	4	4	4	3	11	7	18
21 - 30	3	1	2	4	2	2	7	7	14
31 - 40	0	0	5	1	1	1	6	2	8
41 - 50	1	1	2	3	1	1	6	5	11
51 - 60	0	1	1	0	0	0	1	1	2
61 - 70	2	0	2	1	0	0	4	1	5
71 - 74	0	1	0	0	0	0	0	1	1
Totals	10	5	22	14	8	11	44	30	74

F = female M = male

Background information: El Salvador

Incas, Mayas, and Aztecs were the more developed indigenous cultures in Latin America thousands of years ago. Researchers are not in agreement about whether the Salvadoran population descends from the Maya or the Aztec culture. The Mayan corn culture, Aztec social organization model, and Mayan and Aztec economic models have been found in the Pipiles culture, which was predominant in El Salvador at the time of the colonization (Equipo Maíz 485).

According to *Equipo Maíz*, the native name for El Salvador was *Cuscatlán*, which means Land of Happiness. There were two tribes before colonization: Pipiles and Lenca. Over time, the Pipil culture absorbed the Lenca culture. The Pipiles divided the territory in *Cacicazgos*, or regions, which internally, were divided into *calpullis*, or communities. Each *calpulli* shared land and food and paid tribute to priests and nobles. Each family was assigned a plot of land to cultivate. The Pipiles' economy, like that of the Maya's and Aztec's, was mostly based on the cultivation of corn and other vegetables. There was both common and private property. They were also advanced in scientific matters such as writing, mathematics, the calendar, and architecture. However, after 15 years of war, in 1539, the Spanish conquerors subjugated the Pipiles, destroying their culture, religion, and social and economic organization. At that time, a mixed race emerged, (Equipo Maíz 69).

At present, one hundred percent of the Salvadoran population is mixed (mostly Spanish and indigenous). Poverty and depletion of natural resources are their biggest problems. Most people make their living buying and selling things and cultivating traditional subsistence, ornamental, and medicinal crops to feed their families and/or to sell, but only a few succeed (Balsam, personal communication, April 24, 2000). However, the nine urban farming families that participated in the research have succeeded in using their indigenous knowledge, beliefs, perceptions, and approaches to produce food, and crops for cosmetic, and medicinal purposes, while protecting soil and the biodiversity of plants. The study of their experience is important. It provides relevant information for a variety of communities, NGOs and the government. This information could be useful in designing urban agricultural projects to support the poorest of the poor in creating healthy human conditions.

The concept of Indigenous Knowledge(IK)

There are several definitions of Indigenous Knowledge and traditional knowledge. Agrawal (1995), Warren (1996), and others use both interchangeably (Berke 99).

In 1980, David Brokensha, Oswald Werner and I were struggling to find a term that could replace 'traditional' in the designation 'traditional knowledge'...we wanted a term that represented the dynamic contributions of any community to problem solving, based on their own perceptions and conceptions, and the ways that they identified, categorized and classified phenomena important to them. At the same time, Robert Chambers and his group at Sussex were struggling with the same issue. Independent of each other, we both came up with the term 'indigenous', (Warren 13 in Berkes 5).

For the purpose of this research, the term "indigenous knowledge" has been adopted and defined as a "unique, traditional, local knowledge existing within and developed around the specific conditions of women and men indigenous to a particular geographic area" (Grenier 1) and as "the understanding, practices and perceptions generated and transmitted over time within a particular or local setting that form the basis for survival" (Fernandez 21).

According to *Equipo Maiz*, the Pipiles in El Salvador resisted assimilating into Spanish culture just as most Salvadorans, throughout the generations, have also resisted assimilating influences from other cultures. However, "IK systems are also dynamic: new knowledge is continuously added. Such systems do innovate from within and also will internalize, use, and adapt external knowledge to suit the local situation" (Grenier 1). In this way, agricultural Indigenous Knowledge in El Salvador is currently a hybridization of traditional and contemporary knowledge. New knowledge has been added throughout the generations, developing the specific local Indigenous Knowledge revealed by the research.

In this paper, then, "indigenous knowledge" will be used to refer to the knowledge, beliefs and perceptions inherited by the research participants from their ancestors and that have evolved into the knowledge, beliefs, and perceptions currently used by each of the research participants to produce food and generate income through urban agriculture. Every family member has her/his own way to contribute to farming activities. "All members of a community have *traditional ecological knowledge*: elders, women, men, and children. The quantity and quality of the Indigenous Knowledge that individuals possess vary" (Grenier 1).

The Ecological Participatory Action Research model (EPAR)

EPAR was developed by the researcher, based on her experience using the Participatory Action Research (PAR) approach in community development programs in El Salvador, Nicaragua, and Canada since the 1970's. EPAR integrates the PAR, the ethno-methodology and ecological perspectives, and the agenda based evaluation model.

PAR, according to Smith et. al. (1997), is a process of education, analysis, action, and investigation. It is a process that must be carried out systematically and consistently by the community with the help of the researcher. Together, they take actions and try to

make changes, looking for the solutions to concrete problems and conflicts. The process follows a spiral integrated by six internal processes. Each process is interrelated with the others, but does not necessarily follow the next phase directly (Smith 251).

Ethno-methodology provides access to the daily life of urban farmers, observing, recording, and describing the “most routine and taken-for-granted aspects of [their] reality” (Rothe 73) as “knowledge arises directly from practice, rather from reflection about it” (De Souza 31). This method helps the researcher to participate in the daily life of the community, observe the families involved, and to “capture data from individuals who could not normally speak” (Rothe 121). Women in marginalized communities are usually quiet and tell more by doing than by speaking, so the researcher’s observation of their pattern of activities and relationships is very important. “The value of ethnography as a social research method is founded upon the existence of . . . variations in cultural patterns across and within societies, and their significance for understanding social processes” (Hammersley 9).

The ecological perspective helps to understand “how the [farm] is zoned, according to people’s use of space, geographical mobility and the placement of barriers” (Rothe 84). One of the reasons these nine families were chosen to participate in the research is that they have been cultivating the same small plot of land (between 10 and 70² m) for at least three consecutive years. Knowing how they have managed their small spaces for cultivating variety of plants while protecting the soil from depletion was crucial.

The agenda based evaluation model helps “measure the process of negotiating the goals ... [and] evaluate the stakeholders’ perspectives of the project’s effectiveness”. (Gibson et al. 4). Each research participant, individual, community, or institution, brings its/her/his own agenda to the research process. To be able to negotiate and renegotiate according to own needs and perspectives and the needs and perspectives of the group, is very important.

EPAR then, assumes the six phases of the PAR model (Smith et. al. 87), giving them a new perspective and new content. The six phases are also interrelated and each of them is a process itself and does not necessarily follow the others in sequence (see Figure 1).

The new EPAR model was designed to combine research and development within an academic environment, in contrast to the prevailing tendencies. “There are two strands to the evolution of the indigenous-knowledge perspective which have remained largely independent, one academic and the other development-focused” (Sillitoe 224). The purpose of this combination is to validate Indigenous Knowledge as the philosophy that will make possible the creation of a new model for community development.

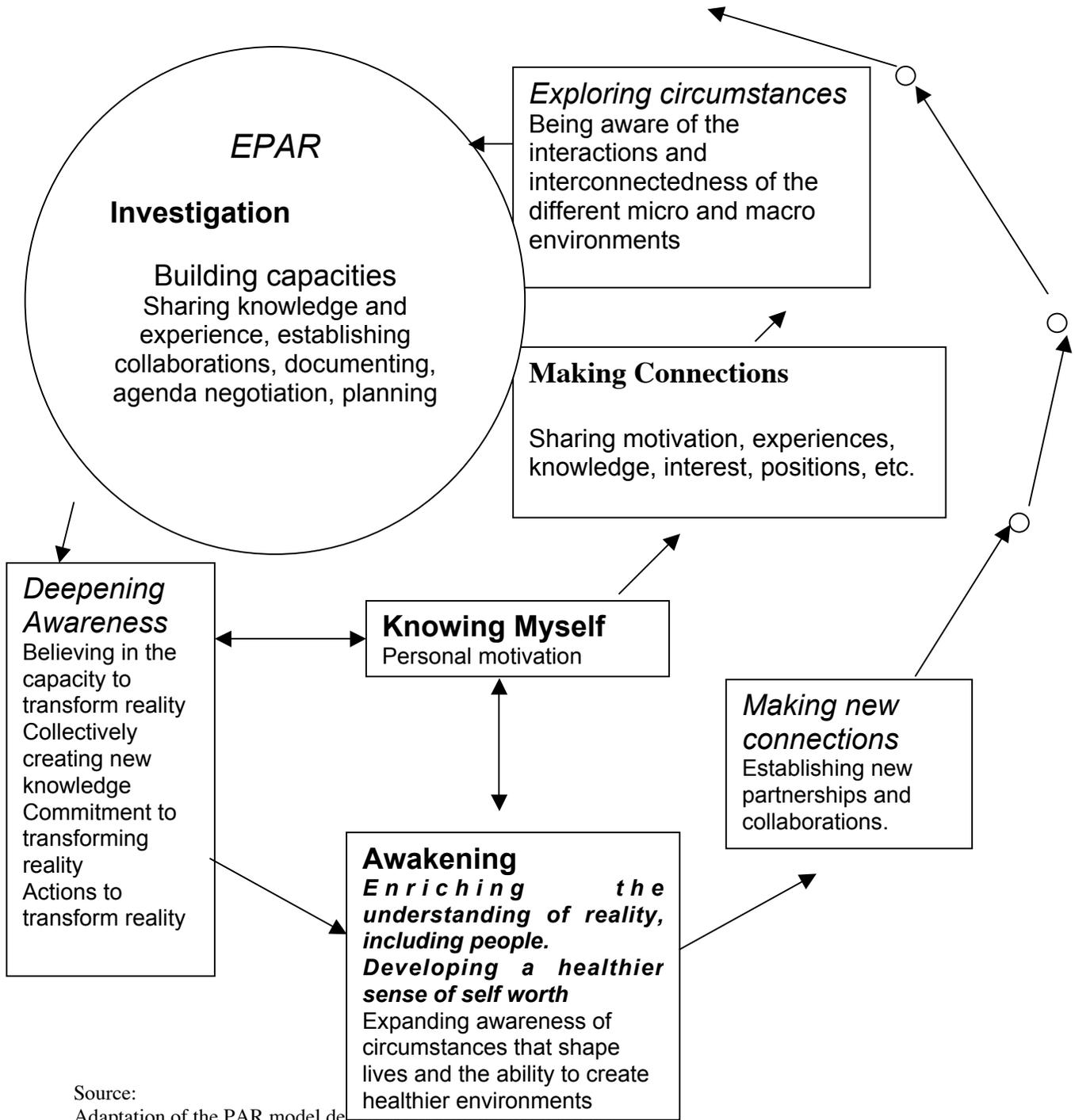
Process followed during the field work in El Salvador using EPAR:

Preparation of the researcher

To know who I am and why I want to do this specific research is essential. “What each researcher observes and interprets is never independent from his academic background, his previous experiences and his own involvement with the situation under investigation ” (De Souza 34). To use the PAR model is essential to have a deep desire for social change and justice. To use EPAR model is equally essential because the researcher’s own motivation, knowledge and experience will definitively affect the

research process and data interpretation. The researcher's long history of observing how poor people in El Salvador struggle to meet their basic needs and how the environment gives less and less to meet those needs, has given her a deep desire to make a difference in poor farmers' lives. This was the central starting point for the research process.

Figure 1: Ecological Participatory Action Research model as seen from the perspective of the research coordinator



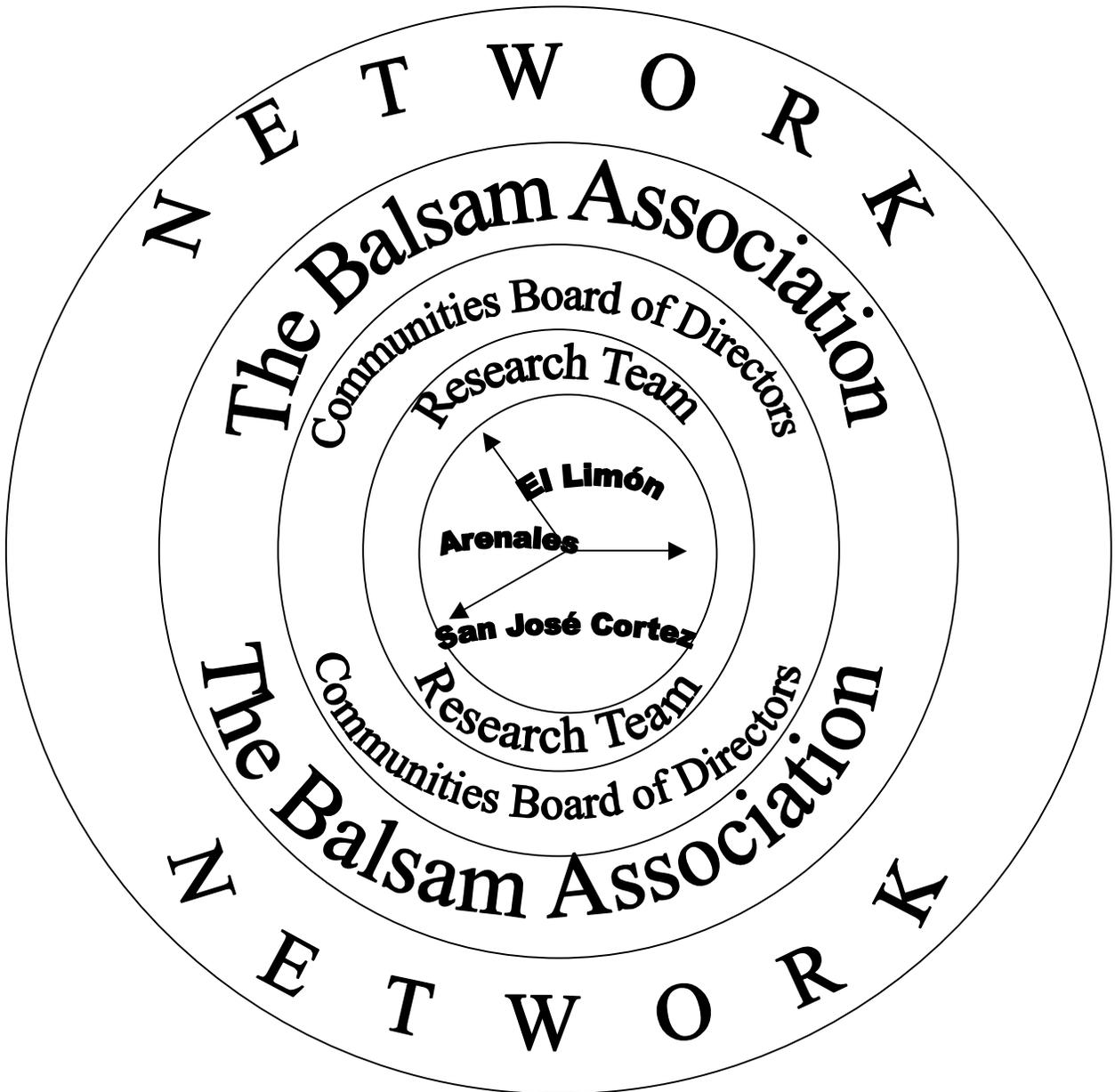
Making connections

Besides creating a sense of community as in PAR, the EPAR model further searches for project sustainability. In EPAR, It is very important to partner with community organizations and institutions that will give continuity to the research and to

the development project. For the purpose of this research, the researcher contacted a Salvadoran developmental NGO, The Balsam Association (Balsam), a Canadian environmental NGO, The Garden Institute of Alberta (GI), and the Micro-entrepreneurs network (MN) supported by Balsam in El Salvador. Representatives of Balsam, GI, and MN and the researcher began sharing motivations, interests, experiences, and knowledge, which later were also shared with the participant families. Representatives of the different stakeholders formed a research team (see Figure 2), which negotiated the preliminary research goals and the researcher became a research coordinator as all members of the team converted into researchers. Balsam, GI, and MN, besides supporting the research coordinator, also started developing a partnership to support community initiatives for an endogenous development. In this way a development project called El Salvador-Building on Biodiversity (BOB) project was designed. Phone and e-mail communication, informal contacts, participation in gatherings and social events, meetings, workshops and participant observation were the techniques used in the project. The research coordinator helped Balsam, GI, and MN to organize and develop the first phases of BOB in Canada and El Salvador before starting her fieldwork. This allowed her to participate in the formation of an Urban Agriculture Network, which later supported the research coordinator in choosing the research communities, families and participants.

Figure 2

Organizational Structure



The research team advised the research coordinator in other matters related to her work, such as entrance to communities and choosing of residence. The research coordinator did not stay in any of the three communities investigated. El Salvador is greatly burdened by political, religious, social, environmental, and economic problems and people still struggle with the consequences of the war from the last two decades. Within communities there are political and religious subcultures. If the research coordinator stayed with a specific family in a specific community that belongs to a specific group, other people would tend to associate her with that group and the research process and the results would be in jeopardy. To try to be identified as a neutral person, the research coordinator stayed in a modest home close enough to each of the three communities.

Exploring Circumstances

The PAR approach is grounded within the research participants' context (Smith, et. al. 115). EPAR also explores internal and external circumstances in order to be aware of individual and community strengths and weaknesses, as well as the opportunities and barriers in the different micro and macro environments. Bibliographic analysis, oral history interviews, and informative seminars and workshops were the techniques used. The analysis of Salvadoran documents and publications helped the research coordinator to learn:

- IV) What had already been investigated
- V) The economic, social and environmental context in which these families live
- VI) The resources available to the communities to continue their development process.
- VII) The new information gathered led the research team to re-negotiate the preliminary research goals and to achieve consensus about the research process.

The Process of Investigation, Capacity Building and Action

The research coordinator and research team worked very closely at a grassroots level, enabling people to believe that they are all responsible for, and the owners of, the research project. In this phase, the following techniques were used:

- i) Participant observation was combined with the action of farming. The research coordinator observed and participated in farming which allowed her to learn by listening and by doing. Using these techniques, the daily gender/power relations, use of space, farming patterns, and farming procedures were documented. Because interpretation of data is always subjective, this information was also corroborated through informal semi-structured and semi-open interviews. It was considered very important to learn how research participants verbalize their own actions.
- ii) Through oral history interviews and tape recordings, changes in farming philosophy and procedures and factors that historically have influenced those changes were documented. Three female community leaders with strong backgrounds in agriculture were chosen to be interviewed.
- iii) Workshops and meetings helped to build new capacities as participants were involved in sharing knowledge and taking collective decisions on the research

- design, process, and the data gathered. Participants also helped to analyze the new information and create new knowledge about farming and plant uses, which was immediately used to design new community initiatives for endogenous community development. “*Action* signifies a process of continual change both in the research process and the situation” (Rothe 95).
- iv) Taking pictures of major food, medicinal, cosmetic, religious, and ornamental crops was helpful in documenting the sixty-four plants cared for by research participants and their uses.
 - v) Within this process, all research participants felt the need to change themselves. By changing, they started contributing to changing their environments for the better. An example of this is that with Balsam’s help, they organized within the research process community workshops in their own homes to teach their neighbors their environmentally friendly urban farming.

Deepening Awareness

Through this process, research participants increased and enriched their understanding of their community’s internal and external reality and of their own ability and capacity to transform those realities and create change. In the process each person merged into a “we” with a common goal to use the new information and knowledge to design their own proposals for development. An example of their activities was the creation of some project profiles in order to apply for funding to enable participants to continue researching while applying their new knowledge.

Awakening

Research participants showed their new understanding exercising their right to speak and be listened to. They talked to neighbors, relatives, schools, and churches, sharing their new knowledge and experience. At the end of the fieldwork, research participants organized and developed a day-long conference to disseminate the research findings and get feedback from other communities and local NGOs for the final document. In the conference, all research participants shared their new and indigenous knowledge, experience, and power with other communities and NGOs representatives. They also shared their native food and showed samples of their native plants.

Summary of EPAR

The research process developed in El Salvador showed that EPAR is a process that combines investigation with capacity building and community action to empower research participants and the researcher, while providing data for the purpose of the research hereby producing the changes needed in different environments that influence the current status quo within the communities investigated.

EPAR also emphasizes the role of creating self-awareness of the biophysical environment and thus helping to change attitudes towards nature in both the South and the North. In this research, EPAR helps the researcher acquire a holistic understanding of the research participants’ practices in relation to their well being and their community development and helps research participants start building a new future on the cultural heritage in which they will feel comfortable. EPAR also helps research participants to

start building partnerships with other communities in the South and in the North to support each other and share knowledge and technologies.

EPAR is a process of education and social interaction for an endogenous development in which Indigenous Knowledge is crucial. During the research process, participants learn both to use their own knowledge to find solutions to their problems and that international partnerships can support endogenous development. The well being of people intrinsically interconnected with their environments (social, cultural, economic, political, and physical) is enhanced. Keating et al. (1997), in their writing about the care for the elderly, point out assumptions that turn clients into partners and actors in the process of their own care. In Indigenous Knowledge research using the EPAR model, clients are families who are trying to develop by becoming partners and actors in their own destiny. Sometimes, the researcher is the expert, who becomes the client and vice versa. Each teaches the other within the process.

EPAR is, then, an important and radical approach that attempts to resolve problems that have not been solved with the current PAR model, such as the contrast between the modern and the traditional and between the North and the South.

Indigenous Knowledge in El Salvador

During the research process, it was found that the Indigenous Knowledge of the nine participating families is the key element to succeeding in urban farming. The use of indigenous knowledge, beliefs, and perceptions helped research participants to cultivate sixty-four kinds of plants and agro-process them, producing food and natural medicines, generating income, interrelating with/to others, having fun, expressing love, and conserving biodiversity. They prepare the soil with natural fertilizers, pesticides, herbicides, and manual removal of weeds. They buried organic waste, keeping the house clean, conserving soil fertility and diverse plants alive. The local experiences documented are a kind of new knowledge that reveals some “indigenous indicators to determine favorable times to prepare, plant, and harvest gardens” (Grenier, 1998, p. 3). As well, methods for soil and plant protection and pest management, seed storage, and cropping systems were shared.

Research participants also perceive nature holistically. The environment is believed to be the result of the human relationship with nature (Equipo Maíz 123). However, scientific advancements have made them understand those relationships beyond the scope of astrology and astronomy as it was in ancestral era. They now have acquired new knowledge about other sciences and disciplines. For them, then, the environment is a holistic integrated web that integrates biology, economics, politics, gender relations, and culture just as they are all interconnected in their daily farming activities. Today’s agricultural practices are the results of traditional and modern techniques as well as of their beliefs and perceptions about life and the relationship between humans and plants. For example, participants mix sulfate and ash to fertilize plants, use soap, pepper and garlic to control pests, and practice crop rotation “cuando a la planta no le gusta donde la tienen” [when the plant does not like where it is].” If you do not move the plant, they say, it will not produce what you expect. They practice companion planting because plants protect and help each other. Some plants protect other plants against disease/pests; for example, corn-onion-corn, corn-garlic-corn or corn-tobacco-corn. Some plants help other plants with nutrients; for example, corn-bean-corn.

They also see plants as member of the family; for example, they believe that plants need to be talked to, that they have tastes or preferences, and that they respond to the way they are treated.

An important success factor, which was revived during the research process is the religious cosmos-vision inherited from Salvadoran native people. This vision helps people perceive the land as a source of life and success as the ability of each family to live in harmony with nature and to create healthy communities for all. This concept of success is essential for the creation of a new community development model. It contrasts with the predominant contemporary model in which success is defined by the quantity of things each family possesses or consumes or for the status they have within their society. In the new model started by research participants, success is related to their ability to work with and for others in order for everybody to improve their quality of life. There is also a collective understanding that if all countries consumed in the same way and quantities as rich countries do, the planet would not last for long: Seven Earths would be needed (Equipo Maíz 57).

Conclusions

Current social and economic conditions in El Salvador urgently require a new community development model in which IK and the EPAR research model are essential. IK supplies a philosophy and techniques for understanding the interrelation between humans and nature and the need to share resources for the well being of all. EPAR provides a tool to organize people and programs, build capacities, and create knowledge.

IK, within the context of the families, involved both the classification of plants and the indigenous understanding of nature.

Traditional ecological knowledge is usually presented by anthropologists and others in one of two forms (sometimes both): folk taxonomies (the ethnobotanical and ethnozoological classifications of plants and animals), and as indigenous understandings of 'natural' processes (systems of relationships involving plants, animals and various supernatural and environmental factors). Together these two broad kinds of information have been constructed as constituting traditional ecological knowledge" (Lewis 8).

Research participants showed their use of Indigenous Knowledge in the way they have conserved sixty-four variety of plants by using them in their daily life and in the way they relate to each other and the way they all relate to nature. "Environment is our way to relate with nature" (Equipo Maíz 4). This way of life makes possible the creation of an alternative community development process, where community is more than just people and their economic aspects. It is about people intrinsically interconnected with their different environments, their culture, history, and roots. Research participants are economically poor and perhaps will never be economically rich. Their successfulness in community development will be to get as many people as they can working together for a present and a future for all, using only the natural resources needed to live happily and healthily, using nature with respect and protecting it from extinction.

EPAR made it possible to explore the survival of Indigenous Knowledge in a mixed culture in El Salvador. It allowed participants to interrelate complementing

spiritual and material actions. It facilitated the interconnection of different participants: NGOs, community organisations, supporters, and farmers. It also allowed the interconnection between traditional and new knowledge and between people in the North and people in the South, facilitating the interchange of knowledge and experience, while emphasizing the need to understand interactions within the specific socio-cultural contexts. “No two societies perceive or act upon environments in precisely the same ways. And, in the same way that environmental settings vary, cultures present great differences where people have no linguistic or historic connections.” (Lewis 10). People’s indigenous agricultural knowledge, biodiversity, and culture are all crucial to the development of the community in a sustainable way. EPAR helped people to acknowledge their own identity, develop new capacities, and empower themselves to have a true desire and plan to make the changes necessary for improving their current living conditions.

Combining both the IK and EPAR during the research process, we have explored the development of a new research model that will facilitate food production, income generation, and environmental protection for Salvadoran families. This will enable them to create healthy ecosystems and to sustain their individual, family, and community development by using locally appropriate agricultural resources and knowledge.

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LEANNE SIMPSON

TRADITIONAL ECOLOGICAL KNOWLEDGE: MARGINALIZATION,
APPROPRIATION AND CONTINUED DISILLUSION

I am very honored today to be visitor in this Indigenous Territory, and I would like to begin by thanking the Indigenous Nations of Saskatchewan for taking care of this beautiful land for so many generations. I would also like to say *Meegwetch* to the Elders who shared their powerful teachings with us this morning.

My English name is Leanne Simpson. My *Nishaabeg* name is Betaasamosake, Walking Towards Women, and I am from the Lion Clan. My maternal relations are from Alderville First Nation in Ontario, and our territory is about an hour and a half north east of Toronto.

I have been working on environmental issues with First Nation communities and organizations for the past seven years. I am an instructor at the Center for Indigenous Environmental Resources in Winnipeg, and in the Indigenous Governance Program at the University of Victoria. Currently, I am the Director of Indigenous Environmental Studies at Trent University in Peterborough, ON. I have served as the Aboriginal representative on the Canadian Delegation negotiation the Biosafety Protocol under the Convention on Biological Diversity and on the delegations and working groups surrounding the infamous Article 8j. In 1999, I completed my Ph.D. at the University of Manitoba in which I used *Nishinaabeg* ways of knowing to critique mainstream academic literature on Traditional Ecological Knowledge (TEK), written largely by non-Natives. I was motivated to do so because as an *Nishinaabekwe* who has spent some time learning from Elders, I found it very difficult to identify with the perspectives on TEK found in mainstream Environmental Science journals and I was extremely concerned about the lack of Aboriginal voices and perspectives in the field.

These experiences have moved me away from trying to use both western science and Indigenous Knowledge to try and solve environmental issues and I have now recognized that western science is the primary tool used by government and industry to justify the destruction of Aboriginal Territories for short-term profit. Indigenous Knowledge is the primary source of strength Aboriginal Peoples have to resist the further colonization of our lands and our minds, and to build strong sustainable Nations and to dream and envision a better future for our children and our relations in the plant and animal worlds. Our Ancestors sacrificed, suffered and worked hard to maintain our cultures in the past and that responsibility is now passed onto us.

So it is within this context that I would like to share some of the perspectives I have gained through conducting my Ph.D. research, listening to my Elders and interacting with Aboriginal communities on issues regarding our knowledge and the environment.

Over the past few decades, Indigenous Peoples worldwide have been coping with the newfound interests in Indigenous Knowledge pertaining to the environment. I have used the word “coping” here on purpose. Indigenous Peoples have worked very hard to protect, maintain, and nurture our knowledge in times where there are tremendous interests in our knowledge and during times where colonial policies were aimed at destroying our cultures, languages and intellect. In the initial stages of colonization,

Europeans were completely dependent upon Aboriginal Peoples and our knowledge for their survival. They needed our Ancestors' knowledge of the land, in order to feed, clothe and shelter themselves. They needed our Ancestors' knowledge of nutrition and food preparation so they could become physically strong after months of neglect. They needed our Ancestors' technology to hunt, fish, navigate and transport themselves through our Nations. They were dependent upon our knowledge of health and healing to cure them from sickness. But as their numbers grew, and they developed European type infrastructure and settlements their reliance on Indigenous Peoples and Indigenous Knowledge diminished. For the next few centuries Indigenous Knowledge was ignored, devalued and dismissed by the dominant society. However, Indigenous Peoples maintained and continued to nurture their knowledge throughout these times, practicing their traditions, ceremonies, cultures and ways of life despite outside persecution. I would like to begin today by acknowledging our Ancestors, the women, the men, and the children who have worked so hard to preserve and protect our knowledge so that here, in the year 2001 we can hold this conference. We have a responsibility to them and to the generations yet to come to protect our knowledge, to live it and to use it in a positive way.

My participation in this conference is a way of accepting and acknowledging the responsibility contemporary Aboriginal Peoples have to continue the legacy of protecting, using and maintaining our Knowledge systems just as our Grandmothers and Grandfathers have done before us. This is not easy. It is always difficult to protect something when there is a lot of outside interest in it, and there is currently an overwhelming amount of interest in our Knowledge. Over the past ten years, what has become known as "Traditional Ecological Knowledge" has also become synonymous with Indigenous communities at least amongst non-Aboriginal researchers. TEK has become a popular buzzword in universities, Non Governmental Organizations (NGOs), and governmental departments. Academic papers on TEK are filling up journals in numerous disciplines. Non-Aboriginal researchers are flocking to Aboriginal communities, with one community in southern Ontario reporting 50-60 new non-Native researchers each year all asking to come and study their TEK (Lickers in Luckey 1995). For Aboriginal Peoples, at least initially, this was a good thing. After years of appropriating, assimilating, ignoring, undermining and degrading our knowledge, it was finally beginning to be acknowledged by members of the dominant society. But outside researchers were not interested in all kinds of knowledge and they remain interested only in knowledge that parallels the western scientific discipline of ecology and the aspects of our knowledge, mainly factual components, that can be easily inserted into existing western scientific research frameworks.

Early researchers in the field of TEK felt that by documenting specific components of Indigenous Knowledge and by integrating them into their research, environmental impact assessments (EIAs) and co-management agreements that Aboriginal Peoples would achieve a greater voice and greater control over decisions that impact our lands, our communities and our lives (Johannes 1993, Johnson 1992). Now, after nearly ten years of documenting and integrating, Aboriginal People are reviewing the results of this approach with great concern (McGregor 1999, Simpson 1999, Stevenson 1999, Brubacher and McGregor 1998). To a large extent, Aboriginal People are unhappy with the idea that TEK can be written down and integrated into the

frameworks of western science and natural resource management, because this approach has done little to advance the agendas of Aboriginal Peoples, or to protect the land from environmental destruction. TEK has largely been defined and developed as a concept outside of Aboriginal communities, and many Aboriginal academics and community experts have problems with the way TEK is defined, conceived and constructed by non-Native researchers, academics and government personal (Battiste and Henderson 2000, Simpson, 1999, McGregor 1999, Assembly of First Nations (AFN)/National Aboriginal Forestry Association (NAFA) 1995). Most often, definitions reflect what the dominant society sees as important. The ecological component of our knowledge is emphasized rather than its spiritual foundations. TEK data, or factual information is at the fore, rather than seeing our knowledge as worldviews, values, and processes (AFN/NAFA 1995). In a sense, constructing Aboriginal Knowledge into TEK, has been a process of “scientizing” our knowledge for use in and the consumption of Euro-Canadian society (Stevenson 1998, Stevenson 1997).

The focus on documenting TEK, or converting it from its Oral form, to one that is both more accessible and acceptable to the dominant society has the impact of separating the knowledge from all of the context (the relationships, the world views, values, ethics, cultures, processes, spirituality) that gives it meaning. The idea that documented knowledge is more reliable than Oral Knowledge needs to be challenged. Documenting knowledge is not the only way to preserve it and there are some very real consequences of this documentation process. It has the impact of separating knowledge from the people who possess it (Simpson 1999). For instance, when TEK is integrated into impact assessment, a large-scale documentation project is often undertaken. Elders are interviewed, hunters mark their hunting grounds on maps with the expectation that this knowledge is respected and will be used to make decisions. Most often it is not. The documented TEK is interpreted and used by non-Aboriginal scientists and consultants, and the holders of the knowledge, the Aboriginal People, have no power over how that knowledge is interpreted or used (Stevenson 1996). In these situations TEK does very little to promote the interests of Aboriginal People. Unfortunately, this seems to be way TEK is most often handled in Canada (Stevenson 1999, McGregor 1999, Simpson 1999, Brubacher and McGregor 1998) and should be at the table using their knowledge to make decisions. Our Elders need to be recognized as Experts.

I have seen countless studies in the last few years where researchers have gone into Aboriginal communities, interviewed Elders and integrated that knowledge into a scientific study, a resource management model or host of other western research frameworks. For me, documenting aspects of Indigenous Knowledge and integrating them into western scientific frameworks is not an appropriate use of Indigenous Knowledge. Firstly, this approach does not respect Indigenous Peoples as experts. A biologist could hardly get away with interviewing other biologists, documenting their data and publishing papers as the sole author of such a study. So why is it an accepted practice for western scientists to go into northern communities, interview the hunters on population numbers of caribou and publish that data set as their own, with only a merger acknowledgement of Aboriginal participation in the paper? Why aren't the Aboriginal People given full authorship? After all, without their participation and their knowledge, there would be no study.

Secondly, this approach operates on the presumption that “modern” western resource management practices are superior to Indigenous practices. Indigenous Knowledge is not respected as a separate knowledge system, a complete and valid way of generating new knowledge that is as reliable as the scientific method. Indigenous paradigms, frameworks, values and philosophies are not utilized, as the over-all principles that govern decision-making remain western.

Thirdly, Indigenous worldviews, values and processes are ignored in this approach with attention focused on data or factual components of Indigenous Knowledge. Spiritual knowledge is ignored while the components of Aboriginal knowledge that are deemed most useful by scientists and outside researchers are highlighted.

Fourthly, Indigenous Peoples are left out of the process. After hunters (usually men) are interviewed, scientists use their data in natural resource models, and Indigenous Peoples no longer have a role unless they have secured positions on management boards. Even in cases when they are allowed a role, they have to operate under the dominant framework of western resource management practices, making it very difficult to bring about change.

Utilizing this approach, the voices and knowledge of Aboriginal women are also marginalized. This is a tremendous oversight as women are responsible for the transmission of language, stories, cultural teachings and values to children. Women are responsible for remembering family histories which are often stories of oppression, and tremendous resistance.

Finally, this approach has done a very good job of separating out the impacts of colonization, colonial policies, denied rights of self-determination, and power imbalances from the topic of Traditional Ecological Knowledge (Proctor 1999). If you look through some of the major journals that publish these kinds of papers it is a rare occasion that historical or political realities are discussed in the context of TEK. It is a rare occasion that our people are named, and included as experts. Mainstream TEK literature has done an exceptional job of removing Aboriginal People and the past impacts of colonization from the discussions around TEK and therefore ignoring current political realities. Moreover, it seems to me that it has co-opted our knowledge, one of our most precious Gifts, using it to promote the goals and the values of mainstream society while ignoring Aboriginal concerns.

The appropriate use of Indigenous Knowledge requires Indigenous Peoples, not academic researchers or government personal, but Indigenous Peoples. It is about relationships and context. It requires the recognition of the continued impacts of colonization and colonialism on our lands, peoples and cultures. It requires the voices and input of Aboriginal women, men, youth, Elders and Knowledge Holders. It requires an acknowledgment of power imbalances and the legacy of injustice faced by Aboriginal Peoples. It requires that Indigenous Peoples drive research agendas not outside interests. And most importantly, it requires the respect for Aboriginal jurisdiction over Aboriginal land.

To include Indigenous Peoples and Indigenous Knowledge in research studies, policy developments, legislation and environmental decision-making means that different decisions will be made, better decisions. To use Indigenous Knowledge in a respectful and appropriate way requires *Indigenous People*. Our Elders and Knowledge Holders are our experts, they are the people with the Ph.D.'s and they need to be at the table with

enough power to use the knowledge within them to make decisions. Western resource managers, policy makers and legislators need to understand that the respectful inclusion of Indigenous Knowledge and Indigenous Peoples requires that committees will be run differently, policies will change, and that different decisions will be made.

Disappearing Knowledge?

The last issue in the field of TEK that I will discuss is the issue of documenting Indigenous Knowledge for preservation. There is currently a large concern amongst Aboriginal and non-Aboriginal people about the rate at which we are losing Indigenous Knowledge. People are concerned that Elders are dying without having passed the knowledge down to younger community members. This is certainly a valid concern. I am not convinced that the best way to remedy this situation is by attempting to document or record in written form as much of the knowledge as possible.

I feel that it is important to look at the reasons why the knowledge was not transmitted to the younger community members. The impact of colonization and colonial policy has played a role through the loss of land, loss of language, and educational systems that promote western knowledge and values at the expense of Indigenous Knowledge. Unfettered industrial development occurring on Indigenous territory also plays a role, because it further alienating Aboriginal from their lands. To protect Indigenous Knowledge we must protect the land.

The method of passing traditional knowledge to our children is part of our knowledge systems and I think it is extremely important that we have opportunities to learn our knowledge in traditional way. The oral tradition, learning by doing, apprenticing with Elders, observing, experiencing, praying, dreaming, participating in ceremonies, listening to stories - the processes of teaching, learning and transmitting knowledge are critical components of Indigenous knowledge, and we must work to support these processes and ensure that they are nurtured within our communities.

We need to support our Elders and Knowledge Holders. We need to create opportunities for our children to learn from them. We must ensure that our children speak their language. We must work to change school curriculum so it includes time spent with Elders on the land, the oral tradition. We must all work to protect our land. When the land is destroyed, so are our libraries, our medicines, our ways of life and our source of inspiration. In evaluating the current use of Indigenous Knowledge in Canada in the environmental field, I feel worried. To proceed on the current path means continuing the appropriation and marginalization of Indigenous Peoples and Indigenous Knowledge in the dominant society and it will serve only to promote a state of continued disillusionment amongst Indigenous Peoples.

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