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HOW RABBIT GOT HIS LONG EARS

INTEGRATIVE SCIENCE AND MI'KMAQ LEGENDS MERGE IN ECO-PUPPET PERFORMANCES

by Cheryl Bartlett, Murdena Marshall, and Sana Kavanagh

Many Native Elders express deep concern that losses of language, storytelling, and connection with the land are adversely affecting the mental health of young people, and through them whole communities. Efforts to reverse these losses within the context of modern life can take many forms. At the University College of Cape Breton (UCCB) in Sydney, Nova Scotia, a small group of young people is investing its energy in puppetry as one possible strategy - an approach that also brings together Mi'kmaq and Western understandings of science. These young people, both Native and non-Native, are part of the "Integrative Science" research team at UCCB. Integrative Science is a unique program that, as of Fall 2004, is entering its sixth year as a science education program within a four-year undergraduate Science degree, and its third year as a UCCB research program with funding from major granting agencies in Canada.

The Integrative Science program's "puppet project" has been undertaken with funding from the Nova Scotia Health Research Foundation in order to develop new mental health education for children. Drawing upon both Mi'kmaq and Western scientific understandings, it falls within the larger vision of the research team's CIHR-IAPH (Canadian Institutes of Health Research - Institute of Aboriginal Peoples' Health) funded, three-year project, *Integrative Health and Healing: Co-learning our way to expanding wholeness through restoration of relationships with the land*.

Murdena, Charlie, and the upside-down canoe

Integrative Science at UCCB was conceived to locally address an issue with major global significance: the large-scale failure to acknowledge Aboriginal and Indigenous knowledge in mainstream science. Indeed, the project's proponents were agitating for dialogue between Aboriginal knowledge systems and Western science long before this relationship was identified as attention-worthy by some of the world's leading institutions, including both the 1999 World Conference on Science, and the 2002 World Summit on Sustainable Development. In this regard, UCCB's Integrative Science program is an original, groundbreaking effort at the level of university science education and research worldwide. Furthermore, the puppet project represents a unique effort to move this dialogue into a collaborative model

> the spider's web

aimed at community betterment.

The Integrative Science program represents the vision and devotion of Mi'kmaq Elder Murdena Marshall working in conjunction with Cheryl Bartlett and others. Conceived during the mid-1990's, research funding received by the project over the past two years, especially from the Canada Research Chairs program and CIHR-IAPH, has enabled the original friendship and working partnership between Murdena and Cheryl to grow. This partnership evolved within the sort of setting that only a small university such as UCCB can provide, in which faculty members like Murdena (Mi'kmaq Studies) and Cheryl (Biology) enjoy daily encounters in the hallway, cafeteria, or lecture room, and eventually become entangled in one another's daily lives. In this case, Cheryl's research on worm parasites in birds fascinated Murdena, and Murdena's traditional understanding of eagles and ecosystems fascinated Cheryl. This connection soon led to a sharing of ideas about how science education might be revitalized, and also become more attractive to First Nations' students - ideas that were soon encouraging their progenitors to make them reality as the Integrative Science program.

Whereas most program work occurred around Murdena's kitchen table during the 1990s, much of it now takes place in the so-called "upside-down canoe", an architecturally-innovative building extension which Murdena and her husband Albert have added to their home. There are now also several other participants in the project - especially Charlie Dennis (Director of the Unama'ki Institute of Natural Resources), a number of Mi'kmaq science students, and various other non-native university researchers. Formal gatherings with an expanded number of Elders have likewise become possible, facilitated largely by Charlie and the spacious, inspirational atmosphere of the Eugene Denny Memorial Boardroom at the nearby Eskasoni Fish and Wildlife Commission. During these meetings, Murdena, Albert, and the students generally act as interpreters, enabling the dialogues between Mi'kmaq-speaking Elders and English-speaking university researchers.

Stickiness and Resonance

By converting Mi'kmaq stories into puppet shows, the puppet project works to harness the power of storytelling - in particular, its "stickiness" and "resonance". Story tends to stay in the listener's mind long after information delivered via other means has vanished. And as time goes on, or as the telling is re-experienced, story also tends to grow inside the listener, propelling him or her toward richer and more meaningful levels of understanding and interconnectedness with the world.

The puppet project's aspiring puppeteers have worked intensely with two professionals from Nova Scotia's Mermaid Theatre to learn the basics of puppet construction (using materials found in local forests, such as moss, twigs, leaves, bark, and pine cones) and puppet performance. They have also created dialogue for the Mi'kmaq legend *How Rabbit got his long ears*, and performed this show for children from UCCB's daycare centre. Subsequently, puppets and dialogue have also been created for other Mi'kmaq legends. The intent is to perform these scenes for elementary school children in Mi'kmaq communities, and for adults at environmental

conferences.

To offer one example of the puppet project being used in an adult context: in October 2004, Integrative Science will participate in a "collaborative environmental planning" workshop in Cape Breton. This workshop will bring together traditional Mi'kmaq understandings and Western science in a focused look at the health of the Bras d'Or Lakes area and surrounding watershed - an ecosystem that is not only the spiritual heart of the Mi'kmaq people in Cape Breton, but also a home today for diverse other cultural communities. Puppetry will be used in the workshop to help initiate a discussion about the need to acknowledge and embrace both "objective" Western science and "subjective" Mi'kmaq knowledge in the environmental planning process.

Science and Story

The non-Native science community, and possibly society in general, are increasingly (if slowly) coming to understand that Aboriginal and Indigenous peoples hold intimate understandings of their environments - understandings woven via narrative into living knowledge systems that interconnect human generations with the diverse animate and inanimate forms that share the land, water, and air. Mi'kmaq storytelling offers language and concepts that potentially enrich scientific understanding, broadening our knowledge about environmental relationships and interconnectedness at the level of landscape and community. Most Mi'kmaq legends contain embedded concepts that can be adapted to the challenging and pleasurable task of bringing Aboriginal and Western scientific understandings together.

For example, the story of *How Rabbit got his long ears* communicates the importance of the sun (*Na'ku'set*) for life on earth - and specifically its role in the day-to-day lives of forest animals. In the story, Rabbit has his ears "pulled long" as a reminder of his inappropriate audaciousness (*ki'kaja'sit*) in tricking the other animals into believing that the sun will cease to shine. Rabbit's actions throw the energies of the many animals out of balance, disrupting the harmony of the forest: Squirrel begins frenzied food collecting, and passes his anxiety on to Fox, who tells Porcupine that there will soon be nothing to eat and it will become very cold, like winter forever. Porcupine then worries Owl, who wakes up Bear with the bad news. Eventually, Kluscap gathers the animals together to determine what has caused such widespread panic. Discovering Rabbit's role, Kluscap grabs him by the ears and pulls him out of his hiding place in the bush, saying, "Rabbit! Your long ears will remind everyone not to believe silly stories."

Western science tends to explore bioenergetic relationships such as those related to the solar energy cycle by focusing upon cellular processes like photosynthesis and glucose metabolism - in other words, science tends to turn its gaze to the sub-organismal level, without attending to other levels as significant. In contrast, traditional Mi'kmaq storytelling emphasizes interconnectedness at the organismal level and outward, enriching our understanding of natural processes with lessons about other energies linked to respect and reciprocity among creatures. Western science considers such symbolism and resonance anthropocentric - and therefore taboo. However,

this raises a serious question about whether or not many of the world's contemporary environmental problems might receive more popular concern if our participatory relationships with the earth were understood by more people, and included more prominently in educational narratives at all levels (by opening up educational dialogues to analogic/wholistic reasoning, in addition to Western science's analytic/reductionist thinking). For example, our contemporary, callous dismissal of our place as humans within the solar energy web is demonstrated by the familiar topic of atmospheric ozone depletion. How much sooner might the world have addressed or even averted catastrophic ozone depletion, if our scientists, engineers, and manufacturers had begun from a holistic understanding of the place of humans within the solar energy web, and realized the potential negative feedback / reciprocity from releasing unregulated chemicals into the atmosphere?

Mi'kmaq storytelling can also act as a tool for raising social awareness on the level of language. For example, "reflective consciousness" is vital in the Mi'kmaq worldview, and is embedded in Mi'kmaq linguistics. We use the term "reflective consciousness" here to indicate the recognition of relationships beyond one's immediate self - the dynamics of a greater whole. In the story of *How Rabbit got his long ears*, reflective Mi'kmaq cultural values are embedded within the many Mi'kmaq words associated with "food foraging behaviours". Foraging ("eats" is *mijisit*) may be greedy to the extent of gorging (*oqome'k*) or hoarding (*mesuqtaqnat*), or thinking only of oneself (*newtite'lsit*). Or one may think ahead in a positive fashion, as in preparing food stores (*nikanita'sit*) or gathering like a squirrel (*mijipskat*).

Eco Awareness

Like most Mi'kmaq legends, *How Rabbit got his long ears* communicates various concepts related to environmental methodology (*ta'n tela'tu'n*) - for example, making observations of things around you (*ne'te'k*), or making positive or negative predictions (*kistliatew*). There are likewise concepts related to "theory" (*ankita'suaqn*) - Mi'kmaq recognizes four words for "hypothesis", which differentiate the concept as singular/plural/animate/inanimate.

There are also many concepts here related to ecosystem dynamics: biodiversity is a concept common to both the scientific and Mi'kmaq worldviews, though the Mi'kmaq further differentiates the inanimate world (*milesik mimajuaqn*) from the animate (*milesit mimajuaqn*). An ecological community may be rich in animals (*waisisue'kati*) or fish (*nmeje'kati*). Change over time (i.e., evolution) is illustrated by words like *pileyawit* ("now new"), *sa'se'wa'sit* ("change into"), and *pemi-kiwaska'sit* ("constant turn over"). Ecosystem stewardship concepts are present as *welo'tm msit kisitaqn* ("conservation") and *netukulimk* ("sustainable").

Another Mi'kmaq story, the legend of *How Bullfrog was conquered*, is about the importance of maintaining natural resources in an enriched state by promoting appropriate human attitudes with respect to their use. In the story, Bullfrog is the chief of a community - a bloated creature who lies in the middle of the local creek, blocking the flow of water to a second community downstream. When some courageous young men from the affected community discover the source of the blockage, Bullfrog releases a

trickle of dirty water. People downstream are dying of thirst, and talk with one another about the need to share. Discovering their distress, Kluscap intervenes: he spears Bullfrog, permitting clean water to flow once again. Kluscap tells Bullfrog that from now on, "You will live in dirty water and your throat will always be dry (croaky). May the wrinkles on your back always remind the world what happens to those who do not share."

Just as rabbit's long ears signal the unintended consequences of brazen jokes, the frog's wrinkles become a reminder to the people that their communal happiness, health, and longevity depend upon their ability to overcome greed. *How Bullfrog was conquered* carries the message that individual human greed must be conquered by actions at the community level.

The Mi'kmaq concept *Keknuaqnasit kulaman mikuite'tew*, meaning "via me, remember this message", indicates the symbolism of the gifts/lessons that animals offer human beings through the recollection of these stories. The idea that an animal may offer a lesson for humans conveys something special about Aboriginal worldviews and stories, and their lived relationships with nature. Consider the following comparison: in reductionist worldviews like that of Western science, the world "hangs together" as parts and wholes - nature's patterns are disassembled piece by piece in order to construct understanding. Science tries to explore the unknown while staying largely in the realm of the known. On the other hand, in more "integrative" worldviews like the Mi'kmaq, one must weave oneself into the ever changing, ever transforming patterns of nature; one must participate within it. Nature "gestures" to humans: weaving the self into nature requires an openness to journeys into the unknown, where the gift of creativity resides. Often this involves journeys made possible by animal guides and spiritual warriors. Aboriginal stories constantly call upon the learner to "grow forward", not just "go forward".

Many Mi'kmaq words from *How Bullfrog was conquered* contain related symbolisms within their meanings. Just as frogs undergo metamorphosis from tadpole to adult (*nikwet* means "growing"), an individual human's consciousness should change with time toward a more advanced wisdom, or *nsi-tuo'qn*. Expanding one's consciousness within one's life journey is articulated via the term "wisdom visible" (*nsi-tuo'qn kekunm*). As life advances, there is a necessary movement in consciousness from the level of the individual (*nestu'et*) to the collective (*nestua'tijik*), and ultimately toward the idea that "we are all one" (*nkte'ji'k*). Changing one's thinking from a "me-centred" consciousness to an "us-centred" pattern of thinking is *wiaqi telsi nike*.

Other concepts linked to resource sustainability in *How Bullfrog was conquered* include "clean water" or "the flowing is clean" (*waqmapua'q*) and "dirty water" or "the flowing is dirty" (*mejikapua'q*), and also the larger understanding that water is essential for life ("water medicine" is *samqwan npisunapu*; "divine gift" is *ikn namakwemkeway*). Making changes toward the "bad" in terms of sustainability is *emekwe'k*, while changing toward the "good" is *tepjike'k*.

Digital Evolution

Like all humans during the course of their lifetimes, the Integrative Science puppet project needs to change. Currently it exists only in the embodied form of young puppeteers, yet today's wider world is one of digital communication. The team therefore plans to expand the Integrative Science Web site [*link no longer active <http://faculty.uccb.ca/msit>*] by creating an interactive exploration of the Mi'kmaq legends, puppets, forest materials, and biodiversity concepts already featured in the hands-on puppet project, in an effort to help the traditional knowledge woven within the Mi'kmaq language and its stories continue to be the living breath shared within the communities of *Mi'kma'ki*.

The puppet project is founded in the belief that it is possible to bring together the complexities of Western science and the profound understandings of nature that are found within Aboriginal and Indigenous knowledge systems. This kind of "co-seeing" (as Mi'kmaq Elder Albert Marshall calls it) would allow our young people to draw upon the strengths of both the "rigour language" of Western science and the "vigour language" of traditional knowledge. Truly, *nkte'ji'k* ("we are all one"), and our times desperately require us to acknowledge and embrace the life-affirming, participatory interconnectedness embodied within Mi'kmaq storytelling.

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