Mapping Indigenous Perspectives in the Making of the Cybercartographic Atlas of the Lake Huron Treaty Relationship Process: A Performative Approach in a Reconciliation Context[1]

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ABSTRACT

This article discusses a two-pronged approach to designing and developing an online, interactive multimedia – cybercartographic – atlas that combines critical academic perspectives with Anishinaabe approaches to understanding in order to "tell the story" of the Robinson Huron Treaty process in a way intended to enhance awareness of Anishinaabe perspectives and expose the epistemological and ontological roots of colonialism. Building on the work that created the Treaties Module of the Living Cybercartographic Atlas of Indigenous Perspectives and Knowledge, this atlas project continues to reflect the comprehensiveness and multidimensionality of Robinson Huron Treaty–based relationship processes. The article focuses on some of the performative aspects of this atlas project, such as iterative processes and spatializing history, that contribute to its success in reflecting Anishinaabe perspectives and providing the basis for a richer understanding of the treaty process.

Keywords: critical cartography, Indigenous methodologies, reconciliation, epistemology, ontology, worldview, performative, iterative, spatializing history

RÉSUMÉ

Dans l'article, on explique une démarche à deux volets visant à créer un atlas multimédia et interactif (cybercartographique) qui combinerait à la fois des perspectives théoriques essentielles et des démarches anishinaabes pour les accords afin de « raconter l'histoire » du Traité Robinson Huron de manière à accroître la sensibilisation aux peuples anishinaabes et à exposer les racines épistémologiques et ontologiques du colonialisme. S'ajoutant au travail qui a permis de créer le module sur les traités du *Living Cybercartographic Atlas of Indigenous Perspectives and Knowledge*, ce projet donne une vue d'ensemble et la multidimensionnalité des processus relationnels basés sur le Traité Robinson Huron. Dans l'article, on parle de certains aspects performatifs de ce projet d'atlas, comme les processus itératifs et l'histoire de la spatialisation, qui contribuent à refléter avec succès les perspectives anishinaabes et à offrir une bonne compréhension des processus du traité.

Mots clés : cartographie critique, méthodologies indigènes, réconciliation, épistémologie, ontologie, vision du monde, performatif, itératif, historique de spatialisation

In today's reconciliation context, governments are publicly acknowledging their roles in past wrongs toward the original peoples of colonized lands and promising new approaches for the future (Dwyer 1999; Bhandar 2004). However, the continuing political and economic struggles faced by First Nations striving to create healthy treaty-based relationships with the federal and provincial governments of Canada demonstrate that achieving this objective is easier said than done. In the words of Isadore Day, Wiindawtegowinini, Lake Huron Regional Chief and Chief of Serpent River First Nation, "The truth is that one dish is empty and one is full; our treaty partner the Crown has all control and access to the wealth of our lands; and we struggle to obtain a share of the inherent wealth left to us by the Creator" ("Robinson Huron Treaty First Nations" 2010).

In January 2010, at the Ontario First Nations Economic Forum in Thunder Bay, Ontario, the provincial minister of Aboriginal Affairs gave a speech to the First Nations chiefs in which he acknowledged the failure of past relationships between government and First Nations and the need for the province to "invest" in First Nations: "It's absolutely essential that what we do today is not the old way of doing things because that failed miserably" (qtd. in Kelly 2010).

On 11 June 2008, the prime minister of Canada issued an official apology to "the former students of Indian Residential Schools," which included the following statement:

> The burden of this experience has been on your shoulders for far too long. The burden is properly ours as a Government, and as a country. There is no place in Canada for the attitudes that inspired the Indian Residential Schools system to ever prevail again. You have been working on recovering from this experience for a long time and in a very real sense, we are now joining you on this journey. The Government of Canada sincerely apologizes and asks the forgiveness of the Aboriginal peoples of this country for failing them so profoundly. (Harper 2011)

To reiterate: "The burden is properly ours as a Government, and as a country ... There is no place for the attitudes that inspired the Indian Residential Schools system to ever prevail again ... in a very real sense, we are now joining you on this journey." But what does that *mean*?

On 12 November 2010, the government of Canada endorsed the United Nations Declaration on the Rights of Indigenous Peoples, three years after the UN General Assembly's adoption of the declaration. With good cause, First Nations leaders such as Chief Day, Wiindawtegowinini, applauded the long-awaited endorsement of this declaration, seeing it as a necessary step in working toward rights implementation: "Today's announcement marks a major victory in the struggle of Indigenous peoples in Canada to regain their rightful place as Nations in our home and native land, Canada, and also within the international community. It has been a long struggle for this recognition, spanning many decades, and we can now turn our full attention to the implementation of our rights" (qtd. in Canada Newswire 2010).

However, as Anishinabek Nation Grand Council Chief Patrick Madahbee has pointed out, the government's endorsement of the declaration is a *conditional* endorsement, maintaining its 2007 *concerns* with "various provisions of the Declaration, including provisions dealing with lands, territories and resources." This qualification leaves some question as to the government's resolve to fulfil its stated intention of entering into new relationships with First Nations (Garrick 2010).[2] Although officials like the provincial minister and the federal prime minister continue to claim that their governments do indeed want to engage in relationships with First Nations in a "new," fair, and just manner, their success will depend on establishing authentic mutual understanding through a critical and inclusive understanding of the past. In the words of Eddie Benton-Banai, who inherited these words from his grandfather, "One cannot know where he is going lest he knows from whence he came" (qtd. in Martin 2009).

An important aspect of authentic and successful reconciliation processes is a critical, decolonizing understanding of the past that deconstructs colonial and related approaches and that reconstructs knowledge by including perspectives that have been ignored by the colonial worldview, or have been otherwise incomprehensible to it (Bhandar 2004; Dwyer 1999; Tuhiwai-Smith 1999). The project to construct the Cybercartographic Atlas of the Lake Huron Treaty Relationship Process[3] participates in reconciliation efforts through its attempts to "spatialize history" (Bhandar 2004; Pyne 2008, 2012) and break away from a linear, unidimensional approach. The Atlas examines the multi-scalar nature of some of the "old ways" of approaching the world and engaging in relationships that were acknowledged by the Ontario minister to have "failed [so] horribly" (Kelly 2010). Mutual understanding between treaty signatories currently does not exist in the way it should, and it definitely did not exist in 1850 in the treaty-based relationships that were beginning to take shape between the Anishinaabe of the Lake Huron and Superior regions of Turtle Island and representatives of the British Crown.

This project is part of a broader trend in critical cartography and participatory GIS in which the aim is to "think about new ways to re-engage with maps and mapmaking" (Herb and others 2009, 332) and the focus is not only on deconstruction but also on reconstruction (Herb and others 2009; Kitchin and Dodge 2007; Pearce 2008; Turnbull 2007; Wood and Fels 2008). It follows David Turnbull (2000, 2007) and others (e.g. Kitchin and Dodge 2007) in "rethinking knowing and mapping – where the key questions relate to the similarities and differences in the ways space, time and movement are performed and to how those similarities and differences are handled" (Turnbull 2007, 141).

When it comes to engaging with mapping in a way that involves Indigenous peoples, the challenges involved in "remapping" include maintaining an ongoing attentiveness to avoiding misappropriations of knowledge, understandings, and perspectives: "The problem that faces Indigenous peoples worldwide is to find a way to incorporate Western [geospatial technologies] and cartographic multimedia while minimizing the mistranslations, recolonizations, and assimilations of conventional technoscience" (Pearce and Louis 2007, 123).

A primary critical concern is 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 and
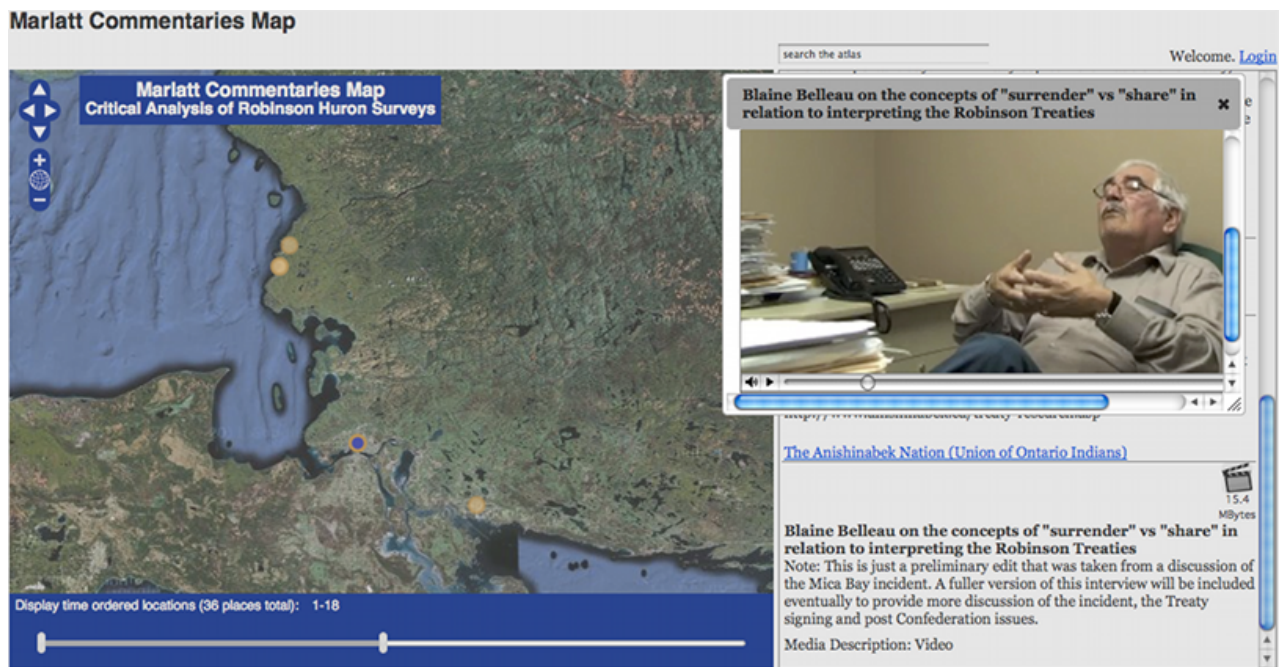
Marlatt Commentaries Map

Figure 1. Screenshot from the Marlatt Commentaries Map, showing a video of Blaine Belleau from Garden River First Nation discussing the differences between Anishinaabe and British concepts of "share" and "surrender".

others 2006, 2007; Johnson and Murton 2007; Palmer 2009; Palmer and others 2009; Turnbull 2007). The multimedia, multi-sensory, multimodal, interactive, and interdisciplinary nature of the cybercartographic approach to atlas making (Taylor 1997, 2003, 2005; Taylor and Caquard 2006; Taylor and Pyne 2010) positions it well to be able to address this concern. In the Atlas of the Lake Huron Treaty, videos of Anishinaabe community members speaking in their own voices provide one way of minimizing the misrepresentation of Indigenous perspectives and knowledge (see Figure 1).

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 Indigenous knowledge and understandings, in addition to academic perspectives critical of the status quo. In the spirit of reconciling relationships, the project (1) acknowledges "the power of maps" (Wood and Fels 1992) and mapping processes; (2) endeavours to direct this power in ways that contrast with the colonial settler project; and (3) adopts a critical cartographic, Indigenous, processual approach to mapping that uses old maps in new ways (Kitchin and Dodge 2007). Figure 2 shows an example of using old maps in new ways in the Atlas of the Lake Huron Treaty. Alexander Vidal sketched the background map during the 1849 pre-treaty investigative process to provide future treaty makers with an idea of the Anishinaabe nation's territories in the Lake Huron region (Vidal and Anderson 1849). Vidal's map also shows an extensive array of mining lots within these officially demarcated "Indian Territories"

that had been applied for by prospectors *prior to* both the treaty signing in 1850 and the official surveying and designation of the lands reserved for the Anishinaabe signatories, pursuant to this treaty, between 1851 and 1853 (see Figure 2).[4] Using this "old" map as the background on which to map the travels of the surveyor is useful in terms of emphasizing cartographically the relationship between colonial pressure for resource development and the treaty- and reserve-making processes. The side panel to the right provides a location for the diary entries, and for uploading media and text associated with each camp stop.

The current phase of the Atlas project is an iterative extension of the pilot Treaties Module of the *Cybercartographic Atlas of Indigenous Perspectives and Knowledge*[5] (Brauen and others 2011; Caquard and others 2009), which provides an initial basis for tracking some aspects of the Lake Huron Treaty signing and reserve survey processes. The central aim of the current work is shared with its prototype, the Treaties Module: To contribute to increased knowledge and understanding of treaty-based relationships along several dimensions through map-making and atlas-building processes. It is hoped that presenting aspects of the Lake Huron Treaty story through a series of interrelated map-based stories, or geo-narratives, will provide the basis for critical reflection by a broad audience, which will in turn contribute to new, healthy, and mutually beneficial relationships now and into the future.

This article presents some examples from the making of the maps in the Atlas of the Lake Huron Treaty. These examples illustrate the performative or processual aspects of
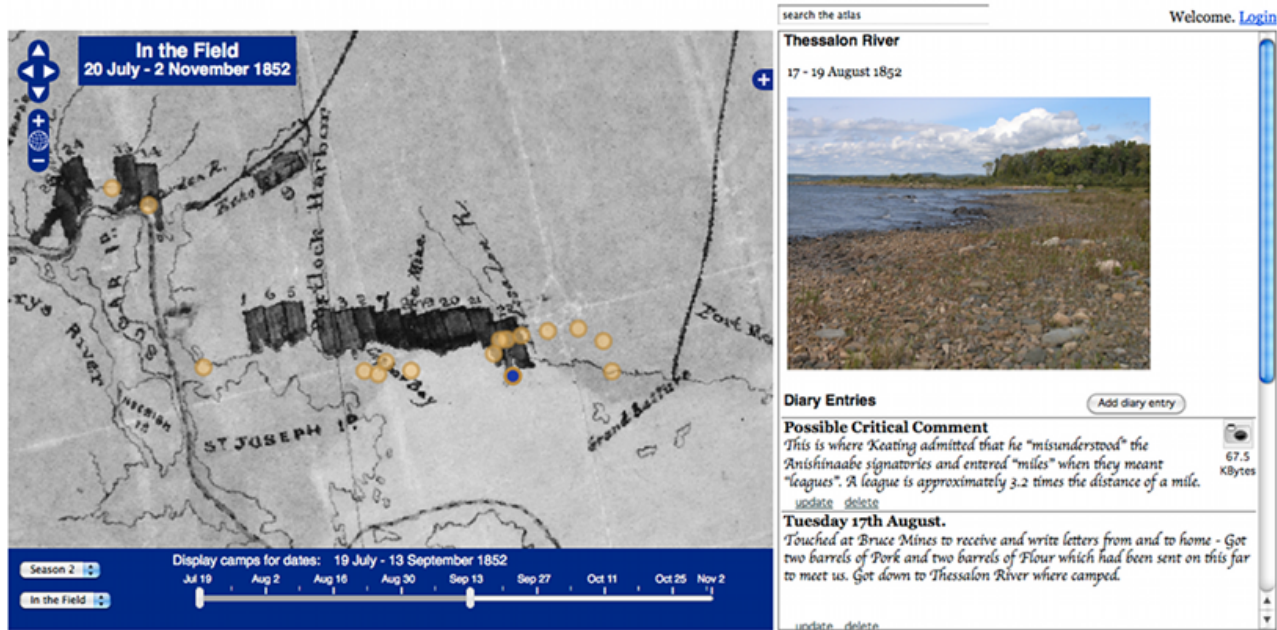
Figure 2. Screenshot showing interactive map display for Surveyor Dennis's camp stop at Thessalon River – an example of using old maps in new ways.

the Atlas (Del Casino and Hanna 2006; Turnbull 2007) and reflect Anishinaabe and critical academic perspectives. Taking a performative stance toward the processes involved in map-making and map use that goes beyond seeing the map as an immutable and neutral physical object is one way of exercising a critical approach to mapping. When viewed in this light, the Atlas is easily seen to be both "in" and "about" the community. Through a collaborative, community-oriented approach to the process of creating geo-narratives for the Atlas, the project is just as much about the making of the collaborating community as it is about the communities that the stories told through the maps are about.

A non-representational, performative approach to mapping rests on two central assumptions.

> One is that meaning, understanding and knowledge are based in embodied practices. The other is that the performance of knowledge practices and their attendant knowledge spaces and artefacts simultaneously structure and shape our socio-cultural world in a process of coproduction. We make our world in the process of moving through and knowing it. (Turnbull 2007, 142)

Approaching the process of mapping from a performative perspective includes everything from the practices involved in "making" the map to the intellectual–emotional acts of interpreting maps each time they are perceived (Del Casino and Hanna 2006). A map is more than just ink on paper or a digital display on the computer screen: it *is* the processes that go into its making and remaking.

This perspective flies in the face of positivist claims of the map's neutrality, objectivity, or truth (Del Casino and Hanna 2006). Another important aspect of the performative approach is its acknowledgement of the narrative nature of maps. Mapping practised as storytelling can include art and dance and is consistent with Indigenous approaches to mapping. A performative view of the atlas-making process considers actions related to the design and construction of an atlas as part of the atlas product itself. The history is a dynamic part of the artefact.

The atlas project engages in performative mapping to the extent that it is a dynamic knowledge-gathering and creation process. It involves movement and transformation in its iterative design and development processes, in its hodological approach to mapping as an emergent process (Brauen and others 2011; Turnbull 2007), and in its attempts to spatialize history (Pyne 2012). Getting away from a linear and static approach, the project brings together events of the past and present and covers a variety of interrelated dimensions from a variety of perspectives.

Iterative Design and Development at Multiple Scales

> Digital atlas projects proceed iteratively as fora for the development and exploration of ideas related to a set of topics rather than simply as answers or manifestations of collected knowledge on those topics. This is especially true since these atlases are focused on finding ways to express multiple perspectives [and thematic dimensions], each of which takes time to discover, explore, test, and integrate into

an atlas. Iterative processes are manifested both within and between atlas projects in the sets of relationships that occur, in information transmission and exchange, in design and development decision-making, and implementation more generally. (Brauen and others 2011, 28)

Cybercartographic atlases develop over time through a series of iterative processes involving design, implementation, and testing phases. Prototypes, both paper and digital, are developed throughout these phases. Discussions of the cartographic possibilities occurring around these prototypes result in alterations in map structure and function over time. Each new version of the Atlas of the Lake Huron Treaty logged into the cybercartographic atlas's version-control system signals the beginning of a new iteration. Discussions among team members with differing knowledge specializations result in design and development decisions. The iterative development of the Atlas is a function of the relationships and communications between the software-design and information-infrastructure team and those responsible for the geonarrative content. Although they fall into two relatively distinct knowledge domains, these two groups share intersecting knowledge and responsibilities when it comes to atlas design and development, and the expansion of knowledge that results from their interactions gives rise to the emergence of maps.

The Atlas is evolving in an iterative manner at three distinct but interrelated scales: (1) through innovations shared among the various atlas projects at the Geomatics and Cartographic Research Centre (GCRC);[6] (2) through the incorporation and transformation of content and technology between phases of an atlas project; and (3) through the emergence of new geo-narratives and strategies for mapping them within each phase of the atlas project. An important characteristic of an iterative process is that some aspects of a project remain unchanged while others are transformed into something related to the original project, yet changed (Brauen and others 2011).

Iterative processes among atlas projects occur along many dimensions, including software design. For example, the Treaties Module of the Cybercartographic Atlas of Indigenous Perspectives and Knowledge developed out of work on the Cybercartographic Atlas of Antarctica and the Cybercartographic Atlas of Canada's Trade with the World, which resulted in the creation of the Nunaliit I software framework (Caquard and others 2009; Hayes 2006). In a similar fashion, the Lake Huron Treaty Atlas can incorporate the improvements associated with Nunaliit II, a new open-source software architecture that was developed to support several other atlases being developed at the GCRC (Brauen and others 2011). These free and open-source software products were originally developed in the context of other GCRC atlas projects; once created, however, they could be exported and customized for use by the Atlas of Indigenous Perspectives and Knowledge and the Atlas of the Lake Huron Treaty. In a reciprocal fashion,
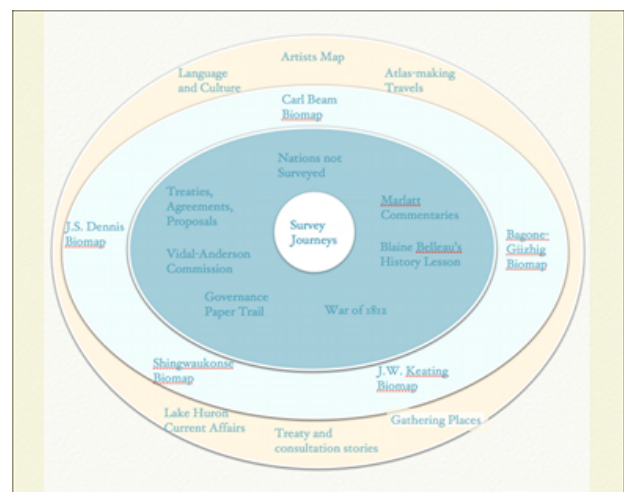

Figure 3. Diagram showing the conceptual layout of interactive maps in the current iteration of the Atlas of the Lake Huron Treaty, which goes beyond and incorporates the previous iteration.

any software- and tool-related innovations arising in the design and development of the Atlas can be exported and customized for use by other GCRC atlas projects.

In addition to the iterative processes that occur among atlas projects, important iterative relationships exist between successive funding phases of a single project. The Atlas of the Lake Huron Treaty developed out of completed research, questions, and ideas generated in a previous project phase to construct the Treaties Module of the Cybercartographic Atlas of Indigenous Perspectives and Knowledge of the Great Lakes–St. Lawrence Region (Caquard and others 2009). Research for this second phase draws on and integrates foundations created in the project's earlier phase in areas such as technology, research, and collaborative relationships while transforming that base within a new atlas context (Brauen and others 2011). Figure 3 illustrates the map structure in the current iteration of the Atlas project. At least 27 additional interactive maps are being added to the Atlas to reflect the governance/legal institutions, political and economic worldviews, and personal lived experiences that make up the Lake Huron Treaty relationship process. The previous Treaties Module iteration includes three maps reflecting the first of three survey seasons and several background sections; in the current Atlas iteration, much of this background and contextual information is being migrated into the various new maps.[7]

Finally, iterative processes occur within each funding phase of an atlas project. One example is the manner in which the Treaties Module came to settle on Lake Huron Treaty–based relationships three months after the project began (Caquard and others 2009; Taylor and Pyne 2010;

Pyne 2012; Brauen and others 2011). The decision to map the details of the reserve-survey process was inspired by a reference from Anishinaabe historian Alan Corbiere[8] to a chapter in the 2004 Algonkian Conference proceedings concerning a surveyor's critical view of the Robinson Huron Treaty reserve-survey process (Marlatt 2004). At that point, the work progressed from the initial research stage to focus on details related to crafting the geo-narrative associated with the chapter. Three months into the second iteration, a collaborative mapping meeting with the same Anishinaabe historian resulted in a shift in the map-design process. Inspired by the experience of mapping out a traditional story of the Anishinaabe trickster Nenboozhoo, we decided to map out one of Marlatt's primary sources, the 1851 survey diary of J.S. Dennis (provincial land surveyor; Dennis 1851), to track the movements of the survey party through Anishinaabe country and provide a basis for further critical comments. This marked the beginning of the third iteration of geo-narrative development with the first phase of the Atlas project.

A Hodological Approach to Emergent Mapping and the Development of an Atlas–Making Community

David Turnbull (2007, 142) recommends a hodological approach to mapping:

> In geography, hodology is the study of paths, in philosophy, the study of interconnected ideas, and in neuroscience, the study of the patterns of connections in the white matter of the brain … It is the hodological emphasis on the concept of trails that is central to a performative understanding of the co-production of knowledge and space.

Rob Kitchin and Martin Dodge (2007) have a complementary understanding that goes further than those of Jeremy Crampton (2003) and John Pickles (2004) in its view of the map as continually in the making, held to any sense of ontological security only by the shared assumptions and the knowledge and mapping tasks that people bring to it.

A hodological approach to the map-making process sees mapping both as trail making, in the sense of knowledge creation, and as trail following, in the sense of tracking the emerging knowledge that results from a series of knowledge-sharing interactions. The map content in the Atlas of the Lake Huron Treaty reflects knowledge and insights obtained both through previous community fieldwork to create the Treaties Module and through new collaborative and interactive research activities with Anishinaabe community members in the Lake Huron Treaty region, academics and their research, technical specialists (including a surveyor and a senior archivist), artists, performers, and people at the grassroots level. This diverse set of perspectives is brought together to reflect the many dimensions of the treaty story. The interactive maps in the Atlas fall roughly into three different categories: (1) those that are critical of colonialism and colonial processes; (2) those that are interested in reflecting Anishinaabe perspectives; and (3) those that reflect the Atlas-making processes, or meta-maps – although content reflecting each category is present in all the maps. The processes involved in designing and developing each map give rise to emergent knowledge.

The following example illustrates one unique way in which knowledge has emerged through collaborative atlas-making relationships. In the process of researching and mapping out the biography of J.S. Dennis, the lead surveyor in the first two seasons of the reserve surveys, we found information about the home he moved to with his parents in Weston (north of downtown Toronto) in 1830, when he was about 10 years old. In 1904, the home was sold to Sir William Gage, who transformed it into a sanatorium for tuberculosis patients. This information was relayed to Blaine Belleau, a member of Garden River First Nation and an atlas collaborator, while we were reviewing the working J.S. Dennis biography map during a meeting to work on Blaine's contributions to the Atlas. When Blaine saw the image of the home, he remarked in amazement, "I was there!" He then told us the story of how he had spent nine months in the sanatorium as a nine-year-old when he was ill. In that moment, we all realized that Blaine had actually lived in the same house as J.S. Dennis, a man whose actions he had been studying for years in the context of lands research (see Figure 4).

The primacy of the story is a key organizing parameter for the creation of geo-narratives in the Atlas (Brauen and others 2011). All the stories being mapped in the Atlas have emerged hodologically. In the process, intersections among the various story maps are being identified, and links made between them. For example, at the point in the Dennis Biography Map where Dennis engages in the reserve-survey process, a link is provided to the Survey Journeys Maps, giving Atlas users the option to follow this part of Dennis's life in greater detail. The various geo-narratives in the Atlas are not entirely distinct from and independent of one another; instead, they are joined at particular nodes.

The emerging knowledge that arises within the iterative processes of mapping these stories is the result of fusing perspectives from a diverse knowledge-contributing community:

> Telling a story and following a path are cognate activities, [and] telling a story is ordering events and actions in space and time – it is a form of knowledge making. Diagrams and maps are likewise stories. In science, just as in all knowledge producing traditions, the processes are inherently narratological; they involve the creation of knowledge spaces in which people, practices and places are discursively linked. (Turnbull 2007, 143)
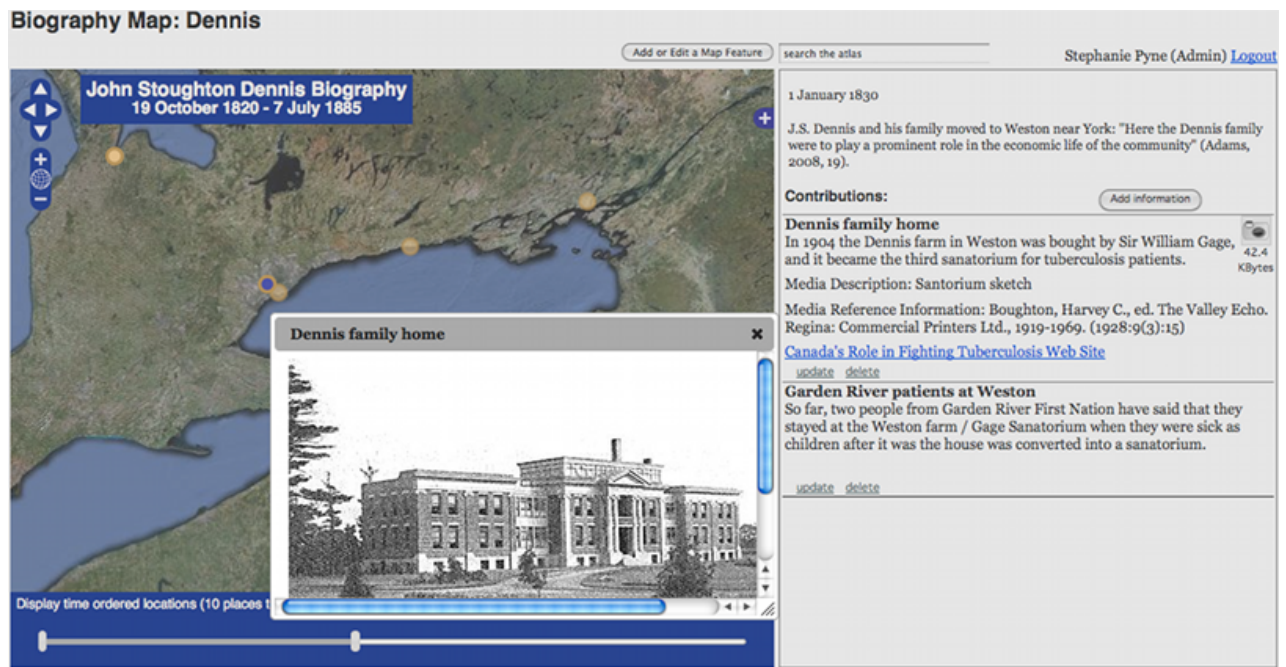
Figure 4. Screenshot from the J.S. Dennis Biography Map showing the sanatorium that was once the Dennis family home, with related information in the side panel.

Spatializing History: Building Awareness to Bridge Relationships

Spatializing history is an inclusive approach to understanding history that includes many voices and involves drawing attention to the multiple dimensions of a story instead of telling the story in a linear way (Pyne 2012; Bhandar 2004). Although political, economic, social, and cultural dimensions are prominent in the Atlas project, a variety of other dimensions, including reflexivity and agency, are also evident. The reflexivity dimension concerns stories related to the making of the Atlas itself, including the travels of the Atlas researcher and meetings among Atlas collaborators. This dimension is mapped in the Travels in the Making of the Atlas Interactive Map, which is currently under construction and tracks the Atlas-making travels through the Lake Huron region and beyond. This map provides general summaries of meetings, conferences, and other events and activities that have been part of the Atlas-making process and incorporates video, images, and text in addition to sound clips and links to related sites.

As well as emphasizing multiple dimensions, spatializing history involves fusing dimensions – for example, connecting present to past. While attending a conference in Sault Ste. Marie, Ontario,[9] Stephanie gave a presentation on the Atlas, titled "The Cybercartographic Atlas of the Lake Huron Treaty: Mapping the History," and was able to videorecord the testing of a traditional canoe made specifically to transport the remains of six Batchewana First Nation ancestors who were being returned by the Smithsonian Institution (an American military doctor had taken these remains at some point after the signing of the treaty). This video and associated information are included in the third season Survey Journeys map, as a way of bringing together the present and the past and of documenting the agency inherent in the repatriation process (see Figure 5), which involved transporting the remains from the US side to the Canadian side by canoe, directly across the river, instead of going through the American and Canadian customs gates.

A second example of bringing together present and past and enhancing agency is provided by the video of Teddy Syrette, an Anishinaabe performer from Garden River, reading an 1849 petition written by his ancestors requesting the evacuation of miners from their territories (see Figure 6). The location is within sight of the Montreal Mining Company's Mica Bay location. Chiefs Shingwauk and Nebenaigoching halted the operations of that mine several months after issuing the petition, which received no effective response from the colonial government. This video will be placed in the Marlatt Commentaries Map to contribute to the historical geographical context of the Lake Huron Treaty story in a way that transcends a linear, unidimensional approach to time. The highlighted dot on the map indicates the place where Teddy is standing, a place that can be seen and heard in the video. The 1849 petition was written about this very place; the people who wrote it had been to that place, too, and perhaps walked over the very same rocks that Teddy stood on that day in 2010 when he read their words aloud.
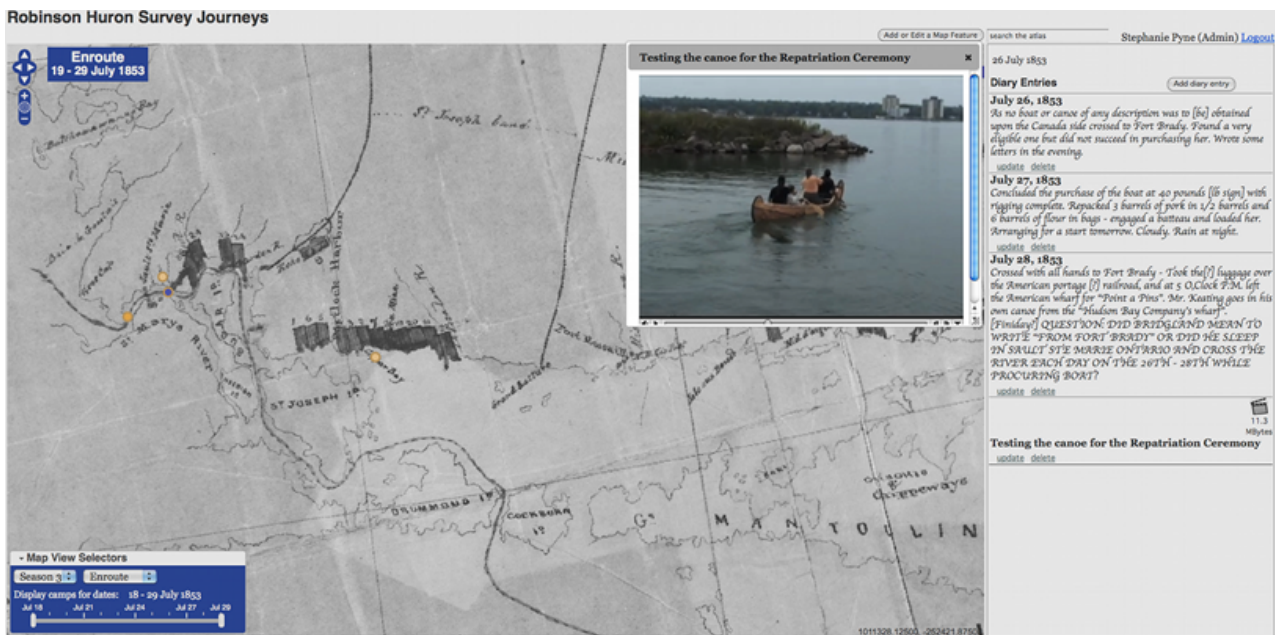
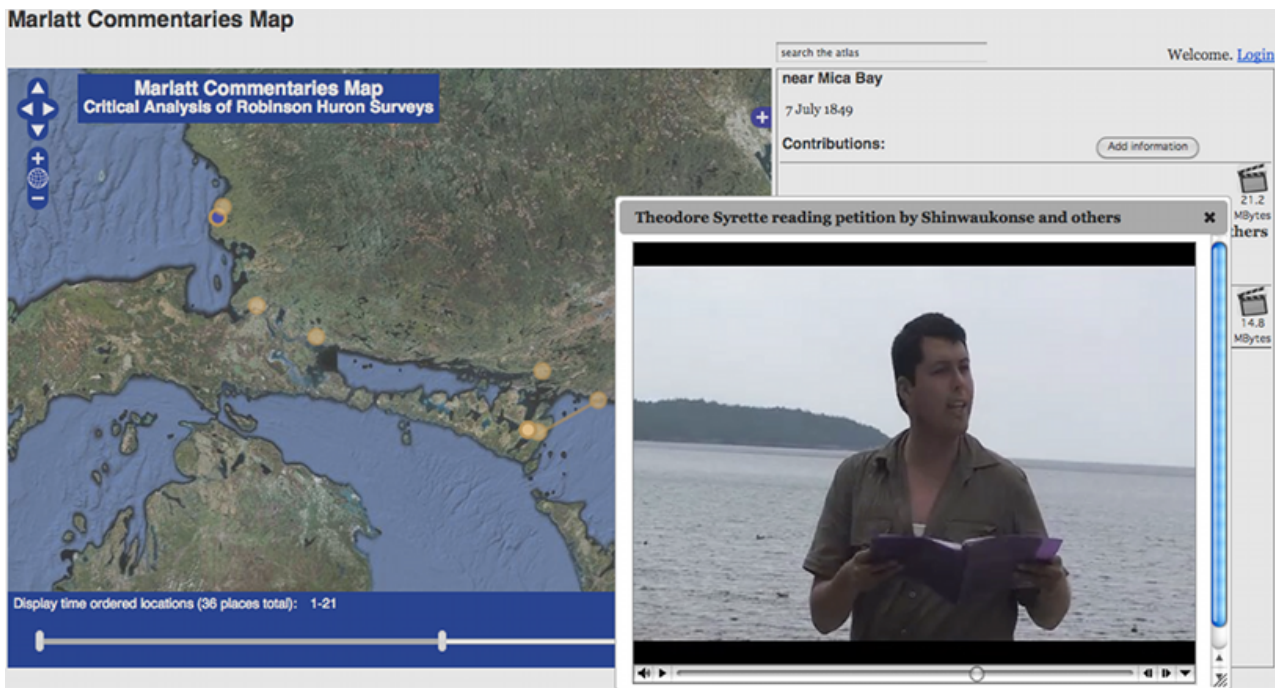**Figure 5.** Screenshot from the video "Testing the Repatriation Canoe".

Figure 6. Screenshot of Teddy Syrette reading the 1849 petition.

Discussion

Including materials such as the reading of the petition and the repatriation canoe videos in the Atlas reinforces an awareness of the connections between past and present, current generations and their ancestors. It is a way of respecting and reflecting the Anishinaabe holistic cosmology, in which the past is alive in the present: "It is a holism that goes beyond the empirically based concept of a unified physical universe … [and] that incorporates the unity of spiritual and physical worlds" (Louis 2007, 133–4) in a way that aims for balance as an end in understanding and relationships.

Incorporating Anishinaabe perspectives into the making of the Atlas relates to the broader purposes of the Atlas: to respect and revitalize Indigenous knowledges; to con-

Figure 7. Screenshot of Bagone-Giizhig (Hole in the Day) Biography Map, showing the front cover of the book it is based on.

tribute to increased awareness of unique knowledges in an effort to enhance mutual understanding; and to employ traditional Anishinaabe perspectives in the design and development of the Atlas. The example discussed above of Anishinaaabe historian Alan Corbiere's role in the direction of the Atlas project illustrates one way in which the Anishinaabe perspective has been woven into the iterative development of the Atlas. The Bagone-Giizhig (Hole in the Day) Interactive Biography Map is another example of how Anishinaabe perspectives can be incorporated into a broader understanding of the Lake Huron Treaty process. This map draws on the biography of Bagone-Giizhig, a contemporary and likely a relative of some of the signatories to the treaty (Treuer 2011). His biographer, Anton Treuer, combined academic historical research with research into oral traditions to provide an enlightening picture of Bagon-Giizhig, his life, and events and worldviews of the time. Mapping out some of the stories in Treuer's book provides a richer historical geographical context for understanding the Lake Huron Treaty process (see Figure 7).

An important aspect of this atlas work in general is its concern with intercultural relationships: it does not study one culture or another ethnographically, but engages both (Caquard and others 2009). It avoids the criticism often directed at efforts to apply geospatial technologies in the presentation of Indigenous knowledges, and of phenomena extending to experience, by emphasizing the importance of trails and journeys rather than particular points on a map; and it follows David Turnbull and others referred to above in "rethinking knowing and mapping – where

the key questions relate to the similarities and differences in the ways space, time and movement are performed and to how those similarities and differences are handled" (Turnbull 2007, 141). In the atlas work, mapping is repurposed: instead of reinforcing colonial or other hegemonic forms of domination by one group of people and institutions over others, this mapping aims to track the development of knowledge over time and space, in an effort to contribute to a new space of mutual understanding (Turnbull 2007). In a reconciliation context, this project is an answer to Brenna Bhandar's (2004) call for projects that "spatialize history." Along the same theme, Turnbull (2007, 141–42) advocates creating "a third space, a space in which the possibilities of agonistic pluralism can occur based on a performative rethinking of knowing and mapping."

According to Kitchin and Dodge (2007, 340),

> maps emerge in process through a diverse set of practices. Given that practices are an ongoing series of events, it follows that maps are constantly in a state of becoming; they are ontogenetic (emergent) in nature. Maps have no ontological security, they are of-the-moment; transitory, fleeting, contingent, relational and context-dependent. They are never fully formed and their work is never complete.

This is true of the Atlas of the Lake Huron Treaty, which from its launch in May 2012 will be publicly accessible online as a geographic research and education framework for broader-based public participation. At that point, people will be able to log on to the Atlas Web site, make comments on the map content, and upload multimedia

contributions; the focus will be on mediating public participation in a voluntary geographic information environment and on further developing the Atlas as a reconciliation tool that can host a broader range of remote community contributions for the interrelated purposes of research, education, and deliberation (Goodchild 2007a, 2007b; Schlossberg and Shuford 2005; Sieber 2006, 2007).

The Atlas can be seen as a series of iterative processes involving knowledge transformation at multiple scales and oriented toward contributing to the conditions for sufficient intercultural mutual understanding. The atlas production process involves a variety of interpersonal interactions, knowledge exchanges, and actions related to the Lake Huron Treaty "story" and to atlas design, development, and use. The line between the Atlas as a material object and the design and development processes involved in its making is blurred, the dichotomy diminished.

The iterative processes that go into making the Atlas are holistic processes that reflect Indigenous perspectives and knowledge at the content level as well as at the design level, in addition to several other perspectives. These processes are a function of interactions among Atlas collaborators, who contribute in a variety of ways to a distributed knowledge network involving intersecting knowledge sets and knowledge translation. For example, the content and design developer communicates with various content specialists from different knowledge communities to determine the stories and some initial design ideas; the geospatial technologies specialist communicates with other geospatial and digital technologies specialists; and there is communication and exchange of knowledge between content and technologies specialists, resulting in the emergence of intersecting knowledge sets (Brauen and others 2011).

Insofar as the Atlas is being designed to allow for ongoing critical input and contributions, the map user can also become the map-maker. In this respect, designing, developing, and using the Atlas are all intertwined, and work is progressing to design the digital architecture that will allow for critical comments to be overlaid on the Atlas maps (Brauen and others 2011).

Including the capability for people to make critical comments on the maps in the Atlas is part of the project of encouraging "critical cartographic literacy" (Johnson and others 2006), which involves an awareness of the ways in which Western cartography remains rooted in the same Cartesian–Newtonian epistemology that underpins the colonial worldview:

> To engage the technologies of Western cartography is to involve our communities and their knowledge systems with a science implicated in the European colonial endeavour and is a decision which should be made only after examining not only our past experiences of colonial mapping/surveying but also the long history of Western cartographic traditions. (Johnson and others 2006, 82)

Johnson and others (2006, 82) refer to the Wet'suwet'sen and Gitxan's use of maps in court proceedings as an example of a situation in which Western technologies were beneficial "in establishing Indigenous connection to lands, resources and cultural sites." While this is true, it is important to remember that these maps combined Western cartographic knowledge with traditional knowledge. The maps were presented in court, but in addition, ceremonies were performed and arguments made based on the maps that reflected a Wet'suwet'sen and Gitxan worldview (Sparke 1998, 2005). The extent to which traditional knowledge and ways went along not only with the composition but also with the presentation of the maps reflects an important counter to the hegemony of Western cartographic tradition associated with colonialism, and provides evidence that a significant degree of critical cartographic literacy was operating in that case.

Johnson and others (2006) comment that enhancing empowerment and agency are key goals of participatory GIS initiatives, and that these goals can be achieved through the enhancement of critical cartographic literacy. The broad multidimensional perspective of the Atlas of the Lake Huron Treaty aims at achieving critical historical, geographical, cultural, and political understandings as well. A broad multidimensional approach is necessary to contribute to removing barriers related to misunderstandings that have resulted in colonial exploitation, not only in the particular case of Lake Huron Treaty–based relationships but elsewhere as well. If we are to accomplish this goal, it is important that we overcome challenges associated with misappropriation of Indigenous knowledge and related challenges associated with incommensurability of knowledges. Focused on overcoming these challenges, the work to design and develop the Atlas involves combining a variety of knowledges in complementary ways.

Final Thoughts

Iterativity, hodology, and spatializing history are three central aspects of the performative nature of the Atlas of the Lake Huron Treaty, the making of which involves knowledge and performance, knowledge and movement, and knowledge and transformation: "From a performative perspective, the making of knowledge is simultaneously the making of space, and space is made by travelling" (Turnbull 2007, 142). The knowledge, information, understanding, and perspectives that are gathered and presented in the Atlas constitute the heart of this project, while the knowledge-gathering process involves friendship and discussion. The multimedia and hypertext outcomes of these discussions reflect only a portion of the increased knowledge and understanding that exist in the community as a result. This is something that those working on critical mapping projects must be aware of, acknowledge, and discuss – that is, the way the life of an ongoing online

atlas project such as the Atlas of the Lake Huron Treaty exists beyond the (virtual) material object.

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Notes

1. As indicated in Caquard and others (2009), the decision was taken to replace the term "Robinson" in references to the "Robinson Huron Treaty" with the term "Lake," in support of the choice by the Lake Huron Treaty Commission to refer to this treaty in a manner that does not privilege the Crown. J.B. Robinson was the principal Crown representative and signatory to the treaty. Having said this, it is important to note that "Cybercartographic Atlas of the Lake Huron Treaty Relationship Process" is a working title, and that while most Anishinaabe signatory nations to the treaty are in agreement with the usage "Lake" versus "Robinson," the agreement is not unanimous.

2. For Canada's Statement of Support on the United Nations Declaration on the Rights of Indigenous Peoples, see http://www.aadnc-aandc.gc.ca/ap/ia/dcl/stmt-eng.asp

3. The Cybercartographic Atlas of the Lake Huron Treaty Relationship Process is funded by a three-year SSHRC standard research grant. It will be referred to variously in this article as "the Atlas of the Lake Huron Treaty" and "the Atlas."

4. Prior to this investigative process, Alexander Vidal was the surveyor who completed many of the mining surveys shown on the map.

5. The Cybercartographic Atlas of Indigenous Perspectives and Knowledge (Great Lakes–St. Lawrence Region) was supported in part by a grant from Inukshuk Wireless.

6. The GCRC is home to a growing number of atlases involving Indigenous knowledge. See https://gcrc.carleton.ca

7. Although this diagram is useful for visualizing the expansion of maps in the Atlas, the maps and their content are likely to shift and change to some extent as the design and development process continues.

8. At the time, Alan Corbiere was executive director of the Ojibwe Cultural Centre. For more information on the centre see http://www.ojibweculture.ca/site/TheOCF/tabid/36/Default.aspx

9. This conference is included in the Travels in the Making of the Atlas Interactive Map.

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