

# THE EMERGING ROLE OF ART IN CYBERCARTOGRAPHY: CONVEYING INDIGENOUS AND CRITICAL PERSPECTIVES IN THE TREATIES MODULE

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## Introduction

It has been said that cartography is in the midst of an ontological crisis (Kitchin and Dodge, 2007), meaning that it is in the midst of a radical transformation away from a focus on representation, communication and objectivity (Crampton, 2001) and toward a focus on performance, reflexivity and narrative – in short, toward a relational approach to understanding (Crampton, 2001; Kitchin and Dodge, 2007; Pearce, 2008; Turnbull, 2007). The new moral consciousness that attends this transformation is characterized by an overarching preoccupation with promoting justice, which includes the enhancement of agency and empowerment, especially in those peoples who have historically been subjugated to a colonial authority, which has in considerable part been justified by colonial maps (Brealey, 1995; Peluso, 1995; Sparke, 1998, 2005). However, cartography is only one of many preoccupations with knowledge, understanding, interpretation and expression that find themselves in this state of ontological transformation. Just as “contemporary theories of mapmaking argue that it is a creative activity that focuses on the process instead of the object of maps” (Irwin et. al. 2009), similar changes are occurring in the world of art:

For several decades many artists have been interested in site-specific work and how the creation, installation and reception of an artwork are situated in the contextual conditions of a particular location. Furthermore, as Miwon Kwon (2002) argues, the term ‘site’ needs to be re/imagined beyond a particular location to ‘sites’ that are not geographically bound, but rather, are informed by context. This relational understanding is constituted through social, economic, cultural and political processes in what Nicholas Bourriaud (2002; 2004) calls *relational aesthetics*. For both Kwon and Bourriaud, ‘sites’ and ‘situations’ become social engagements that change conventional relationships between artists and their artworks and audiences. Rather than simply receiving and interpreting art, audience members become analysers or interlocutors, even active participants in the artworks. Art is no longer just about visual style but social purpose. Education is no longer just about individual achievement but social understanding and contribution (Irwin et. al. 2009, 64).

Irwin et. al (2009) use art and cartography together through a method they refer to as “a/r/tography” to begin to map, explore, reveal and understand identities and the rhizomatic nature of relationships that comprise the particular city of Richmond, British Columbia. This use is in line with the positive potential for the relationship between cartography and art outlined by Sébastien Caquard and D.R.

Fraser Taylor who provide some “examples of maps designed by contemporary artists ... in order to highlight the ways these artists challenge the objectivity of maps” (2005, 286).

A primary concern in this transformational period – for cartography at least – is with whether or not cartography is capable of meaningfully conveying such things as experience, indigenous perspectives and knowledge, and critical academic approaches to the status quo (Johnson et. al, 2005; Turnbull, 2007). The multimedia, multisensory, multimodal, interactive and/ interdisciplinary nature of the cybercartographic approach to atlas making (Taylor, 1997, 2005; Taylor and Caquard, 2006; Taylor and Pyne, 2009) positions it well to be able to address this concern. The incorporation of art into the Great Lakes Atlas of Indigenous Perspectives and Knowledge (the Great Lakes Atlas) provides an example of a cybercartographic approach that conveys a variety of perspectives that fall outside of the conventional range of cartographically representable subjects. The Great Lakes Atlas was developed to enhance the capability to recover the systemic nature of traditional Indigenous knowledge by electronically interrelating different forms of expressive culture, including various forms of art. Moving beyond traditional representational cartography, the ‘living’ cybercartographic framework allows for the development of novel geospatial modes of expression that include art and that can be used to better reflect traditional and contemporary Indigenous knowledge and understandings.

This paper describes efforts to incorporate art into the first and second phases of the Treaties Module of the Great Lakes Atlas, which begins to tell the story of the Lake Huron Treaty negotiation, signing and survey processes through the cybercartographic presentation of historical maps, archival documents and digital artifacts. The Treaties Module has – and is being – constructed with the understanding that “maps and associated media help in a unique way to tell stories about people, places, space and society” (Caquard et. al., 2009). The paper concludes with a discussion of the importance of a holistic approach to mapping practices for addressing issues of knowledge system incommensurability, including the issue of whether or not geospatial technologies are capable of reflecting multiple ontologies of space (Turnbull, 2007). The position inherent in cybercartography is that through holistic, critical and reflexive cartographic practice, it is possible to incorporate art into mapping in a manner that not only preserves its inherent meaning and value, but also augments its meaning by presenting it in a new cybercartographic space, a process that can contribute to overcoming incommensurability issues.

## **The Treaties Module**

Since 2006, cybercartographic atlas productions have focused increasingly on preserving and conveying indigenous traditional knowledge and perspectives on a variety of issues in ways that seek to transcend the barriers of incommensurability between indigenous knowledge and the western European assumptions that support geospatial technologies.<sup>1</sup> Building on a recently completed prototype atlas of Indigenous Perspectives and Knowledge in the Great Lakes-St. Lawrence Region (the Great Lakes Atlas) (<https://gcr.ca>), a three-year project funded by a Social Sciences and Humanities Research Council Standard Research Grant has recently begun to further develop and extend the Treaties Module of the Great Lakes Atlas. In addition to reflecting and developing the seven major elements of cybercartography identified by Taylor (2003)<sup>2</sup>, this phase of cybercartography’s

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<sup>1</sup> See Turnbull (2007) for a good discussion of the incommensurability issue in cartography.

<sup>2</sup> The seven major elements are as follows: Cybercartography (1) is multimedia using vision, hearing, touch and eventually smell and taste (2) uses multimedia formats and new telecommunications technologies such as the World Wide Web (3) is highly interactive and engages the user in new ways (4) is applied to a wide range of topics of interest to society, not only to location finding and the physical environment (5) is not a stand-alone product like the traditional map but part of an

development is concerned with further elaborating the theory and practice of cybercartography as a revisionist approach to cartography (Caquard et. al, 2009) that acknowledges the holistic relationship between science and art. Such a revisionist approach takes a broad approach to both science and art, and acknowledges the holistic relationship between *science*, which includes geospatial technologies, and *art*, which includes storytelling. In addition, this position guides the design and development phases of cybercartographic atlas productions in the direction of more adequately conveying multiple perspectives. An important part of this enabling process consists in the reflexive integration of art with geospatial technologies in order to address the challenges associated with incommensurability of knowledge systems, or multiple ontologies (Turnbull, 2007) in critically innovative and creative ways.

Past work on the Treaties Module of the prototype Great Lakes Atlas<sup>3</sup> and current work on the Treaties Module under the working title the “Lake Huron Treaty Module” focus primarily on the production of an interrelated series of *geonarratives*<sup>4</sup> intended to reflect the multidimensional nature of Lake Huron Treaty-related stories and relationships. In addition, this multimedia, multimodal and cartographic approach to presentation aims to make specialized knowledge and information more accessible to a broad audience, including Anishinaabe students and community, the wider Canadian public, researchers from a variety of academic disciplines, and policymakers involved in treaty related issues. The current Lake Huron Treaty Module project involves building iteratively on the foundation established through the first phase of Treaties Module development, and continuing to tell the story of the events and relationships that surrounded the Lake Huron Treaty signing and survey process. In this context, the Treaties Module is being further developed by mapping the “data” obtained both through previous community field work and through new collaborative research activities with First Nations community members in the Lake Huron Treaty region, in addition to academics, technical specialists (including a surveyor and a senior archivist), and people at the grassroots level.

Throughout the continuing development of the Treaties Module, the focus has been on understanding the treaty-based relationships that occurred in the context of the Lake Huron Treaty investigation, negotiation, signing and survey processes, and that extend to other related historical geographical contexts. The Treaty was signed in 1851 and represented an agreement between the (British) Crown and 17 Anishinaabe communities occupying the North shores of the Lake Huron region. Along with the Robinson Superior Treaty, the Lake Huron Treaty (officially known as the Robinson Huron Treaty), was the first Native-Crown treaty to deal in a “land surrender” fashion with a large landmass and a diverse range of peoples who were nevertheless interrelated by a significant clan system. The prototype Treaties Module that currently exists includes four submodules or atlas parts. The first three submodules provide the context for understanding the fourth submodule, which is based primarily on an archival surveyor’s report, diary and field notes (MNR, 1851 and 1853) and presents an interactively mapped “cybernarrative” of the first season of a survey journey made through the Lake Huron Treaty region by Surveyor J.S. Dennis (PLS) between 1851 and 1852.

The Spirit sub-module represents in a story form the spirit and intent of the Treaties Module: To put together the various parts of the Lake Huron Treaty process story in a way that enhances awareness of the ethical aspects of its many interrelated dimensions and that can contribute to knowledge of how to engage in healthy and fair treaty relationships today – in short, building awareness to bridge relationships. Moreover, it indicates a holistic approach for knowledge gathering that is consistent with

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information/analytical package (6) is compiled by teams of individuals from different disciplines, and (7) involves new research partnerships and the private sector (Taylor, 2003, 407).

<sup>3</sup> This one-year pilot project funded by Inukshuk Wireless was launched in April 2008.

<sup>4</sup> The most general description of geonarratives is ‘stories across time *and* space’.

Anishinaabe ways. Inspired by traditional storytelling – and a contemporary traditional story in its own right – the story presented in this sub-module of “Rainbow Raven and the Fly in the Bottle” includes five digitized versions of acrylic paintings on canvas, which were created specifically to graphically interpret the story. Part of this process involved extensive discussions between the collaborative artist team and the storyteller concerning such issues as the number of images to include with the text, canvas size, and which parts of the story the images should correspond to.

The following example illustrates both the extent to which images in themselves can tell stories and their role in enriching geonarratives. As part of the “living” dimension of the atlas work during the first phase of Treaties Module development, the paintings were brought “on the road” to a community school for a pre-launch event. Before the discussion began and the Rainbow Raven story was told to the children, a group of children was asked to take the paintings and arrange them in the order they thought they might go in. To the storyteller’s surprise, the children arranged the paintings in the right order (after having a great time running around the gym with them). When she told them they had got it right, and when she asked them how they knew the order of the paintings for a story they had not yet heard, the children replied that they had heard that story in Ojibwe class. Although the story of Rainbow Raven and the Fly in the Bottle has different origins from the Ojibwe story recalled by the children, the themes and directions of the two stories were sufficiently similar that the children were able to enact both stories by arranging a series of artworks, which – apparently – told a story in themselves (see figure 1).

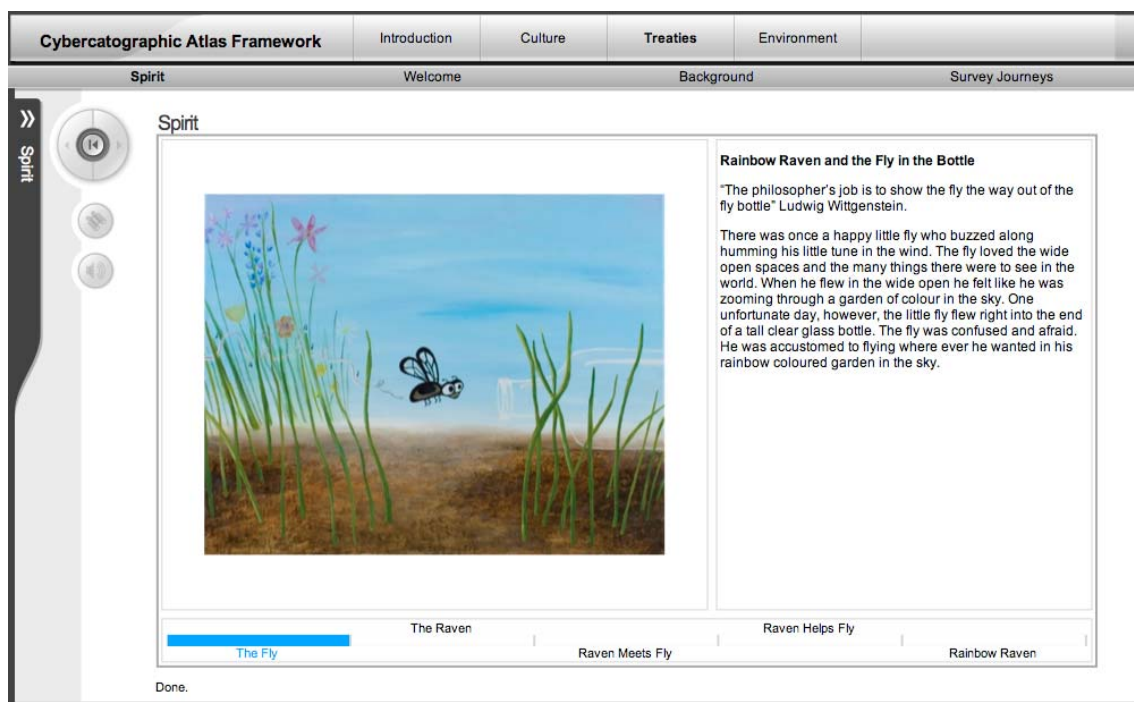


Figure 1. First frame of the Rainbow Raven and the Fly in the Bottle Story in the Treaties Module.

The Welcome sub-module includes guiding concepts for a critical learning approach. For example, it draws attention to the existence of different perspectives, identifies four important criteria of “good” treaty relationships (fairness, balance, care, and mutual understanding), and invites viewers to assess the treaty process according to these criteria. Finally, it acknowledges the appropriateness of adopting approaches to atlas design and development that are consistent with traditional Anishinaabe ways, for

example the commitment to a holistic approach. This sub-module includes photographs of the Lake Huron region taken from different perspectives (for example, a satellite image of the Great Lakes region contrasts with a close-up of a turtlehead rock taken in the Lake Huron region). This graphically reinforces the written message that what we see, how we see it and what we can know about it are greatly affected by our perspective. The Background sub-module involves a time-lined account of some relevant historical background to the Lake Huron Treaty survey journey process. It includes images of Anishinaabe art and artifacts that combine to augment awareness of Anishinaabe understandings and perspectives, of the historical geopolitical and sociocultural context of the times.

In the Survey Journeys sub-module, the 1851 survey diary of J.S. Dennis (MNR, 1851) has been transcribed and mapped out with the aid of diary descriptions, survey plans, current and historical maps, and satellite imagery. This represents the first of a two-season field trip by Dennis and his survey party to delimit the boundaries of the reserves referred to in the Treaty. Each camp stop in this journey has been overlain on one of two significant historical background maps. The “Enroute” and “Return” maps show a series of camp stops set against a standard settlement map, which includes artistic images denoting “Indian Territory”, and which tells a story in itself, thus illustrating the potential for maps in general as effective narrative vehicles (see figure 2). The “In the Field” camp stops are set against a map drawn during the 1849 pre-treaty investigative process by Commissioner Alexander Vidal (LAC, 1849). Significant aspects of the reserves survey process are made apparent by overlaying the diary information on this particular historical base map, which depicts the Commissioner’s impressions of Anishinaabe territories in the Lake Huron region, in addition to mining lots within the officially demarcated “Indian Territories” that had been applied for by prospectors, but which could not be officially approved by the Crown until after the completion of the reserve surveys (see figure 3). The diary entries are transcribed from Dennis’s original handwritten report, and are included to the right of the map together with audio clips of the transcriptions with a voice representing Dennis. The audio clips include sound effects for such things as wind and rain where those phenomena are mentioned in the diary entries, and an effort is made by the voice artist to convey the emotion expressed by the surveyor in his transcriptions (for example, there are entries where the surveyor explicitly mentions dreariness). Through their geonarrative dimension, these interactive historical maps could be considered as works of art in themselves, especially insofar as they include a large selection of community-contributed pop-up photographs, which reveal different perspectives of the visual geography of the points they are associated with.

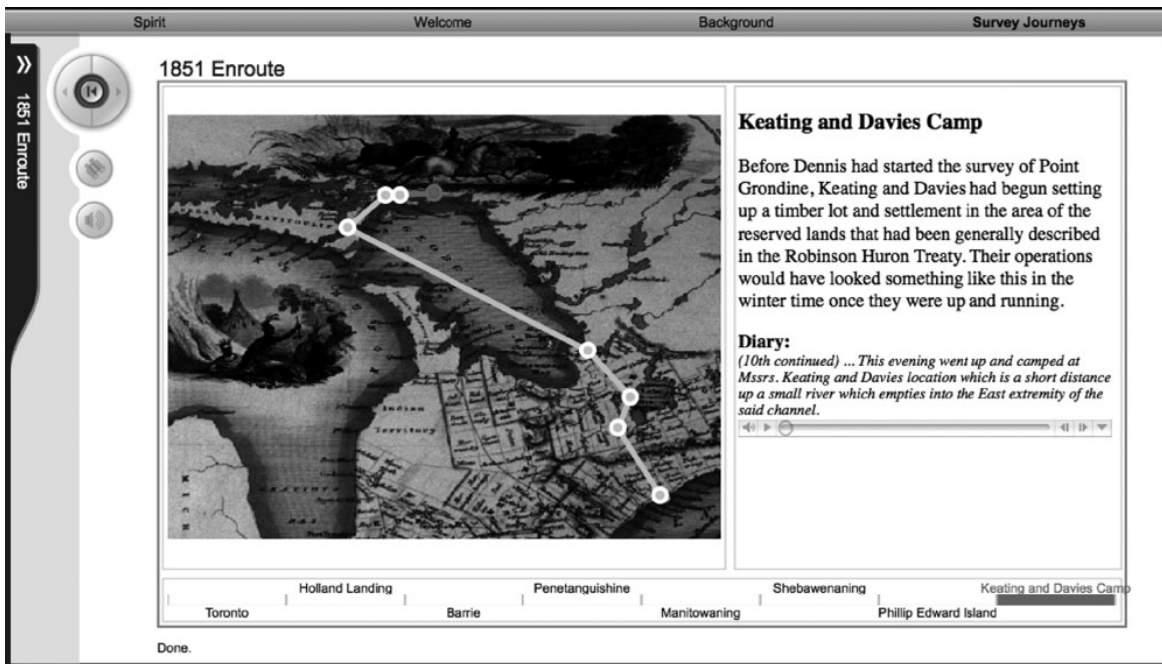


Figure 2. Interactive map for the “en route” portion of the survey journey set against 1846 settlement background map.

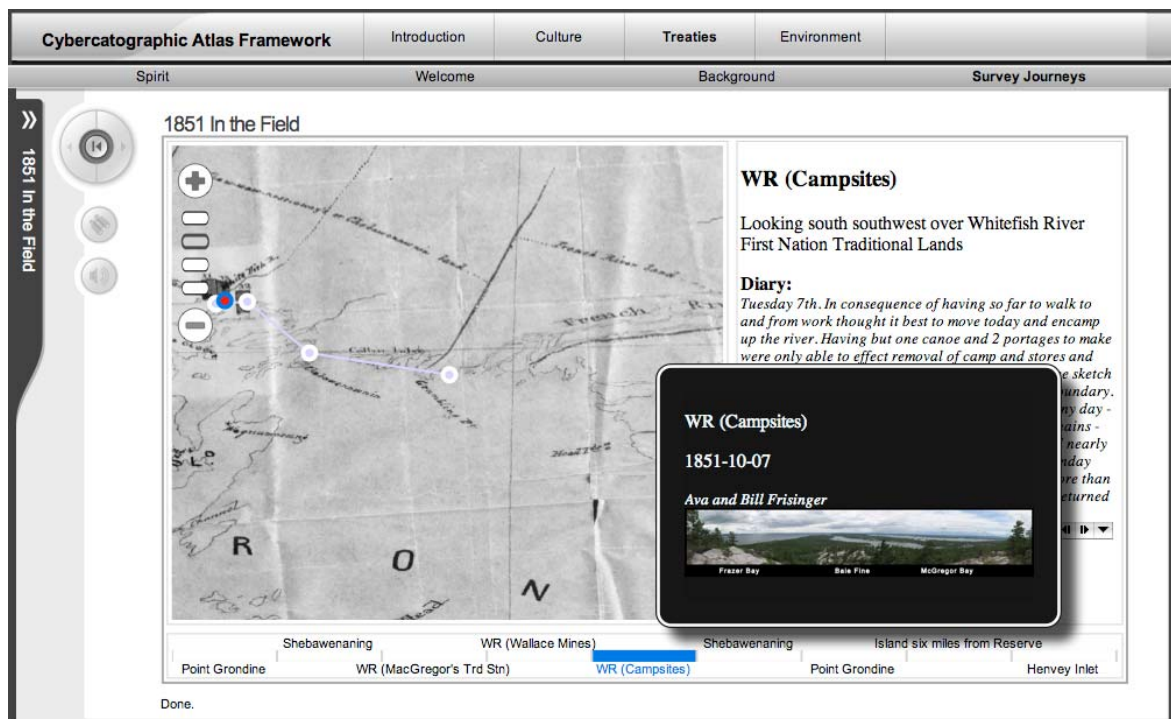


Figure 3. Interactive map for the “In the Field” portion of the survey journey set against the 1849 Vidal-Anderson Commission background map.

As part of the second (and current) phase of module development, the maps for the second survey season in 1852 will be added in order to complete the interactively mapped presentation of the two seasons of Survey Journeys. Previous field work revealed several insights and comments from a variety of participants related particularly to the Dennis Survey Journeys. This information will be added to the

interactive survey maps that currently exist, as an additional critical layer; and, further information will be gathered in upcoming fieldwork. Design decisions concerning how best to layer this information will take aesthetic considerations into account as an integral part of the mapping process. Much of this information is expected to be broadly artistic in that it may encompass Anishinaabe storytelling (in either video, audio, text or image format), visual art, traditional maps and pictographs in an effort to convey the Anishinaabe perspective. As a feature of most interactive maps planned for the Treaties Module, an appreciation of the historical and geographical context of Lake Huron Treaty process will be provided by including such things as biographies of individuals involved in the process, profiles of significant places and their histories, illustrations and descriptions of surveying techniques and instruments of the time, and segments illustrating the differences between Anishinaabe and western European conceptions, for example the differences between “Chief” and “Gimaah”.

There are several other plans for survey journey critical layers and interactive maps, including a layer reflecting a critical surveyor’s perspective where the Treaties Module will be further extended by adapting the "The Calamity of the Initial Surveys under the Robinson Treaties" by surveyor Michael Marlatt (2004) and overlaying the resulting geonarrative on the Survey Journeys interactive maps. In an effort to better understand the nature and role of governance-related institutions in the Lake Huron Treaty process, including the people who occupied key positions, work is planned in collaboration with a senior national archivist to construct a critical “mapped” presentation of the governance paper trail that attended the treaty conception, crafting and signing processes, in addition to the survey process itself. Finally, there are several opportunities to explore new ways of incorporating art into the expression of Anishinaabe perspectives in the Treaties Module. For example, plans are being considered to work with Anishinaabe elders, including Jacob Wawatie from the eastern side of the Ottawa River Watershed, and technical specialists toward producing a 3D animated interactive map as part of the Background submodule in order to convey the story of Turtle Island, a traditional Anishinaabe creation story that reveals much about traditional Anishinaabe cosmology and worldview. There is also potential to construct an interactive sound map to tell the story of the Bell Rocks, a spiritually rich site that had functioned since time immemorial in a very interesting way as a communication system between various Lake Huron region Anishinaabe (until they were moved to make way for a mining road in 1972).

## **Conclusion**

A holistic relationship exists between art, narrative and maps such that art can both include narrative and be constituted by it, and maps can be seen both in form and function in terms of art and narrative (Turnbull, 2007). The focus on storytelling and geonarratives in the cybercartographic approach acknowledges this relationship and is an important factor in overcoming incommensurability and enhancing agency:

Through ... storytellings, authenticities and meanings of landscapes are (re)defined, relations of power are negotiated, and ultimately, structures and processes of neocolonial control are made visible. The stories informing and deriving from mapmaking thus provide frameworks for social and political assessment and agency (Taylor, J., 2003); that is, if we view the performances associated with participatory mapping as *art*, then participatory mapping is implicitly and unavoidably action “intended to change the world rather than encode symbolic propositions about it” (Gell 1998, 6). (Sletto, 2009, 444).

According to David Turnbull (2007), the problem of incommensurability, “of multiple, incompatible ontologies and perspectives” is a “mapping problem” that is not only “part of the broader problem of

the relationship between the incommensurable knowledge traditions of science and Indigenous knowledge, but that it is also a problem right across the broad spectrum of the ways in which we have to deal with knowledge in this 'transmodern' era (Dussel, 1993)" (140). Overcoming incommensurability is part of what reflexivity, or critical awareness, accomplishes. One of the vehicles that contribute to this accomplishment is the incorporation of art into the design and development of cybercartographic atlas projects like the Lake Huron Treaty Module. Theory and practice, art and science, are integrated in an explicitly holistic manner through the work to produce the Treaties Module, which is being designed and developed to address the challenges associated with reconciling diverse knowledge systems. In this respect, the Treaties Module pushes cybercartography in the direction of further developing and expanding its holistic dimension, an important link to the traditional Anishinaabe way of knowing.

The holistic result of the contributions from alternative perspectives and understandings will be a series of interrelated cybermaps, each focusing on a unique dimension of the Lake Huron Treaty historical geography, and each reflecting a unique intersecting subset from the set of contributing perspectives and understandings. These maps will in turn combine in a holistic fashion to constitute the cybermapped presentation of the Lake Huron Treaty Relationship Process story. Through the production of a comprehensive geonarrative of the Lake Huron Treaty historical geography, the Treaties Module demonstrates the potential of the cybercartographic atlas framework 'to express the geographies of human experience and place in the map' (Pearce, 2008, 17), a task that provides a significant challenge to any critical cartographic endeavour. The narrative dimension being developed in the Treaties Module both gives "experience its own layer" (Pearce, 2008, 21), and maps "personal trajectories of experience across the digital map using GPS" (Pearce, 2008, 21), techniques that are being used increasingly in geography, art and community mapping (Irwin et. al, 2009; Pearce, 2008). In addition to the potential for the geonarratives presented in the Treaties Module to reflect personal experience and Anishinaabe perspectives, is the potential for these geonarratives to convey interscalar relationships, for example those that exist between individuals and institutions.

Conventional cartographic representations often fail to adequately reflect and communicate experience, sense of place, and diversity in world views in a non-dominatory manner (Pickles, 2004; Pearce, 2008). Moving beyond the concept of traditional representational cartography, the cybercartographic atlas framework allows for the development of novel approaches to the mapping process with the potential to create geospatial modes of expression that are capable of presenting traditional and contemporary indigenous knowledge and understandings and critical post colonial perspectives in a non-dominatory manner. Work to design and develop the Treaties Module provides an example of a cybercartographic atlas making approach that combines art with science in its explorations of multiple perspectives through geonarrative.

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