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Cover photo: Mayan woman in the market (credit:Robert Harper)

Lukanka

Lukanka is a Miskito word for "thoughts"

RUDOLPH C. RŸSER
Editor in Chief
Fourth World Journal

Scholars in the Fourth World engage in a wide range of intellectual and practical pursuits directly benefiting nations throughout the world. Our Associate Scholars Program benefits from the extraordinary efforts of more the forty-five dedicated researchers, social activists, political leaders, healers, writers, and traditional knowledge holders. These scholars carry on the traditions of intellectual inquiry practiced in many different cultures in addition to conventional empirical inquiry. The results are often quite surprising and always informative. The disappearance or declining use of ancient knowledge systems mirrors the destruction of cultural communities throughout the world. This increasingly rapid destruction of cultural communities reflects the damage to societies by the removal of peoples from their territories either as a result of natural disasters or imposed force by outside peoples. When a people is forced to leave a long used territory and the population is subsequently fragmented, culture collapses and the continued use and application of a knowledge system risks decline or complete disappearance. UNESCO and other international institutions as well as individual knowledge holders struggle to preserve these knowledge systems, but it is more apt to suggest that ancient knowledge systems must be maintained with the people and their culture in relation to their lands and territories. These forms of knowledge should be applied as systems of thought existing in parallel with each other with no system of thought dominating another. While knowledge systems may influence each other they tend to inform and prove beneficial if they are understood as discrete systems of thought. The culture embraces the language and the system of thought in relation to the land in the material world as well as phenomena in the immaterial world. We have new samples of scholarship in this issue that reflect aspects of different knowledge systems that have practical applications as well as important contributions to the greater body of human knowledge.

In *An Assessment of Oral Health on the Pine Ridge Indian Reservation* **Dr. Terry Batliner, DDS, Tamanna Tiwari, Dr. Judith Albino, PhD** and a team of researchers discuss in their Peer Reviewed article an innovative assessment tool appropriate for various native peoples that can significantly improve their health. Noting a significant frequency of decayed teeth, periodontal disease and people with missing teeth in Lakota on the Pine Ridge reservation the research team reports its findings, policy implications and possible solutions.

Drawing on her groundbreaking experience as a touch therapy practitioner and noted researcher **Dr. Leslie Korn** shares here knowledge and recommendations for new researcher originally presented before the International Massage Therapy Research Conference in her article, *Somatic Empathy, Restoring Community Health with Massage*. As the Center for Traditional

Medicine Director for more than a generation and research director at the Center for World Indigenous Studies, Dr. Korn reflects on lessons learned in indigenous communities and their influence on new pathways for research and policy application for touch therapies.

Casimir Ani, Phd, examines in his article, *Managing Climate Change in Africa* what he explains is a significant gap between climate change research conducted in Western Europe and how scholars and researchers in Africa understand the phenomenon for effective mitigation and adaption strategies that will benefit the diverse peoples on the continent. The article makes the case for applying African knowledge systems to the understanding of phenomenon of changing climates in Africa.

Associate Scholar **Renee A. Davis, MA** explores historical trauma, abuse and genocide through the lenses of the chronic disease of diabetes and the role of plant medicines in the restoration of health in US northwest coastal native peoples in her article, *Coping with diabetes and generational trauma in Salish tribal communities*. She contrasts conventional medical interpretations of chronic disease with native peoples' construction of chronic disease as a part interrelated factors.

Ms. Dina Gilio-Whitaker, MA, Research Associate at the Center for World Indigenous Studies considers the problem of American Indian representation in the US political system in her article, *Barriers to Fair and Effective Congressional Representation in Indian Country*. In her reflective analysis Gilio-Whitaker reviews US federal laws, court decisions, and congressional member attitudes that block effective political expression by Indian leaders, their governments and individual tribal members.

Another Associate Scholar, **Ms Elise Krohn, M.Ed.** discusses in her essay, *Recovering Health through Cultural Traditions* how the Northwest Indian Drug and Alcohol Treatment Center sponsored by the Squaxin Island Tribe serves individuals from many different tribes with the application of knowledge from many different and related cultural systems.

In *International Trusteeships, the Unfinished Responsibility*, **Dr. Rudolph Rÿser** opens a rarely considered discussion of what the US government claims as its "Trust Responsibility" to Indian nations and Alaskan Natives as compared to the international trusteeship system. I offer an historical assessment as well as the suggestion that the moribund United Nations Trusteeship Council should become the supervising body for negotiated Trust Compacts between Indian nations choosing to change their political status in relation to the United States. The concept would benefit nations in Australia, Canada as well as Panama, Brazil and Europe as well.

As you will note, we continue to offer scholarly essays that touch on critical issues affecting the interests of Fourth World nations throughout the world. You will want to consider the new books available on many topics of concern to Fourth World nations in the Center for World Indigenous Studies Book Store where you will find my new book **Indigenous Nations and Modern States** and Dr. Leslie Korn's new books **Rhythms of Recovery**, and Preventing Diabetes Naturally, The Native Way; and of course continue to have access to the Center's work at our website. You may order your own paperback issue of Indigenous Nations and Modern States directly from the Center at price considerably lower than the hardcover price (see the promotion in this issue).

An Assessment of Oral Health on the Pine Ridge Indian Reservation

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Acknowledgements

The Oglala Sioux Tribe reviewed the protocol and helped make the study possible. Jason Krause of Henry Schein, Inc. donated the gloves, masks, and disposable mirrors used for dental examinations. The University Of Colorado School Of Dentistry donated toothbrushes and dental supplies for distribution to study participants. The recruiters, screeners, and recorders for the study were, in alphabetical order: Stormie Clifford BS, Patty Conroy, Dallas Daniels RDH, BS, Joaquin Gallegos, Maxine Janis MPH, RDH, Stacy Milakowitsch RDH, BS, and Kendra Velasquez BS. We thank Maxine Janis for recruitment of Lakota-speaking study participants. Sam Hoffman of Focus Photography provided expert photo retouching.

The principal investigator was Judith Albino Ph.D., Director of the Center for Native Oral Health Research in the Centers for American Indian and Alaska Native Health, Colorado School of Public Health. The project director and study dentist was Terry Batliner, DDS, MBA, a member of the Cherokee Nation of Oklahoma and Associate Director for the Center for Native Oral Health Research.

Abstract

Background. This study assessed the oral health of the Pine Ridge Oglala Lakota people, described a new oral health assessment tool for Indigenous people, and suggested ways to improve Native oral health.

Methods. The Check Up Study team of dentist and dental hygienists performed examinations of teeth and oral soft tissue for a convenience sample of 292 adults and children. Screening personnel counted the number of decayed, filled, sealed and total teeth, used probes to measure periodontal disease, and screened for oral lesions.

Results. Half of adults had 27 or fewer teeth. Sixteen percent of adults had at least one tooth with a pocket depth $\geq$ 6mm. Participants had higher numbers of decayed teeth ($p<0.0001$), and lower numbers of filled teeth ($p<0.0001$) than those reflected in Indian Health Service cross-tribe aggregated data from 1999.

Conclusions. Amongst Oglala Lakota people of Pine Ridge, the Check Up study documented a high prevalence of caries and periodontal disease, numerous people with missing teeth, and many unmet dental needs.

Figure 1. Study dentist Terry Batliner examines a study participant near the Bad Lands of South Dakota

Funding Information

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Conclusions. Amongst Oglala Lakota people of Pine Ridge, the Check Up study documented a high prevalence of caries and periodontal disease, numerous people with missing teeth, and many unmet dental needs.

Introduction

The health disparities experienced by American Indians and Alaska Natives are many and far reaching, including oral/dental diseases, such as caries (cavities), periodontal (gum) disease, tooth loss, and oral cancer. Adequate dental care can prevent and treat caries and reduce tooth loss.

Regular and systematic population-wide surveillance studies of oral health indicators have not been carried out repeatedly over time, yet American Indian tribes seeking to improve oral health and related services need accurate information about their oral health status.

This study looked at dental issues, periodontal disease, oral lesions, and need for dental care at the Pine Ridge Reservation for the Oglala Sioux tribe. There is a strong need for a comprehensive report on the oral health of the Oglala Lakota people. A description of the current oral health status of the Oglala Lakota people will help the tribe understand their needs for dental care and document oral health disparities in the American Indian community. The last Indian Health Service report on dental needs was published in 1999, and targeted only people who were Indian Health Service patients[1]. Inclusion of oral health status data from tribal individuals not accessing care from Indian Health Service dental clinics is merited to provide greater information about oral disease prevalence and needs. Most reports[1, 2] aggregated data across regions. In addition, the most recent report[3] did not include information on oral lesions.

"Check Up: An Oral Health Disparities Study" (referred to hereafter as the Check Up Study) assessed the adult and pediatric dental health among members of the Oglala Sioux Tribe and was funded by the W.K. Kellogg Foundation (http://www.wkkf.org/). We conducted a survey of the current oral health of 292 Oglala Lakota residents of the Pine Ridge Indian Reservation.

Specific Aims

1. To obtain a baseline assessment of the oral health of the Oglala Lakota people on the Pine Ridge Indian Reservation.

2. To describe the use of a rapid oral health assessment method for Indigenous people designed and implemented by American Indian investigators.

3. To suggest possible ways to improve the oral health of the Oglala and other Native tribes.

Study Site

The study was conducted in Pine Ridge Indian Reservation, the second largest reservation in the US. The population of roughly 32,000 is spread thinly over 4,353 square miles, an area larger than the state of Connecticut[4]. Many people on the reservation live in remote, rural locations and have limited access to health services. More than 62 percent of the current population of the Pine Ridge Indian Reservation lives below the federal poverty line[5].

Methods

The study protocol was reviewed by both the Colorado Multiple Institutional Review Board and the Oglala Sioux Tribe Research Review Board at Pine Ridge.

Participant recruitment.

Study personnel recruited most study participants directly. The study personnel handed out flyers describing the study and displayed posters at community sites such as grocery stores, health fairs, tribal government offices, tribal college centers, schools, and at the University of Colorado Denver Pine Ridge field office on the Pine Ridge Reservation. The majority of study recruitment occurred during the annual Oglala Lakota Nation Pow Wow in the town of Pine Ridge, South Dakota. Study participants gave written informed consent. In the case of children, participants gave assent, with written parental informed consent.

Study Staff and Trainings.

A team of one dentist and three licensed dental hygienists conducted oral health screenings. One of the hygienists, who served as a study recruiter, is fluent in Lakota, the indigenous language of the Oglala people. A team of four recruiters collected informed consent documents and recorded survey information. A study manual guided the training of the examiners. The project director (TB) was considered the gold standard examiner. The Project Director trained two other screeners. Examiners learned the oral health needs classification criteria and proper use of survey instruments and techniques. During the training TB and the screeners served as mock study participants. Each screener conducted a visual oral examination, according to the study protocol, and recorded the results.

Training did not involve statistical tests of calibration. If the results obtained by the trainee differed from those of the gold standard examiner, the trainee and the gold standard examiner re-examined the patient together to ensure that the proper definitions were being used, and to achieve consensus.

Sample.

A total of 306 participants gave consent. Four participants completed consent, but then refused to be screened. One participant began, but did not complete the screening exam. Two participants were not residents of the Pine Ridge Indian Reservation, an inclusion criterion. Seven participants had missing or incongruent data. Incongruent data occurred when the total number of filled teeth exceeded the total number of teeth. The final analysis included 292 participants, with 135 adults and 157 children.

Survey.

The study screened a convenience sample of adults and children from twenty different communities on the Pine Ridge Indian Reservation. Study participants received examinations in a folding chair (#MS10-092-012-08, Wal-Mart, Bentonville, AR). Screening personnel took standard universal precautions, including gloves, safety glasses, masks, and disposable mirrors and probes. The examiner sat on a portable stool (stool model #37800BLK1W, Wal-Mart, Bentonville, AR). The study dentist, Terry Batliner DDS, MBA, is shown examining a study participant in Figure 1. Screeners did not take radiographs or use explorers during the survey.

The examination took approximately 15 minutes per person, and consisted of a complete screening examination of teeth and oral soft tissue. The screeners identified areas on a tooth as carious if they were cavitated (visible loss of tooth structure and > 1mm in diameter or width). If the lesion was not cavitated and small (<1 mm in diameter or width) it was considered non-carious. Screening personnel counted the number of decayed, filled, sealed, and total teeth, including permanent and deciduous teeth[6], and recorded any intraoral lesion or dental abscess. After the examination, screeners gave study participants a brief summary of their dental condition and a recommendation for treatment.

Screeners assessed periodontal disease by measuring pocket (loss of tissue height and attachment) depth in the upper right, upper left, lower right, lower left, upper anterior, and lower anterior sextants of the mouth[7]. Examiners measured pocket depth with a community periodontal index of treatment needs (CPITN) Type C PDT sensor-probe, Type C 3.5-5.5-8.5-11.5 (Zila Dental Technologies Inc., Batesville, AR). The examiner measured each sextant of the mouth with the probe to find the greatest pocket depth. Screeners classified study participants who had at least one measurement of pocket depth greater than 4mm as having periodontal disease. Screeners diagnosed advanced periodontal disease if at least one measurement of pocket depth exceeded 6 mm.

Statistical Methods

Analysts classified participants 18 years of age or older as adults. For comparison of outcomes to IHS data, analysts classified participants into age groups similar to those used in the 1999 IHS study[1]. The analysis of decayed and filled teeth compared the mean number of decayed and filled teeth stratified by age group in a generalized linear model with a Poisson link function. To assess the association between periodontal disease prevalence and age group, analysts used a Cochran-Mantel-Haenszel statistic with modridity scores, to account for the ordinal nature of both the rows and columns. Analysts used the same method to examine the association between dental

needs and age. The Cochran-Mantel-Haenszel statistic is useful for the analysis of ordinal categorical data.

Screeners categorized participants into one of three groups; the group classification depended on the screener's assessment of the study participant's dental, periodontal, and soft tissue health.

1. No oral health needs anticipated for the next six months.

Screeners classified study participants as having no oral health needs for the next six months if they had no obvious dental, periodontal or soft tissue problems.

2. Needs oral health care within six months.

Screeners classified study participants as needing oral health care within six months if they had at least one moderate dental, periodontal, or soft tissue problem. Moderate dental problems included a single large or multiple smaller areas of dark stain on any tooth, missing previously present dental restorations, or the presence of at least one non-painful unfilled carious lesion. Moderate periodontal problems included plaque or calculus buildup at least one millimeter above the gingival margin, plaque-induced gingivitis characterized by redness or swelling of the gingival tissue, or a periodontal pocket depth on any tooth of 4 or 5 millimeters. Moderate soft tissue problems included oral lesions of known traumatic origin.

3. Needs oral health care urgently.

Screeners classified study participants as needing oral health care urgently if they had at least one urgent dental, periodontal, or soft tissue problem. Urgent dental problems included at least one open carious lesion causing pain, an abscess, a fractured tooth causing pain, or broken and non-functioning dental restorations. Urgent periodontal needs included a periodontal pocket depth of 6 millimeters or deeper on any tooth, a periodontal abscess or any other infection of the supporting structures of the teeth. Urgent soft tissue problems included any oral soft tissue lesion of apparent non-infectious origin, including any areas of roughened or corrugated soft tissue visible on examination, or any soft tissue infection causing pain, distress, or interference with activities of daily life.

Results

Table 1 describes the characteristics of the study participants. Two-thirds of the study population came from the Manderson, Oglala, Pine Ridge, and Porcupine areas, the districts with the highest population density on the Pine Ridge Indian Reservation.

On average, children had two decayed primary teeth and two decayed permanent teeth. Adults had an average of five decayed teeth (Table 2). Ninety percent of participants (261 of 292) had at least one decayed tooth. Eighty-four percent of children (132 of 157) children and 97 percent of adults (131 of 135) had at least one decayed tooth.

Adults with wisdom teeth may have 32 teeth; those with wisdom teeth removed have 28. About half of the adult study participants had 27 or fewer teeth (Figure 2). Thirty-four adults (25 percent) had 23 or fewer teeth. Fourteen adults (10 percent) had 16 or fewer teeth. Two adults had no teeth at all. One

Table 1. Characteristics of Participants

	No. of Participants	
	Chldren	**Adults**
Age	**N=157**	**N=135**
Mean age	9.5	36.9
Age range	5 to 17	18-74
Gender — no. (percent)		
Female	81 (51.6)	94 (69.6)
Male	74 (47.1)	41 (30.4)
Missing	2 (1.3)	

adult had only one tooth, and another adult had only two teeth.

When categorized by equivalent age groups, the Oglala Lakota population had significantly higher numbers of decayed teeth ($F = 129.75$, $ndf = 4$, $ddf = 111$, $p < 0.0001$) and significantly lower numbers of filled teeth ($F = 133.50$, $ndf = 4$, $ddf = 111$, $p < 0.0001$) than the 1999 Indian Health Service user population[1].

Ninety-two adults (68 percent) had some evidence of periodontal disease, with 22 adults (16 percent) having advanced periodontal disease (at least one pocket depth 6 mm or greater). Periodontal disease presence and severity was worse in the Oglala Lakota population than in the Indian Health Service user population (Indian Health Service, 1999) ($p=0.0015$).

Screeners found one child (0.6 percent) and five adults (3.6 percent) to have areas of roughened or corrugated oral mucosa. Screeners found four areas of roughened or corrugated oral mucosa in adult males, one in an adult female, and one in an adolescent male. The prevalence of areas of roughened or corrugated oral mucosa in adult males was 10 percent.

Forty percent of the children (63 of 157) and 59 percent of the adults (80 of 135) had moderate or urgent dental care needs (Table 3). Adults were significantly more likely to need care ($p=0.002$).

Table 2. Mean (SD) number of decayed, filled, decayed and filled primary and permanent teeth in children and adults

Group	Teeth	Decayed	Filled	Decayed or Filled	Sealed	Total Teeth
Children	Primary	1.5 (2.4)	2.0 (3.0)	3.5 (3.6)	0	7.7 (6.8)
Children	Permenant	2.2 (3.2)	0.5 (1.1)	2.6 (3.5)	1.7 (3.3)	15.9 (9.6)
Adults	Permenant	5.1 (4.5)	4.9 (4.1)	10.0 (4.5)	0.5 (1.4)	24.7 (6.7)*
**Adults with wisdom teeth have 32 teeth*						

Table 3. Oral health needs in adults and children.

	No Immediate Needs	Needs Care Within Six Months	Urgent
Children	59.9%	29.3%	10.8%
Adults	40.7%	34.8%	24.4%

Discussion

One in ten adults surveyed had 16 or fewer total teeth. Difficulty chewing is correlated with missing teeth[8,9]. In older adults, missing teeth can cause the intake of fewer calories and necessitate a soft food diet higher in sugar and fat[10]. Thus poor dental health can have a strong effect on overall health and wellbeing. The lack of prosthetic services for adults makes the loss of teeth a significant problem on the Reservation. The high prevalence of decay and periodontal disease observed in the Check Up study is almost certainly associated with a high level of untreated pain.

Ten percent of the adult males surveyed in the Check Up Study had areas of roughened or corrugated oral mucosa. For comparison, studies of leukoplakia in other populations are listed in Table 4[11,12,13,14]. Sandler and colleagues (1963) used pathological confirmation of all lesions; the other studies relied on clinical impression, with biopsy reserved for questionable cases[11,12,13,14]. Future studies should query respondents about alcohol use, smoking, and use of oral tobacco products, in an effort to establish the causes of the high prevalence of oral lesions seen in the Check Up Study.

This is an observational study using convenience sampling. The study population may

Figure 2. Histogram of total teeth in adults

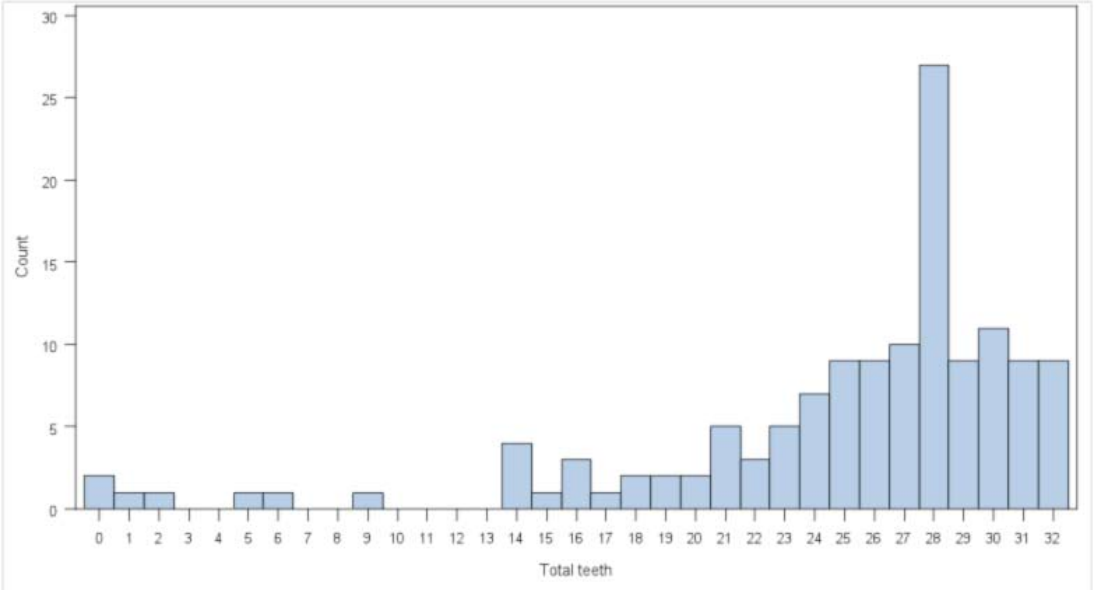

Table 4. Prevalence of roughened or corrugated areas of oral mucosa from the Check Up study in Oglala Lakota adult males compared to the prevalence of lesions clinically diagnosed as leukoplakia in other studies

Author	Population	Prevalence of lesions
Morger et al., 2010**	Swiss enlisted men	1%
Sandler et al., 1962*	VA population	3%
Bouquot et al., 1986**	White male Americans over the age of 35	4.3%
Check Up Study, 2010***	Adult males on the Pine Ridge Indian reservation	10%

**all pathologically confirmed,*
*** clinical judgment, with occasional pathological confirmation,*
****clinical judgment*

not be representative of the general population of the Pine Ridge Indian Reservation. Residents with oral lesions, decayed teeth, or missing teeth may have been more likely to consent to the study than the general population, causing an upward bias in the prevalence of oral health problems. It is equally likely to suppose that residents with poor oral health avoided screening examinations, which would bias the prevalence downwards.

No information was collected on diet, tobacco, or alcohol use. The classification of oral health needs was a multi-component classification, and was not broken down into the three components of dental, periodontal, and soft tissue problems. Such information and a breakdown would be useful for planning solutions to the oral health problems of the Oglala Lakota people and other Native tribes.

Identifying the Causes of Poor Oral Health.

It is unclear whether the poor oral health of the Oglala Lakota described in this study arises from structural health system problems, or from behavioral risk factors that affect dental and soft tissue disease.

Loss of the indigenous diet has been implicated in increased levels of dental caries and missing teeth[15]. The number of decayed and missing teeth observed in this study may be explained by the forced loss of the tribe's traditional diet of buffalo, berries, and roots[16], and its replacement by a diet high in sweetened beverages and fat, and low in fruits and vegetables[17]. A number of studies have indicated that the diets of American Indians are high in refined carbohydrates, sugars, sweetened beverages, and other foods labeled as high risk factors for caries formation[18,19]. Some studies have suggested that changing dietary beliefs resulting from acculturation, including changes in traditional eating behaviors, can further deter healthful eating and increase risk for Early Childhood Caries (ECC) and obesity[20].

Native Americans have high rates of behavioral risk factors that contribute to cancer of the oral cavity and pharynx[2]. These include smoking [21] and high use of smokeless tobacco products, even among school children [22,23]. The Centers for Disease Control estimates that one in four high school males in Bureau of Indian Affairs funded schools use smokeless tobacco[24]. Smokeless tobacco use has been

shown to increase the rate of leukoplakia, a potentially pre-malignant lesion [25]. Northern Plains tribes experience high rates of cancer of the oral cavity and pharynx [26].

The high prevalence of oral health problems may be attributable not only to behavioral risk factors, but to barriers that prevent access to oral health care. The barriers to access to care for the Oglala Lakota include poverty, a paucity of oral health providers and difficulty in transportation. More than 46 percent of the current population of the Pine Ridge Indian Reservation lives below the federal poverty line [27]. Many people on the reservation live in remote, rural locations at great distance from any oral health services. On the Pine Ridge Indian Reservation, there are three staffed Indian Health service dental clinics: one in the village of Pine Ridge, the largest settlement, one in Kyle (51 miles from Pine Ridge) and Wamblee (99 miles from Pine Ridge). The population is spread thinly over 4,353 square miles, an area larger than the state of Connecticut [27,29]. The population of 32,000 people is served by only 9 dentists, a ratio of 31 dentists per 100,000 people [30]. By contrast, the state of Connecticut has 66.3 dentists per 100,000 people [30]. Broderick and colleagues (2000) note that "Large amounts of dental needs go unmet each year in the Native American population…" because "…dental services are prioritized and rationed [31]."

Policy Implications and Potential Solutions.

Alaska Natives face many of the same challenges as the Oglala Lakota people. Both people experience poor oral health. In Alaska, new legislation has allowed mid-level dental providers to provide dental care to the Alaska Native Community. The first reports of outcomes are promising. Bolin (2008) analyzed the dental records of patients treated by dentists and dental health aide therapists, and showed that the two classes of dental providers had similar outcomes for irreversible dental procedures [32]. Wetterhall, et al. (2010) studied the first cohort of dental therapists working in Alaska and found that the therapists were "technically competent"[33]. The patients of the dental therapists were "generally very satisfied"[33].

The Oglala Sioux Tribe recently adopted a resolution for a Dental Health Aide Therapist program (DHAT), which allows DHAT's trained at the Oglala Lakota College to practice on the Pine Ridge Reservation. This resolution has been supported by the Oglala Lakota College in training local people to provide basic dental care on the reservation (OST resolution). It would be beneficial to study whether Dental Health Aide Therapists could provide cost effective, geographically accessible, and sufficiently high quality oral health care to improve the oral health of the Oglala Lakota people. Dental health aide therapists could also implement broad-based prevention programs promoting good oral hygiene and oral disease prevention.

Conclusion

By any measure, the oral health of the Oglala Lakota people is poor. The Check Up Study documented a high prevalence of caries and periodontal disease, numerous people with missing teeth, and many unmet dental needs. Any future survey needs to measure pain, difficulties in activities of daily living, oral-health related quality of life, and orthodontic needs. Future studies of oral health-related behaviors and access to oral health care are needed to

explain the dental, periodontal, and soft tissue problems that adversely affect the Oglala Lakota tribe.

A revised version of the oral health survey developed for the Oglala Lakota people will be used for other Native communities.

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About the Author

Dr Terry Batliner, DDS is currently PI of a five-year clinical trial, testing the effectiveness of motivational interviewing as an intervention to reduce early childhood caries (ECC) in a Northern Plains American Indian (AI) tribe. He is also involved in several other studies aimed at reducing early childhood caries in Native populations. As a dentist and member of the Cherokee Nation of Oklahoma with experience in the Indian Health Service, Dr. Batliner is interested in changing the high rate of ECC that has afflicted many AI communities for decades. The rate of ECC has not declined in the past 25 years and may be on the rise in some AI communities. He is interested in a multi-pronged approach combining biological interventions based on an understanding of the microbiology of ECC coupled with behavioral interventions designed to improved oral hygiene and diet.

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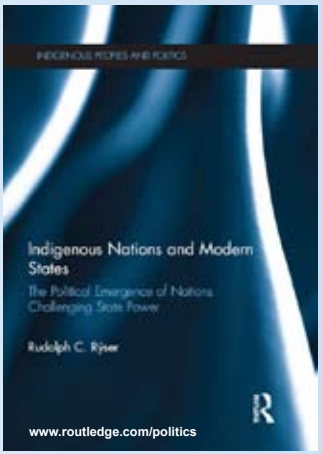

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Selected contents

Introduction Emerging Modern Nations; Fourth World Geopolitics, Four Nations and the U.S.A.; First Nations and Canada; The Laboratory of Internal Political Change; The Laboratory of External Political; A World of Nations and States

Biography

Rudolph C. Ryser sits on the faculty of the School of Public Service Leadership at Capella University, and is an adjunct professor of History and Culture at the Union Institute and University. He is a 2011 Fulbright Scholar, Chair of the Center for World Indigenous Studies and the Editor in Chief of the Fourth World Journal.

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Somatic Empathy: Restoring Community Health with Massage

By Leslie E. Korn
Center for Traditional Medicine

Adapted from Key Note remarks delivered on 26 April, 2013 at the International Massage Therapy Research Conference, Leslie University, Cambridge, Massachusetts.

Abstract
From the jungle of west Mexico to the tangled streets of Boston healing touch has a powerful effect on the physical and mental well being of those who receive touch therapies. While conventional health institutions weigh the potential benefits of touch therapies such as massage and polarity therapy, research and the experiences of practitioners demonstrate the clear and concrete benefits of the therapeutically applied human touch. This is a much needed addition to the health system that can prevent as well as cure.

I began touching people therapeutically beginning in 1973, when I lived in the jungle in western Mexico. I first worked with the Mexican-Indian women, whose childbirths I had attended and who, because of the burden of multiple births and relentless work under the sun, often looked more like the mothers of their husbands than their wives. They brought their widely flattened sore feet and muscular shoulders, indented by ironlike bras that cut deep grooves across the top of the trapezius muscle. We shared village gossip and they were both honored and amused at my interest in traditional ways of healing. They told me that dried cow dung rubbed on the head cured baldness and then offered to demonstrate on me. They told me stories they had themselves been told about snakes that lived near the *cascadas* and were known to be so dexterous that they could unzip your dress, get inside your pants, and get you pregnant. As we got to know each other better, they shared the trauma of their lives and loss of family members to the hardships of the jungle and sea: drowning, tetanus, amoebas exploding the liver, rape, and incest.

The women brought their little ones in when they fell off horses and hit their heads or fell out of hammocks or over the bow of the 40-horsepower *pangas* as they hit the beach on an off wave, bruising the ever so tender sacral bone at the base of the spine. The men came in for treatment accompanied by their wives for the first session, just to make sure nothing untoward would take place. They sought relief for a variety of problems that usually had to do with occupational accidents: diving and the residual effects of too much nitrogen in the blood. Some of the men did not survive. Those who did rarely went diving again, nor did they ever walk the same way again.

One night Ezekiel, an ever-grinning, gold-toothed carpenter whose wife Ophelia made the best coconut pies in the village, was brought ashore. I was asked to his house where he lay in bed, inert and unable to urinate. I arrived amid the crowd of neighbors ritually dropping emergency money onto his bed, body, and clothes. No one needed to mention that the delay in reaching the charter medical flight to Acapulco, still an hour's boat ride away over rough, full-moon seas, was due to lack of money. And while Zeke's pockets were

stuffed with pesos, his pants half on, belly exposed and scarred from previous battles unknown to me, I placed my hands gently on his abdomen to help him relax while he waited.

I arrived in Mexico, having left college in Boston, a young feminist carrying the newsprint version of Our bodies ourselves into the jungle, in search of myself and personal meaning. My experiences with my own healing during my first years in the tropics and as a welcomed participant in the indigenous traditions of my neighbors opened up a path that became my lifelong journey and career. I studied Polarity therapy and massage therapy formally during a brief sojourn to the US and quickly returned to Mexico where I spent the next 10 years honing my craft.

My apprenticeship with the women in the village began very naturally. I learned from trial and error and I served as my own laboratory. It was only later as I sat with my grandmother as she entered her ninth decade that I learned that I came from a long line of women who used their hands for healing. These women healed with herbs, foods, and glass cups or wine glasses, to which a little alcohol was added and ignited and then placed flush against their patient's skin. The combustion of the alcohol and evacuation of the oxygen produced a vacuum that would pull up on the skin, creating a suction, which in turn brought blood and oxygen to the surface, dispersing the pain and stagnation in the tissue. This was believed to rid the body of poisons. The Yiddish saying: It will help like applying cups to a dead person …points to the centrality and importance of cupping in the healing repertoire of 19th century eastern European women. "Cupping" was also widely practiced by indigenous peoples of the Americas who used a variety of animal horns like buffalo in the old days as well as illustrious Boston physicians through the mid-19th century and it remains an integral method practiced by acupuncturists and massage therapists today. My great-grandmother brought these traditions with her when she left the old world, but as she and her neighbors settled into their new lives in Boston, cupping and herbs went into the cupboards and they now took their troubles to the *mein tsores* (the my troubles) hospital (the Massachusetts General Hospital), where the new medicine was now concerned more with the inside of the body and how chemistry could cure.

Like my grandmothers during the early 20th century, my neighbors in the Indian village practiced massage and healing however they were were quickly becoming overwhelmed by development and its form of medicine which whether it meant to or not, diminished the role of traditional healing. I witnessed what I call the "paradox of progress"-- as development decreased acute diseases, it also contributed to the chronic ones. The rapid changes were too fast for people to absorb and the dimunition of traditional forms of healing like massage and herbal medicine and food foraging, which had long governed the rhytms of community life now gave way to community trauma.

I treated a varied group of people, both indigenous villagers, expatriates and tourists; their bodies were movable installations of pain and stress, where many had stored their memories of trauma for safekeeping. Very early in my work, I discovered that people talked about important, painful, long-forgotten events in response to my touching the areas that hurt. The discovered that their bodies longed to tell the stories that their minds preferred to keep quiet.

As they relaxed on the table, they talked to me of their lives, and it became apparent that there was a relationship between the source of their bodily pain and the content of their words. As I grew in my capacity to listen, people began to trust me and opened more deeply to their own memories, images, and stored pain. Commonly, areas of acute pain were overlays of chronic, ancient pain buried in layers; the first layer was childhood abuse or beatings, followed by accidents associated with high-risk lifestyles, war, or adult rape or violence.

A 60-year old Brazilian woman, I will call her Elana, complained of a recurring painful spasm in her shoulder. As her muscles relaxed under the pressure of my fingers, she recalled for the first time that the Catholic nuns who taught in her convent school had berated her for curling her shoulders and they placed a broomstick behind her back, passing it between her elbows to force her improved posture. She sat like that for three hours. Over 50 years had passed since this event and what for her was a traumatic experience. Touching her now gave her pain associated with the touched in her past. But, as I easily massaged touch began helping her to remember and to tell her story until her spasm subsided.

My experiences in Mexico led me to the study of Psychlogy and public health and wanting to know more I returned tto Boston in 1983. I was lucky to intern at the newly opened stress and pain clinic in the psychogeriatirc ward at the ***Lemuel Shattuck Hospital***-- a public health chronic care hopsital. Here women laid in bed, medicated with *benzodiapines* to reduce the agitaton associated with the diagonsis of paranoid schizophrenia. The pain-and-stress staff were interested in whether we could eliminate some of these daily doses of the drug. I suggested that I could massage the womens' necks and shoulders and rock them when they were agitated—I spent my hours rocking women to sleep. And also trained the staff, most of whom were nurses. They were pleased to do the hands-on work that had originally brought them to nursing in the first place. Rocking is a universal behavior. We rock babies to sleep and we pat the sacrum at the bottom of the spine in a soothing rhythm with one hand as we hold and cradle the brachial plexus or cranium with the other. Rocking synchronizes the hemispheres of the brain; it accelerates sleep onset and improves the quality of sleep by increasing sleep spindles, which are rapid rhtymic brain activity that occurs during stage-two sleep. Rocking engages the template of touch and the relaxed the "inner infant" of all ages. I have rocked veterans who cannot calm down in the evening; rape survivors who cannot rest; and I have employed *rocking* to reduce anxiety, panic, and pain; and to induce sleep for children and adults of all ages. Despite its efficacy, rocking an individual is more labor-intensive than a pill, and it may be that the sleep and *anxioltyic* medications that we have come to accept as routine and effective, are really just more efficient, but not better.

However, we do have over 100,000 well-trained massage therapists in the United States as well as nurses and caregivers and other professionals who can *rock.* And there are the family members for whom the delivery of rocking would be as relaxing to give as well as to receive. We don't grow out of the need for this kind of soothing. We just don't generally receive this type of touch or give this kind of touch as adults; that is unless we receive it during a massage. Rocking and other forms of soothing massage restores neurobehavioral bonding and attachment behaviors .

From the ***Lemmuel Shattuck Hospital***, I next moved on to the Department of Community Psychiatry at Cambridge Hospital.

Research suggests that mental health professionals are among the most phobic about the body. I guess that is why much of mental health treatment occurs from the neck up! I was not deterred by this. In spite of the phobias and taboos, I was approved, by the nurses once again, to introduce gentle massage and polarity (clothes on) to work with very distressed indiviauls who had diagnoses of borderline personality, *shcozaffective* disorder, sucidality and self harming. I also worked with recent immigrants and refugees who were under great stress but for whom psychotherapy had little to offer.

As a bodywork practitioner, I experience the deep relaxation and meditative states that my patients did. It was during my work in this hospital that I began to explore more deeply how the nature of our interaction and what felt like a profound field of rhthymic synchrony between us, contributed their imrprovement. this led me to consider a concept I call somatic empathy.

Empathy is the ability to detect accurately the emotional information being transmitted by another person" and it is linked to syncrhony, which refers to the physiological matching of rhthyms. Researchers report indicate that the synchrony of rhythms such as brain EEG, cardiac, and ultradian rhythms, occur between partners, friends, and between bodywork practitioners and their clients. Two primary biological rhythms that guide us are the *circadian rhythm* (the 24 hr sleep wakefulness) and the *ultradian rhythm,* which is the 90-120 minute brain cycle of hemispheric dominance. When we help our clients relax, we are restoring the balance of these rhythms. When we treat our clients for stress, pain depression, *fibromyaglia*, PMS eating disorder, whiplash, and other traumas, we are balancing these underlying *disorhtyhms* that govern our psychobiological cycles. The conscious entrainment of these *psychophysioenergetic* rhythms, results in a shared state between practitioner and client called somatic empathy.

The geneticist Mae-Wan Ho states in what article that body consciousness is a complex web of communication and memory mediated via the connective tissues; the skin, bones, tendons, ligaments, and membranes made mostly of collagen that forms a liquid crystalline continuum with electromagnetic properties far beyond what we normally consider as just "skin and bones" Tiffany Field defines attachment as a form of psychobiological attunement that regulates synchrony with and between people and whole socieites.

This form of consciously shared *psychophysioenergetic* interpersonal attunement is cultivated and directed for the purpose of helping the client to heal. By functioning as the baseline of empathic consciousness, somatic empathy improves the capacity for bonding and attachment, balances autonomic and affective self–regulation, and restores dynamic oscillation and rhythm to psychobiological processes.

Entraining rhythms however is not just dependent upon human touch practitioners. Many of you know that I work with a therapy dog to promote massage and healing forms of touch. Canines, like felines and horses and other animals also entrain rhythms of relaxation. I often work with individuals who have

been so hurt by inappropriate touch that they cannot tolerate touch by human, not to begin with; these are often the individuals who attempt suicide or experience chronic depression anxiety.

My dog is a *paw-di-worker*--whenever a client lies down on the treatment table, he moves to lie underneath it. I soon noticed that the rhythm of my clients' breathing often became entrained to his (or is it his to the client's), leading to a relaxation in both their rates and depth of respiration. This was first apparent to me when during the course of the hour, several sighs would occur in both dog and client simultaneously.

Sometimes a client would notice the respiratory entrainment and remark on it. Intimate interaction, such as talking and touching with companion animals, reduces levels of arousal, such as blood pressure; There is also a reciprocal effect of facial expression on emotional experience; for example, various qualities of contraction and relaxation of the facial muscles are directly associated with certain emotions. Take a moment to hold a smile and observe how fast positive feelings increase. For survivors who are in great pain and find no reason to smile, the smile or laugh elicited by an animal can begin to reactivate a neuromuscular pattern of pleasure.

As with my experiences in Mexico, the people I treated in the psychiatric clinic had chrnic pain, depression anxiety panic attacks, they addicted to subatnces –the common denominator underlying their experiences was that their expousre to traumatic events was the agent of their distress.

This is one of our greatest public health challenges for which our work is ideally suited.

What then is the role of somatic empathy in matters of public health ? What are the most pressing concerns today and in the years ahead? Here are two braod categories Trauma and attachment disorders and chrnic disease. The first is Trauma and its effects on the capacity for healthy attachment, bonding and physical and emotional self regulation and the sequela that dervie from these problems.

In addition to accidental injuries, which by the way occur often and in very high rates among people who have already been traumatized about 70% of people with chronic pain and disability, people who are alcohol or chemical- dependent have histories of complex trauma; Whether they pruchase medications in a pharmacy or on the street, these medications are used for self medication of emotional and physical pain due to trauma. We have a public health disaster in the US among veterans that has been continuous since the Viet Nam war.

The 2nd major category of public health problems are the chronic diseases. These are the "lifestyle" diseases of modern life that reflect the "paradox of progress" I menitoned earlier; the cancers, diabetes Type 2, the dementias, cardiovascular diseases. These chronic diseaes are associated with stress, sendentism, poor quality food and environmental toxins and quite often poverty. The contribuition of massage to these diseases has a great as still untapped potential; post surgical lymphatic massage, sweedish massage for the edema and neuropathic pain of diabetes, for the treatment of cancer related pain and nausea, to reduce agitation in elders or during the

end of life and for the caregivers of those who are ill, for their health is at great risk.

Somatic empathy extends beyond the dyadic relationship and into the community; traditional socieities everywhere engage n community rituals that regulate attachment behaviors; indeed these rites of passage, and initaiton ceremonies reinforce binding to the community. The body is the terrain of these ceremonies that often occur at puberty. It may be that the alientaion felt by young people today in industriliazed socieites; expressed in self harm, agressions, stress and substance abuse is a reflection of lack of meaninglful community intiation rites; where theydissociated from a larger embracing whole in which initiation is a stepping stone to belonging. In her research with the Yequena Indian tribe of Venezuela, jean Liedloff observed that infants are held nearly continuously from birth for the first 2 years of life. She asserts that they do not experience the psychological alienation, that is endemic in low-level-tactile societies.

When I returned to live and work fulltime in Mexico in 1997 I reopened and expanded the public health clinic and received funding to conduct a five-year community determined research study on the role of traditional healing for the treatment of community trauma.

By now all the young women I had grown up with in the village when I arrived 25 years earlier were now mothers and grandmothers and village leaders; we gathered at the clinic one afternoon and held a massage circle, with each woman turning to the next one and massaging her shoulders; Then the women made a plan about the activities they thought should be included in this action research project. Among them was learning massage techniques and trvaeling to neighboring villages to teach their *comadres..;*. The health promoter program enlisted new recruits who wanted to learned new massage and poalrity therapy protocols, emergency medicine . and importantly each woman also taught the healing knoweldge she carried, to the others. In 2010 we received a vitally important Massage research foundation community service grant to extend our service areas delivery deeper into even more isolated indigenous villages and help to train the next generation in bodywork and massage. There we found and treated women and men who were parlyzed from polio, stroke, individuals housebound with rheumatodi arthirsits elderly men crippled from years of back breaking work.

One of the overhwleming effects of "paradox of progress" and development in indigenous peoples communtiies is not only the loss of local knoweldge and loss of resources; but the loss of faith in the value of these resources. The role of an empathic witnesses is one of validation of knoweldge in the face of the onslaught of the often unsought foreces of development. We have seen consistently that elivering massage therapies has had effects beyond the treatment itself but has invirogatored restoration of traditonal healing including massage practice in these rural communities by this validation process.

I found this to be similar when working together with tribal communities in he Pacific nrothwest when we designed an National Institutes of Health funded our research project on polarity therapy for the treatment of stress pain and depression among american indian dementia caregibers. We asked the reservation based and urban indian communities what they felt was important to study; what ques-

tions they wanted to answer and what they believed were the best ways to answer them. This is somatic empathy in action research. Together we formed a community of diverse researchers --academic and tribal and communtiy-based and also leveraged clinical research to support changes in tribal and public health policies. Our T randomized placebo controlled trial; found baseline levels of very high rates of pain depression and stress among this healthy caregiver sample (we had excluded for diabetic neurotpathy and heart disease) 95% of the 50 participants had experienced at least 1 serious traumatic event; and we found that 8 weekly sessions of a standarized protocol resulted in a statsitcally significant reduction of pain, stress depresson and anxiety. Now in some ays desgining a standradized massage protocol is an oxymoroin. However we asked ourselves: what types of touch and locations of touch are most likely to reate a positive response in most everyone and what would be acceptbale to this traditional, and modest population? We collected a psychological biological and phsyiological data. When we reviewed our qualitative data we also discovered something that we had not thought to ask about; we found that self care behaviors rose significantly; receving treatment appeared to enhance the capacity of the participants in the tx arm to sponatenously go out and engage in activities in which they took better care of themelves.

We also used our research to develop policy reccomendations that recognized the special needs of tribal caregivers and the ways in which federal policy could better respond to the culure speciifc needs of tribal peoples. The local areas agencies on ageing, supported the research and funded the delivery of polarity and bodywork to non native members of the communities. The study also lent support to tribal health centers who wanted to incorporate massage therapies into tribal health systems. Today many tribal health clinics in the Pacific Northwest now offer massage and bodywork therapies.

Somatic empathy holds particular import for our work in global public health; for as we conduct research and validate our work, obtain funding and engage the various scientific communities to validate our therapies we also have an obligation to advocate effectively for the undersevred and to support indigenous communities who are working to maintain their customary practices which include massage and healing. Even if we do not work globally we can support the undersevred in our rural communities, in communities of recent immigrants many of whose members arrive in the US and often feel as though they need to "hide" their healing traditions.

What are some clinical action research projects we should undertake that address our most urgent public health needs throughout the life cycle?

We have a large underserved community and a large cadre of under employed massage therapists. It's a perfect match.

And what have we found from our research that can inform these studies?

We have an epidemic of children and adults on anti depressants. Research tells us that aerobic exercise 3 times a week has a similar effect on depression as do anti-depressants Can exercise combined with massage therapies and counseling offer an alternative to the medications

There is a growing movement to deliver

bring yoga and mindfulness education into the schools; lets us find creative ways to integrate self massage, the types of methods like self bodywork conscious touch and massage therapy so children can self soothe.

There are parents of all ages who will benefit from receiving support for touch their children lessons in infant massage, rocking. Can we collaborate with WIC, Head Start programs and parenting support groups to reach parents and for the children?

Our center has developed a diabetes protocol; but there is surprisingly very little systematic work being done on the application of massage to diabetes; massage lowers blood sugar levels lowers cortisol levels, it reduces edema and contributes to increased self care; all essential to people at all stages of diabetes. Might massage be used with people with pre diabetes to support self care activities such as exercise and improved dietary habits as an aide to prevention of the disease. Can we educate and engage diabetes educators in this effort?

Massage can be applied in hospital settings for a treatment, but what about before and during stressful diagnostic procedures?

Up to 65% of people undergoing MRI and other diagnostic procedures experience moderate anxiety and dysphoria with some of these experiencing severe distress. Lets us offer massage, along with breathing relaxation in the clinical diagnostic setting

There are over 200,000 women imprisoned in the US most of whom are in for non-violent crimes related to the sales of drugs or because of addiction to drugs. The majority of these individuals have histories of high levels of trauma exposure; let us deliver massage therapies to these individuals during incarceration and upon release to support self-regulation and relaxation.

Mental health agencies routinely treat people who are depressed anxious dissociated with counseling and lots of medications; some of which work some of the time and often don't. Let us work with these agencies to provide

Undertake collaborative research with other disciplines. As massage therapists we commonly treat symptoms of both acute and chronic inflammation. Lets us do collaborative research with other disciplines like nutrition, which use natural NSAIDS like proteolytic enzymes, or the natural *cox 2 inhibitors*. These may also be a source of funding for your project as many companies have funds to support this research.

Incorporate culture specific approaches to research and massage delivery, ask what is culturally isomorphic to the particular communities or group; engage the community's ideas and participation; use the research to change policies, improve accessibility and provide training. Let us avoid helicopter research; research in which the researchers "drop in" and then fly off leaving little for the community changes for example when we conducted research with elder; there were two major areas of adjustment; one, we needed to design a protocol that did not require disrobing, and we needed a protocol that would not intersect or appear to interfere with the diverse religious and spiritual practices of the community since touch and healing is often associated either poverty or negatively with religious practice

And while we are let us begin to value qualitative research, phenomenological research as much as the quantitative studies. What each person says about the value of their experience is as important as the numbers we collect.

The Indian Health service has approved naturopaths, acupuncturists and chiropractors. Next in line is making available the full delivery of massage therapies available consistently to everyone into health delivery system; Massage therapy can have significant effect on the health of the communities, which are high in chronic pain disability, diabetes. There are more than 500 tribal communities in the US and over 800 First Nations in Canada. There is great diversity among these communities.

Finally at end of life let us make policy that delivers massage therapies to people in hospice. Our own study with caregivers we found almost half the caregivers spontaneously took what they learned while receiving treatment and began giving treatment to their family members? There is a growing category of home heath aides and caregivers delivering care for those with dementia and chronic illness. Lets us influence state policies, which set the training and certification program for these caregivers educate these caregivers about appropriate touch, compassionate touch.

At a hospital I was asked to make a house call to Señora Martinez after extensive physical workups had found "nothing wrong," with her in spite of her insistence that she had terrible pain. Lupita's pain brought her repeatedly to the emergency ward, where she said she was having a stroke. She was referred to psychiatry, which she experienced as an affront: *No hay ningún problema con mi mente. El problema está en mi cuerpo! No me entienden!* (There is no problem with my mind! It's my body! They don't understand me!). I went to see Lupita at her home and entered a tiny apartment steamy with beef caldo and brightened by dozens of neon Virgenes and a baby Christos. She was seated at a small window overlooking a train track, and I asked her to tell me about her symptoms, explaining that I was from the clinic and did *masajes* (massages) and used *hierbas* (herbs). She sat with her back to me and I touched the areas she identified as painful in her shoulders and chest. Within a few moments, out came a flood of tears: she spoke of the pain of relocation from rural Santo Domingo, the loss of her husband, the new life her children had made, and the life that was going on without her. The loss and grief she felt poured out over the several weeks during which we worked together. We had established somatic empathy. We were speaking the same language.

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Managing Climate Change In Africa: Challenges To Traditional Knowledge Systems And Human Values

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Abstract
Despite prolonged scientific research in Western Europe on the subject-matter of climate change and greenhouse emissions, a big gap in knowledge and understanding of what constitutes climate change and how to combat the phenomenon still exists in Africa. This gap creates uncertainty in the continent coupled with the tragic conclusion that Africa may be the worst hit continent in terms of the negative impact of climate change to sustainable livelihood. Climate changes will affect regional climatic processes and ecosystems in the continent. The position of this article is that a greater understanding of climate change could be enhanced and a more sustainable adaptive and combative solution evolved by an expanded knowledge, and inquiry drawn from Africa's traditional knowledge systems within the context of Sathya Sai's Education in Human Values (SSEHV, 2012). The article will use axiological and collaborative research components to make the case for a paradigm shift in the methodology and to present critical areas in which African traditional knowledge systems could complement current scientific approaches to understanding climate change in Africa.

The colloquium on climate change organized recently by the Faculty of the Social Sciences, University of Nigeria, is a welcome forum to brainstorm and share ideas on one of the most topical issues bordering mother Earth and Africa in the 21st century.

Climate Change: The Nigerian Scenario

The negative effects of climate change are already being felt all over Africa. Climate change is already having a very negative impact in Nigeria. The Nigerian scenario is symptomatic of the African environmental challenges and changes brought about by climate change in the continent (Kanu, 2011:34-36). In Nigeria, for example, disruptions in the ecosystems and ecological balance of weather conditions, over flooding, soil erosion, encroaching desertification, droughts, increasing land infertility, atmospheric dry clouds and polluted water systems have become the staple of daily life of indigenous peoples living in Bornu, Adamawa, Aguata and the Niger Delta regions of the country. According to the recent report from a team of researchers from Building Nigeria's Response To Climate Change (BNRCC, 2011).

> *Climate change or global warming has become a new reality, with deleterious effects: seasonal cycles are disrupted, as are ecosystems; and agriculture, water needs and supply, and food production are all adversely affected. Global warming (climate change) also leads to sea-level rise with its attendant consequences, and includes fiercer weather, increased frequency and intensity of storms, floods, hurricanes, droughts, increased frequency of fires, poverty, malnutrition and series of health and socio-economic consequences. It has a cumulative effect on natural resources and the balance of nature. The impact of climate change can be vast. In Nigeria, this means that some stable ecosystems such as the Sahel Savanna may become*

vulnerable because warming will reinforce existing patterns of water scarcity and increasing the risk of drought in Nigeria and indeed most countries in West Africa. As well, the country's aquatic ecosystems, wetlands and other habitats will create overwhelming problems for an already impoverished populace. Preliminary studies on the vulnerability of various sectors of the Nigerian economy to Climate Change were conducted by NEST. The sectors evaluated were based on seven natural and human systems identified by the IPCC, and condensed into five. They are: human settlements and health; water resources, wetlands, and freshwater ecosystems; energy, industry, commerce, and financial services; agriculture, food security, land degradation, forestry, and biodiversity; and Coastal zone and marine ecosystems (BNRCC-2011:12):.

Furthermore it is the acceptable view and evidence within the scientific community in Nigeria that climate change is a living threat:

Nigeria's climate is already changing. The Nigerian Meteorological Agency (NIMET 2008) assessed the Nigerian climate over the period 1941 to 2000 and demonstrated the following changes: Rainfall: Compared to previous periods, during the period from 1971 to 2000 the combination of late onset and early cessation shortened the length of the rainy season in most parts of the country. Between 1941 and 2000, annual rainfall decreased by 2-8 mm across most of the country, but increased by 2-4 mm in a few places (e.g. Port Harcourt). Temperature: From 1941 to 2000 there was evidence of long-term temperature increase in most parts of the country. The main exception was in the Jos area, where a slight cooling was recorded. The most significant increases were recorded in the extreme northeast, extreme northwest and extreme southwest, where average temperatures rose by 1.4-1.9oC. (BNRCC 2011:18).

CLIMATE CHANGE: Observed Negative Impacts

Climate change is not only a living reality in the lives of Nigerians, especially the indigenous peoples living in the wetlands, savannahs, the Niger Delta swamps, forests and the deserts but it has started to impact negatively upon the socio-economic programs meant for socio-economic improvements of the standards of living of the people of Nigeria. Nigeria's ***Vision 20:2020*** is the country's visionary and strategic program meant to bring about structural socio-economic transformation and sustainable development in the country, famed as the biggest black nation on earth. Vision 20:2020 Committee members, in their 2010 report, summarizing the impact of climate change on the country's economy, have already identified the phenomenon of climate change in Nigeria as a threat to the realization of the vision and its laudable economic goals. Accordingly it has observed that:

The potential for climate change to bring about damaging and irrecoverable effects on infrastructure, food production, and water supplies, in addition to precipitating natural resource conflicts makes it a critical challenge that must be responded to by any economy seeking sustainable growth in the years leading up to 2020. (Nigeria Vision 20:2020,2010)

In addition, the deleterious effects on the country's gross domestic product (GDP) has been documented to support the main thread argument being canvassed in this article:

> *Recent estimates suggest that, in the absence of adaptation, climate change could result in a loss of between 2% and 11% of Nigeria's GDP by 2020, rising to between 6% and 30% by the year 2050. This loss is equivalent to between N15 trillion (US$100 billion) and N69 trillion (US$460 billion) (BNRCC, 2011).*

More than socio-economic impacts, weather-related disasters have been identified in different parts of the country. Recently, to assist in the development of the NASPA-CCN, the BNRCC Project commissioned the Climate Systems Analysis Group at the University of Cape Town to develop climate scenarios for Nigeria. In the report, it was noted further that weather-related disasters have become more frequent in the past four decades and the trend continues. The nation's natural and agricultural ecosystems, including freshwater and coastal resources, are highly susceptible to the effects of climate change. These vulnerability factors make clear the urgent need to respond to the challenge of climate change in a comprehensive and systematic manner that, at the same time, addresses broader development priorities, taking account of the gender-differentiated needs and roles of the society (BNRCC, 2011).

Climate change's negative impact has been envisaged in the different national sectors with wide-ranging cost implications for the socio-economic fortunes of the country and her citizens. The Nigerian study group on climate change (BNRCC, 2011) identified six significant areas affected with escalating costs in seven areas of Nigeria's national life. These are:

1. Agriculture (Crops and Livestock)

Changes in climate factors have significant consequences for the agricultural sector. The adverse impacts of climate change are expected to lead to production losses in the sector, compromising the attainment of the Millennium Development Goals, especially Goal One, "Eradicate Extreme Poverty and Hunger" and Goal Seven, "Ensure Environmental Stability." The range of possible climate change hazards and relevant adaptation measures are diverse and must be considered in the context of the local agro-ecological, production and socio-cultural conditions present for any particular area of Nigeria.

2. Freshwater Resources, Coastal Water Resources and Fisheries

Climate change will affect the nature and characteristics of the freshwater resources on which Nigerians depend. The impacts will vary between eco-zones, exacerbating existing problems of too much water (floods), too little water (droughts) and reduced water quality (e.g. salt water intrusion). Climate change impacts, including sea level rise and extreme weather, will also affect Nigeria's coastal and marine areas, home to 25% of the country's population and to Nigeria's economically important petroleum industry. These impacts on water resources will also affect fisheries, a main source of livelihoods and protein for riverside and coastal rural communities.

3. Forests

Nigerian forests are already under great pressures arising from increasing populations and growing economic wealth leading to greater demand for forest resources. Climate

change is expected to add to these pressures, through direct impacts of the changing climate on forest growth and development and through greater demands on forests by populations adjusting to climate change.

4. Biodiversity

Increased aridity, increased intensity and variability of rainfall, and sea level rise all have impacts on organisms, species, and habitats. Climate change can also lead to loss of livelihoods (for instance loss of agricultural productivity), leading to increased dependence on biodiversity for income. These climate change-related factors will exacerbate the impacts of existing human pressure on biodiversity. This will further diminish the ability of these natural heritage resources to continue to provide ecosystem services on which human development and survival depend. Climate change may also lead to the displacement of valuable ecosystems by invading species that are favoured by the new climate regime.

5. Health and Sanitation

A large part of Nigeria's economy is dependent on natural resources that are vulnerable to climate change impacts. When these resources are affected, the health of Nigerians can also be affected. Direct health impacts of climate change stem from extreme events such as heat waves, floods, droughts, windstorms, and wildfires. Indirect effects of climate change on health may arise from malnutrition due to reduced food production, from spread of infectious disease and food- and water-borne illness, and from increased air pollution. The impact of climate change on water resources, including reduced water availability in some areas and flooding causing contamination of water in other areas, will have a negative impact on the already poor sanitation situation in Nigeria.

6. Human Settlements and Housing

Nigeria has experienced rapid urbanization with nearly 50% of the population now living in urban areas. Generally the condition of housing and provision of essential infrastructure are poor in both urban and rural areas, and Nigeria has an estimated shortage of 16 million housing units. Climate change will have an economic impact on housing throughout the country due to the wide range and distribution of hazards including sea level rise, increased frequency and severity of storm surges, increased flooding associated with high rainfall events, and high winds. Moreover, if climate change impacts decrease the national GDP as projected, this will in turn result in decreased available funding for the construction and renovation of housing.

Context and Background to Climate Change in Africa

Climate change is a major threat to sustainable growth and development in Africa. The challenges facing Africa in context of the climate change threat are many fold and may need restating:

1. The need to increase awareness and understanding among the indigenous population of Africa;

2. The need to recognize and appreciate that traditional African knowledge systems have an established means of enquiry, understanding, adapting and mitigating its environmental challenges known to the continent before the encroachment of colonialism on its soil;

3. The need to integrate Africa's traditional knowledge systems and axiological components in the present public knowledge and inquiry on climate change;

4. The need for Africa to develop sustainable adaptive and combative measures that will be drawn from its traditional knowledge systems and suffused with human value components.

As could be seen from the climate change scenario and studies in Africa, with ample examples drawn from Nigeria, enough is not being done to accord recognition to Africa's traditional knowledge systems (Gbenga, 2008) in the current efforts to establish sustainable programs for enlightenment, adaptation, and mitigation of the climate change phenomenon and its negative impacts. The impression being created is that traditional Africa has no inbuilt knowledge systems about effective control and management of its environmental challenges. From public documentation research we can conclude that "Although Africa is the continent least responsible for climate change, it is particularly vulnerable to the effects, including reduced agricultural production, worsening food security, the increased incidence of both flooding and drought, spreading disease and increased rush of conflict over scarce land and water resources." [1]

Without providing the traditional context and cultural background to the climate change debate, colloquium and research it will be pretty difficult to appreciate the axiological and traditional knowledge arguments advanced by its proponents who are not comfortable that the current pro-western scientific approach to public enlightenment, adaptation and mitigation measures are not only narrowing the scope of inquiry and research to western scientific models but that the public understanding of the phenomenon is steadily drying up since it is not being enriched with a more holistic approach. It is further argued that without the African indigenous people participating in the current climate change public discourse the real structure of traditional knowledge systems and human values known to African's may not be factored in to complement the present pro-European scientific system. Climate change and its management is not new to Africa. Actually climate adaptation and mitigation form part of the essential knowledge of African indigenous system centuries before the arrival of the white on the continent [2]

Nevertheless, the western world is treating the present climate change debate and phenomenon as something alien and foreign to Africa. Africa is treated in neocolonial contempt as a continent without any traditional knowledge system capable of understanding and managing the phenomenon of its climate (Kanu, 2011:39). The knowledge of sustainable management of her environment and climate is native to the continent, forming part of its knowledge systems centuries before Western Europe came to Africa. The traditional knowledge systems of Africa (TKSA) is well contextualized within Victor Krishnan Kanu's axilogical and philosophical framework of a squared relationship that makes up the African Cosmos (Kanu, 2011:28). In this squared relationship there is the value of God, man, ancestors, the land and deities. Man is at the centre of this squared universe surrounded by the human values of truth, peace, right conduct, non-violence and love. Human values, according to this Cosmo-axiological

perspective, is part of the metaphysical structure and essence of the African which makes life, the land, the environment and his knowledge systems a continuum and accounts for sustainable livelihood in Africa. In his 'The African American: search for truth and knowledge, Leonard Jeffries (1980, pp.12-13) it is the existential reality of the human values that account for the ability of the Africans to survive and sustain its environment, its land and feed its people over the ages (Kanu, 2011:40). Any knowledge system seeking to assist Africa to understand changes in its environment without incorporating these human values may not be helping the African people to understand the current debate, evolve its own indigenous public campaign, set up its adaptive and mitigation strategies. Climate change is about bringing about a change in behavior of how people use non-sustainable energy systems that increase earth's carbon emissions, leading to increased pollutions on atmospheric and environmental disruption of nature's ecosystems and balance. In effect climate change is first and foremost a metaphysical, axiological, cosmological, sociological and meteorological environmental challenge, which must have a cultural background, a value-context and integration of the people's knowledge systems.

Africa and the global Debate on Climate Change

Climate change is one of the most troubling challenges facing the 21st century because the last 12 years (1995 to 2006) rank among the 12 warmest years of global surface temperature since 1850.[3] The growing evidence of links between climate change, Africa, globalization, migration, increasing poverty and conflict raise plenty of reasons for concern. Achim Steiner, Executive Director of the U.N. Environment Program, in the article, "The Nexus of Climate Change, Migration and Security" concurs and elaborates further:

> *The costs and consequences of climate change on our world will define the 21st century. Even if nations across our planet were to take immediate steps to rein in carbon emissions—an unlikely prospect—a warmer climate is inevitable. As the U.N. Intergovernmental Panel on Climate Change, or IPCC, noted in 2007, human-created "warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level." As these ill effects progress they will have serious implications for Global national security interests as well as global stability—extending from the sustainability of coastal military installations to the stability of nations that lack the resources, good governance, and resiliency needed to respond to the many adverse consequences of climate change. And as these effects accelerate, the stress will impact human migration and conflict around the world (Steiner, 2011).*

It is difficult to fully understand the detailed causes of migration, economic and political instability, but the growing evidence of links between climate change, migration, poverty and are more than enough reasons why it is time to start thinking about new and comprehensive answers to multifaceted crisis scenarios brought on or worsened by global climate change. Achim Steiner further argues:

> *The question we must continuously ask ourselves in the face of scientific complexity*

and uncertainty, but also growing evidence of climate change, is at what point precaution, common sense or prudent risk management demands action (Steiner, 2011).

Is there no way to simplify and lessen this scientific complexity by broadening the scope of study and shifting the paradigm of the method enquiry by integrating the traditional knowledge systems of Africa in climate change study and understanding? In the coming decades climate change will increasingly threaten humanity's shared interests and collective security in many parts of the world, disproportionately affecting the globe's least developed countries, most of which are domiciled in Africa. Climate change will pose challenging social, political, and strategic questions for the many different multinational, regional, national, and nonprofit organizations dedicated to improving the human condition worldwide. Organizations as different as the United nations and its specialized agencies on climate change; others such as Amnesty International, the U.S. Agency for International Development, the World Bank, the International Rescue Committee, and the World Health Organization will all have to tackle directly the myriad effects of climate change.

The recent report from the UN Intergovernmental Panel on Climate Change (IPCC) noticed a disturbing scenario that started since 2006 till 2011:

The IPCC emissions scenario projects an increase in global mean surface air temperature relative to 1990 of about 2oC by 2100. Average sea level is expected to rise by about 50 centimetres from the present to 2100. From the various scenarios of emissions, large regions of Africa and more particularly the Sahel and part of southern Africa and experience warming in the range of 3 to 6oc by 2100. (IPCC, 2007:7)

The above projections from the global perspective of the Intergovernmental Panel on Climate Change paint very tragic images and scenarios for Africa. It is noted also that Africa is particularly vulnerable to climate change because of "its high proportion of low-input, rain-fed agriculture compared with other regions of the developing worlds further compounded by other aggravating factors such as wide spread poverty and weak capacity" (Climate Change and Africa, 2007:7).

Until the year 2000 climate change discussions centered solely on mitigation. Prevention of long-term negative impacts on the planet's climate systems was sought through reductions in carbon emissions. The first and second assessment report of the IPCC alerted the world to the problem of the runaway greenhouse effect, pressed the world's governments in 1992 at Rio de Janeiro to agree to the United Nations Framework Convention on Climate Change (UNFCCC, GE.05-62220 (E) 200705) and led to the negotiation of the Kyoto protocol. [4]

From focus on mitigation, world leaders have shifted global attention to adaptation to climate change as a necessary complementary measure to mitigation. It was pointed out that the poor countries especially Africa and Asia, would be more vulnerable and would need support to fully understand, participate and evolve sustainable adaptation and mitigation climate change measures that will reflect Africa's traditional knowledge systems and human values. As well argued by Ndanane T "who will have the courage and intellectual

panache to make the necessary methodological enquiry shifts in millennium western thinking and research on climate change to allow for Africa's cultural understanding and approaches to it, contained in its traditional knowledge systems?" The challenge of climate change to Africa must and can only be brought home to Africa and Africans by the application of its age-old cultural and traditional epistemology—knowledge that has accounted for its centuries old ability to manage and sustain change in the context of environmental challenges.

Climate Change and African Traditional Knowledge Systems

Professor Chinua Achebe has been able to paint an original epistemological motif with the bromide of African literature to depict the cultural existential reality that is climate change with its devastating impact on the traditional and sustainable livelihood of the Igbo Indigenous peoples before the arrival of the *whiteman* on the continent of Africa*:*

> *The year that Okonkwo took eight hundred yams from Nwakibie was the worst year in living memory. Nothing happened at the proper time; it was either too early or too late. It seemed as if the world had gone mad. In the morning he went back to his farm and saw the withering tendrils. The first rains were late and, when they came lasted only a brief moment. The blazing sun returned, more fierce than it had ever been known, and scorched all the green that had appeared with the rains. The earth burned like hot coals and roasted all the yams that had been sown. Like all good farmers, Okonkwo had begun to sow with the first rains. He had sown four hundred seeds when the rains dried up and the heat returned. He watched the sky all day for signs of rain clouds and lay awake all night . In the morning he went back to his farm and saw the withering tendrils. He had tried to protect them from the smouldering earth by making rings of thick sisal leaves around them. But by the end of the day the sisal rings were burnt dry and grey. He changed them every day and prayed that the rain might fall in the night. But the drought continued for eight market weeks and the yams were killed. Some farmers had not planted their yams yet. They were the lazy easy going ones who always put off clearing their farms as long as they could. This year they were the wise ones. They sympathized with their neighbours with much shaking of head, but inwardly they were happy for what they took to be their foresight. Okonkwo planted what was left of his seed yams when the rains finally returned. He had one consolation. The yams he had sown before the drought were his own, the harvest of the previous year. He still had the eight hundred from Nwakibie and four hundred from his father's friend. So he would make a fresh start. But the year had gone mad. Rain fell as it had never fallen before. For days and nights together it poured down in violent torrents, and washed away the yam heaps. Trees were uprooted and deep gorges appeared everywhere. Then the rain became less violent. But it went on from day to day without a pause. The spell of sunshine which always came in the middle of the wet season did not appear. The yams put on luxuriant green leaves, but every farmer knew that without sunshine the tubers would not grow. That year the harvest was sad, like funeral and many farmers wept as they dug up the miserable and rotting yams. One man tied his cloth to a tree*

branch and hanged himself. (Achebe 1958 pp. 21-22)

Climate change is an environmental change known under the traditional way of life as a disrupting and abrupt change to the stable life systems of the people of Africa. It has also been argued with the above artistic depiction by Professor Achebe in his novel ''Things Fall Apart'' that, obviously demonstrates the fact that Africa has an indigenous traditional knowledge system (Kanu, 2011) that has assisted the peoples of the continent to understand and enjoy a sustainable management of its climate, environment and land in centuries before and after European colonialism. It amounts to intellectual, philosophical, axiological and cultural insincerity on the part of the present enquiry advocates to apply only western scientific methodology and to wrongly presume that Africans do not have credible traditional sustainable knowledge systems. Moreover, the numerical preponderance and domination of only the industrialized countries in all current global negotiations and discussions on climate change is in direct contradiction to the shocking emerging reality that, though the Western Europe are the "climate polluters" (Climate Change and Africa, 2007:8) they still impose their scientific knowledge system on Africa and willfully refuse to integrate African traditional knowledge systems into the current global inquiry, research and understanding of the phenomenon of climate change. This unacceptable knowledge variance fails to integrate the traditional human values native to Africa while marginalizing and excluding Africa from strategic climatic change negotiations. This marginalization of Africa even when it is the continent that will experience the greatest negative impact needs more emphasis and social elaboration. In describing indigenous peoples everywhere as "climate refugees" (Ryser, 2010:41) supports further the claim of intellectual, social, philosophical and axiological marginalization of Africa in the current global inquiry, negotiation and research about climate change:

*Indigenous peoples around the world are being adversely affected by changing weather, draughts, floods, melting glaciers, and shifting temperatures resulting in serious health problems, environmental changes, changes in plants and wildlife, food security problems, population growth, and displacement. All of these affects are altering indigenous peoples' cultures, social and political relations; and in many instances forcing indigenous peoples into becoming "climate refugees. * * * Indigenous peoples are, and have been dramatically affected by changing climate in ways not fully apparent to people living in urban and suburban areas.*

*Marginalized out of sight indigenous populations have little political influences in sub-regional, regional and international for a where regulatory, mitigation and adaptation strategies are being discussed and negotiated. * * * Despite the limited influence indigenous peoples have on the production of gases that change climate they experience the most direct adverse effects of urban generated carbon dioxide and other green house gases that have altered the atmosphere. Where and how might indigenous peoples effect changes in internationals and state level policies on climate change while allowing political space for each indigenous nation to develop and implement its own adaptation plan. (Ryser, 2010:41-42)*

Ryser came up with the Muckleshoot experiment (2010:46) to determine whether and how indigenous peoples including Africa, could elevate the level of their understanding, research, inquiry and participation in the dialogue and negotiations with global and regional groups about climate change. Ryser argues that such participation in the global dialogue will help the search for answers to the millennium understanding of the phenomenon, but assist indigenous peoples to evolve traditional and creative ways to mitigate the adverse effects of climate change. It is obvious that the establishment of a global dialogue between Africa and the world should start with admitting current efforts by indigenous scholars to integrate indigenous knowledge systems into the existing scientific inquiry and research into the understanding of what is climate change, how it can be mitigated and adapted to by all peoples everywhere. Traditional knowledge helps the indigenous people to understand, combat, mitigate and adapt to climate change (Rie Clinger & Barkes, 2000). According to Professor Pietro Laureno, traditional knowledge provides:

> *… a formidable resource for ecosystems and land management at the local level. It was an extra ordinary multifunctional technique that solved the dual effects of traditional extreme climatic conditions: flooding during the heavy season on the one hand, and drying during the summer months. (Laureno, 2010)*

Seminally, philosophical sociology and cultural wisdom describe traditional knowledge as the knowledge calabash that captures the cosmology with its known and unknown secrets of spiritual and environmental survival of the people in the individual context of culture defining its unique epistemology. The International Centre For Traditional Knowledge defines traditional knowledge as a unique knowledge system, method and content, which could be described in the following manner with its unique attributes:

> *Traditional knowledge constitutes the ancient knowledge of humanity, the deepest layer on which our science and culture have developed, the local solutions that have allowed the creation and management of ecosystems and cultural landscapes on the entire surface of the planet. It enables the development of solutions with a low energy and resource use that are able to adapt to environmental variability and to react to emergencies and catastrophes in flexible and multifunctional ways. (ICTKD, 2012)*

The African traditional knowledge system focuses on the following thematic thresholds with its methodological objectives and aims already recognized both by the World Intellectuals Property Organization (WIPO) and UNESCO's Intangible Cultural Heritage unit (both Agencies of the United Nations):

1. To make an inventory of traditional knowledge and its innovative knowledge use in case studies on specific countries;

2. Study the possibilities for dissemination of traditional knowledge;

3. Study the parameters and the indicators for traditional knowledge loss and elaborate methods to combat such loss;

4. Select the successful practices and

create a system of incentives for the implementation and dissemination of traditional knowledge and innovative technology deriving from traditional know how;

5. Consider the methods for the protection of traditional knowledge rights that can be implemented by persons, communities, disseminators and traditional technique innovators;

6. Discuss the promotion of traditional techniques through each country focal points and provide a guideline for the adoption of a national safe guard and of dissemination strategies (i.e. the Italian Ministry of Environment, following upon concerns about the integration of traditional knowledge systems into modern climatic change debates, have made arrangements to do just that with UNESCO, UNCOI) to create the International Centre for Traditional Knowledge. Traditional knowledge as obtains in Africa, constitutes 'a core skill of widely adopted systems of strong and brilliant devices and methodologies for energy production and resource recycling, micro climate control and for the management of the earth's soil" said Pietra Laureano. It is obvious that within African traditional knowledge system lies information, data, techniques, methodologies, and technologies that have determined the success or failure of the civilizations that have developed them. As Professor Laureano aptly observed, Traditional Knowledge is knowledge that has led to the adaptation of ancient civilizations and ''those who are capable of adapting have survived; those who haven't have disappeared…''

Traditional knowledge contains testimonies and evidence-based methodologies for adaptation capacity and traditional techniques for climatic control. As well argued by (Kanu, 2010) these traditional methods of knowledge and epistemological foundations could be the basis for technological innovation (Laureano based upon submission made by Dyanna Riedinger & Fikret Barkes, 2000) culled from 'Contributions of Traditional Knowledge to Understanding Climatic Change: and a collaborative research project in Sachs Harbour). It is worthy of the subject to restate five areas in which traditional knowledge may complement European scientific approaches to understanding and adapting to the current climate change debate in Africa:

1. As local scale expertise;

2. As a source of climate history and baseline data;

3. In formulating and implementing research questions and hypotheses;

4. As insight into impacts and adaptation in indigenous communities in Africa;

5. For the long-term community based participation and monitoring.

These five areas of potential convergence, according to Riedlinger & Berkes (2000) provide a conceptual framework for bridging the gap between traditional knowledge and western science in the context of climate change research, understanding, inquiry and

the search for the traditional and indigenous measures that will lead to authentic adaptation and mitigation in Africa.

Human Values, Traditional Knowledge and African Indigenous Rights

The application and integration of Traditional Knowledge to climate change research not only generates a human value research load, but also embeds the rights of indigenous peoples in all research, debates and negotiations at the local, national, regional and international levels. From 20-24 April, 2009, indigenous representatives from all over the world assembled in Anchorage, Alaska, for the Indigenous People's Global Summit on Climate Change (Anchorage Declaration, 2009) at the end of which solidarity was expressed that indigenous peoples living in areas that are most vulnerable to the impacts and root causes of climate change, reaffirmed "the unbreakable and sacred connection between land air, water oceans, wetland, sea, plants, animals and our human communities as the material and spiritual basis for our existence are deeply alarmed by the accelerating climate devastation brought about by unsustainable development; disproportionate adverse impacts on our cultures, human and environmental health human rights, well-being, traditional livelihoods, food systems and food sovereignty, local infrastructure economic viability and our very survival as indigenous people" (Anchorage Declaration, 2009).

The integration of African traditional knowledge into the present scientific and European western approach to climatic change inquiry will not only expand the scope of its understanding in Africa but will lead equally to collaborative and participating research methodology that will deliver positive results for the globe. This is for the reason that it will increase the axiological value of the climate change research and equally lead to African indigenous peoples using the framework of the Sathya Sai Education in Human Values, which emphasizes the cultural and moral content of an ideal African attitude and behavior towards the sustainable management of the African environment (SSEHV,2012). Central to this unique educational model is the creation of noble human beings who see themselves as part of nature, the environment, the land and life (Kanu, 2011:34). Traditional knowledge adds the human values of truth, peace, right conduct, non-violence and love to the current research, inquiry and understanding to the global debate and discourse on climatic change. This will lead to the following value thresholds that will bring about attitudinal and behavioral transformation of the African in his efforts to understand and seek for solutions to the negative impacts and fallouts of climatic change in the African environment. Accordingly, one could thrash out the dialectical relationship between these five human values to the climate change challenge in African continent in the following research modules:

1. **5.1 Truth and Climate change**: Truth is one and expressed as unity of all life, unity in diversity and unity of man and his environment. This is the African reality that Western science must acknowledge: the African holistic approach to the study of his reality and environment;

2. **5.2 Peace and Climate change**: The peace, harmony and equilibrium of nature have been disrupted by man's wholesome adoption of western tech-

nologies that pollute the pure African environment. This unsustainable use of the resources of the environment is un-African and should be reversed;

3. **5.2 Right Conduct and Climate change**: It is only by bringing back the age old right environmental behavior that respects life, nature and the environment known to our indigenous peoples and encoded in our traditional knowledge that will lead to successful understanding research and participation of African indigenous peoples leading to successful strategies and programs to combat, adapt and mitigate the scourge.

4. **5.3 Non-Violence and Climate change**: The current global climate change regime and recourse to only western scientific methods does not respect and actually does violence to the African environment and its human values. It is not only a fact recognized in this article that western Europe caused the cataclysms of climate change which are ravaging Africa the most, but it is using knowledge systems that fail to recognize and respect the traditional knowledge systems which have helped the continent of Africa to sustain and preserve its environment and climate for centuries.

5. **5.4 Love and Climate change**: love is the single and the most fundamental value in the African human value framework recognized under the Sathya Sai Education in Human Values (SSEHV, 2012) under which, according to Kanu (2010:91), all the other values activate a noble, selfless and sacrificing spirit and social attitude that enables the African to live and exhibit a communal philosophy of others above self.

It is the absence of this fundamental value that leads to the kind of western kind of competition, which promotes crass selfishness, violence and destruction of nature in an unsustainable manner. The destruction of the African natural resources led to pollution of waterways, land and air, all fall outs of the colonial, neocolonial rule of Africa and the abuse of western technology. It is integration of the African traditional knowledge system in the context of the present scientific approach that will reverse the destruction and the negative impacts of climate change. This knowledge system is well recognized and emphasized in the historical Anchorage Declaration of the role of indigenous peoples in promoting and participating in the current global discourse in climate change:

> *"Through our knowledge, spirituality, sciences, practices, experiences and relationships with our traditional lands, territories, waters, air, forests, oceans, seas other natural resources and all life, indigenous peoples have a vital role in defending and healing mother earth. The future of indigenous peoples lies in the wisdom of our elders, the restoration of the sacred position of women, the youth of today and in the generations of tomorrow (Anchorage Declaration, 2009:viii)*

The integration of African traditional knowledge systems would complement the current scientific western approaches to understanding climate change in Africa; recognize

the rights of indigenous peoples as contained in articles 25-30 of the Universal Declaration of the Rights of Indigenous Peoples (UNDRIP); leverage upon the contributions of traditional knowledge to the extent scholarship on climate change research and demonstrate the right of the African peoples to "free, prior and informed consent to any enquiry, research and knowledge initiatives in projects that concerns their environment''(Anchorage Declaration,2009).

It is heartening that the United Nations in recognition of the vital need for this integration of traditional knowledge systems, thought of a veritable "back to the future" policy when the UNESCO set up the United Nations Convention to Combat Desertification (UNCCD) which according to Laureano is:

> *a convention based on traditional methods being developed, capable of recording on a regional basis the best methods to combat heat, extreme climatic variations and desertification… an new international pact that will establish the guidelines to enable human kind to make use of traditional methods and allowing scientists and businesses alike to develop innovative solutions by tapping into the cultural heritage that has been handed down to us through the centuries (Laureano 2007).*

Outside setting up the United Nations Center for Climate Change, governments in Africa should set up traditional knowledge centers on climate as adjuncts research boosts to their ministries of environment which should commission studies, research and field work to discover traditional knowledge systems in Africa. Ground-breaking findings of the research should be stored in a new African traditional knowledge bank from where African indigenous scholars can carry out cutting-edge research on climate change and seek sustainable solutions that are native to Africa. This African traditional knowledge bank will also carry out climate change studies, classification of its activities, study the various cultural techniques for mitigation, combat ion and adaptation, embedding African values into the current Western European minded research methodologies. This creation will protect the rights of local indigenous communities in Africa who are the right-holders to traditional knowledge, recognizes their intellectual properties rights and gives them an intellectual niche that has juridical benefits internationally. Successful initiatives such as the new envisaged African Traditional Bank (ATB) with lead to active participation of indigenous peoples in future negotiations and will ensure the recognition, protection and defense of indigenous rights. The New Partnership for African Development (NEPAD) and the African Union (AU) can fund this project initiative to give African traditional knowledge a global pedestal and leverage at the ongoing climate change debate. This is the only way to end the problem of an outdated intellectual paradigm seeking to marginalize the squared human relations that emphasize human values and the sustainable management of our environment.

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NOTES (Endnotes)

1. Official Report of the climate change and Africa 8th meeting of the Africa partnership forum Berlin, Germany 22-23 May, 2007, organized by APF support unit and the NEPAD), page I,

2. Victor Krishnan Kanu-Human Values Education and The Squared Relationship Between Man and Environment, TAISSE publications, Ndola, Zambia, 2008, p.38

3. 8th meeting Africa partnership Forum Berlin, Germany 22-23 May, 2007,:p.7

4. The Kyoto Protocol was negotiated in December 1997 and came into force in February 16th, 2005. The Kyoto protocol is a legally binding agreement under which signatories (only industrialized countries) will reduce their collective emissions of greenhouse gases by 5.2percent on average over the five year period of 2008-12 compared to the level in 1990).

Coping with diabetes and generational trauma in Salish tribal communities

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ABSTRACT

This essay is a result of a six-month study conducted to gain insight into the gap between the use of plants and practice of culture, and community health. If we can clarify connections filling the gap, I reasoned, then myriad other community health initiatives could draw on this important dimension of the human experience for the tangible improvement of health. For several years I had witnessed the cultural renaissance emerging in Salish country and plants education was at its nexus. In conducting this ethnographic study, I had hoped to gain insight into the transformative potential of ethnobotanical education in practice.

Viewing Indian country through the lense of diabetes, a powerful story unfolds. It's a story of historical trauma, abuse and genocide; of social construction and metaphors of health and illness; and of the role of plants in building connections to habitat, place, ancestry, and culture. Most of all, it's a story of being called home by the place, and reconnecting with the wealth of who we are.

Introduction: Diabetes in Indian Country

In the United States, Type 2 diabetes is rapidly emerging as one of the greatest challenges ever faced by the conventional medical practitioners. Its frequency in the general population is growing, affecting more than 26 million people in the United States and at an expense exceeding $200 billion each year (Pacific Northwest Diabetes Research Institute, 2012). One out of every ten health care dollars in the United States is spent on diabetes treatment and it is the leading cause of heart disease, blindness, kidney failure, and amputations. The disease is by no means confined to the United States or other economically developed countries. Increasingly being recognized as a disease of economic development, more countries are seeing rises in diabetes incidence rates (International Diabetes Foundation, 2011). Research suggests that by 2050, one out of every two people globally will develop diabetes at some point in their life (Pacific Northwest Diabetes Research Institute, 2012).

Diabetes is a pertinent health issue and American Indians and Alaska Natives continue to be more affected than others. Diabetes is a relatively new disease in Indian country, virtually unseen in tribal communities until the 1960's (Bruyere, 2006; Ferriera & Lang, 2006). American Indians and Alaska Natives (AI/AN) are significantly more likely than U.S. general population to develop diabetes (Ayach, 2010; Center for Disease Control, 2003; Harjo, 2011; Lee, 2002, Rhoades, 2004). As of 2005, American Indians/Alaska Natives (AI/AN) were 2.1-2.3 times as likely to be diagnosed with diabetes as their non-Hispanic white counterparts, and were almost twice as likely to die from diabetes as non-Hispanic whites (Barnes, Adams, & Powell-Griner, 2005; O'Connell, 2008). Some research (Ayach et al., 2005) even suggests a 5-fold increase in risk. American Indians are also at higher risk for secondary conditions associated with diabe-

tes, such as cardiovascular disease (Harwell, 2003; Kapfl, 2006; Oser, 2005; Tann, 2007), end-stage renal disease (Burrows, 2005; Narva, 2008), diabetic eye disease (Silver, 2006), and depression (Bell, 2005; Sahota, 2008; Samhoun, 2008). Age adjusted death rates due to diabetes and its indirect effects have increased since the 1980's in AI/AN populations when compared with White populations (Kunitz, 2008).

Research reveals drastically different understandings of diabetes etiology, diagnosis, and treatment between the biomedical establishment and tribal communities. The biomedical discourse around diabetes focuses on genetic and lifestyle factors. In contrast, narrative and ethnographic inquiry in American Indian and Alaska Native communities reveal a markedly different perspective, largely attributing diabetes to generational trauma and social oppression. The design and development of most diabetes treatment programs is dominated by biomedical understandings of the disease. Mainstream diabetes prevention programs have not been successful in tribal communities because they are developed using non-Native constructs of health, illness, and diabetes. Furthermore, mainstream methods of diabetes diagnoses, treatment, and discourse spur unintended consequences of shaming, blaming, and further marginalizing these populations. Now we ask: "Can diabetes be prevented or better coped with using culturally grounded ethnobotanical education programs?"

In response to the need for culturally grounded treatment, cultural restoration, and

ethnobotanical education programs are emerging in US-based tribal communities. These programs instruct participants on practical and accessible lessons in health maintenance and also serve to revitalize cultural traditions and collective identity—which many tribal members identify as the root cause of diabetes in AI/AN.

The essay that follows is the result of my study of the Traditional Foods and Medicines Program at the Northwest Indian Treatment Center in Elma, WA. This 45-day inpatient program features a weekly class devoted to traditional foods and medicine education. Through its holistic and culturally-grounded approach to individual and cultural healing, program staff work with patients and participants through relaying useful health maintenance information as well as working on the level of story and narrative to shift the course of this disease in tribal communities.

Methods

In this study I employed several qualitative methods, including literature review, participant observation, and semi-structured interviews.

An extensive review of the existing literature pertaining to diabetes prevention programs in tribal communities, social construction of disease, and relevant narrative theory was undertaken. Keywords used in PubMed searches include: diabetes, Native American, indigenous, native, attitudes, conceptions, traditional medicine, traditional knowledge, ethnobotany, ethnobiology, culturally appropriate care, historical trauma, generational trauma, narrative theory.

Participant observation was conducted on site at the Northwest Indian Treatment Center in Elma, WA one day per week over seven

weeks. Weekly classes observed consisted of 20-25 patients and three staff members. A three-day course for tribal educators, Diabetes Prevention Through Traditional Foods and Medicines, was also observed.

Semi-structured interviews were conducted with four people who either functioned as a current or former program director, or current or former patient of the center. With current and previous patients, interviews were left open ended and the interviewee prompted only to share their experience in the Traditional Foods and Medicines Program.[1] The current director and program founder were prompted to:

- share stories or observations about the changes have they have seen in patients and the community as more people begin gardening, gathering food, and bringing back traditions;
- reflect on how plants connect to culture; and
- share what surprised them about the development, implementation and reaction to the Traditional Foods and Medicines Program.

A 30-minute group feedback session was also conducted with the center's current and graduating patients, and overall thoughts on the program were solicited in a relatively unstructured manner. Audio from the interviews was recorded, transcribed, and subsequently cited. Throughout the participant observation and interview process, special attention was given to the role of ethnobotanical education in cultural healing.

Program materials were also analyzed for the case study portion, including Traditional Foods and Medicines Program curricula, Northwest Indian Treatment Center website content, grant reports, and articles by program staff.

The Social Construction of Diabetes

The social construction of health and illness. Concepts of health, illness, and narratives of disease are socially constructed and, to an extent, culturally determined. Social construction refers to a sociological theory of knowledge that considers the methods by which the meanings of phenomena are collectively constructed by a given group. In *The Social Construction of Reality* (1967), Peter L. Berger and Thomas Luckmann argue that all knowledge is derived from and maintained by social interactions. Social interactions assume and reaffirm commonly held notions of reality, which then solidifies into common sense or common knowledge.

What a culture deems an illness is therefore socially defined and constructed (Eisenberg 1978; Young 1982). In *The Anthropologies of Illness and Sickness* (1982), Alan Young describes sickness as "the process through which worrisome behavior and biological signs, particularly ones originating in disease, are given socially recognizable meanings" (p. 270). A culture's conceptions of illness are strands of the fabric that sustains social relations for a given group.

The biomedical construction of diabetes. Western biomedicine functions under the

1. Given the sensitive nature of the treatment program, it is not appropriate to ask patients direct questions of health condition or status.

biomedical model of health and disease, which regards pathologies as organic or physiological malfunctions of the human body. The institution of Western biomedicine emerged from the scientific revolution and is characterized by scientific reductionism, mechanistic thinking, emphasis on cause/effect dichotomies, and a linear orientation to health and illness (Bilton, Bonnett & Jones, 2002; Foucault, 1973). The following assumptions underlie this notion of disease:

- Disease is organic and based in malfunctioning physiology (Non-organic factors are deemed irrelevant).
- Disease is a temporary state of malfunctioning physiology that can be eradicated by medical intervention.
- Disease is experienced by a sick individual, who then becomes the target for treatment.
- Disease is treated after symptoms appear.
- Disease is treated in a medical environment (Bilton, Bonnett, & Jones, 2002, p. 356).

The biomedical model favors physiological explanations for disease. Following trends in scientific reductionism and mechanism, genetic explanations for disease have become extremely popular in recent years (Ferriera & Lang, 2006). Western biomedicine's increased focus on technological interventions and modernist preference for expertise over tradition have effectively displaced folk medicine traditions. Trends now favor clinical inspection and expert opinion over patient's accounts of their own illness, creating a notable distance between the healthcare provider and patient (Bilton, Bonnett, & Jones 2002).

At present, current mainstream medical discourse on diabetes etiology focuses on genetic and lifestyle factors. The medical community and diabetes industry[2] publicizes obesity, family history and amount of American Indian ancestry as risk factors for developing the disease (Ferriera & Lang, 2006). [3]

The genetic explanation for diabetes has dominated discourse surrounding its etiology. The 'thrifty gene hypothesis,' in particular, has become popular among researchers and clinicians. The hypothesis is that there is a gene in some populations that protect the body by retaining fat in times of starvation due to great seasonal fluctuation. However, in contemporary settings and modern patterns of food consumption, this metabolic conservation can become maladaptive (Ferriera, 2006; Neel, 1999; Paradies, 2007).4 Diabetes prevention and treatment programs have utilized a number of approaches to curb incident rates in tribal communities. Programs and efforts typically aim to prevent the disease using lifestyle intervention (diet and exercise). Clinical nutrition education programs have had success in lowering blood glucose among participants (Wilson,

2. The term refers to the conglomeration of business entities and medical institutions that meet the demands of diabetes patients and healthcare providers, including diagnostic laboratories, pharmaceutical companies, and marketing firms.
3. Other potential social and political factors are deemed too metaphysical and irrelevant.
4. The thrifty gene theory bears semblance to the 'firewater theory'—that Indians cannot hold their liquor as well as Whites and are therefore more vulnerable to alcoholism.

2003), though the incidence rates continue to increase. Popular and mainstream approaches to diabetes prevention tend to focus solely on blood sugar reduction through diet restriction and increase in physical activity. The Center for Disease Control directs the National Diabetes Prevention Program and acts as a model for other programs nationwide. Their program overview states:

> *The lifestyle program in this study showed that making modest behavior changes, such as improving food choices and increasing physical activity to at least 150 minutes per week, helped participants lose 5 to 7 percent of their body weight. These lifestyle changes reduced the risk of developing type 2 diabetes by 58 percent in people at high risk for diabetes…Participants work with a lifestyle coach in a group setting to receive a 1-year lifestyle change program that includes 16 core sessions (usually 1 per week) and 6 post-core sessions (1 per month).* [5]

Mainstream diabetes prevention programs typically stress diet and body weight in developing diabetes and target exercise behavior and eating habits for intervention. In contrast, some populations and cultures carry drastically different constructs of the epidemic. While this approach may work for select populations, it's culturally incongruous and ill suited for native participants.

The Indigenous peoples' construction of diabetes. Indigenous peoples' constructs of health and illness starkly contrast that of Western biomedicine. Conceptions of health are fundamentally holistic and are based in the interconnectedness of individual, community, and land (Korn & Ryser, 2009; Krohn, 2007; Turner, 2005). Spiritual patterns, emotions, and social relationships are believed to play a role in health and disease (O'Connor & Hufford, 2001). Spiritual life—and subsequently health—was connected to and inseparable from the land (Turner, 2005, p. 100). Indigenous constructs of health and illness are holistic and grounded in social, spiritual, and ecological relationships.

These beliefs stand in stark contrast to biomedical constructs of diabetes. North American indigenous understandings focus on colonization, historical trauma, and social oppression as the main causes of the epidemic. Native understandings of diabetes are socially constructed from experiences with historical trauma, as well as individual experiences and interpretations of biomedical explanations of the disease. Since the layperson's explanation of their illness has a fundamentally different purpose from that of the clinicians', their personal explanations of illness involve many different types of knowledge—incorporating memories from past events, subjective notions of causality, and patients' own beliefs about their own conditions (Williams & Wood, 1986). The following is a brief history of colonization in Salish coastal communities.

Generational trauma in Salish coastal communities. Northwest coastal Indian communities have weathered numerous and extreme blows to their culture over the last three centuries. Population strength, health, traditional foods, connection to land, and language have all undergone tremendous assault. These events do not remain static in time as a historical artifact; they persist today as generational trauma. Generational trauma is defined as emotional and psychological wounds that emanate from massive group trauma experiences that can persist in subsequent genera-

5. Center for Disease Control 2012.

tions. Far from theoretical and confined to the realm of cultural analysis, generational trauma has concrete and specific effects on long-term psychological and physical health. Dr. Leslie Korn has articulated community trauma as "events that overwhelm a community's capacities to function in stable and generative ways" (Korn, 2002).

Generational trauma is not confined to Salish communities. It is a global phenomenon that can be experienced and transmitted to future generations by any social group or population. Researchers have documented the presence of generational or historical trauma among the Lakota of South Dakota (Brave Heart, 1998, 1999, 2000, 2003), Indians of Western Mexico (Korn & Ryser, 2005), Jewish holocaust survivors (Kellerman, 2001; Yehuda et al., 1998; Sorscher, 1997), Khmer Rouge survivors (Sack, Clarke, & Seeley, 1995), Aborigines of Australia (Sherwood, 2009), children of women who were present during the Sept. 11 attacks (Yehuda et al., 2005), and Chilean holocaust survivors (Perez-Sales et al., 2000).

Salish peoples have endured a nearly continual onslaught of individual, community, and cultural trauma since European contact nearly three centuries ago. The assaults on individuals, families, and culture suffered during those years have caused an epidemic of generational trauma, and it has only recently begun to be addressed. This kind of trauma and culture wound has laid the foundation for chronic stress and other health issues, including diabetes.[6]

Epidemics. Numberless epidemics ravaged coastal populations and killed at least 80% of the population during the first century of contact beginning in the 1770s (Boyd, 1990). The wave of small pox epidemics struck Salish coastal populations in the late 1770's. The first episode spread quickly throughout the region due to its epidemiological characteristics, the flight reaction (rapid fleeing of an area) of virgin soil populations,[7] close proximity of individuals in pre-contact Salish communities, and their extensive social and economic networks along trade routes. Another smallpox outbreak struck in the early 1800's on the Northwest coast and was more limited in its reach and rendered fewer casualties than the first (likely due to a decrease in virulence and acquired immunity of coastal populations). In 1824-1825, a plague referred to only as 'Mortality' in historic accounts (probably smallpox) struck the Southern coast and Columbia plateau (Boyd, 1990). These were not the only epidemics to affect Northwest coastal communities and Salish longhouses. Syphilis was introduced in 1778 via the Cook expedition, which mainly struck forts and European settlements on the coast. Tuberculosis struck populations in 1793 and reached critical proportions in the 1830's with sustained European contact. The years of 1835-1847 saw a number of local epidemic outbreaks, including meningitis, smallpox, influenza, mumps, and dysentery. Measles outbreaks spread up to the Washington interior from California, then to the coast in 1848. Smallpox resurfaced again in 1853, and again in 1862 up the entire West coast, this time spurred by the Gold Rush (Boyd, 1990).

As a result, vaccination programs were developed and introduced during the 1860's. They were originally met with great suspicion and mistrust in tribal communities. The very

6. [see *Stress and Immune Function* on page 21].

7. Virgin soil populations are those that have had no previous contact with a given disease; and therefore no acquired immunity.

notion of vaccines—the introduction of a pathogen into the body to develop immunity to it—was seen as fundamentally illogical (Boyd, 1990, p. 67). Nevertheless, they were eventually implemented at numerous sites along the coast during 1862. This helped curb the spread of infectious disease for the first time in nearly a century. With vaccination programs, the period of devastating plagues began to wane.

Throughout those years, outbreaks continually violated every aspect of Salish peoples' lives and culture. Social bonds, economic customs, and cosmological constructs were upset (Kirk, 1986; Boyd 1990). In the ensuing crisis, medicine traditions were intentionally disrupted. Indian doctors had no experience with these new plagues, and their practices were viewed as ineffective, leaving longhouse members confused and disappointed (Boyd, 1990; Krohn, 2007a). Moreover, medicine men were held accountable for the health of their people. Their people might have even executed them if they were seen as responsible for the illnesses (Bergeson, Ash, & Hurtado, 1988; p. 65).

Since notions of health and illness are so deeply embedded in constructs of spirit and culture, the cultural shock experienced by these epidemics was severe. Christian missionaries saw an opportunity to proselytize and convert Indians during this period of shock, condemning the 'ineffectual sorcery' of their medicine people and shamans (Boyd, 1990; Krohn, 2007). A 1904 excerpt from the "Quarterly sanitary report of diseases and injuries" of the United States Indian Service (Hoopa Valley Agency) illustrates an example of the explicit intent and initiative to eradicate medicine traditions.

> *In connection with the sanitary report... the physician must note the progress the Indians are making in abandoning medicine men and adopting rational medicine methods, the proportional number of Indians who seek his service and those whom he seeks for treatment, what proportion he visits at their homes, and what proportion comes to his office or dispensary…He should do his best, with tact and firmness, to induce the Indians to discard the practices of their native medicine men and to substitute civilized treatment for superstitions and barbarous rites and customs. (Ferriera, 2006, p. 81)*

These outbreaks not only severely disrupted traditional life ways; they also claimed many lives. This was not only traumatic, but also disruptive to the transmission of cultural knowledge and traditions (Harmon, 1998; Kirk, 1986). The assault of infectious diseases, evacuations, and resulting changes in cultural traditions during the first century of contact is a traumatic memory, with effects felt as recently as the 1960's. Beatrice Brown and Willie Gladstone of Bella Bella told the following account.

> *I don't know what the Hudson Bay people did to the Indians when they chased them out of Victoria. They had a big, really funny coat on them and they did something on the bow of the canoes and really chased them out, the Indians. And then there's a whole bunch of them in each canoe and they started off. Not very far, the first man got sick and, a little ways, another got sick...And when they feel ill, they just go ashore and put them in a blanket, you know, like a stretcher, and put them on the beach. They just leave them there till they die. (Boyd, 1990, p.187)*

Reservation life. Prior to the establishment of the reservation system in the 1840s, northwest coastal peoples travelled to seasonal hunting and gathering sites (Boyd, 1990; Kirk, 1986). These semi-permanent communities consisted of temporary shelters in which individuals dwelled while gathering and preparing fish, game, and plant foods.

Throughout the 19th century, continued immigrant settlement among Indians strained natural resources in the Northwest and sparked conflicts between Indians and settlers. In 1853, Washington State became the territory of the United States, governed by Isaac Stevens. Stevens pioneered the implementation of the reservation policy of the United States in Washington, which claimed and sold land to westward-bound settlers (Bergeson, Ash, & Hurtado, 1988, p. 65). In 1854, Stevens began drafting treaties (based on formerly negotiated treaties in the Omaha territory) with Washington territory tribes and then people were urged to move to reservations. Many people did move, but most did not. This was a difficult process, as language barriers between Indians and the Americans proved to be challenging.[8] Furthermore, there were no Indian concepts of land ownership as understood by the Americans or signed deeds. Yet in many instances threatened with hanging or war, Indian leaders and representatives had few alternatives to signing the treaties (Bergeson et al., 2007). The Treaty of 1855 contained seven sub-treaties drafted with Northwest tribes under which 64 million acres became property of the state of Washington—leaving about 25% of the lands under treaty or later executive orders of the US President. As payment, tribes were promised annual annuities in the form of blankets, clothing, utensils, food and farming equipment[9] (Harmon, 1998; Kirk, 1986).

After being sent to reservations Indian movement was increasingly restricted. Unable to seasonally travel for hunting gathering of food, traditional lifeways were severed (Krohn, 2007a; Turner, 2005). As an additional assault to culture, traditional ceremonies and gathering on reservations were banned altogether. *Potlach* or 'giveaway' ceremonies—a keystone of tribal culture, marker of status, and critical element of Northwest coast native economic structure—were outlawed and punishable by law (Kirk, 1986, p. 32). Nuu-chah-nulth Chief Peter Webster describes the outrage felt by these injustices: "The Ahousahts were invited by the Clayoquots, so they went [and] their whole tribe got in jail…Myself, I say ridiculous! That didn't seem the right way: to punish people and try to banish all what culture we had."

This wasn't the only blow dealt to native peoples' relationship to the land. The US congress enacted the General Allotment Act (also known as the Dawes Act) in 1887 resulting in fragmentation of lands inside reservations with

8. The treaties were originally written in English and translated in Chinook for Indians (Bergeson et al., 2007). Chinook evolved as a common trade language in the Northwest for communication between Indians, settlers and tradesmen. Containing only approximately 300 words, it never became a true language, but remained a pidgin. Treaties written in English and translated into Chinook were therefore frequently misunderstood.

9. While gathering sites and rights were officially guaranteed protection, this was never actually enforced. Resource battles heated up between settlers and Indians, especially with fishing practices (Kirk, 1986; Harmon, 1998; Krohn, 2007a). Government officials erroneously assumed that Salish people would be primarily interested in European agricultural practices and were not prepared to enforce laws that protect hunting, gathering and fishing rites. Fishing rights were not upheld by the state or federal government until the Boldt decision of 1974 (Harmon, 1998; Krohn, 2007a). These promises ended up being severely delayed or unfulfilled altogether (Kirk, 1986).

individual land ownership eventually allowing non-Indians to purchase lands next to Indian lands. This Act forced Indian family heads to select and individually own 160 acres of land (other individuals were allowed 80) opening the parcels of land for sale to non-Indians at minimal prices. It intentionally destroyed tribalism and delivered the final blow to community ownership of land. Opening reservation lands to purchase by non-Indians led to what became known as 'checkerboard reservations'[10] and the erosion of power and authority from Indian communities. While the Act was repealed in 1934, the damage to Salish land relations and community fabric had already been inflicted (Harmon, 2003; Kirk, 1986; Krohn, 2007a).

Boarding schools. During the 19th century, the new Bureau of Indian Affairs (BIA) enacted a policy of cultural assimilation through education. This is famously captured by Capt. Richard Pratt's mantra of "Kill the Indian to save the man." Indian boarding schools were modeled after 18th century prisons and identified all aspects of cultural life for reformation (Ferriera, 2006b). All cultural signifiers were targeted for modification: diet, clothing, language, and family names. The first American Indian boarding schools in Washington State appeared on the Cowlitz reservation in 1841. Children as young as six years of age were drafted into the schools--intentionally located far from home. They attended school nine months out of the year and visited home only during Christian holidays. Traditional foods were banned; students were stripped of their names and given new 'white' ones; speaking an Indian language was illegal. Perpetrators faced brutal punishments for any transgression (Krohn, 2007a).

Eventually, the BIA changes its educational strategy and began closing the boarding schools in the 1920's. By the following decade, most of children were sent to public schools instead. But scars remain from the wounds inflicted by these policies. Elders today remember being taken away from their homes and being subject to the cultural violence of the boarding schools. Mollie Rudd of the Yurok Indian Nation as quoted in Ferriera (2006b) expresses these emotions:

> *I just can't get over all the beatings and rapings we went through in boarding school. I have nightmares. The children screamed at night, little children missing their parents. We were beaten up for any little thing we did, even for being hungry. We were kept locked up in a dark room if we spilled anything, slapped in the face for speaking Indian, beaten up if we dared to look the matrons in the eye. It was just horrible. My blood sugars go up just because I am thinking about it. In fact, I got diabetes when I learned that my son was going to be sent to Chemawa. It is just like being sent to prison. (Ferreira, 2006b, p. 368)*

Some of the old boarding schools are operational today as juvenile detention centers for delinquent Indian youth, such as Chemawa in Northern California (Ferreira, 2006b).

Commodity foods. Food is a cornerstone of social life and culture in Salish communities. First foods ceremonies, for example, strengthened social bonds while honoring food as a gift from Spirit as well as the land

10. Checkerboard reservations are those in which lands owned by tribes, individual Indians and non-Indians are mixed together on the reservation, creating a checkerboard pattern. They are notably prone to jurisdictional challenges (Indian Land Tenure Foundation, 2012).

from which it came (Ferriera 2006b; Krohn & Segrest, 2010). Traditionally, Salish coastal peoples consumed a wide variety of food. The abundant environment provided fish, shellfish, game, wild greens, berries, nuts, and roots (Korn & Ryser, 2009; Krohn & Segrest, 2010). With seasonal changes, families and longhouses travelled to hunting and gathering sites and established temporary settlements. Cultural protocols dictated sustainable harvesting, gathering, and hunting practices to ensure ecological stability.

In the late 1800's, availability of these traditional foods—as well as the social bonds they support—began to decrease as a result of changes in land ownership, reservation life, loss of traditional knowledge, and environmental degradation. Dietary alterations were another method of "civilizing" the American Indian. Commodity foods[11] were items that northwest coastal peoples were not accustomed to eating. This kind of nutritional trauma may have a role to play in the development of the diabetes epidemic in tribal communities (Korn & Ryser, 2006; Korn & Ryser, 2009). Bruyere (2006) conducted interviews with members of the Nehinaw of Opaskwayak Cree Nation on their concepts and narratives of diabetes. Out of 22 participants, 20 felt that their diabetes was related to ecological destruction and the eradication of traditional life ways.

> *Because we eat differently. We eat like the white man. This is what I think. Because a long time ago we did not open anything in a can. I remember when I was a child. Everything was grown, or people hunted. This is where we ate from. Today we go and buy everything. We do not know what is in it. This is where it comes from, I think. (Bruyere, 2006, p. 130)*

Environmental degradation. In Indian culture and cosmology, health of the individual, family and community is inextricably linked to the health of the land. Environmental degradation by European settlers systematically devalued and annihilated these relationships and connections (Krohn, 2007; Turner, 2005). Specifically, deterioration and pollution of sacred sites and traditional hunting, gathering and fishing sites has been a painful affirmation of the severance of an individual and community's relationship to the land (Krohn & Segrest, 2010; Turner, 2005).

Stress and immune function. These onslaughts to culture, identity, and social structure leave lasting psychological and physical effects. More recent studies elucidate the relationship between social and political oppression, chronic stress, and health. Generational trauma creates conditions of chronic stress, which has been shown to depress immune function in medical students (Glaser et al., 1999), specifically inhibiting T-cells, natural killer lymphocytes, and the development of antibodies (Littrell, 1996). Janet Keicolt-Glaser's research (1996) with the hepatitis B vaccine found that students who self-identified as having low stress and anxiety showed improved immune response (higher antibody and T-cell counts) to the vaccine when compared with higher stress and anxiety students. A study Fagundes et al. (2003) found that women with higher education and satisfactory social sup-

11. Commodity foods are those that are produced, sold, and purchased commercially. They were reinforced in the diets of Salish people in boarding schools and with waves of Westward bound American settlers. Annuity payments to tribes for the land they sold consisted of pig fat, beans, flour, and sugar—none of which were originally in the diet (Krohn & Segrest, 2010).

port had lower Epstein-Barr virus VCA titers when compared with other groups, suggesting a stronger cellular immune response to the latent virus.

Studies are also now linking group trauma (as well as social status and political oppression) to inhibited immune function. Research by McDade and colleagues (2002) identified that changes in social roles and status suppressed immune function in Samoan youth. One notable study investigated the long-term psychological consequences in first-degree relatives of people detained, disappeared or executed during the Chilean holocaust (Perez-Sales et al., 2000). The researchers found that second generation holocaust survivors reacted to adverse events with extreme stress. Finally, Jiang et al. (2008) found a number of psychosocial stresses to be significantly associated with diabetes in two tribal communities.

New developments in neuroendocrinology and immunology further support the connection between stress and metabolism (Sapolsky, 2004). Conditions of chronic stress can result in elevated glucocorticoid levels, negatively impacting blood sugar metabolism and insulin sensitivity (Moberg et al., 1994; Reaven et al., 1976; Rizza, Mandarino, & Gerich, 1982; Unger, 1991), immune cytokine production (Berkenbosch, Heinjnen, & Croiset, 1986; Scheiman et al., 1995), and growth factor production (Thakore & Dinan, 1994). Other effects include compromised cognitive (Dantzer, 2002), digestive (Desirato, MacKinnon, & Hissom, 1974; Sapolsky, 2004), and cardiovascular function (Rozanski et al., 1991; Sapolsky & Share, 1994; Wallerath et al., 1999). Medical research corroborates the relationship between generational trauma, social oppression, stress, and physical health, and reveals a more effective strategy for curbing diabetes in tribal communication.

Socially constructed knowledge in diabetes program design and implementation.

Most of the diabetes prevention and treatment programs in tribal communities are designed and constructed using the biomedical model. Unfortunately, despite the efforts of the medical establishment, diabetes rates in these communities continue to increase. From the years 1990-1998, rates of diabetes rose from 4,534 to 7,736 in American Indians and Alaskan Natives 35 years of age and younger—an increase of 71%. During the same period, the overall prevalence rate for the entire AI/AN population increased by 46%.12 A marked rise in Type 2 diabetes has been seen in AI youth and adolescents in the last decade (Carter, 2000; CDC, 2006; Lee, 2004). Alarmingly, the disparity in diagnosed diabetes between AI/AN and white youth has steadily increased from 2001-2007 (Roberts, 2009). Biomedical methods of diabetes discourse, diagnosis, and treatment also have the unintended consequences of further wounding Indian cultural identity and retraumatizing individuals.13

Generally, programs and initiatives develop in response to an identified need, problem, or noted deviation from a norm or expectation. The approach of a given program emerges from the developers' existing mental models and functional frameworks. Going further, each step of the design and development process requires creative action that is fundamentally founded in these models and frameworks. These models are socially constructed and therefore yield common understandings of a given phenomenon. Diabetes prevention

12. Source: Center for Disease Control, 2011
13. See page 24

programs that are constructed from a Western biomedicine understanding and approach will then contrast indigenous diabetes programs, which are based in different understandings of the disease.

Conflicting Narratives

Narrative theory can help gain insight into these divergent social constructions of diabetes. The lens and language of narrative can provide researchers and community members with a method of understanding the collective frameworks guiding the social construction of health and illness—and of diabetes in particular.

Narrative theory refers to a set of ideas and principles that identify story and discourse as a method of insight and communication. According to narrative analyst Ismail Talib (2011), narrative has a dualistic nature: a *what* (story) and a *way* (discourse). Narratives occur across scales, ranging from cultural myth and narrative to individual life stories, either of which can be explicit or implicit. Narrative theory elucidates how the stories and narratives by which an individual or culture functions and provides a framework for the meaning-making process. Narratives also embody and relay complex themes and worldviews through their expressed and explicit stories. So shifting one's focus and perception to the functional narratives within a given situation yields important insights. They can therefore function as powerful vehicles for system wide insight and change. The employment of narrative theory to understand the diabetes epidemic in American Indians elucidates its origins and social foundations and guides health workers and community members to leverage points for change. Diabetes program failures in tribal communities are most likely due to the disparate social constructions of the biomedical establishment and tribal communities.

Mainstream diabetes discourse focuses on genetic explanations for the development of diabetes. The most widely known hypothesis is that of the thrifty gene (Neel, 1999; Paradies, 2007). However, this explanatory construct blames and shames American Indians for their disease by disproportionately focusing on genes and lifestyle. Numerous criticisms have arisen concerning its accuracy and utility in identifying diabetes risk (Speakman, 2008). Ferriera (2006a) conducted a statistical analysis of Yurok tribal members and incidences of diabetes and found a very weak correlation between so-called 'Indian heritage' and risk of diabetes. First, American Indian heritage is not universally defined and it has different meanings across tribal communities.[14] This naturally complicates the attribution of diabetes risk to American Indian heritage. Additionally, severe famines are a rare and relatively modern occurrence. Most populations have experienced only 100 famines in their evolutionary history; decreasing the likelihood that selective pressure favored a 'thrifty gene' (Speakman, 2006).

Beyond discourse of diabetes etiology, receiving a diagnosis and prognosis is sometimes experienced as continued social oppression and colonization of the physical body. Clinically, the disease is diagnosed from a diffuse set of symptoms such as fatigue, weakness, and dizziness. The delivery of a diabetes diagnosis given vague symptoms is often

14. For example, the Pima tribe, Chippewa tribe (Minnesota Chippewa Tribe, 2000), as well as the Blackfeet tribe (Blackfeet Enrollment, 2010) requires 25% 'Indian blood' for enrollment. The Fort Still Apache tribe requires members to have 1/16 Indian blood (AAA Native Arts, 2008). Some tribes have no blood or lineal requirements.

perplexing to the patient. Some see diagnosis as a curse itself, seen in this story told by Sarah Tsurai of the Yurok Indian Reservation to Marriane Ferriera (2006a).

> *That's what the doctors tell me today: "There's no such things as Indian devils!" But I think it's just a matter of how you look at things. Being Indian deviled is like receiving a death sentence: "You are going to die." And you do, because you believe in it. So now the death sentence is: "You've got diabetes" or "You've got cancer" or something like that. If you accept the diagnosis, you're dead. I like to think that I don't have diabetes. Doctors say they can prove it. When I think that way, I feel the sentence. I feel that I've been Indian deviled, too (Ferriera 2006a, p. 87).*

The perception that diabetes diagnosis and treatment is another form of social control is not uncommon in tribal communities, as biomedical rationale and methods often mimics the ideologies of government policies of early colonialism. In particular, the focus on 'bad blood,' 'bad genes,' and blood scrutiny (glucose screening) evokes painful memories and implicitly suggest helplessness. Sarah Horn tells Marriane Ferriera (2006a),

> *At Sherman, they'd line us girls up to check our [menstrual] pads. They wanted to know exactly when we had our periods, so they could control us and know if we were seeing any boys. Not that we were allowed to see them, but it was just like… humiliating…So now you go to the clinic, you get in line. They prick your finger and test your blood. You get a number and that number tells on you. If you haven't been eating good, I mean, a lot of fat, sugar, junk food, you know, the doctors can tell. If you haven't been exercising too much, watching a lot of TV, just sitting around, they know too, because your blood sugar goes up. So your blood sugar tells on you. Don't you see? It's the same thing! (Ferriera, 2006a, p. 87).*

Given the current medical discourse on diabetes in Indian country, many tribal members and their communities hear the following tales:

- Indians have diabetes because they eat poorly and don't exercise enough, and many are obese.
- Indians and other tribal peoples are genetically predisposed to diabetes and other diseases.
- Indigenous peoples have a defective gene that becomes maladaptive (Ferriera 2006, p. 14).

Further research by Julia Anderson (2005) using interviews to explore diabetes patients' life conditions and health concepts revealed perceptions that the medical establishment and media portrays members of ethnic minorities as hopeless and helpless. This in turn bred discouragement and feelings of despair. These mainstream discourses relay messages of powerlessness, defeat, and certain doom. If it's in the blood, what can one do about it? Ethnographic research in the Yurok tribal community by Marriane Ferriera (2006a) revealed a connection between perceived risk of diabetes and moral blame as well as body imagery and changing social conditions. Additional ethnography inquiry by Bruyere (2006) produced similar insights. Nehinaw (Cree) conversations

about diabetes focused on power, identity, and social control as causes. One of the interviewees told Bruyere, "Today we are trying to be white men. I do not condone the way we are being looked after today. Ever since the white man controlled me, I am sick" (p. 135). In this context, health is political.

There is a fundamental difference in the medical establishment and tribal communities regarding constructions of the cause, prevention, and treatment of diabetes. Current medical discourse around diabetes attributes the disease to 'Indian genes' and lifestyle. Native understandings of diabetes see the disease as the product of generational trauma and colonialism. Nevertheless, at the epicenter of this debate is Indian identity, with individual and cultural narratives caught in the crossfire.

Diabetes programs based on indigenous social constructions. Culturally grounded diabetes programs tend to perform better than mainstream programs. A number of studies support the use of culturally appropriate diabetes education (Castro, 2009; Fleischhacker, 2011; Parker, 2011; Struthers, 2003; Willows, 2009). Brown et al. (2010) observed a tribal and youth-focused diabetes prevention program in Montana that successfully used community-based participatory research methods to identify culturally appropriate strategies to prevent the disease in their rural reservation community. Research by Mbeh et al. (2010) on the Cameroon Burden of Diabetes project suggested greater program efficacy with the involvement of traditional healers. The Waianae Diet Program is a community-based program of the Waianae Coast Comprehensive Health Center designed to address a multitude of chronic diseases among Native Hawaiians. Employing traditional diets and cultural teachings as the core of the program's philosophy and approach, participants experience significant weight loss (with no caloric restriction) and improvements in blood pressure, serum glucose, and lipids (Shitani, 1994). And where culturally appropriate diabetes prevention programs are lacking, they are desired. In a series of focus groups in Minnesota with African American, American Indian, Hispanic/Latino, and Hmong people with diabetes led by Devlin et al. (2006), participants stressed recommendations for respectful healthcare providers, culturally responsive diabetes education, and broad-based community action.

The Mino-Miijim (Good Food) program of the White Earth Land Recovery Project of the Ojibwe Nation in Northern Minnesota offers an example of a culturally grounded approach to diabetes education and prevention. Program staff delivers traditional foods to elder Anishinaabeg elders suffering from diabetes and prioritize the reclamation of community resources and cultural expression (Omura, 2006). According to project founder Winona LaDuke, "It's not just a medical program, it's not just a preventative health program. It's a cultural restoration program" (LaDuke, 2002). What follows is a case study of a tribal ethnobotanical education program based in Elma, WA that supports community health through cultural restoration and traditional medicine practices.

The Center's Traditional Foods and Medicines Program

The Northwest Indian Treatment Center (NWITC) is a 45-day inpatient drug and alcohol treatment center located in Elma, WA. The Squaxin tribe created the center in 1994 to address an unmet need for culturally based

drug and alcohol treatment centers for Indian people who grew up on reservations (Krohn, 2011). Its spiritual name is "*D3WXbi Palil*," meaning "Returning from the Dark, Deep Waters to the Light." The center provides residential alcohol and drug treatment to a primarily Native American population from Washington, Oregon, and Idaho. It accommodates approximately 20-25 patients at a time and is operated by 33 staff members.

The center adopts a philosophy of healing in which mind, body, soul and culture are necessary, connected, and integrated. NWITC aims to incorporate activities that address all of these dimensions of recovery. According to founding director June O'Brien, when patients' traditions are honored in the healing process, recidivism and retraumatization are much less likely to occur (Krohn, 2011). During a patient's 6-week stay, they participate in a wide range of activities: group therapy sessions, dialectic-based therapy sessions, lectures, life skills education, drum making workshops, and sweat lodges. By NWITC adopting the approach of a culturally grounded, holistic recovery process, they've been able to achieve a 60% success rate. This stands in stark contrast to presumed national averages that, while difficult to measure, estimate a 10-20% success rate (personal communication, May 25, 2012). And there's one activity the patients claim to enjoy to the most: the native plants class, formally known as the Traditional Foods and Medicines Program.

The Traditional Foods and Medicines Program.

> *We call the plants the first people. They were the first created in our oral tradition before the animals, before the fish, and their duty was to hold the Earth together and live their life as a teaching for those who would be created in the future. The plants left many things to us as human beings. They left the ones who would be our food, they left the ones who would be our medicine, they left the ones who would be our building material, they left the ones that would be our basketry material, they left the that would be the scent and fragrance of the sacred in this universe, they left beauty and dressed the Earth. The Earth was bare before the plant people were created. –Bruce Miller, Gifts of the First People*

The Traditional Foods and Medicines Program (TFMP) was created by the center in conjunction with the Northwest Indian College Cooperative Extension to increase patients' access to and knowledge of high-quality traditional foods, including berries, wild greens, seafood, and game (personal communication, June 12, 2012). The program holds weekly hands-on classes covering cultivation, harvest, and preparation of traditional foods and medicines. Twice a month, tribal elders, storytellers, and cultural specialists are invited to speak (Krohn, 2011). While the focus is on traditional foods and medicines, cultural activities such as singing, drumming, a sweat lodge, beading, and support from local Native spiritual communities are part of the program and support patients during their recovery. Upon graduation from the treatment program, students receive a certificate of completion that demonstrates the acquisition of marketable skills to assist in gaining employment[15] (Krohn, 2011).

15. One patient graduated from the program to become a gardener for his tribe. He eventually became a teaching assistant at NWITC. Another became a tribal health clinic janitor and helps maintain traditional plants garden in the community (Krohn, 2011).

The Diabetes Prevention through Traditional Plants program. Beyond weekly classes, the Traditional Foods and Medicines Program also presents workshops aimed at training tribal educators to teach the native foods and medicine classes in their home communities. These are known as 'Train the Trainers' and are developed for native teens and adults. One particular course focuses exclusively on diabetes prevention. The Diabetes Prevention through Traditional Plants program targets community educators, community members, and caregivers. The curriculum focuses on traditional foods and medicines that may help prevent and treat diabetes and its secondary health effects.16 It utilizes a variety of engaging and interactive teaching tools, such as prepared lesson plans, interactive class games, slide presentations, student handouts, and accessible teacher and student resources. It's rooted in Salish epistemology and is easily modified according to the educator's region. The course consists of four lessons: 1) Introduction to traditional foods and medicines for diabetes, 2) Traditional medicines for diabetes, 3) Native edible berries, and 4) Cooking with native foods (Krohn, 2012). I participated in the Diabetes Prevention through Traditional Plants program and observed occasional weekly native plants classes at NWITC over four months.

On the first day of the class, twelve of us sat in a circle of tables and introduced ourselves over a cup of Labrador tea.[17] We were presented with the first lesson, *Introduction to Tradition Foods and Medicines for Diabetes*. This overview of diabetes in tribal communities explored both biomedical and indigenous explanations, including dietary changes, changes in mobility, stress and generational trauma, and environmental toxins. After a short lecture introducing the program, we discussed Western Red Cedar (*Thuja plicata*) bark harvesting practices. Where the whole class was previously reserved, students enthusiastically shared experiences with cedar bark, and the room came to life with stories and hallmarks of cultural tradition. As we continued through the lesson, instructors Valerie Segrest and Elizabeth Campbell, led us outside to give us a tour of the garden. Elizabeth shares an insight for the educators in training, "It's so important to get people outside, for them to actually see and be with the plants, to get their hands in the dirt. Whenever you can, get people outside and really connected with the plants."

The following day featured Lesson 2, *Traditional Medicines for Diabetes*. This lesson contained 'story cards' which illustrated a particular lesson or insight. One of them, *Getting to Know the Plants* by Elise Krohn, expresses wisdom in cultivating relationships with medicinal plants:

> *When I first started learning about the plants, I read as many books as I could find. I filled my head with information and started experimenting with myself and then on my family and friends. I bought dozens of types of dried herbs and put them in glass jars, which I labeled with both common and scientific names, where they were from and how to use them. Later, I met a Native elder who was a medicine man. He showed me his plants where were in brown unmarked bags in a giant tub. I asked how he knew what the*

16. The program intentionally refrains from physiological aspects of the disease and clinical nutrition guidelines and instead focuses on a culturally grounded and holistic approach to wellness.

17. A boiled tea of Ledum spp. leaves. Also known as Swamp tea, Marsh tea, or Indian tea. It is a traditional tea among Salish peoples.

> *plants were without labels and he looked at me as though I was a young child. "Of course I know these plants. I have prayed over them, harvested them and made them as medicine. I have developed a life-long relationship with them." The elder shared with me that he had been learning plants since he was a young boy. His grandfather, a medicine man, took him out in the woods and taught him about the plants that provided food and medicine. He had to learn how to identify them blindfolded. I could see his vast experiential knowledge and intimate connection to the plants, and knew this was what I wanted. (Krohn, 2012)*

The rest of the lesson reviewed basic plant harvesting, drying, storage, and preparation. It also stressed the validation of native sciences and epistemologies. Concepts of cultural property rights and protected knowledge were discussed, including examples of traditional knowledge exploitation. Finally, plants that may be helpful in preventing or treating diabetes were introduced, such as dandelion (*Taraxacum officinale*), hawthorn (*Crataegus spp.*), huckleberry (*Vaccinium parvifolium*), and others. As we continued to discuss the plants, students actively shared their family stories and experiences. The class always becomes enlivened and energized during these conversations. Discussions of traditional foods and medicines, family, and culture and community were clearly enjoyable for the students.

The final day of the program was devoted to Lessons 3 and 4. Lesson 3, *Native Edible Berries,* focused on berry plant identification and culinary uses. To test identification skills, the students played Berry Bingo. To segue into Lesson 4, *Cooking with Native Foods*, the class made smoothies with blueberries and huckleberries. Throughout the class, the instructors frequently shared examples of transformations inspired by these cultural practices. Elise Krohn said, "Some people go home and make a garden. Some people make medicine with their families, and some teach others how to work with the plants." The class viewed a traditional plants slideshow. Western Red Cedar (*Thuja plicata*) and Cottonwood (*Populus trichocarpa*) are among the first plants discussed. Elise shares a story about how one of her mentors, Ken Smith, witnessed his father bring down a fever with cottonwood bark. Other people then begin share their experiences with the tree. One of the stories skunk cabbage (*Lysichiton americanus*) concerned a friend of ours who ate fresh skunk cabbage root out of curiosity. Containing irritating oxalate crystals, our friend spent a great deal of time in the bathroom rinsing her mouth out. The afternoon is peppered with these anecdotes and stories, and they engaged and energized the entire class.

Over the next few weeks, I was able to observe the weekly native plants class at NWITC. On one particular day, the staff is introducing the Traditional Foods and Medicines Program and teaching about native edible berries. The class began with the history of the Salish people, and of the necessity of plant traditions and cultural knowledge for overall well being. The class then segues into a discussion of huckleberries, a key Salish food with known hypoglycemic properties (Korn & Ryser, 2009). Again, many share their stories about gathering and preparing this important plant as medicine. Cultural teachings about honoring the plants and natural world through prayer and ceremony are also shared.

On another day, the class focused on nettles (*Urtica dioica*) and the preparation of herbal teas. With a lecture on nettles and their mineral content and demonstrations on tea infusion, patients are inspired and encouraged to make tea blends to help cope with stress and improve nutrition. The patients then mix tea blends for the kitchen to use during their stay. During another class on a sunny Spring day, the class departed on a field trip to the prairie where students learned how to dig camas (*Camassia quamash*) bulbs using traditional digging sticks. The weekly classes all proceeded this way; a variety of activities engage students in traditional food and medicine practices. And the classes all contain common themes: they were experiential, rooted in Salish traditional knowledge, provided basic health instruction, and engaged cultural narratives of health.

Towards the end of class one afternoon, we invited patients to share their experience of the program. In this group feedback discussion, patients who had taken the weekly classes offered by the Traditional Foods and Medicines Program reported experiencing transformation and inspiration.

> *I'd sure like to start a program when I do get out of here. And just taking in what I learned here is going to help. We have a lot of medicinal herbs at home, like Indian tea… and I want to start my own garden. And yeah-we can do it together [gesturing to another patient] (Personal communication, February 14, 2012).*

> *I think the whole plants thing is a cool way to connect with traditions that's different, that everyone's not used to. People know about sweats and pow-wows, fishing…but plants were a big deal, especially for coastal Natives. And a lot of us don't really think about it. So I think it's a cool way to connect with older generations like elders, to learn their lives, and have the young people learn. It brings families together (Personal communication, February 14, 2012).*

> *It's my opinion that there should be more of this teaching…you know, botanical healing gardens, medicine wheels in different areas of our state to reacquaint the younger generation with the medicinal purposes of the plants, and of food (Personal communication, February 14, 2012).*

Unlike mainstream diabetes prevention and education programs, this program is rooted in cultural understandings of health, illness, and human's relationship to nature. It educates participants on health maintenance, disease prevention, and personal care for their selves and families using local, abundant plants. They learn how the act of making tea can help reduce stress, that huckleberry can help regulate blood sugar, and other practical lessons. This program also has a broader reach. The teachings about plants, nature, and Salish cultural history are intended to engage cultural healing and community transformation. June O'Brien shared the story of NWITC and the culturally grounded approach to recovery.

> *The way I came to the idea of the plant program at the treatment center was through what I through Indian treatment should be. Often, Indian treatment is dominant culture treatment with an Indian add-on. The culture is not integrated into the treatment. Rather, the treatment is not cultural. The attempt to make treatment cultural shows up in programs that are what I call '12-step sweat lodge programs.'*

And maybe a spiritual leader comes in and does a talking circle. And, somehow, that's supposed to make the treatment Indian. And I knew that's not what you bring to a community that has had generations of historic trauma. You can't have dominant culture remedy for dominant culture abuse without it being re-abuse.

I really tried to imagine: what does treatment look like that is cultural? There are lots of threads that you bring into treatment once you're thinking that way. But I got to a point where I knew that something was missing. It just wasn't enough. So through my involvement with Skokomish and because I had been working with plants for a number of years, the light suddenly dawned on me that what we needed to bring in was the foods and the medicines—if we wanted it to be a place of medicine.

It was so much what we needed—to bring in food of a different kind, to bring the medicines…and to integrate them into the gardens so that the medicines are growing on the place. So that they're planted in the place; they're in the pharmacy. You can't walk by without walking by them, or seeing a picture of them, or inhaling their scent. So the plants became infused in the entire place. And the spirit of the place carried what needed to be carried.

And the patients wake up. There is something that happens between the patients and the plants that wakes them up in a way like nothing else does. You could say it wakes up their blood, or it wakes up their DNA, that their ancestors arrive on the scene. That the relationship between their place, their home, where they come from, what they've related to for tens of thousands of years, wakes up in them. And you can feel their spirit just climb up and shine through their eyes.

Then they remember what Grandma said. And they remember the Indian word for something. They remember the way that something was used. And that is the way that the plants—the medicine of the plants—lift the patients up and reminds them who they are. They're not addicts or whoever it is the dominant culture told me to be. They are beautiful, magnificent people with an ancient relationship to this place and these medicines. And that's what wakes up. And when that does wake up, you can walk. You can find your way into recovery. (Personal communication, June 4, 2012)

Several NWITC patients shared the social and lifestyle changes inspired by the program. One patient from Colville shared his inspiration to revitalize traditional gathering practices in his family:

If [tribal members] knew more about our ways with the plants, trees, everything, there'd be more stuff to talk about, more stuff to do. Instead of 'Okay, our gathering is going to WalMart.' You know? Now I want to take my kid out more and go [huckleberry picking] because it is healing to go out and gather. I didn't realize that because I was so far into my addiction. I didn't know what was good and what was bad. (Personal communication, May 25, 2012)

Another patient interviewed told of the

sense of cultural heritage and healing cultivated throughout the course of the program:

> *It brings us back to our roots. A lot of us don't really touch base with that nowadays. But it just goes to show the hard work they put in. We've lost a lot of the tracks that they've set. We veer off of our traditional ways. But that's what we need: to get back on the path. So I've learned about plants and how much healing they do for sickness, for scars. How the process goes about how it heals. (Personal communication, May 25, 2012)*

Issues of cultural identity are apparent in these contexts. Stephanie Tompkins, director of NWITC, shared the vision, values, and approach of the center.

> *I believe that the patients, when they do [plants class], Elise [Krohn] gives them this gift that they get to remember. Somewhere in there, whether they realize it or not, something is coming alive in them. They're remembering who they are, where they came from, and where they're going. I think it is healing. Whether they stay clean and sober is not the issue. It's the seeds that are planted, the spirits that are brought alive. It teaches them pride, it teaches them respect. It starts breaking those chains of the abuse and addictions and low self-esteem and trauma. It's amazing that one little plant can do all that. It does. (Personal communication, May 25, 2012)*

Plants, stories, and culture: Keys to community transformation.

> *Story is at the very heart of human existence, defining, communicating and preserving cumulative experience, meaning and lesson. To the exact degree that we fail to develop, brand and communicate our story and the story of our group, it will by default end up framed and determined by commentators or authorities from outside. –Jesse Wolf Hardin, 2011*

Developmental psychologist Howard Gardner said, "Stories are the single most powerful weapon in an arsenal." The stories crafted about and conveyed to Salish peoples in the last few centuries have been disempowering. Mainstream diabetes discourse perpetuates this damaging narrative. Tribal community programs that can help transform these ill serving narratives hold tremendous promise for community health.

Cultures coevolved with their habitat over scores of generations. Throughout that time, the plant and animal species of that place become a cornerstone of culture. June O'Brien tells of the central role of plants at NWITC, "The plants infused into a healing setting reminds people of who they are. They wake them up and eases them back into what they come from." Elise Krohn further elaborates, "Plant traditions are not only good for people's health, they are an integral part of cultural knowledge and property" (Krohn, 2012). The messages embodied in stories about plants hold deep meaning. Stories conveying the relationships and fundamental interconnectedness between people, culture, and nature transmit positive messages of wholeness, independence, control, and empowerment.

Developments in positive psychology also contribute to the emerging insights around narrative and posttraumatic growth. Psychologist D.P. McAdams proposed a life story model

of identity, which asserts that people "provide their lives with unity and purpose by constructing internalized and evolving narratives of the self" (McAdams, 2001). Working at the level of life stories, individuals can positively construct new understandings around traumatic experiences. Jamie Pennebaker's research with trauma victims and self-disclosure found a correlation between autobiographical storytelling and health (Petrie, Booth, & Pennebaker, 1998; Watson & Pennebaker, 1989). His more recent research found tangible health benefits from identifying and expressing trauma. Subjects in an experimental group who wrote about traumatic events sought less medical care during the following year than the control group (Pennebaker, Kiecolt-Glaser, & Glaser, 1988). The research supports the use of holistic health interventions that engage personal and cultural narratives, stress reduction, plants education, and reconnection with the natural world.

Implications For Community Health Programs

This case study highlights ways that both native and non-native community health programs can glean useful insights into chronic disease prevention and response. The following sections apply to both native and non-native community health programs and initiatives.

Understanding & leveraging narrative. Leveraging narrative has tremendous implications for creative social change. Narratives and stories not only structure experience—they also guide both social and individual meaning-making processes.[18] Cultural theorists have elaborated on aspects of the guiding influence of myth and narrative on cultures and individuals (Pateman, 1984). Though various mechanisms have been proposed, underlying all the inquiries into the nature narrative reveal a common insight: they provide the framework for individual and collective experiences, guiding the process of social construction.

18. See Conflicting Narratives on page 24

Narrative inquiry can be applied to community health education programs in a number of ways. It serves as a tool for insight as well as a means of communication and change. It can be applied to garner insights into operational frameworks, paradigms, potential trajectories, and system behavior. Used in settings involving generational trauma, social oppression, and chronic disease, narrative inquiry can yield especially valuable insights into underlying patterns of health and illness. In the case of diabetes in Salish communities, we can see the conflicting narratives of diabetes constructs in Western biomedicine and indigenous models. And this provides unique opportunities to shift operating constructs & beliefs in community settings.

Stories and narratives are also profound communication tools. They can convey complex themes, worldviews and paradigms in ways that are personally applicable and actionable. In the context of the Traditional Foods and Medicines Program, stories of traditional foods and medicine practices relay cultural values of interconnectedness, reciprocity, and community. Contained in stories are themes, metaphors, and perspectives that are not easily expressed in a didactic manner. In this context, they are carriers of meaning. Additionally, the multidimensional, transformative capabilities of stories and narrative make them applicable in a variety of social change settings, from political organizing (Polletta, 2006) to organizational consulting.[19]

19. smartMeme, a social change consultancy, uses what they call Story-Based Strategy framework to create a common narrative to integrate messaging, media, advocacy and organizing efforts by focusing on type of conflict, characters, imagery and visual metaphor, vision, and assumptions.

Experiential & Participatory Education. Experiential education is an important criterion for this community health programs, and has generated an overwhelmingly positive response from the Center's patients. the Traditional Foods and Medicines Program and the Diabetes Prevention Through Traditional Plants program are engaging, interactive, and highly practical. One patient told me, "I'm more of a visual and hands-on guy. I like to watch a movie or be out there and get my hands dirty." Program staff also utilizes a participatory approach to education and social change. The curriculum is based in native ways of knowing and indigenous epistemologies, and rejects the 'banking model' of education of dispensing information and maintaining dichotomous teacher/student roles (Freire, 1970). In a community health and education setting, this approach would likely be far more effective than a didactic approach.

Central community location. The location of a particular program or event enormously impacts its accessibility to community members. Therefore, hosting the Traditional Foods and Medicines Program and the *Diabetes Prevention Through Traditional Plants* program at a tribal treatment center makes the program easily accessible to tribal members. It's paramount for a program to be offered in an accessible, welcoming, and comfortable location—to meet the people where they are.[20]

Appropriate outcomes measures. Any program or organization engaged in change work faces the task of measuring and demonstrating lasting and significant change. This is especially important when employing a novel approach to individual and community healing, as demonstrated changes in outcomes can greatly strengthen a program's particular case, as well as overall strategy. In qualitative settings, this can pose a challenge. Program developers must deeply consider what they want to measure, and then design methods and practices for obtaining the data. While there are some ways in which Traditional Foods and Medicines Program collects participants' data to measure changes in attitude and lifestyle behaviors, culturally grounded evaluation tools are still in development.

Indigenous design & delivery. Richard Beckhard (1969) said, "People support what they help create" (p. 114). Programs that are designed and developed in alignment with the commonly held beliefs and social constructions of those they aim to serve will be more successful than those with incongruous constructs and models. Diabetes prevention programs that are grounded in cultural beliefs of health and disease better serve their constituents, as they're developed using the appropriate systems of knowledge. Therefore, end-user or community input and engagement is highly recommend for program design and implementation. Tribal programs should be designed and delivered by members of that community.

Conclusion: Reconnecting With the Wealth & Health of Our Spirits

For community health programs operating in multicultural settings, the Traditional Foods and Medicines Program offers broad insights for health maintenance and improvement. Not all insights and directives will be applicable, as community health and improvement efforts should be 'built from the ground up.' One of

20. The next step for NWITC and TFMP is developing a greater presence on tribal reservations to help support patients after graduation from the program and departure from the center (Personal communication, May 25, 2012).

the key lessons of this study is the necessity of attending to cultural understandings of health and illness. This should be considered in discussions on disease etiology, in clinical interventions by examining and displaying sensitivity to a patient's life and culture story, and in attending the narrative strengthen by the presence and actions of a particular program. Like looking under the hood of a car, examining situations in terms of their narrative trajectory can yield rich insights—and point the way to empowering and successful community health initiatives.

Aside from transforming functional narrative, community leaders and healthcare works can introduce plants education in health programs as a means of basic health education and reconnection to the natural world. Connection to social and ecological communities is undoubtedly vital for health. As Elise Krohn stated, "Plants reconnect us with the wealth of who we are," and to strengthen this connection is to open a world of rich possibilities.

With medical interventions eradicating many infectious diseases, rapid nutrient transition, and the loss of traditional life ways and practices, chronic disease is rapidly increasing. Diabetes is quickly spreading throughout developed and developing countries alike. And ethnobotanical education and community health programs are well suited to prevent its proliferation. Programs like THE TRADITIONAL FOODS AND MEDICINES PROGRAM are inexpensive and tend to several needs at once: basic health education, cultural healing, fortification of social fabric, ecological sustainability, and spiritual wholeness.

And this is perhaps the richest insight of all: the reconnection to place, family, and community is the path to wellness. Botanical practices call us home—home to our family and ancestry, home to our communities, and home to health. With this approach, communities can truly build health from the ground up and help create a future of sustainability, cultural integrity, and holistic health in communities worldwide.

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Barriers to Fair and Effective Congressional Representation in Indian Country

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Abstract
Native American tribal nations may have survived in the face of 500 years of violent displacement as a result of European colonization, but have undergone profound changes to their land bases and ways of life. Settler colonialism is an imposed structure within which tribes have been forced to negotiate their circumstances, with Congress being one of the primary instruments of the settler state. This essay argues that there are several barriers inherent in the political system that precludes fair and effective Congressional representation, and that there are certain fundamental problems associated with tribes' limiting themselves to working within the domestic system.

Introduction

Undertaking a comprehensive discussion about Congressional representation of Native Americans is a complex topic that doesn't fit strictly or neatly within either the disciplines of Native American studies or political science, but does have to be explored as an intersection of both. So little has been written on the subject, in fact, that there is virtually no body of academic literature on it.[1] However, there are nonetheless far reaching critical implications for democracy in America as a settler colonial state in light of the realities Native Americans face regarding their relationship to Congress. This paper argues that understood from the framework of the 500 year historical continuum upon which Native people have interacted with Europeans and Euro-American immigrant populations and their descendants, the American system of representational democracy as it exists cannot be applied to Native Americans in the same way as it applies to all other Americans (even other ethnic minorities) and can be seen as the ongoing manifestation of an imposed hegemonic relationship.

United States Federal Indian policy is based on legal principles that include four particularly problematic doctrines: the doctrine of discovery, the doctrine of domestic dependent nations, the trust doctrine, and the plenary power doctrine, all of which have their roots in the Marshall Trilogy. Many Native and non-native scholars and law professionals alike view the Marshall Trilogy and the descending theories of federal Indian law as the creation of a complex maze of legal fictions by a colonial power that justifies the ongoing abrogation of Native treaty rights and unilateral diminution of Native sovereignty. Yet, the US does recognize what it terms a "limited (or quasi)

1. In 2006 a book was published as part of a series on political participation in America called Native Americans and Political Participation by Jerry Stubben, an enrolled member of the Ponca tribe. In the preface of the book he makes the observation that, "As we enter the twenty-first century, not one article about Native Americans has been published in the most prestigious journals of political science, such as the American Journal of Political Science, American Political Science, or Journal of Political Science. This apparent lack of interest is especially distressing since during the 1990's the number of articles on African Americans, Asian Americans, Hispanics, and women in these and other major political journals has increased dramatically."

sovereignty" of Native nations, and it is well established in law that there exists a legal/political relationship between the federal government and tribes. This relationship distinguishes Native peoples from all other ethnic minorities in the US. This limited sovereignty affirms, among other things, the rights of tribes to self-governance, the right to determine their own citizenry, and government-to-government relationships with the US as long as tribes meet the prescription of federal recognition. The United States is comprised of not just two sovereigns (state and federal), but three—including all federally recognized tribes. Congress, via the concept of plenary power, has intervened in the lives of Indians through various eras of its Indian policy. The eras are generally known as Assimilation (1871-1928), Reorganization (1928-1945), Termination (1945-1961), and Self-Determination (1961-present). These policy eras, in addition to the legal concepts, are key to understanding the ongoing political issues Native Americans face and can generally be characterized as varying tactics of forced inclusion of Native Americans into the fabric of American society.

As noted, very little scholarship exists examining (or questioning) Indian country's relationship to Congress, especially in the realm of political science. If anything, there is increasingly a "get out the vote" movement in Indian country, encouraging Natives to engage more deeply with the American political process by advocating for Natives to seek public office at the local, state, and federal levels.[2] Natives participating in the political process on these levels can be seen as accomplishing a "sticking to the issues" approach to the struggle for recognition of Indian rights.[3] It may be true that if a Native person is elected to public office (particularly at the regional or state level), they encounter the possibility of being able to represent Native interests through the promotion of pro-Indian legislation. But pro-Indian legislation stands much greater chances of being passed in districts where there is a high concentration of Native voters, for example in the states of Arizona, New Mexico, Oklahoma, South Dakota, and Washington, assuming they are mobilized and actually voting. Statistics show that overall, Natives tend to vote in higher numbers percentage-wise (42 percent) than Blacks (40 percent), and Latinos (40 percent), at a slightly lower rate than Asians (43 percent), but at a much lower rate than whites (56 percent)[4], but these percentages and the small number of districts with large Indian constituencies are not big enough to guarantee any mandates of the Native vote.

While there is not much data indicating the impact Native office holders actually have on Native affairs, in one informal study by Robinson, Olson, and McCool, interviews were conducted with 15 Indian office hold-

2. For example, there is a group called Indn's List Indigenous Democratic Network," which formed in 2005, for the express purpose of "recruiting and electing Native American candidates and mobilizing the Indian vote throughout America on behalf of those candidates." Their primary function is Campaign Camp, which teaches Natives how to run political campaigns, how to staff campaigns, and how to raise funds for campaigns. In the summer of 2007, they sponsored an event called "Prez on the Rez," an unprecedented event which aimed to bring together all the Democratic presidential candidates in Indian country to focus on Indian issues. It was met with only limited success as only 3 of the candidates actually attended, with the frontrunners Hillary Clinton and Barrack Obama refusing to participate.

3. I use the phrase "sticking to the issues" as it arose out of a conversation I once had with a Congressman I was serving an internship with. In discussing the problems of representation and the larger problems of legal doctrines he said to me that Native Americans are better off sticking to specific issues.

4. Jerry Stubben, *Native Americans and Political Participation,* pg. 130.

ers in local governments in 2004-2005. They were asked, "What impact do you think you have had on laws and regulations, the delivery of service, Indian peoples' access to local government, and Indian people's perceptions about local government...?"While seven of the elected officials expressed the view that they had made an impact on laws and regulations, five others said their presence had no impact. One commissioner bluntly stated: 'I'm only one vote here, we get overrun on anything.'"[5] In another survey of tribal officials' political opinions conducted by Stubben (2006), a question was posed asking which branch of the government better protected tribal sovereign rights. Forty-one percent responded that Congress best protected their rights, 23 percent felt that the Supreme Court did, and 6 percent felt that the president best protected their rights. Interestingly, however, even though Congress was perceived as the best protector of Indian sovereignty:

> *…the vast majority of respondents (75 percent) did not approve of how the US congress had been handling Indian affairs…The trust level of the federal government by Indian tribal leaders appears to be moderate to low. None of the respondents felt that they could trust the federal government to always handle Indian trust responsibilities, 11 percent felt they could trust the government most of the time, 54 percent felt that they could trust the government some of the time, and 32 percent felt that they could never trust the federal government. (Stubben 2006, p. 141)*

One of the arguments advanced in this essay is that a "sticking to the issues" approach towards the protection of Indigenous rights through congressional action, failing to address the overarching fictional legal principles applied in federal Indian law—especially the plenary power doctrine—merely amounts to damage control for the monumental impact on Native Americans of 500 years of Euro-American colonization. First of all, it risks assuming that Congress will always have the best interests of Native people at heart. To the contrary, all of the positive Indian legislation of the past few decades, if we are to take our cues from Charles Wilkinson's book *Blood Struggle* (which highlights all the advances made by Indians in the last 50 years) has been necessary to counteract the detrimental effects of Congress' prior laws and policies. Second, it assumes that the current progressive trend of Congress toward the supporting of tribal self-determination will remain unchanged for the indeterminate future. However, the history of Congressional Members has shown earlier periods of relatively progressive ideology in Congressional action, but was then followed by long periods of regressive and deleterious legislation. The best example of this is the contrast between the Reorganization era of the 1930's when the federal government sought to improve the dire conditions of tribal nations and the Termination era of the 1950's and 60's, when it then attempted to cope with the ongoing "Indian problem" through unilaterally attempting to terminate its historical legal responsibility to tribes by simply discontinuing its relationship with them.

Additionally, Native people must be extremely cautious of what they are arguing for when they argue for inclusion into the American political process, especially in the realm of Congressional representation. Unlike all other Americans, Native Americans are in

5. David Wilkins, *American Indian Politics and the American Political System,* pg. 207.

the unique position of possessing citizenship within not just the US, but with their tribal nations as well. Their political/legal relationship with the US distinguishes them from all other Americans. This raises questions of not just patriotism and loyalty, but of equality. Vine Deloria (1996) argued in his civil rights era classic *Custer Died for Your Sins: An Indian Manifesto* that equality was what ethnic minority groups in America demanded due to historical experiences of marginalization and disenfranchisement from the "American dream," an ideal reserved only for *White* Americans. For Native people, forced inclusion via *assimilationist* policies of the US government set up a contradictory civil rights issue, and they argued instead for an end to governmental intrusions into their lives. Deloria said that "what we need is a cultural leave-us-alone agreement in spirit and in fact" (p. 27). He also addressed the issue of equality within the civil rights movement when he observed, "The tragedy of the early days of the Civil Rights movement is that many people, black, white, red and yellow, were sold a bill of goods that said that equality was the eventual goal of the movement. But no one had considered the implications of so simple a slogan. Equality became sameness" (p. 179). Indian political agendas have tended not to argue for equality, but for what Robert A. Williams terms a "degree of measured separatism." (Williams 2005)

Corntassel and Witmer (2008) contend that we are now in an era of "forced federalism" in which tribes in their nation-building efforts to build stronger economies have compromised their sovereignty by engaging too deeply in the American political process, subjecting them to new forms of racism based on "rich Indian" stereotypes that lead to public perceptions of Indians as special-interest groups, while simultaneously undermining the cultural foundations of indigenous nationhood. The danger of Natives seeking Congressional representation is in the perception that it is a demand for equality—of sameness—to be on par with all other Americans, in spite of their unique political/legal status as sovereign entities.[6] This can arguably be seen as a direct threat to and potential compromise to whatever measure of tribal sovereignty tribes currently enjoy. What is needed is something altogether different—a relationship, which instead exceeds the hegemonic conditions created by the doctrines of discovery, domestic dependent nations, trust, and plenary power.

Barriers to Fair and Effective Representation

1. American history as a colonial construct; collective distortions of the past; and inaccurate, harmful stereotypes of Native Americans. Triumphalist historical narratives have resulted in a whitewashing of American imperialism against indigenous Americans. According to Timothy Linter (2004):

6. It is worth commenting At this point that there is a growing body of academic work which challenges the notion of "Native sovereignty" as being an artificial European legal construct that only serves to keep the discourse of inherent Native self-determination confined within the boundaries of a colonial dominant paradigm. Taiaiake Alfred, one of academia's leading voices on this topic, "has engaged this challenge from within an indigenous intellectual framework. Alfred's manifesto calls for a profound reorientation of indigenous politics and a recovery of indigenous political traditions in contemporary society. Attacking both the foundations of the state's claim to authority over indigenous peoples and the process of cooptation that has drawn indigenous leaders into a position of dependency on and cooperation with unjust state structures, Alfred's work reflects a basic sentiment within many indigenous communities: 'sovereignty' is inappropriate as a political objective for indigenous peoples." Taiaiake Alfred, *Sovereignty*, from the anthology *Sovereignty Matters: Locations of Contestations and Possibilities in Indigenous Struggles for Self-Determination*, 2005.

> *…history is a delicate amalgam of fact and fiction tempered by personal and pedagogical perception. Though the premise of history is rooted in empiricism, the teaching of history is not so subjective. History classrooms are not neutral; they are contested arenas where legitimacy and hegemony battle for historical supremacy.*[7]

Dominant narratives that construct Native Americans as "savage" and "heathen" led to the easy justification of their subjugation. Additionally, the construction of Native people as "the other" forms a core discussion of American identity and where Native Americans fit in America's collective unconscious. In *Playing Indian*, Deloria, explores non-Indians' ongoing fascination with Indians and their "historical anxiety" about them. He identifies a dilemma surrounding American identity based on an awkward tendency to define them by what they were not. They had failed to produce a positive identity that stood on its own, which was complicated by the simultaneous desire to embrace and reject what they saw as savage freedom.

The history of violent suppression and the unjust taking of their lands also complicate American identity. An irresolvable conflict is present when America, which holds itself as the foremost beacon of freedom, human rights, and democracy in the world, cannot reconcile the reality of its violent past with the high ideals it claims to stand for. The conflict is perpetuated when Native people are too visible in the population, and especially when they are vocal about their indignation of past and present wrongs of the American government against them. In *Going Native: Indians in the American Cultural Imagination*, author Shari Huhndorf (2001) also explores notions of national identity and its relation to Native America. Americans have a long history of co-opting Indian identities for their own as evidenced by various movements over the past few hundred years in which the Indian as the "noble savage" is idealized. Captivity narratives, new age cultural appropriation, even the appropriation of ancient Native artifacts into museum collections are all part and parcel of the American attempt to reconcile itself with its troubling past. The stereotypes that result from the distorted telling of history, with all the attendant complexities raised by America's inability to reconcile its imperialistic foundations and its profound impact on Native America sets the stage for a social disorientation in which the American people are ill prepared to deal with the truth of their history. With so many mixed messages, unless Americans are willing to acknowledge not only the atrocities of the past toward Native Americans, but of the ongoing injustices—especially those Americans at the highest levels of political leadership—there cannot possibly be the collective presence of mind to address structural injustice. True justice at the deepest levels means the willingness to envision a political reality that abandons the ideal of domination. Short of this, at best all we can expect are merely tokens of guilt-reducing acts of goodwill, feel good attempts to right the wrongs which have led to the profound cultural, physical, and psychological dispossession of Native people from their traditional life ways, homelands and resources. All we are left with are the half-measures of the "sticking to the issues" approach of justice in the legislative system.

2. The plenary power doctrine makes Native American citizens accountable to

7. *The Savage and the Slave: Critical Race Theory, Racial Stereotyping, and the Teaching of American History*, 2004.

Congress, instead of making Congress accountable to Native American citizens, as is true for all other citizens of America who are represented in Congress. One of the most fundamental and cherished tenets of American democracy in theory is that government is *of* the people, *by* the people, and *for* the people; in essence that Congressional representatives work for the public, who is ultimately "the boss" of Congress. The plenary power doctrine sets up Congress to be in an entirely opposite function for Native Americans. Tribal nations are positioned to be at the mercy of Congress, with no real power to take corrective action when Congress acts against their interests, except perhaps through the court system, which is mostly a Pandora's Box full of problems (and will be discussed further in this essay).

It can be said that much (if not all) of the positive Indian legislation enacted since the current policy of self-determination emerged in the 1970's has been to control the damage done to Native people since the inception of the United States and before. The succession of policies since the treaty-making era all occurred in response to the failures of prior policies, which had devastating effects on Native communities. Examples of damage control legislation are the Indian Child Welfare Act of 1978, Indian Religious Freedom Act of 1978 (AIRFA), and the Native American Graves Protection Act of 1990. There are many more examples too numerous to mention that demonstrate the notion of legislation as damage control.

It can also be said that Congress, even under the plenary power doctrine, can be the best friend to tribes, even while they can be their worst enemy. Congress simply has too much power to determine the destinies of Native people, as Laurence Hauptman has argued,[8] and also based on criticism from the United Nations Human Rights Committee as issued in a report in 2006. One of the biggest problems is the potential for conflicts of interest with members of Congress who must represent the interests of Native governments and individuals alongside those of non-Native individuals and groups within their districts. Their interests often are diametrically opposed to one another, particularly when it comes to sensitive issues such as legal jurisdiction, water rights or gaming. The plenary power doctrine combined with the political realities of a Congressman or Senator representing the interests of often such small number of Indians (that most Americans neither know nor care about very much about) sets up a dynamic for public policy where Indian interests are accorded "back-burner" status. Reelection to a Senate or Congressional seat doesn't depend on the doctrine or Indian issues. Even if elected representatives agreed that the plenary power doctrine is unjust, they are relatively powerless to do anything about it unless the majority of Congress is mobilized to address the matter by overturning the doctrine and setting up a different paradigm of relating to tribal nations. There simply is not enough political motivation to address Native issues on a large scale.

3. The persistent racist language used by the Supreme Court, which frames the legal doctrines that justify the continual subjugation of Native Americans to the authority of congress. If the plenary power doctrine is the drive train that keeps the wheels of subjuga-

8. "Congress, Plenary Power and the American Indian, 1870 to 1992", from the anthology *Exiled in the Land of the Free,* 1992.

tion in motion, then the Supreme Court is the ignition system, which initiates it and allows it to keep rolling forward century after century. Williams (2005) explores in vivid detail the courts' development and use of the Marshall Trilogy whose reliance upon the racist language of Indian "savagery" and cultural inferiority maintains a system of legalized white racial dictatorship to conduct its relations with Indian tribes even today. "As evidenced by their own stated opinions on Indian rights, a long legacy of hostile, romanticized, and incongruously imagined stereotypes of Indians as incommensurable savages continues to shape the way the justices view and understand the legal history, and therefore the legal rights, of Indian tribes" (Williams 2005, p. xxv). Beginning in 1823 with *Johnson v. McIntosh*, considered by Williams to be "without question the most important Indian rights opinion ever issued by any court of law in the United States," and the racist language of Indian savagery was institutionalized in the Supreme Court: "the tribes of Indians inhabiting this country were fierce savages, whose occupation was war…" (Williams 2005). With a single stroke of Justice Marshall's pen in this decision, several things were accomplished:

1. The very first precedent for all subsequent Indian cases was set.

2. The justification for the taking of Indian land based upon racial, cultural and religious superiority of Europeans.

3. The codification of the language that would justify future American incursions into Indian lives and resources.

The language of Indian savagery was to be revisited many times in subsequent nineteenth century Supreme Court decisions in the Marshall Trilogy and beyond, in cases such as *United States v. Rogers* (1846), *Ex Parte Crow Dog* (1883), and *United States v. Kagama* (1886). While the tradition of racist language in the Court reared its ugly head in African American cases as well, most famously in *Dred Scott v. Sanford* (1856) and later in *Plessy v. Ferguson* (1896), the twentieth century saw a paradigm shift in the language of those types of cases with *Brown v. Board of Education* (1954), the landmark decision credited as heralding the civil rights movement a decade later. Yet, when it came to Indian rights cases the language which perpetuated the negative stereotype of Indian savagery as well as white racial superiority was still very much alive, in *Tee-Hit-Ton v. United States* (1955), and even into the Rehnquist Court with *Oliphant v. Suquamish Indian Tribe* (1978) and *United States v. Sioux Nation of Indians* (1980). The entire body of federal Indian law is based on nineteenth century precedents, and outmoded ways of thinking which by today's standards are considered barbaric and dehumanizing, and yet is tolerated if not staunchly defended by those within the existing American power structures. Historically, when the justices of the Supreme Court have chosen to reject the language of prior decisions (the practice of stare decisis)—decisions which only served to oppress certain peoples—and adapt a new language which affirms the rights of those people, positive racial paradigm shifts have occurred within the Court and society at large, even if only for a time.

4. The conscious or unconscious belief within Congress, collectively and individually, that the current paradigm cannot or should not change. Because the guiding principles of indigenous rights and policy-making are based on deeply entrenched, archaic,

colonial-era perceptions, ideologies and practices that are taken for granted as "just the way things are," there is a certain sense in Indian country that there is no hope that things will ever change, so why try? Taking into consideration the previously outlined barriers to representation, what we are really talking about is a profoundly deep level of psychological disassociation America collectively has adapted itself to with regard to its historical treatment of Native peoples; so deep and pervasive that even the most highly educated and sophisticated thinkers at the highest levels of government are unable (or unwilling) to embrace an ethos of justice at the most fundamental levels by renouncing their hold of power over the lives of Native people.

There is an overwhelming, undeniable, and ever-growing body of scholarly work domestically and internationally that exposes the legal inconsistencies and injustices indigenous peoples' experience at the hands of their dominant, rights-denying nation-states. The indigenous decolonization movement worldwide seeks a paradigm shift in their relations with their dominant states, which must proceed from deconstructing histories and power structures. Inserting indigenous perspectives is necessary to knowing what kinds of changes to demand. Those perspectives include not just their histories, but their worldviews, their theories, and their epistemologies. Those ideas must then be compared and contrasted with the ideas and practices of colonial dominators to identify the divergences of those paths and to more coherently challenge current systems of power. For example, the notion of sovereignty as a political construction is an inappropriate concept for indigenous peoples. Taiakake Alfred (2002), invoking Vine Deloria's discourse on sovereignty makes the distinction between indigenous concepts of nationhood and those of state-based sovereignty, saying that "self-government" (or the domestic dependent nation) is a status accorded to indigenous people by the United States. "The right of 'self-determination,' unbounded by state law, is a concept more appropriate to nations" (Alfred 2005, p. 42). Alfred goes on to point out that indigenous peoples must develop appropriate postcolonial governing systems that disconnect the notion of sovereignty from its Western legal roots and transform it:

> *For the politician, there is a dichotomy between philosophical principle and politics. The assertion of a sovereign right for indigenous peoples is not really believed [emphasis added] and becomes a transparent bargaining ploy and a lever for concessions within the established constitutional framework…Non-indigenous politicians recognize the inherent weakness of a position that asserts a sovereign right for peoples who do not have the cultural frame and institutional capacity to defend or sustain it (Alfred 2005, 43).*

Alfred's assessment of politicians' views of indigenous sovereignty accurately reflects the premise of barrier #4. A power structure (Congress in this case) composed of individuals who don't really believe that Native people are entitled to (or capable of) exercising their pre-existing right to self-determination are not capable of representing the best interests of Natives as Natives themselves understand them. As long as tribal nations are held hostage to the plenary authority of Congress, there will always be a dichotomy between what non-Indian politicians believe is best for Indians and what Indians believe is best for Indians, and all that can result is the damage control, patchwork method of "justice" for

Indians in the "sticking to the issues" approach of legislation for Indian rights.

5. Congressional Native American policy is subject to the shifting winds of public opinion. Congress is by nature representative of the prevailing sentiments of the American public in two significant ways:

1. Members of Congress are elected because of their reflections of the beliefs of the majority of their own constituencies.

2. When Members of Congress aren't reflecting the beliefs of the majority, and public opinion changes during their tenure, it is often in their own self-interest to sway with the prevailing political winds if their goal is to be re-elected (which it inevitably is).

As has been argued, public sentiment towards Native Americans is based on a complex matrix of psychological factors, conscious and unconscious, influenced by historically shaped understandings about who they believe Native Americans are and by Eurocentric ideas of how they think Native Americans should fit into the spectrum of American life, socially, economically and politically (resulting in the usual homogenizing, assimilationist discourses). Even highly educated politicians are not immune from those misunderstandings and succumb to colonial ideology when it comes to Native American affairs in the legislature. And, as has been demonstrated, federal Indian policy throughout American history has reflected a cacophonous variety of philosophical approaches, consistent only in the sense that it has been primarily subject to prevailing political climates.

It is also apparent that America is not free of racist thinking and action; America's grappling with Indian issues continues to show up in anti-Indian rhetoric, which typically challenges tribal sovereignty. The anti-Indian movement is well organized, well-funded, and lobbies Congress full force. Organized throughout a network of large and small citizens' groups throughout the country, it mobilizes around issues such as jurisdiction on reservations (believing that tribes have too much power over non-Indians), that Indians have an unfair advantage to resources such as fish and game due to their protected treaty rights, and a belief that Indian tribes should not enjoy tax exemptions based on their sovereign status. One major anti-Indian group is Citizens Equal Rights Alliance (CERA), based in Wisconsin. Its goals are to (a) seek an end to the jurisdiction of tribal governments over Indian country; and (b) end treaty-protected off-reservation rights of Indians to certain resources, such as fishing and hunting.[9] Another is the group Upstate Citizens for Equality, Inc., which formed specifically in response to Oneida Nation's land claims lawsuit.

Every era comes with it new attacks on tribal sovereignty (always disguised in the language of equal rights and discrimination, where tribal nations are perceived to enjoy elevated or expanded rights, resulting in "discrimination" toward non-Native Americans). Efforts to chip away at tribes' pre- and extra-constitutional status manifest in different ways; a recent example is the IRS's increasing efforts to tax tribal revenues and benefit programs. Since the mid-2000's tribes have been mobilizing to fight the IRS's encroachments

9. *The Anti-Indian Movement*, by Robert Crawford, published in Building Progressive Community in the West, Fall 1998; Western States Center.

(jdsupra.com), seeing it as yet another treaty violation (Indian Country Today Media Network). Since the settling of the Cobell lawsuit in 2010 and the tribal trust lawsuit in 2012, which settled claims for over 100 years of BIA resource mismanagement, Indian country has experienced a wave of IRS audit notices in anticipation of tribes' distribution of per capita payments from settlements.

Because the American system of representational democracy as it exists relies upon popular elections, elections that depend on big campaign coffers and the commensurate support of powerful, well financed lobbying groups with agendas of their own and who see Indians as a threat, the possibility of termination will always loom over Native nations. Until Americans fully understand Native issues and history, and can see beyond their own Eurocentric cultural values to accept the very different values Native people embrace (especially the importance of group rights vs. individual rights), Native people will always have to be vigilant in fighting off the attacks on their rights to sovereignty, limited though it currently is under domestic law. Under the plenary power system, public opinion will always be a wild card tribal nations will have to contend with.

Conclusion

The goal of this paper is not to argue that Native Americans should not engage in the political process to achieve their goals and objectives. It is only to point out the inherent problems and limitations of engaging solely within a system that has been designed specifically to limit them. One might argue that it is easy to point out the ways in which tribes are still subject to the injustices of American hegemony as there is a mountain of scholarship which already does this, and that perhaps a more relevant study would identify why the system does work, when it works in their favor. Such an endeavor, however fascinating and even potentially useful it may be, would fail to challenge the system and the structural violence it perpetuates. The ultimate goal of this study is to do just that. A lesson can be taken from Canada's current aggressive efforts to terminate the political status of its Aboriginal First Nations, that no matter how vigorously one era of the nation-state professes to support the indigenous right to existence, as this essay has argued, it can change with the wind. Since the passing of the United Nations Declaration of the Rights of Indigenous Peoples, and the United States' subsequent adoption of support for it under the Obama administration, new options have been opened for Native nations' assertion of their rights to self-determination as political and cultural entities that existed long before the system of modern states we have today.

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Recovering Health through Cultural Traditions

Elise Krohn, M.Ed.
Northwest Indian Drug and Alcohol Treatment Center and Northwest Indian College's Traditional Plants and Foods Program.

Embracing the Wealth of Where We Come From

Native foods and medicines have the power to heal our bodies and spirits. We return to the full potential of who we are by getting our hands in the dirt, living with the seasons, and using traditional knowledge to care for ourselves. We carry the teachings of our Elders, give back the gifts that we receive, and leave gifts for those to come.

It is a cold misty day in the thick of winter. In a classroom at the Northwest Indian Treatment Center 22 patients finely chop Western red cedar leaves into bowls. The sweet smell fills the classroom and several people reminisce about the ways that their families use cedar. One man from the Makah Tribe recounts how each spring he and his family strip the pliable bark, roll it into coils, and later separate the smooth inner bark from the rough outer bark. He describes the way the inner bark is soaked and then cut into long straight strips that are woven into artful baskets and hats, which offer shelter from harsh summer sun and winter rain. Another man shares how he uses dried cedar leaves as a purifying smudge. He remembers how he was taught to bundle the branches into little brooms to cleanse homes and other spaces.

Patients pour boiling water over their cedar, and then cover their heads with towels to make a facial steam. As they inhale, aromatic oils in the leaves help fight infection, stimulate circulation, and boost immune function. It is an easy, effective and readily available remedy to combat winter colds and coughs.

Later in class we discuss many more uses of cedar. Patients are amazed at how scientific studies confirm cultural teachings. A woman from Skokomish says, "Modern science is finally catching up with what our ancestors have known for generations."

This is the moment I hope for as an educator. The patients are remembering who they are and where they come from. They are beginning to recover their own wealth, and therefore to heal themselves and each other. Not only is this one of the greatest tools for recovery, but it is what the patients carry home from these events and their recovery spreads to others.

Treatment Center Setting

The Northwest Indian Treatment Center (NWITC) is a 45-day drug and alcohol residential treatment program in Elma, Washington. It was created by the Squaxin Island Tribe to address an unmet need for culturally based treatment centers for Indian People who grew up on reservations. Each year about 220 patients from Washington State and other nearby regions are served. The program specializes in treating people with chronic relapse patterns related to unresolved grief and trauma, including historical trauma from colonization.

The Treatment Center weaves culture into the fabric of the program. In the words of June O'Brien, director between 1994 and 2011,

Patients must be able to see themselves in their recovery. Their culture is their medicine. Native plants, singing, drumming, a sweat lodge, beading, and support from local native spiritual communities are part of the program. These act like pillars to hold patients up during their recovery. When patients' traditions are honored in the healing process, retraumatization is less likely to occur.

Based on data from tribes and/or outpatient programs that referred patients to the Treatment Center, 77% of patients remain clean and sober or consume less than before they entered the program.

The *Traditional Foods and Medicines Program* was created by the Treatment Center in 2005 to increase patients' access to and knowledge of medicinal plants and native foods, such as berries, wild greens, seafood, and game. Weekly three-hour classes give patients hands-on opportunities to learn about the nutritional, ecological, and cultural importance of wild foods and medicines. Twice a month, tribal elders, storytellers, and cultural specialists speak as part of the program. A monthly class is offered to patients and their family members. This helps families see what their relatives are learning and teaches activities that families can do together at home.

In 2009 NWITC partnered with the Northwest Indian College Cooperative Extension to jointly deliver the *Traditional Foods and Medicines Program*. The Northwest Indian College (NWIC) main campus is at Lummi Nation near Bellingham, Washington. Extended campuses are at the Swinomish, Tulalip, Muckleshoot, Port Gamble S'Klallam, Nisqually, and Nez Perce Reservations. NWITC and NWIC serve many of the same families. Directors from both programs agreed that when people receive teachings from a variety of sources the result is amplified.

The Treatment Center and the Northwest Indian College have a long history of working together to serve tribal communities and families. They collaborate on developing innovative curricula that blend teachings about traditional foods and medicines with culturally based addiction counseling. Plus they offer train-the-trainer workshops that increase the number of community educators capable of teaching on issues related to community gardens, diabetes prevention through traditional plants, herbal medicine making, first aid, and native culinary arts.

The partnership also benefits patients who want to enter college or get jobs related to working with traditional foods and medicines. Upon graduation from the Treatment Center, patients receive a Traditional Foods and Medicines Certificate with 2.7 continuing education unit (CEU) credits. Several graduates have secured jobs in related areas, including plant restoration, community gardening, teaching, and cooking traditional foods.

Culturally Grounded Education

The *Traditional Foods and Medicines* curriculum honors native styles of learning and teaching. One regular guest speaker, Kimberly Miller (Skokomish) said that she was *shown* how to do things. Elders rarely gave spoken explanations; they assumed people would learn by watching and doing. Patients respond well to this type of learning. When they practice knowledge through all their senses, they take ownership of it.

Patients learn how to identify, grow, and harvest plants in three on-site teaching gardens. *The Medicine Wheel Garden* was designed and built by patients in 2005. Its shape honors the four directions. Each of the eight beds has a theme. Some include plants for beauty and flavor, some for spiritual medicine, and some for healing specific conditions, including diabetes, digestive problems, anxiety, insomnia, respiratory disorders, and infections.

Many plants like raspberry leaf, lemon balm, mint and yarrow are made into nutritious teas to stock a tea dispensary. Patients also harvest herbs to make oils and salves for healing the skin and easing muscle pain and arthritis. Roots are infused in honey to make cough and cold medicines. The Treatment Center nurse reserves some medicines in a traditional plants pharmacy and dispenses them to patients as needed.

The Native Berry Garden teaches patients to identify, harvest, and prepare huckleberries, strawberries, blackberries, gooseberries, salmonberries, thimbleberries, and others. Wild berries are one of the most prized cultural foods that are thought to increase health and longevity. Scientific research supports this. Berries are loaded with nutrients including vitamins, minerals, fiber, and antioxidants.

In the *Traditional Foods Garden* patients and staff work together to cultivate nutritious vegetables and fruits that can be prepared in class or incorporated into daily meals. Educator Elizabeth Campbell (Spokane Tribe) reminds patients that organic gardening is not a new fad – it is simply a return to the way Salish ancestors grew food by using techniques without the use of pesticides or synthetic fertilizers.

Garden activities include building soil health, planting seeds and starts, maintaining perennial foods, natural pest control and, of course, harvesting and eating the fruits of our labor. Favorite foods in this garden include *Inchelium* red garlic, *Ozette* potatoes, kale, and the three sisters: corn, beans, and squash.

In 2011 program staff implemented a compost project. With about 35 people eating three meals a day at the treatment center, over 15 gallons of food waste is generated per day! Much of this, along with yard debris, cardboard, and paper is now being turned into fertile compost instead of garbage. Soil studies are incorporated into classes. For example, according to Seattle Tilth,[1] one gram of healthy soil is home to as many as 500 million organisms including bacteria, yeast, algae, protozoa, and insects! These tiny creatures can build soil nutrients, hold water, and ward off plant diseases. Patients are surprisingly enthusiastic about creating living soil for the garden.

Teaching games have become a favorite part of program classes. Instead of taking mundane pre-tests and post-tests to track changes in knowledge, patients helped develop interactive games like Berry Bingo, Native Plants Survivor, and Traditional Foods Jeopardy. During these interactive exercises, patients become playful and work together as they test their knowledge. Laughter breaks through the grief that often accompanies the trauma behind addiction.

Generosity is an important cultural value that is woven into the program. Dr. Rudolph Rÿser (Tietnapum-Cowlitz) is a regular guest

1. The mission of Seattle Tilth is to inspire and educate people to safeguard our natural resources while building an equitable and sustainable local food system. (See: http://seattletilth.org)

speaker who teaches that generosity, which involves both giving and receiving, is a measure of health in Indian Country. In his words:

> *A person cannot be considered generous if one is unable to receive gracefully and with some fanfare. At the same time, one cannot be considered generous if one only receives and does not give with fanfare. Giving and receiving generously contributes to a strong person and a strong community.*

Patients take pride in leaving behind something that will contribute to the healing of future patients, just as previous patients made medicines for them. In this way, they become part of a continuum of healing. This may be the first time after many years of addiction when patients begin to feel they have something valuable to give. In healing, they become healers.

Storytelling is a powerful cultural tool for learning. Roger Fernandes, a Lower Elwha[2] storyteller and artist, regularly participates in the program. He says, "Stories are guides for transformation. They do not necessarily give us answers; they give us the framework to find our own answers. They help us find a sense of purpose and meaning." For example, many Salish stories are about creatures that find themselves in conditions where they are trapped. By learning how coyote transforms himself into a new being to get out of a trap, patients can reflect on how they might let go of the parts of themselves that promote their addiction and seek a new sense of self. Roger is currently collecting Salish stories about plants, which are helping to deepen patient knowledge about the complexity and richness of plant knowledge in Salish culture.

In classes, Western scientific studies are used to affirm cultural knowledge about the uses of native foods and medicines. For example, an archaeological study by the University of Washington's Burke Museum and others found that before European contact, Salish people ate over 300 seasonal foods from a variety of ecosystems. At that time, people did not suffer from many of the chronic diseases that are rampant in Indian communities today. Salish elders say, "Our food is our medicine. If you are sick, eat your traditional foods." Using information like this can give students a sense of confidence and pride in their traditional ways of knowing. They remember that their ancestors had sophisticated ways of understanding and caring for their world.

Program Outcomes

Perhaps the greatest strength of the Traditional Foods and Medicines Program is that it helps patients remember what they already know. Their faces light up when they recognize a plant that is important to their family or community. Something floods back into them as they recall harvesting medicine in the mountains with their aunties or fishing for smelt on the river. Stories emerge from forgotten places. A sense of pride and enthusiasm comes over them as their culture is validated and affirmed. They are able to see their own wealth.

Based on patient interviews, a majority of patients who enter the treatment program purchase most of their foods at mini-marts

2. The Lower Elwha Tribes is located north of the Olympic Mountain Range on the Olympic Peninsula in the United States. (See: http://www.elwha.org/). Roger Fernandes describes himself as an urban Indian whose great-grandmother was Annie Ned from Sequim. (See: http://www.turtleislandstorytellers.net/tis_washington/transcript_r_fernandes.htm)

and have little or no access to fresh fruits and vegetables. Many referring reservations are considered food deserts. Patients' leisure activities are often sedentary and most lack regular balanced meals. Learning about how to grow, gather, harvest, and prepare plant-based foods and herbal medicines increased patients' access to highly nutritious foods. It also teaches them healthy physical activities that can combat obesity and diabetes. Several graduates reported that they have started their own gardens. Others have integrated native foods into their diet and have consumed less unhealthy foods like sugar, refined carbohydrates, and poor quality fats.

Evaluation interviews show that patients can name at least twice as many foods when they graduate compared to when they enter the program. One woman named smoked fish and fry bread on her intake form, and then salmon, halibut, salal, seaweed, urchins, clams, scallops, sweet grass, fiddlehead ferns, blackberries, strawberries, salmonberries, dandelion, nettles, boots, and barnacles on her graduation form.

Our program staff often sees graduates at tribal events. We are heartened to hear that they are applying what they learned through the program into their lives. Many patients take new skills and knowledge they have learned through the program and teach those around them. They also seek out new knowledge from their elders and cultural specialists. Their enthusiasm has fueled a growing tribal interest in traditional foods and medicines throughout Indian Country. Our Northwest Indian College Cooperative Extension Office has witnessed this through receiving almost weekly requests for our educators to speak at events or to provide classes.

Many graduates are inspired to enter or return to college through their learning experience in the program. In the last year 12 graduates have entered the Northwest Indian College and have taken classes in plant and food related subjects. One graduate just completed an internship as a botanist for the North Cascades National Park. Another is enjoying working for a local plant nursery and attributes her interest in plants to the project.

The *Traditional Foods and Medicines Program* is being used as a model in other indigenous communities in the Northwest and around the world. In the past year, 55 educators from over 14 tribes completed trainings and are sharing the knowledge they gained. People from Alaska, Canada, and across the United States have visited the treatment center to learn about how they can incorporate elements of the program in their own communities or organizations.

One treatment center graduate who went on to become a student at the Northwest Indian College and complete an internship in native plants said this about the program:

> *My experience at NWITC and being reconnected with the plants helped to ground me spiritually. In the midst of such a deep addiction, my spirit was not even with me. I found comfort in the way that I was not ashamed by not having the knowledge or remembering the things that I was taught, because almost everyone there was on the same page. The program has touched my life in every way: spiritually, emotionally and physically.*
>
> *What I really liked was the hands-on learning. It really is the old way of life. That deep and spiritual connection is al-*

ways there because it is in our blood. From the time of my great great grandparents and through the shift in colonization, we have carried that in our blood.

One of the most challenging periods in a treatment program occurs when the patient moves from the inpatient facility back to their home. This may be the very place that enabled their addiction initially. Often, the cultural support that was available during their stay at the Treatment Center is no longer available. The treatment center and the Northwest Indian College are working together to build support systems for graduates that include educators, mentors, cultural specialists, and community health programs that will increase the likelihood that they will maintain their sobriety.

About the Author

Elise Krohn, M.Ed. is a native plant specialist and herbalist who has been working and teaching in tribal communities for the last twelve years. She began her training in 1995 with a Clinical Herbalist certificate at the Southwest School of Botanical Medicine and has since completed a two year program in advanced herbal studies, a Bachelor of Science in Pre-Medicine, and a Master of Education in Traditional Foods and Medicines. In 2005 she completed a certificate program in ethnobotany with the Center for World Indigenous Studies. Krohn is the former (2004-2007) head gardener and educator for the *People of the River Healing Garden* at the Skokomish Tribe. Since 2005 she has been a program coordinator, educator, and curriculum developer for the *Traditional Foods and Medicines Program* at the Northwest Indian Drug and Alcohol Treatment Center and the Northwest Indian College's *Traditional Plants and Foods Program*. She is the author of the book *Wild Rose and Western Red Cedar* and the co-author of *Feeding the People, Feeding the Spirit*. Her blog can be found at www.wildfoodsandmedicines.com.

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International Trusteeships, the Unfinished Responsibility[1]

Rudolph C. Ryser
Chair of the Board of Directors, CWIS

ABSTRACT

Indigenous peoples and nations were the original concern of 16th and 17th century diplomats and legal experts in Europe as they considered explanations for relationships between colonizing kingdoms and states and the peoples of Africa, the Americas, and those already living on islands in the Atlantic, Indian and Pacific Oceans. They formulated juridical and diplomatic concepts of greater powers protecting smaller peoples and conceived thereby the modern understanding of international trusteeships. The League of Nations Mandate system and the United Nations Trusteeship Council are products of these early ideas. The United Nations Trusteeship system supervised the relationship between administering states and non-self-governing territories to implement internationally agreed decolonization measures. The Trusteeship Council became moribund in 1994, but could be resurrected to more directly address non-self-governing peoples located inside the boundaries of recognized states. The Trusteeship Council could become the supervising body for negotiated Trust Compacts between states' governments and indigenous nations, thus providing regularized protocols for relations between each indigenous nations and each state.

The concept of Trusteeship over indigenous peoples has in many legal, political and academic forums been pronounced as the responsibility of the "administering power" to native rights and property. Indeed, the origins of the concept arose when in 1532 Franciscus de Vitoria wrote in De Indis De Jure Belli that the recently discovered American continent should be exploited for the benefit of the native peoples and not merely for advantage of the Spanish Crown: "The property of the wards, is not part of the guardian's property… the wards are its owners."(Parker, 2003) Notably de Vitoria and those who followed him fore saw the need to give some benefit to the native populations, but they still regarded the indigenous peoples as inferior, weaker and backward requiring tutelage or protection of the civilized power. The concept of Trusteeship has borne this emphasis from that time to the present.

The noted Swiss philosopher, diplomat and legal expert Emer de Vattel wrote in his treatise The Law of Nations, published in 1758, "Nations, or sovereign states, are to be considered as so many free persons living together in the state of nature." He wrote more to assert that free persons "inherit from nature a perfect liberty and independence, of which they cannot be deprived without their consent" (Vattel, 2005). De Vattel's well-known volume has long served as the foundation for modern international law, custom and practice. At the root of de Vattel's assertion is the accepted understanding throughout the international community that "free persons" possess inherent sovereignty which can not be surrendered unless a people is absorbed by another sovereign or consent is given to dissolve all rights

1. Originally written under the title, "Trust Arrangements between States and Indigenous Nations in the International Environment" for presentation before the US Department of the Interior Secretarial Commission on Indian Trust Administration and Reform, 13 February 2013).

and powers of a sovereign people. Note that Trusteeship is well implied by these terms of reference.

Trusteeships under New International agreements

Modern day Trusteeships between peoples commonly associated with the United Nations Trusteeship Council and the Mandate System of the League of Nations have deep roots in customary international behavior.

The United Nations Trusteeship Council[2] was created in 1945 (UN, 24 October 1945) to oversee the "decolonization" of those countries held under the control of recognized states—many of which had been placed under the control of various states under the League of Nations mandates. Eleven so-called dependent countries that consisted of one or more indigenous nations were formally placed under trusteeship. Of these seven were in Africa, and four were in the Pacific region. The United States government proposed in 1948 that the British Mandate over the territory of Palestine be placed under the Trusteeship Council's supervision, but the declaration creating the State of Israel was thought to have made this unnecessary.

The Council's oversight responsibilities during its forty-seven year operation addressed only those territories within the trusteeship system. Other colonial territories not so identified remained outside the UN system. New Caledonia with a majority population of Kanaki people, Bhutan and Sik Kim (between India and China), Kuwait, Trans-Jordan, Maldive Islands, French Guiana, Trinidad, and most of the African continent and islands throughout the Atlantic and the Pacific Ocean were among the many colonial territories not included under the Trusteeship Council's oversight. The United Nations Charter (UN, 24 October 1945) speaks to the wide array of colonial holdings in 1945 expressing the principle that UN member states were obliged to administer such territories in ways consistent with the best interests of their inhabitants. While all of the territories under the Trusteeship Council eventually became independent or negotiated commonwealth or other agreements with the authorized state, most of the territories and peoples formerly held as colonies by such states and Britain, France, Italy, Japan, and Germany remained colonized territories or were absorbed by the colonizing state, such as New Caledonia, a territory more than ten thousand miles from the French Republic.

Is the job of the Trusteeship Council accomplished? Has the Council completed its job of supervising the administration of Trust Territories placed under the Trusteeship System? By the standards first defined for the Council, the answer is yes. Have the goals of the System been achieved to promote: "the advancement of the inhabitants of Trust Territories and their progressive development towards self-government or independence?" The five permanent members of the Security Council—China,

2. The UN Trusteeship Council was originally authorized by the UN Charter under Article 87 with membership comprised of UN members "administering trust territories" and the five permanent members of the Security Council as designated in Article 23: The Republic of China (now replaced by The Peoples Republic of China), France, the Union of Soviet Socialist Republics (Now the Russian Federation) the United Kingdom of Great Britain and Northern Ireland and the United States of America. The total number of members was to be set as including other elected members for three-year terms by the General Assembly "as may be necessary to ensure that the total number of members of the Trusteeship Council is equally divided between those members of the UN which administer trust territories and those which do not. (Article 86, 1. c.)

France, Russian Federation, United Kingdom and the United States—will say that the world has been ordered and settled.

There may remain, however, as many as 1.3 billion indigenous people in the world living in 5000 to 6000 nations and communities who may consider themselves "internally colonized peoples" and still others colonized at a distance without the ability to petition the UN Trusteeship Council for designation as non-self-governing territories requiring international supervision. These populations are presumed to be under the protective care of an administering state or they are presumed to be "absorbed" into an existing state.

Dr. Miguel Alfonso Martinez, Special Rapporteur to the UN Commission on Human Rights and member of the United Nations Working Group on Indigenous Populations after its formation in 1982 directly challenged this presumption in his Final Report, *Study on treaties, agreements and other constructive arrangements between States and indigenous populations*[3]. He challenged states' governments to prove that indigenous peoples claimed inside their territory "have expressly and of their own free will renounced their sovereign attributes" (Martinez, 1999). Martinez went on to observe, "It is not possible to understand this process of gradual erosion of the indigenous peoples' original sovereignty, without considering and, indeed, highlighting the role played by 'juridical tools', always arm in arm with the military component of the colonial enterprise."[4] Dr. Alfonso Martinez explains that the legal instrumentalities of states' governments serve to perfect and sustain control over indigenous peoples, their territories and their natural wealth through domestic laws, judiciaries that apply the "rule of [non-indigenous] law," as well as international law dictated by the states' governments "validated" through the judiciaries. "The concept of the 'rule of law' began to traverse a long path, today in a new phase, towards transformation into 'the law of the rulers,'[5] Alfonso Martinez concludes.

The United Nations Special Rapporteur gave voice to long-standing complaints by indigenous peoples throughout the world who have come to understand that "protection by the State" is most often a moral and legal justification for confiscating land and resources from indigenous peoples. On one form of that "protection" appears in treaties and in the self-proclaimed trust authority.

Trusteeship Arrangements, States and Nations

Where nations remain internally colonized by States in the modern era, indigenous nations are faced with taking their own initiative to promote a change in political status or they are inevitably faced with absorption into the state and disappearing as distinct political and cultural identities. It is an historical fact that political powers have absorbed by force or coercion indigenous nations to the extent that their existence as distinct political communities ceases. However, whether referred to as a formal trusteeship or a condition of "juridical encirclement," to paraphrase Dr. Alfonso Martinez, indigenous nations and communities recognize the same pattern: 1. Offers to protect the population, 2. Establishment of laws to regulate access to land, and 3. Institution of

3. (Martinez, 1999)
4. Martinez, 1999, Para 195
5. Martinez, 1999. Para 198

external, non-indigenous laws to govern the lives and property of the population. Here are some examples of indigenous nations taking the initiative to change their relationship with a dominating state:

Denmark – Kalaallit Nunaat (Greenland)

More than 40,000 Inuit live on a heavily glaciated island of 2.2 million square kilometers. The country called Kalaallit Nunaat has been under colonial rule by European states since 1721. The Danish government ruled the country as a dependency or as a colony until 1953. It was placed under the direct rule of the Danish parliament, which unilaterally passed laws concerning Kalaallit Nunaat lands, resources and people on a regular basis. Distant from Denmark Kalaallit Nunaat was physically and political remote from Danish life. The promise of oil, uranium, fisheries and other natural resources drew Danish parliamentary interest to such an extent that Parliamentary Ministers began to consider "absorbing Greenland." In 1953 the Parliament authorized formation of the Greenland Provincial Council with "limited powers to advise the Danish Parliament on matters of concern to the Greenland residents (Rÿser, 2012). Development in the glacial country proved beneficial to the Danish government during the 1950s and1960s but not to the Inuit of Kalaallit Nunaat.

These rapid changes affecting their culture and way of life caused younger Inuit to begin to politically organize harshly criticizing the Danish government and raising demands for control over their own social, political, economic and cultural life. Using the government Denmark gave them, the Inuit began to pressure the Danish government for self-government…powers to control Inuit decisions.

In 1972 Inuits created the Greenlandic Home Rule Committee to present a series of proposals to the Danish government. Based on the proposals thus submitted, a Joint Danish-Greenlandic Commission on Home Rule in Greenland was formed in 1975 (Rÿser, 2012). Despite significant opposition, the Inuit leaders pressed Denmark and began to insert themselves into international venues to discuss the Home Rule proposals. By externalizing the debate, Denmark began to feel the presence of political pressure far outweighing the size of the Inuit population.

The Joint Commission concluded that Kalaallit Nunaat would remain under the absolute sovereign dominion of the Danish government; however, Home Rule resulted in a transfer of authority from the Danish government to the Home Rule government of Kalaallit Nunaat. The Inuit secured the power to decide their economic, social and political life and now the Home Rule government is faced with the problems of concentrated urban populations (created by Danish planners in the 1950s and 1960s) and the Danish Government has retained control over access to the land—much to the displeasure of the Inuit people.

United States – Micronesia

The Chuukese, Pohnpeian, Kosraean, and Yaps are the peoples who make up 80% of the populations of hundreds of islands located in western Pacific Ocean whose ancestors are known to have lived in these islands for more than 4000 years. First Portugal and then Spain moored ships off many of the islands in the sixteenth century and by the 19th century Spain claimed and incorporated the archipelago in what that government called the Spanish East Indies. After the Spanish-American

War in 1889 forcing Spain to relinquish the Philippines and Cuba, Spain sold the islands to Germany in 1899. During World War I the Japanese Government took possession of the islands in 1914. As a result of World War II, the United States seized the islands and then under agreement with the newly formed United Nations Trusteeship Council became the administering power over the islands. From the date of seizing the Micronesian islands the US government administered the "Trust Territory of the Pacific Islands" in the Department of the Interior. The Department directly governed the islands through Commissioners who had total authority to decide social, economic, political matters affecting the lives and property of the island peoples.

The American Indian Policy Review Commission[6] considered the experiences of the Micronesians under US government administration. One question raised by the Task Force was, "Why did the United States want to seize and control the Micronesian Islands?" Author of the special report to the Task Force Dennis Carroll wrote:

> *The essential reason for the United States' presence in Micronesia has been the military value of the islands. [As a member of the UN Security Council and a member of the Trusteeship Council] … the United States was able to have the islands set aside in a special category as a "strategic" trust. [Permitting] … the U.S. to fortify the islands, and this, as it turned out, was the only noticeable development which took place for quite some time. (Deloria, Goetting, Tonasket, Ryser, & Minnis, 1976)*

The islands remained mainly a "strategic" outpost for the United States until Islanders pressed in the 1960s to establish a governing authority in which people from the Islands would play the dominant role. After much political pressure on Secretary Stewart Udall expressed by Islanders through the Trusteeship Council an agreement was made based on a May 7, 1962 Presidential Executive Order[7] to create a government. The Interior Secretary issued an order on December 27, 1968 "to prescribe the manner in which the relationships of the Government of the Trust Territory shall be established and maintained with the Congress, the Department of the Interior and other Federal agencies, and with foreign governments and international bodies."[8]

While the Secretarial Order was detailed and gave considerable leeway to the newly formed government, "The actual authority in all areas, however, resides with the High Commissioner, and American appointee of the Secretary of the Interior." (Deloria, et al., 1976; Udall, December 27, 1968) The powers of the new Micronesian government were especially limited in the areas of revenue and the budget. The Micronesian government had the power of taxation, but these revenues were a very small part of the overall budget. The Island government had by 1974 established a budget of $5 million resulting mainly from taxes on leases of public land, imports and exports and from income. The US government provided virtually all of the remaining funds. All of the funds were administered through the Depart-

6. A Joint Congressional Commission established by the Congress in 1975 to consider past and recommend future policies relating to the administration, trusteeship, health, education, governance and legal status of American Indian and Alaskan Native peoples under the administration of the Department of the Interior.
7. Executive Order No. 11021
8. (Udall, December 27, 1968) (No. 11021 of May 7, 1962)

ment of the Interior. By 1975 the Micronesian Congress petitioned the US government to make direct appropriations to the Micronesian government and terminating the intermediary functions of the Department of the Interior. As one representative remarked: "The uncertainty of the budgetary level from year to year for Micronesia and the fluctuation in the level of expenditures available to us, at any given period, have combined to impede and frustrate our efforts to carry forth effective programmes [sic] and realistically assess our progress and past accomplishments.[9]

The United Nations Charter required that the administrator of the Trust Territory not only seek to elevate the government to a new level, but to advance and improve the Micronesian economy to improve the quality of life in the Islands. The United Nations report on the economic conditions in Micronesia during the 1970s concluded, "the system could easily collapse unless strong measures were taken to reverse migration to the urban centers and the bureaucracy in favor of a stay-at-home-and-tend-the-farm approach." A great portion of the population was dependent on employment by the US government through the defense facilities and government grants. The United Nations specifically targeted inadequacies in the agricultural development program. The federal government had ignored mariculture as a foundation for the economy and the introduced education system ignored the indigenous culture and the combination of neglect and misdirection of resources allowed foreigners living in the islands (Japanese and Americans in particular) to profit from fishing.

The dominant controversy between the Island government and the Department of the Interior was over the question of "who will control Micronesia's most valuable asset, the land." Micronesian leaders and community residents were increasingly upset over the misuse of land through allotments, which conflicted with collective ownership patterns. It was the land controversy that finally gave way to demands that the United States government negotiate a new "political status arrangement" that result in a fifteen year period of transition from trust management to independence.

After leaders of Micronesia got the attention of then Vice President Hubert Humphrey, demands for negotiations at the highest levels of government eventually began in earnest in the late 1970s. During those negotiations the United States persisted in demands to control access to the lands and particularly to gain assurance that its military installations would be unaffected. Negotiations over the lands and "strategic Trust" proved central to a conclusion that divided the Micronesian Islands into four separate groups (Federation of Micronesia, Marshall Islands, Palau, and Caroline Islands). Four separate negotiations for a new political status for each group resulted with the Federation of Micronesia and Palau pushing for independence, the Marshall Islands sought Commonwealth Status, as did the Marianas. Micronesia and Palau hold seats in the United Nations and receive the bulk of their revenues from the US government and the UN Development Program.

Spain: Catalonia

Catalonia is a "Country in Spain" as the Catalans will put it. Occupied over the last three thousand years by Phoenicians, Greeks, Corinthians, Romans, Goths and surrounded

9. (Deloria, et al., 1976) at page 226.

by Celtic Castilians, the Catalan people have maintained a will to exercise their powers of self-government (Rÿser, 2012). As the government of Catalyuna states in its declaration of Catalonian nationality:

> *The Catalan people have maintained a constant will to self-government over the course of the centuries, embodied in such institutions as the Generalitat - created in 1359 by the Cervera Corts - and in its own specific legal system, assembled, together with other legal compilations, in the Constitucions i altres drets de Catalunya (Constitutions and other laws of Catalonia). After 1714, various attempts were made to restore the institutions of self-government. Milestones in this historic route include the Mancomunitat of 1914, the recovery of the Generalitat with the 1932 Statute, the re-establishment of the Generalitat in 1977 and the 1979 Statute, coinciding with the return of democracy, the Constitution of 1978 and the State of Autonomies. ("Catalunya Preamble," 2006)*

Catalan territories have since the formation of Spain been claimed by the Spanish Crown as a part of the Spanish Domain. Catalunya has resisted those claims and experienced severe and violent punishment by the central government for the resistance. Never officially designated as a trust territory Catalunya nevertheless fell under the administrative control of succeeding governments in Madrid resulting in the declared illegality of Catalan culture, language and institutions. Beginning with the passing in November 1975 of General Francisco Franco, the dictator who ruled Spain with an iron fist, Catalans began the process of recovering their cultural and political identity.

Their governmental system first instituted in the 14th century was promptly reestablished. On October 25, 1979 the Generalitat issued an "autonomy statute" to the Catalan public for a vote resulting in 88% popular support (Rÿser, 2012). The Catalonian Parliament defined Catalonia "as a nation." The Catalans had elected parliamentary representatives into the Spanish Cortez allowing the introduction of legislation that could benefit the interests of Catalonia. The Catalan delegation pressed for "devolution" of governmental powers to the Generalitat, but the parties in control of the Cortez worked to slow the process. Despite the political obstacles, the Catalan government to proactive initiatives to control schools, social services and most aspects of commerce. Among the very first initiatives was the restoration of territorial divisions (*camarcas*) within Catalan territory to "reflect the reality of land and people in an ongoing relationship (factors such as economy, landscape, history, urbanism" (Rÿser, 2012). The deliberate and self-initiated actions by the Catalan governing authority and popular voting of the Catalan public stimulated economic growth and Catalan success was clearly evident.

Reversing the influence and controls of the Spanish government through proactive Catalan governance began to increase Catalan confidence. The unwillingness of the Spanish government to convey powers to the Generalitat was trumped by the decision of Catalan leaders to methodically declare their national identity as the Catalan Nation, and they built their economy by establishing direct trade relations with European states, the United States and other countries by establishing "economic missions" or a Catalan business in each of the countries. Trade arrangements advantaged Catalonia, and here control over banking and other aspects of the Catalan economy resulted

in Catalunya having an economy constituting 25% of the economic output of the Iberic Peninsula.

In 2012 the Catalan government declared its efforts over thirty years to "transform the Spanish state so that Catalonia could fit in well without having to renounce its legitimate national aspirations" and having been rebuffed the Spain consistently and negatively "a dead end." (CiU & ERC, 2012) The referendum reads in part:

1. **To formulate a "Declaration of Sovereignty of the People of Catalonia"** in the First Session of the 10th legislature [the current one just constituted on 17 Dec], that will have as its goal to establish the commitment of the Parliament with respect to exercising the right of self determination of the People of Catalonia.

2. **To approve the Law of Referendums** starting from the work begun in the previous legislature, taking into account any changes and amendments that are agreed upon. To this end, a commitment is made to to [sic] promote the start of the parliamentary process by the end of January 2013, at the latest.

3. **To open negotiations and a dialog with the Spanish State** with respect to exercising our right to self determination that includes the option of holding a referendum, as foreseen in Law 4/2010 of the Parliament of Catalonia, on popular consultations, via referendum. To this end, a commitment is made to formalize a petition during the first semester of 2013.

4. To create the **Catalan Council on National Transition**, as an organ of promotion, coordination, participation, and advisement to the Government of the Generalitat with respect to the events that form part of the referendum process and the national transition and with the objective of guaranteeing that they are well prepared and that they come to pass.

On 23 January 2013 the Catalan Declaration of Sovereignty was adopted by 63% of the parliamentary ministers in the Catalan government declaring the Catalan people "a sovereign political and legal subject" (FR, 2013).

The indigenous Catalan's have in thirty years moved the political needle from total external control to a dynamic and forward-looking future that will require careful political skill and effective planning.

Toward Implementing a Modern Trusteeship System

States' governments may well recognize that there are significant social, economic and political advantages to reconstituting a Trusteeship System, only instead of focused on external colonies, direct energies and diplomatic skills toward "internally colonized peoples," – indigenous peoples wishing to change their social, economic and political status. Here are some steps that might be considered:

1. In the United States of America the Trust Commission would do well to consider recommending to the US government engaging Indian and Alaskan Native Governments in negotiations of Trust Compacts that specify the authorities and responsibilities of both the United States and each Indian Nation or Alaskan community. These Compacts should consider social, economic, political and cultural elements in a framework specific to each

political community. Such an initiative could have profound implications throughout the world.

2. Negotiation of Trust Compacts must be preceded by individually negotiated "framework agreements" that define the rules, procedures and terms of reference of the Trust Compact negotiations.

3. Again in the United States and countries such as Canada, Australia, New Zealand, Brazil and South Africa states' governments should adopt a specific definition of the Trust Responsibility as having the goal of elevating indigenous nations and peoples to a position of sovereign equality consistent with principles contained in the UN Declaration on the Rights of Indigenous Peoples with special attention paid to the principle of the right to "free, prior and informed consent" and UNDRIP Articles 3 and 4 to any decisions made before and after a Trust Compact is concluded.

4. Each Trust Compact negotiation must present parties the opportunity to select a "third party guarantor" to mediate and guarantee enforcement of the Compact. This could be a UN reconstituted Trusteeship Council with both States' government members and Indigenous Nations members.

5. Each Trust Compact must contain opt in and opt out provisions for the affected Indigenous nation or people to permit adjustments over time.

The background and examples I have given you do not present a particularly lovely or pleasing demonstration of good relations between indigenous nations and states in the last five hundred years. Indeed, perhaps the clearest conclusion one can come to is that a *trust relationship* has proved over the centuries to mean precisely the same thing as absorbing a population without its consent. The United Nations expressly emphasized at three different points in the UN Declaration on the Rights of Indigenous Peoples that "free, prior, and informed consent" is essential to the promotion of peaceful relations between peoples. The Trust Relationship or the dominion of one people over another without consent having been given, is demonstrably in the international context a denial of the mature capacity of people to decide for themselves what will be their preferred social, economic, political and cultural future. The only option is to create a gateway out of the cul-de-sac that is the Trust relationship.

If a trusteeship between a state government and an indigenous people is made perpetual, then there is no truth to a fair and constructive relationship since one party presumes itself to be civilized and imbued with authority and it looks to the other party as weak, backward and unable to exercise mature behavior. Neither history nor contemporary experience in international relations supports

10. Articles 3 and 4 of the Declaration provide a clear opening to establishing systematic protocols between each indigenous nations choosing to change their relationship to a state and each state government willing to implement the Declaration. Article 3 simply reaffirms the UN Charter principle of self-determination: "Indigenous peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development; and Article 4: "Indigenous peoples, in exercising their right to self-determination, have the right to autonomy or self-government in matters relating to their internal and local affairs, as well as ways and means for financing their autonomous functions." Formalizing the principle of "Free, Prior and Informed Consent" into a framework for negotiation of a different political status would serve as a progressive way to implement these principles and elevate the social, economic and political status of each indigenous nations.

such an approach. The only way to change the international environment where we see literally hundreds of millions of indigenous peoples under the control of governments they have not chosen is to implement provisions of the UN Declaration on the Rights of Indigenous Peoples[10] redefine the UN Trusteeship Counsel to elevate the status of indigenous nations to positions of sovereign equality when they choose. Or in the US context, institute open and transparent negotiations between the United States and each indigenous nation on an intergovernmental basis to define a new relationship that is dynamic and mobilizes the continuing growth and development of each nation and tribe.

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Rudolph Ryser originated Fourth World Geopolitics as a set of principles and concepts describing the relations between indigenous nations and between indigenous nations and internationally recognized states. He presents an extensive discussion of applied Fourth World Geopolitics in his book *Indigenous Nations and Modern States* (Rutledge, 2012). In addition to international relations he has written essays and books concerning traditional foods and medicines as a "food historian" and extended his research into

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