

SCIENTIFIC EXCHANGE PROGRAMS IN ENVIRONMENTAL AND SOCIAL SCIENCE: THE IMPORTANCE OF INDIGENOUS PERSPECTIVES

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In the cultural traditions of Indigenous peoples human concepts of history and culture are linked to local places and the natural world. In these traditions history cannot be separated from the entire geography, biology, and environment to which they belong. As a major Native American (Lakota) scholar has stated: "In the traditional (way of knowing), there is no such thing as isolation from the rest of creation" (Vine Deloria Jr. 1990, 17). Indigenous knowledge and philosophy are derived from the premise that humans are a part of the natural world and no greater than any other part (Pierotti and Wildcat 1999, 2000). Respect for the non-human arises because non-humans are incorporated into the ritual representation of the community, and are considered as members of the community.

Despite evolving in different environments and cultural traditions most indigenous peoples share a way of thinking and a concept of community. These shared concepts include: 1) importance of local places and the natural environment in cultural identity, 2) respect for non-human entities as individuals and the existence of bonds between humans and non-humans, including incorporation of non-humans into ethical codes of behavior, and 3) recognition of humans as part of the ecological system, rather than as separate from and defining that system (Pierotti and Wildcat 2000).

Indigenous systems of knowledge are derived from empirical observations that are the result of paying careful attention to the natural world and its patterns. In such traditions nature exists on its own terms, and individual non-humans have their own reasons for existence, independent of human interpretation. Indigenous societies existed under conditions of constant pressure on the resources upon which they depended. Thus, means had to be found to convince human communities and families to economize with regard to their use of natural resources.

Such knowledge traditions incorporate both science and religion, in the sense that religion is the ritual representation of the community. As a result they serve as a device for sanctioning moral and ethical codes. "The task of the tribal religion...is to determine the proper relationship that the people must have with other living beings" (Deloria 1992). As a result, indigenous knowledge is based on and has considerable insight into the workings of nature.

As part of our scientific exchange project we worked to develop interactions between indigenous peoples from the Altai region of Southwestern Siberia and Native American faculty and students. The US contingent represented several tribes, including Euchee, Potawatomi, Lakota, Shoshone, and Comanche. In the summer of 2001 two faculty and six students from Haskell traveled to the Altai region of Siberia. In the spring of 2002 faculty and four students from Gorno Altaisk University came to Kansas (see <http://www.engg.ksu.edu/HSRC/international/altai.html>).

The origins of this program span over a decade; back to the early days of democratization in the Russian Federation. We focused on issues related to water, because from Native American perspectives, water is a sacred element. Water was also a major issue in the pro-democracy movement in the Altai Republic, and brought together scientists, writers, and Indigenous leaders to work together to preserve the rivers of the Altai Mountains from Soviet-era development and pollution. (Annett and Klubnikin 1998, Klubnikin et al 2001). By focusing on water and landscape our exchange was able to learn more about the relationship between indigenous knowledge, science, and environmental policy (Griswold and Annett 2002, Calhoon et al. 2002, Calhoon et al. 2003).

To illustrate the principles described above we include essays written by Indigenous students who participated in this program from different parts of the world.

Haskell Indian Nations University SS (Lakota):

I am a strong believer in the traditions my people used long before I came to be and I carry with me the ways of my ancestors. I am a member of the Ihanktonwan Oyate (Yankton Sioux Tribe). My tribal teachings have taught me to carry wisdom, generosity, courage, and respect. My trip to the Altai taught me a great deal about how my own government treats my people. I flew half way around the world, and found conditions similar to those that my tribe and I have experienced in South Dakota.

I have strong feelings in my heart for the people of the Altai Republic; similar to those feelings I have for my relatives here in the United States. The people of the Altai are strong, similar to my people, although many aspects of life in the Altai are similar to those on tribal lands within the United States. The Native American experience is similar to those of people in the Altai Republic in that over the last two

centuries Native Americans have experienced similar socio-economic conditions. Reservation life is not right for my people, and I was able to relate similar issues with Altai Republic people.

As I met a variety of Altaian people similarities became apparent with regard to numerous issues concerning public health. The predominance of poor socio-economic conditions in both peoples leads to poor health, complicated by poor education, and overall reduced opportunities for both personal and economic growth. I have been affected in a positive way by this trip, because one effect was to push me more toward continuing my education.

Altaians and the Indigenous people of the United States share similar values of respect, generosity, courage, and wisdom. Both groups present themselves in a respectful manner when introducing themselves to other groups of people. I was able to observe Altaian traditions, including ceremonies and rituals, with emphasis on the spiritual side of traditions. Other traditions incorporated music into the culture combined with story telling and dance. In the Altai Mountains we were invited to share the native Altai culture (dances, story telling, singing, and prayer), and were also shown the surrounding mountain ranges and told ancient creation stories. We learned the history and the connection the Altai people have with the land they live on from their elders and the caretakers of their land. Altaian people had an interest in preserving the animals, plants, water, and land that their Creator gave to them. Indigenous people of the United States resemble the Altai people in the things we consider to be sacred in that we both honor the beauty of natural world that the Creator has allowed us to use.

The Altaian people have particular respect for their water. Natural springs are protected from abuse by people and considered sacred. Altaian people feel a spiritual connection to their natural springs and offer prayer flags at various springs throughout the land. In the United States my people use prayer flags and ties in a similar way; to connect our prayers with the Creator. What was really interesting was that both groups of people usually put the prayer flags onto trees, where the image of the tree reaching toward the sky allow a closer link with the Creator. In my culture putting flags on a tree does not suggest that the Creator is in the sky, it suggests that using a natural tree brings your prayers closer to the Creator. We translate the word water as "water of life" to indicate the central role of water in all existence, because life would not exist without water.

Altaians recognize the importance of water in their ecosystems by trying to protect it from pollution. We use water to purify the mental, emotional, spiritual, and physical aspects of our lives in stone lodges. These stone lodge ceremonies include every element of our environment: water, trees, stones, plants, soils, animals, and our intentions to live well. We are considered to be in the womb of Mother Earth when we enter into the sacred stone lodge. All others that enter the lodge with us are considered our relatives. Water is essential in our ceremonies; it is so important that we have ceremonies built around water just as the Altai people do. In both cultures the way water is used in ceremonies helps us to realize the importance of water in our lives by realizing that all our relatives (plants, animals, soils, etc.) along with ourselves cannot live without water. We are taught this as young children, which increases the chances of us to remember the valuable information throughout life.

We share our understanding of the interconnection by which ecosystems on Earth are closely linked with each other with the Altaian peoples. My people try to protect their environments as much as possible. My Yankton Sioux Tribe travels to surrounding communities and picks up materials that would otherwise be sent to landfills and recycles as much as possible. Recycling materials offer great benefits to preserving natural environments, even though the monetary benefit is very small. This is one way that our tribal government protects our land by helping to slow the increase in landfills within and around our boundaries. We are trying to preserve our land for future generations.

Indigenous Altaian people also assume the responsibility of protecting their environments from pollution by protecting sacred natural springs and arranging that most of their land are considered restricted areas where non-members cannot trespass. Altaian people have learned that it is not easy to clean up after others who do not share the same values for Mother Earth.

The most obvious similarity between Indigenous Altaian people and Native Americans is the interaction between the people and their environments. Traditional ceremonies reveal common interests that enable communities to care for their environments for future generations while dealing with environmental problems with limited resources. Respect is also shown to the elders of the Tribes in both countries, and in turn the elders provide knowledge that they have been given by their ancestors. The Altai is not developed land and is less impacted so that the natural processes of Mother Earth can work. This is also the case for most places in Indian Country where Native Americans have had the opportunity to keep their sacred sites clean.

SR (Taos Pueblo)

I had little understanding of Native traditions until I came to Haskell. I never lived on a reservation and was considered a “city girl”. My high school had a low number of Native Americans, so I was considered to be Hispanic. It took me a few years later and a trip half way around the world to understand what it means to be passionate about who you are.

Fast forward to 1999. I came to Haskell thinking, what am I getting myself into? I had a stereotype that all Indians were dark because in the southwest that is how the majority of them are. Throughout the year I learned much about Native Americans and their struggles. My father, who is full-blooded Taos Pueblo, never taught me these things. In spring 2000 I took my first Siberian class, which was very interesting and informative and I was determined to go on the trip to Siberia.

In June 2001 we were on our way. I had no clue what to expect or what was to come ahead. I thought Moscow was awesome, but it was a different story in Siberia. I expected it to be like Moscow, but I found that many people didn't have running water. At first I wasn't sure that I could do this, but I decided to look at it from a different perspective. I quickly realized that conditions in the Altai were similar to those at Taos Pueblo. I thought back to my grandpa and how simple his life was. He never needed more than he had. The Altai people were the same in that they lived simply. My respect grew for the Altai, because one thing was clear, they didn't care how much they had because what they had was enough in their eyes, they were so rich in culture that it made me feel inadequate. I realized that I should be like them. Altaian people struggled just as we did and everyday it became more clear about what they stood for. This trip made me grow much respect for the Altai people and my people as well.

YM (Gorno-Altai Pedagogical College)

I am Altaian both by blood and by birth. Both of my parents are Altai people. The Altai people are divided into two subgroups – the South Altai people and the North Altai people. Altai Kizhi and Telengits are of the South; and Chalkandu, Tiba, and Kumandy belong to the North. My mother is Chalkandu, my father was Altai Kizhi; therefore I am half Altai Kizhi, half Chalkandu and belong to both the South and the North.

I was born and grew up in Gorno-Altai, the center of the Altai Republic. Our republic is part of the Russian Federation, and it is a very beautiful place with high blue mountains, fast clear rivers, deep lakes, fresh air full of the smell of herbs and flowers, and wonderful people who surprise and fascinate everyone who comes here. Although this place is my native land, I never get used to its beauty.

I study languages, have studied English for 14 years and I really enjoy it. I learned my first simple English expressions, such as *What is your name? – My name is... I love you, Mother, father, sister...* from my mother, who knows a little bit of the English language from school. I also had a wonderful teacher of English at school. All these things led me to continue my study of language at the university. I have already been to England and the United States and hope that I will be able to return.

I recently became involved in and interested in Ethnography. I am sure that my visit to Haskell Indian Nations University and Kansas State University contributed to this interest. One summer I worked with an English ethnopsychologist, Dr. Caral Pegg from Cambridge University. We traveled to some villages of our republic, met ordinary people, and asked them about the traditions, spiritual beliefs, and religion of the Altai people. They sang traditional songs, told us legends and myths, and described traditional Altai rituals. We saw many wonderful and significant places, which impressed me, because despite being fully Altaian I know very little about Altai culture. I've learned many new things that are interesting and important for me. I now understand now how important it is not to lose our traditional culture, and to preserve it and know it.

The Altai is my ancestors' land, my land, and a land of incredible beauty and wealth. Our mountains are rich in deep forests; our fields are green and have no fences. We have swiftly rushing rivers, pure springs, and lakes that shine like jewels among the rocks. There is no exaggeration in these statements. My people who have always lived on these territories always were careful to show respect to the natural water sources.

In the Altai nature has always been perceived as being something animate, having its own spirit and mind. The Altaian people, whose beliefs have been described as heathenism, endow everything around them with its own special power. Water is considered to be a source of life, and also of spiritual and material purity and health.

Our natural springs are traditionally sacred places which are called “Ar∞an Suu”, which means “sacred water”. These springs are usually cleaned by people and fenced to protect them against cattle. At any spring one can find a tree covered with ribbons which people tie them onto the branches to thank nature for the gift of the water, and to ask the spring not to forget them. Altaians have a tradition in which you wash your hands and face whenever you approach a water source. Such a simple ritual helps a person to be clear and enables you to free yourself from any ill will. After this ritual one can pray, and after praying and giving

thanks, take the water for drinking and other needs. It is important to realize that this ritual is also practiced at rivers and lakes, to show their deep respect to nature and the water.

It is sad for me to say that today not all people practice such traditions. The elders pay more attention to the rituals than do younger people who often ignore them. I think the reason can be found in the way of life, upbringing, and culture, which have changed. Pollution of ponds and rivers is a serious dilemma as well that reduces any desire to wash your hands and face in the river.

It is absolutely obvious that something must be done to bring back the old traditions and restore the harmony with nature. Losing the links with our past and forgetting our ancestors' habits and traditions will make us weaker and destroy our harmony with both our traditions and with nature.

Examples of destroyed harmony can easily be found. I myself grew up in a city where the past was neglected in comparison to the way people act in the country. I know a little of my people's history and culture, but I am not completely fluent in my native language. As for my parents, they were born and grew up in the country, but later they moved to city to study. My father was a student in at our local university in Gorno-Altai, but my mother was a student much farther away, in Moscow. After completing their study, neither of my parents came back to the native villages from which they came, but stayed to live and work in Gorno-Altai. They gradually learned to speak mostly Russian, and stopped speaking the language they had known since they were kids. The rural way of life didn't fit the city, even though the city is very small. Many things changed, and soon their parents moved closer to live near them. My sister and I were raised in a way that didn't teach us anything about traditions and rituals. When we encountered traditional rituals on some occasions, we didn't realize the meaning and didn't ask to have the meaning explained. It is only now that I realize the mistake my parents have made in allowing the minute links that could lead us to our roots to be broken. There is no accusation in these words, because I know my parents wished and continue to wish us only good. It is my responsibility to change the situation myself. People who lost their roots several generations ago must feel worse, and the saddest cases are those that happened to those who does not realize this loss and therefore do nothing to reconnect themselves to their traditions.

It is hard to consider how respect for nature and tradition can be restored to life, and how to stimulate and revive the interest of young people for the past, present, and future of their people and motherland. One thing of which I am sure is that conditions should not be left like they are, and ecological and cultural literacy needs to be emphasized and strengthened. The nature and ecology of the Altai Mountains is unique, just as the culture of the Altaian people is unique, like the culture of any people living on the Earth.

MO

I graduated from Gorno-Altai State University with a specialization in languages. Because of my English I have made many American friends, and worked as a translator for representatives of Haskell and Kansas State Universities, which helped develop the relationship with my university, Gorno-Altai.

My elder brother, younger sister and I were born in to the family of two teachers, who came to Ongudai (the village where we were all born), to give lessons in geography, biology, mathematics, physics and astronomy for kids at the local school. As far back as I can remember, we were always asking questions, and our parents told us rather scientific story-tales about countries on the other side of the globe, about the people who lived there, and about stars and planets and constellations in the night sky.

We liked to go in the mountains that surround our village. There I was taught how to travel through the dense forests and how to define my location in unfamiliar places. I also learned to find edible mushrooms, berries and nuts. I remember how much impressed I was the first time I saw snakes and heard them hissing in high grass. The rivers high in the mountains were very cold. My father even showed me the glacier and I wondered how snow could be here even though it was summer in our village. My parents are good photographers and taking pictures was their hobby. They made many pictures that preserve the beauty of those days, which today has been changed.

My family spent much time together and with our relatives too. I remember my mother tried to draw a family tree, but even in just the last 100 years the family tree is very big. We laugh and say simply that we are Russians. In this case the word 'Russian' indicates the mixing of a variety of bloods and roots. When people don't know their exact ancestry (and it is always difficult to say), they usually say, "I'm Russian". I refer to myself as Russian, even though I am of mixed Ukrainian and Altaian blood.

Any person, who is proud to be a citizen of his country, is raised with love and affection in their heart for the motherland that grows stronger over the years. Russia has been the largest country on the world's map for many centuries already – we really have a huge Motherland we love. How can each of us find their little part of motherland in these vast spaces? Though every Russian realizes where "my motherland" is. It is where a person was born, was taught to speak their native language, where their parents opened the world for

them for the first time...

I'm proud I was born in Altai. Every day here gives me the possibility to enjoy the fantastic nature around me as it changes daily and seasonally like in a Fairyland. I close my eyes and see the emerald of green grass and hear the solemn twitter of birds, the hissing songs of snakes, the boiling and rushing sounds of our mountainous creeks, and the jingling of ice springs – these are things my brother and me were shown and told stories of by our parents when we were kids. That is how they taught us to love nature.

I remember the variety of different impressions shown by different people when they first met the beauty of our Altai – some were surprised, some were astonished and remembered their impressions of encountering this beauty for a long time, some longed for these mountains afterwards, and some have never left this place. The water incessantly gushing from the rocks, fine drops of spray like beads and silver dew... the burning palette of fire tongues... magic sounds of springs of the Altai topshur... the popular wisdom of the Altai songs... severe whiteness of the mountainous peaks and glaciers yesterday, today, tomorrow... always.

"I can't help but feel sadness when I think of our generation..." these are the words of a classic work of literature, and I think the author underlined the very truth in this simple sentence. It's true that people perceive the nature differently, and the meaning of ecological connection and environment have changed in the consciousness of modern people. We won't hear people say directly that they don't care for nature and have no respect for the place they live, but such an attitude is obvious from the behavior of some people. There's nothing wrong with some people wanting to have a rest at the river's bank, but the ultimate question is— how do they organize and structure their leisure. Do they behave in a respectful manner? Pretending that environmental problems don't exist or the indifference of most people to such problems renders our claims to the authorities about how to behave properly useless. We of the younger generation must start first! And if we succeed we'll be rewarded.

To close I will tell you one more story. It happened in Ongudai, where my parents live (in the Southern Altai). As a calm summer night fell, we heard the astonished and excited call of my father who wanted us to come out quickly— he was calling us to look at the moon rainbow... Have you ever seen a moon rainbow? I have here in the Altai.

To conclude, we would all like to honor the memory of the father of one of the Altaian co-authors, Alexander Mekechinov. We lost him in June 2002. He was about 54, and only now we realize that terrible meaning of the phrase "*We never appreciate those things we have.*" He was a very strong man with an open heart and generous soul. He was like a burning fire and burned down too early.

Literature Cited

Annett, C.A., and K. Klubnikin. 1998. Observations of grassland aquatic communities in the steppes of North America and western Siberia. *International Ecological Congress Journal* 1(4):13-22.

Calhoon, J.A., and C.A. Annett. (in review) American Indian and Altaian literacies. Tenth International Literacy and Education research Network Conference on Learning, to be held at the Institute of Education, University of London 15-18 July 2003.

Calhoon, A., W. Griswold, J. Ivie, and C. Annett. 2002. Water monitoring project links Indigenous students from Kansas and Altai. Give and Take: The Journal of the Initiative for Social Action and Renewal in Eurasia. Spring. <http://www.isar.org/isar/archive/GT/GT14griswold.html#top>

Calhoon, J. A., Wildcat, D. R., Annett, C., Pierotti, R., & Griswold, W. 2003. Creating Meaningful Study Abroad Programs for American Indian Post-Secondary Students. *Journal of American Indian Education* 42(1), 46-57.

Deloria, V. Jr. 1990. Knowing and understanding: traditional education in the modern world. *Winds of Change* 5(1): 12-18.

Deloria, V. Jr. 1992. The spatial problem of history. Pp. 114-134 in *God is Red*. North American Press, Golden, CO.

Griswold, W., and C. Annett. 2002. Kansas-Siberia partnership addresses drinking water quality issues in rural and indigenous communities. *International Ecological Congress Journal*.

Klubnikin, K., C.A. Annett, M. Cherkasova, M. Shishin, and I. Fotieva. 2000. The sacred and the scientific: the role of Traditional Ecological Knowledge in the conservation of Siberian rivers. *Ecological Applications* 10: 1296-1306.

Pierotti, R. and D. Wildcat. 1999. Traditional knowledge, culturally based worldviews and Western science. Pp 192-199 in *Cultural and Spiritual Values of Biodiversity*. D. Posey, ed. U.N. Environment Program Intermediate Technology Publications, London.

Pierotti, R. and D. Wildcat. 2000. Traditional ecological knowledge: the third alternative. *Ecological Applications* 10:1333-1340

**ПРОГРАММА ПО НАУЧНОМУ ОБМЕНУ В ЕСТЕСТВЕННЫХ И СОЦИАЛЬНЫХ НАУКАХ:
О ВАЖНОСТИ РАЗВИТИЯ КОРЕННЫХ НАРОДОВ**

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В культурных традициях коренных народов исторические и культурные концепты связаны с географическими местами и всем природным миром. В таком подходе человеческая история неразрывна от научных областей географии, биологии и экологии. В статье говорится о том, что коренные народы, как правило, разделяют общие способы мышления и пользуются едиными концептами своего языкового и культурного сообщества. Авторы также описывают собственный опыт социализации в сообществах коренных индейских народов и народов Республики Алтай.