

Mi'kmaq Night Sky Stories; Patterns of Interconnectiveness, Vitality and Nourishment

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Summary

This article shares some of the experiences of an integrative science team based at Cape Breton University, Canada. Integrative science is defined as “bringing together Indigenous and Western scientific knowledge and ways of knowing” and the team includes Mi'kmaq Elders and educators, Cheryl Bartlett and her Research Associates. Together we worked to rekindle the Mi'kmaq Sky Story, *Muin and the Seven Hunters*, to produce a DVD of the story as well as a children's book, and then to share it with people throughout Canada and the world. We offer insights into the manner in which night sky stories engender interconnectiveness¹ and interdependability² through their cultural, scientific and ecological teachings and so help to revitalise the culture and the individual by feeding all aspects of the human experience (spiritual, emotional, physical and cognitive). We explore the concept of storywork³, with emphasis on the relationship between storyteller and listener as a story is told, as well as considering the multi-layered aspect of Indigenous stories.

Introduction

From twilight to dawn, the night sky embraces us all, whether we are conscious of it or not. Throughout the world, each culture has its own night sky stories — stories that have woven the fabric of that culture, just as the culture has itself woven the fabric of the specific story. This article will look at some of the ways in which we, the integrative science team at Cape Breton University in Sydney, Nova Scotia, Canada, began working with the Mi'kmaq night sky story *Muin and the Seven Hunters* for the International Year of Astronomy 2009, and how such night sky stories can make the essential interconnectiveness clear as well as perpetually nourishing and revitalising the Mi'kmaq culture and people. The Mi'kmaq are the Indigenous (Aboriginal)

Peoples of Atlantic Canada; their ancestral territory is known as Mi'kma'ki and includes the present day Canadian provinces of Nova Scotia, Prince Edward Island, most of New Brunswick, the Gaspé of Quebec, and southwest Newfoundland, as well as parts of the State of Maine in the United States of America.

Muin and the Seven Hunters

The integrative science research team includes Mi'kmaq Elders and educators, Canada Research Chair Cheryl Bartlett, students and research associates. Integrative science is defined as “bringing together Indigenous and Western scientific knowledge and ways of knowing”. It uses pioneering, praxis-based research follow-

ing integrative, action and participatory methodologies within a co-learning journey with, by, and for Aboriginal peoples and communities (Bartlett, 2005; Bartlett et al., 2010; Comeau et al., 2005; Hatcher et al., 2009; Iwama et al., in press). It was conceived in the mid-1990s in collaboration with key Mi'kmaq individuals to bring radical innovation into the educational system to begin to address the shocking under-participation by Aboriginal young people in university science programmes and thus also in careers that require such an education. Mi'kmaq Elder Albert Marshall has introduced the guiding principle of “Two-eyed Seeing”, which emphasises learning to see from one eye with strengths in Indigenous knowledge and ways, and learning to see from the other eye with strengths in Eurocentric (or Western, or mainstream)

knowledge and ways. Elder Albert stresses that we must learn to use these two eyes together, for the benefit of all.

The Canadian International Year of Astronomy 2009 (IYA2009) National Steering Committee, chaired by Jim Hesser (Director, Dominion Astrophysical Observatory, Herzberg Institute of Astrophysics, National Research Council of Canada, Canada), made a special request to the integrative science team: to form the Canadian Aboriginal Working Group for IYA2009 to help celebrate Aboriginal knowledge of astronomy alongside mainstream science. Mi'kmaq Elders gave their approval and endorsement for the integrative science

team to proceed with the idea to highlight a Mi'kmaq night sky story as a contribution to IYA2009 celebrations in Canada. *Muin and the Seven Hunters* was the immediate choice as it is the story with which Elder Lillian Marshall from the Mi'kmaq community of Potlotek (Chapel Island) had been working for over 20 years. It is a rich, vibrant story that links the annual cycle of natural, seasonal events as observed by the Mi'kmaq with the movement of stars about the North Celestial Pole Star, known as *Tatapn* by the Mi'kmaq.

The story evolves in the sky and tells of *Muin* (the Mi'kmaq word for Black Bear), as she awakens from her winter sleep and,

leaving her celestial den, descends to the ground in search of food. She is chased by the Seven Bird Hunters who pursue her through the spring and summer months, eventually killing her in the autumn and celebrating their success with a feast in winter. Muin's life-spirit (*wijjamijel*) returns to her den in the sky to enter the body of a new bear who, in turn, wakes from her winter sleep, to once again descend to Earth and be pursued by the Hunters, and so the story continues eternally.

The complete animated story of *Muin and the Seven Hunters* can be found online⁴. In a modern Eurocentric culture that is unfamiliar with stories as a primary way of



Figure 1. *Muin and the Seven Hunters*.

Mi'kmaq	Arabic	English
Muin		Black Bear
Ntuksuinu'k		The Hunters
Jipjawej	Alioth	Robin
Jiji'kes	Mizar	Chickadee
Wow	Alcor	Cooking Pot
Mikjaqoqwej	Alkaid	Grey Jay
Ples	Seginus	Passenger Pigeon
Tities	Izar	Blue Jay
Ku ku kwes	Arcturus	Barred Owl
Kupkwe'j	Mufrid	Saw-whet Owl

The Stars in the Story

Figure 2. The names of the stars in the story in Mi'kmaq, Arabic and English.

teaching, it may at first be difficult to grasp the immense richness within this story, wherein astronomical, cultural and ecological concepts are woven together to form the living knowledge that is transmitted in oral form from generation to generation. Many Indigenous/Aboriginal worldviews have, as a central pillar, the fundamental interconnectiveness and interdependability of everything (Archibald, 2008; Henderson, 2009; Little Bear, 2009). This is known to the Mi'kmaq by the concept transferred through the word *elitasualulti'k* whereby humans, animals, plants, stones, trees, the sky, water (i.e., "all my relations") are intimately and continually connected. In Elder Albert Marshall's words, "We humans are part and parcel of the whole. And, everything that we do to our natural world, we also do to ourselves. Humans are but a very small part of the whole. Our natural world provides for us, shelters us, nourishes us." Indigenous scholar Jo-Ann Archibald in her book, *Indigenous Storywork: Educating the Heart, Mind, Body and Spirit*, has closely explored the effects of stories, storytelling and storywork in the transfer of knowledge of such interconnectiveness among Coast Salish and Stó:lō Elders in British Columbia, Canada. She states that the common goal is "to attain a mutual balance and harmony among animals, people, elements of nature and the Spirit world" (Archibald, 2008, p11). And to attain this goal, ways of acquiring knowledge and codes of behaviour are both essential and embedded in cultural practices. Thus, the sacred tenets of respect, relationship, reverence, reciprocity, ritual (ceremony), repetition and responsibility are essential to the vitality and nourishment of individuals and com-

munity. With the traditional oral transmission of legends, stories, and teachings, such tenets are established and continuously reinforced. Within Mi'kma'ki however, due to colonisation and associated atrocities such as residential schools and centralisation, such continuity of the teaching of oral traditions through stories has been at best disrupted, and at worst, lost to all other than Elders.

So it was most fortunate that the story of *Muin* had been written down and published by the anthropologist Stansbury Hagar (Hagar, 1900). Using this written source, the integrative science team and Elder Lillian Marshall were able to work together to determine which stars (using their Arabic names) were which Birds (using their Mi'kmaq names), and where these stars were positioned in the night sky (see Table 1). Elder Murdena Marshall from the Mi'kmaq community of Eskasoni tells us of the Mi'kmaq phrase "Klo'qwejk ila'lukupjik", which best translates as: "The stars are lined up in a certain way ... they know their spots." They know their place within the pattern in the night sky and, through the story of *Muin*, the Mi'kmaq know the positions and movement of the relevant stars throughout the year.

Interconnectiveness is illustrated in the story of *Muin* in many ways. As in all Mi'kmaq stories, it is told using the present tense. This means that it is not a story of long long ago, or even long ago, but rather it is a story of now, as relevant to those living under the sky today as it was to their ancestors. Elder Murdena Marshall explains: "The sky will always be there. You

are part of the sky when you are on Earth. It is a part of your everyday life. The sky is alive and demands respect from you." The use of the present tense also reminds us that the story is always happening, that it is eternal, that it has no end. This reinforces the concept of a circular time (von Thater-Braan, 2001) rather than the linear time familiar to many holding a Eurocentric worldview and, as such, helps guide the principle that all actions taken now directly impact future generations.

As an ecological teaching tool, *Muin* provides information regarding the flora and fauna of the ecozone where the story has emerged. The Bird Hunters, namely, *Jipjawej* (Robin), *Jiki'kes* (Chickadee), *Mikjaqoqwej* (Gray Jay), *Ples* (Passenger Pigeon), *Tities* (Blue Jay), *Ku Ku Kwes* (the Barred Owl), and *Kupkwe'j* (the Northern Saw-Whet Owl), are described in relation to each other and their environment, revealing an understanding of the behavioural patterns of the birds (e.g., *Mikjaqoqwej* has a habit of turning up only after a kill has been made, *Jiki'kes* is sharp eyed, and *Kupkwe'j* has a rasping cry and must often find enough food in winter by flying elsewhere rather than staying in Mi'kma'ki). We are told by Mi'kmaq Elders that night sky stories are of immense importance: "They are a part of our learning, a component of life, such as the earth, water and the forest."

Muin, as with most Mi'kmaq stories, is multi-layered, revealing stories within stories. In *Muin* we learn how *Jipjawej* got his red breast, why and when the leaves of the maple tree turn red, and that *Kupkwe'j* can be vengeful when mocked (to highlight just

a few sub-stories). Elder Murdena Marshall indicates that such stories are very intimate, in that beyond the ecological concepts they also provide history, entertainment, cultural revitalisation and language reinforcement. With the multi-layered aspect of each story, the participation of the listener is as paramount as the way in which the living spirit of the story is held by the storyteller. Stories such as *Muin* are heard many times so the participating listener can develop a relationship with the spirit of the story and thus deepen her or his experience and understanding as the story is told. Archibald (2008) cites such synergistic interactions between storyteller, listener and story as a critical principle of storywork. Elder Albert Marshall tells us, "Traditionally, nothing was taught as black and white. Everything was story ... where you have the responsibility to listen and reflect. This is a much more profound way of learning because you have the opportunity for a relationship with the knowledge."

Muin also provides the oral calendar from which the timing of Mi'kmaq celebrations and activities could be calculated. *Muin's* position in the sky determines when hunting is forbidden: in spring, as she emerges from her den, hunting is not allowed as it is the time of breeding and young being born. As *Muin* moves along the horizon during summer it is understood that the time has come to pick berries or to swim in the local lakes with no risk to the new life (e.g., baby fish) within the waters. As *Muin* rises on her hind legs in the fall, it is time to hunt and gather provisions for the winter. Furthermore, and key to the ideas in the story, once the first new Moon has passed after *Muin* is lying on her back in the winter sky, it is the time for *Aqtapukewey Wi'kupaltimk* (the Mi'kmaq Mid-Winter Feast). It is a traditional Mi'kmaq ceremony of deep significance with giving thanks to all spirits, especially to the Great Spirit, for the blessings of life, health and community, and marks the closing of the old year and beginning of the new. Over 20 years ago, through her work with *Muin*, Elder Lillian Marshall was able to renew and revive this traditional ceremony in her home community of Potlotek. Celebrations today may not be as elaborate as those of their ancestors, but people in Potlotek (and elsewhere, as slowly the ceremony is being revived in a few other Mi'kmaq communities) celebrate this most important traditional ceremony of the year with passion and thanksgiving.

Elder Albert Marshall believes that in the efforts to revive the Indigenous culture, the sky stories are the last piece in the re-assembling jigsaw puzzle, and that this understanding has lagged behind in cultural revitalisation work. It is hoped that our work with *Muin and the Seven Hunters*

starts to address this last missing jigsaw piece. A children's book of the story, written in Mi'kmaq and English, is currently being published and the DVD of the animated story is being widely taken up by schools within Unama'ki (Cape Breton). It has also been screened nationally in a number of settings, including the Canada Science and Technology Museum in Ottawa during the celebrations to herald the start of International Year of Astronomy 2009, and it was distributed to all delegates at CAP 2010 in Cape Town, South Africa. Yet *Muin* is about just one part of the night sky, and the Mi'kmaq people have many more rich stories for other parts of the night sky. The Mi'kmaq Elders who helped with the *Muin* project and IYA2009 encourage other Aboriginal peoples across Canada to reconnect with their night sky stories in the firm belief that it is essential for all Aboriginal children to feel connected to the night sky. Together, we also hope *Muin* can help awaken all people to the richness of Indigenous science stories around the world.

References

- Archibald, J. 2008, *Indigenous Storywork: Educating the Heart, Mind, Body and Spirit*, (UBC Press, Vancouver)
- Bartlett, C. 2005, *Knowledge inclusivity: "Two-Eyed Seeing" for science for the 21st Century*, in Proceedings, Halifax Workshop on Learning Communities. http://www.seedwiki.com/wiki/coastal_governance
- Bartlett, C. et al. 2010, *Integrative Science and Two-Eyed Seeing: Enriching the Discussion Framework for Healthy Communities*. In: *Ecologically Emancipated Communities*, ed. L. Hallstrom, (UBC Press, Vancouver; book forthcoming; manuscript for chapter submitted September 2009, revised January 2010)
- Comeau, M. N. et al. 2005, *Community collaboration in developing a culturally relevant alcohol abuse early intervention program for First Nation youth*, Ontario Assoc. of Children's Aid Societies Journal, 49, 1, 36–42
- Hagar, S. 1900, *The Celestial Bear*, Journal of American Folklore, 13, 49, April–June, 1900, University of Illinois Press on behalf of American Folklore Society
- Hatcher, A. M. et al. 2008, *Two-Eyed Seeing in the classroom environment: concepts, approaches and challenges*, Canadian Journal for Science, Mathematics and Technology Education, submitted October 2008
- Henderson, J. Y. (Sákéj) 2009, *When Learning Draws Us In Like Magnets; Our Heart and Brain Connect to Animate Our Worldviews In Practice*, (ISBN 978-1-926612-20-1), University of Saskatchewan, Aboriginal Education Research Centre, Saskatoon, SK and First Nations and Adult Higher Education Consortium, Calgary, AB, retrieved 10 April 2010 from www.ccl-cca.ca.
- Iwama, M. et al. 2010, *Two-Eyed Seeing and the Language of Healing in Community-Based Research*, Canadian Journal of Native Education (in press)
- Little Bear, L. 2009, *Naturalizing Indigenous Knowledge*, Synthesis Paper, (ISBN: 978-1-926612-32-4) University of Saskatchewan, Aboriginal Education Research Centre, Saskatoon, Sask. and First Nations and Adult Higher Education Consortium, Calgary, Alta, retrieved 10 April 2010 from www.ccl-cca.ca.
- von Thater-Braan, R. 2001, *The Six Directions: A pattern for understanding Native American educational values, diversity and the need for cognitive pluralism*, SECME Summer Institute, University of Arizona

Notes

¹ Interconnectiveness: The dynamic of mindfully living within an expanding sense of holistic relationships with everything and everyone, i.e. "all my relations" or "all of Creation".

² Interdependability: The ability to mindfully live one's responsibilities within a network of relationships.

³ Storywork: the lifelong journey of educating one's heart, mind, body and spirit towards interconnectiveness and interdependence.

⁴ www.integrativescience.ca and www.astronomy2009.ca.

Biographies

The authors of this article are part of the integrative science team based at Cape Breton University in Sydney, Nova Scotia, Canada, including Prune Harris and Cheryl Bartlett who work at the university and Mi'kmaq Elders Murdena and Albert who live in the community of Eskasoni, in Cape Breton, Nova Scotia. They form a trans-disciplinary team that talks and walks together in a co-learning journey. All four are dedicated to sharing an ever-evolving understanding of Two-eyed Seeing for the benefit of humanity, all our relations and Mother Earth.