
Protecting indigenous cultural property in the age of digital democracy: Institutional and communal responses to Canadian First Nations and Māori heritage concerns

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Abstract

This article presents a comparative study of how Canadian First Nations and New Zealand Māori peoples have employed digital technologies in the recording, reproduction, promotion and discussion of their cultural heritage. The authors explore a selection of First Nations and Māori initiatives that resist or creatively respond to the digitization and electronic dissemination of cultural 'objects', knowledges and landscapes as a continuation of social processes that have dynamically endured over more than two centuries. Their comparison also considers the limitations of conventional law in regard to the protection of indigenous cultural and intellectual property. Expressions of traditional knowledge and culture generally fall outside the protection of copyrights and patents, a situation that is often exacerbated when that heritage assumes digital forms.

Keywords

Canadian First Nations, cultural mapping, cultural property, digital databases, digital heritage, Māori

Technological advances have made digitization an increasingly popular and accessible way of preserving and disseminating the collective knowledge of humanity. As more and more digital objects are created, questions arise over their ownership and control. Checks

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and balances such as copyrights and patents offer ways of legally asserting economic and creative control over, and benefits from, certain types of knowledge and intellectual property including music, film, art, and literature in digital as well as non-digital forms. However, recent influential applications of digital technology, including open access initiatives and projects to advance the freedom of information,¹ are further challenging the hierarchical processes traditionally associated with knowledge access and communication, whereby organizations and/or governments typically assume a 'gate-keeping' role. This is in addition to shifting norms regarding, for example, how the public perceives the acquisition of music and film via the internet, in ways that sometimes cross legal bounds (see Gillespie, 2007; Vaidhyanathan, 2001). These events invite reflection on the acquisition and maintenance of cultural property, as communal and at times confidential knowledge, in the age of 'digital democracy'.

In general, concerns about the need to limit access to digitized information are phrased in terms of economic interests. This is evident, for example, in responses from the publishing world to two initiatives that seek to promote access to the world's literature. Project Gutenberg, begun in the 1970s, seeks to create, collect, store, and distribute eBooks for free,² while the more ambitious Google Books, introduced in 2004, intends to scan all of the 130 million published books in the world (Jackson, 2010). Both projects have encountered substantial technological and legal challenges, especially Google Books, which is scanning and making available both in-print and public domain titles, and is thus having to contend with charges of copyright infringement and issues of fair use from both publishers and authors.³ There is considerable debate around the contestation and transformation of copyright in the digital and other realms (e.g. Lonetree, 2002; Moore and Hennessey, 2006), but these topics are beyond the bounds of our present article.

A different kind of challenge involves the increasing use of digital technologies for political activism. For example, the recent controversy surrounding the availability of politically sensitive information on the Wikileaks web archive has initiated a vigorous public debate about where the boundary should lie (if indeed there should be one) between freedom of information and political confidentiality in democratic societies. Attempts to restrict the accessibility of Wikileaks have been cast as a form of censorship by the site's supporters. This is but one case of how the internet, and in particular internet-accessible databases containing restricted-access material, are becoming sites of contest about freedom of information. Further politicization of digital media has occurred with the use of social networking sites for large-scale communication in recent popular uprisings in the Middle East and North Africa as well as the 2011 London riots. Overt calls for mass mobilization and assembly to protest were made through mobile phone and PC devices on Twitter and Facebook, and also covertly through encoded message on dating websites, continuing a similar deployment of social networking to support anti-neoliberal protest in the West (Juris, 2005). It would be simplistic to suggest that the use of social media as an instrument of protest in Muslim countries represents a generational movement towards democratization, as has been suggested in the media, since the causes for unrest vary from country to country and, in each, are the result of many decades of discontent and activism. And, of course, a digital divide still affects accessibility to both devices and systems of

networking for those marginalized in any economic or political system.⁴ Despite this, there remains a growing association in many societies between digitization and democracy, where digital culture is seen as a vehicle for freedom of expression and information, not only operating within, but also enabling the development of, a transparent and accountable socio-political system.

Here we explore a further dimension of the (potential) quandaries imposed by, or linked to, the digitization of knowledge. Our concern is less with the economic or macro-political aspects of digitization than with the impact of 'open access' and 'freedom of information' upon the tangible and intangible cultural heritage of indigenous peoples in democratic societies such as Canada and New Zealand, both countries with a colonial legacy. The nature of knowledge within these indigenous communities may be fundamentally different from that of the majority of non-indigenous cultures, resulting in the need to limit harm to indigenous perspectives, values and identity when their culture is 'digitized' (Dyson et al., 2007; Graber and Burri-Nenova, 2008).

For many indigenous peoples, for example, there may be little or no difference between cultural property (i.e. things) and intellectual property (i.e. ideas or knowledge) and thus no separation between intangible and tangible aspects of cultural heritage, nor, indeed, between past and present. Indigenous peoples are concerned that culturally significant aspects of their heritage have often been appropriated or made into commodities, or used in inappropriate ways (Brown, 2004; Johnson, 1996; Nicholas and Bannister, 2004a, 2004b). The costs of appropriation and commodification of indigenous heritage may include loss of access to ancestral knowledge, loss of control over proper care of heritage, diminished respect for the sacred, commercialization of cultural distinctiveness, uses of special or sacred symbols that may be dangerous to the uninitiated, replacement of original tribally produced work with reproductions, threats to authenticity and loss of livelihood, among other things (Hollowell, 2004; Nicholas and Hollowell, 2006). This is exacerbated by aspects of indigenous heritage often being seen as part of the public domain, representing vanished or vanishing cultures (Nicholas, forthcoming). This is not to imply that open access is bad, but to point out that there are uses of other people's heritage that may be inappropriate or unappreciated.

Few legal options are available, furthermore, to protect indigenous cultural heritage. In Western law, protection of intellectual property is based on property values and 'rights', and is concerned largely with 'things'; ownership is vested in individuals; and infringement results in economic loss. Protection is through copyrights, patents and trademarks, which have very specific applications. 'Indigenous intellectual property', however, is situated in customary law and culture, and based on social relations and responsibilities. There may be no distinction between what others separate into cultural versus intellectual property; it is concerned largely with people; ownership may be communal; and infringement results in cultural, spiritual and economic loss. The stakes are thus higher for indigenous peoples when aspects of their culture are used in inappropriate or unwelcome ways, even when the desire is to honour, learn from, or celebrate their indigeneity. Furthermore, the intangibility of cyberspace, the possibility of infinite simulacra, and the rapid development of high-performing personal interfaces (such as computers and mobile devices), somewhat defeat the concept of digital 'property', making

the protection of digital intellectual property, never mind digital cultural property, difficult to police in law.

If the digital frontier continues to develop at its current rate and in its current form, we might consider how cultural heritage is being responsibly recorded and managed electronically by institutions as well as communities. In discussing these processes, we have identified some digitally based case studies in which indigenous people are beginning to assume their rightful place as producers and keepers of their own knowledge.

Recording and reproducing indigenous heritage

Among Māori and Canadian First Nations peoples, crafted objects and landscapes of memory have always been repositories and catalysts for generational information, linking people to each other and people to their land and religio-political contexts. In some ways, such complexes of artefacts and landscapes could be thought of as cultural databases in themselves that enable, and are enlivened by, interpersonal social networks. The arrival of new recording media, such as naturalistic drawing and painting, as well as writing, and (later) sound recording, photography and moving image capture, broadened the means by which cultural information could be recorded and used (see Brown, 2008; Nicholas, forthcoming). Technological reproducibility means that items and places (and the information they contain) can now be viewed without actually visiting them (Berger, 1972: 19). Problems in the availability and application of these recording processes, and the storage and dissemination of their products, have been well documented and widely discussed by communities and scholars. Such issues are compounded when indigenous objects, themselves made by customary processes and often with new media, are institutionalized and then managed and accessed by others. As museums and archives have moved away from being collectors to becoming preservers and interpreters of culture, new interfaces that allow greater public access to institutionally held indigenous treasures, stories, and pictures have been developed. The most recent of these are web-accessible databases, some examples of which we discuss below.

In Canada and New Zealand, it is increasingly common for organizations to seek to replicate in digital environments the protocols of access required to interact with culturally-sensitive material in order to facilitate indigenous interpretation of collections, a process Srinivasan and others have termed 'inreach' as opposed to the 'outreach' purposes of earlier institutional databases (Becvar and Srinivasan, 2009: 426–428; Srinivasan et al., 2009a: 176). In British Columbia, for example, the Reciprocal Research Network (RRN) is an innovative partnership between the Musqueam Indian Band, the Sto:lo Nation and Sto:lo Tribal Council, the U'mista Cultural Society, and the University of British Columbia's Museum of Anthropology, which was developed 'to facilitate reciprocal and collaborative research'.⁵ Drawing together digitized collections of Northwest Coast material from museums internationally, into a single web portal:

The RRN restores, widens, and creates new knowledge surrounding indigenous cultural heritage by developing a new community-based approach to research. This model of research and community access will utilize technology to facilitate two-way, or reciprocal, exchange of knowledge among communities and institutions around the globe.⁶

The result is not only a new notion of a research community (Rowley et al., 2010), but also an interactive virtual environment in which *process*—in decision making; in knowledge mobilization; and in benefit sharing—is emphasized. Access to this environment itself is considered with the submission of an online questionnaire that requires applicants to describe their background and interests relative to the site. Conditions of use include image and catalogue data reproduction restrictions based on copyright ownership, which might be institutionally invested if the object is no longer in the possession of its origin community (although this does not preclude institutions themselves requiring secondary users to contact origin communities for permission to reproduce).

In New Zealand, the open-source Anthropology Photographic Archive of the University of Auckland separates copyright from cultural sensitivity, putting the onus of cultural permission and description back on the photographer unless it receives correspondence to say otherwise.⁷ Access to its sister archive hosted by the Art History Department is restricted to university users, who are asked to click on an agreement button to confirm that they will be ‘mindful’ and respectful of the special significance of ancestor and *taonga* (cultural treasure) images.⁸ While acknowledging that sensitivities associated with objects and images are important, neither site advises precisely *how* they should be respected in terms of misuse at the desktop through misappropriation or proximity to food, which can undermine the special nature of the images (see discussion below), whereas copyright issues are explained in considerable detail.

In terms of copyright, institutions have for some time been under pressure to justify the intellectual property right they assert in relation to their indigenous digital collections, and not only from indigenous communities. The Open Source, Creative Commons and ‘free culture’ movements have challenged the concept of licensing images, while indigenous groups have questioned the ownership that institutions claim in their cultural treasures (Hess and Ostrom, 2003: 112). It is possibly only a matter of time until restrictions related to the cultural-sensitivity of digital collections might also be criticized for not being sufficiently ‘democratic’. Canadian archaeologist Barney Reeves, for instance, has recorded his experiences in attempting to access museum-held photographs of indigenous subjects (Reeves, 2004: 19). Seeking to examine photographs of Arapaho, Cheyenne, and Blackfoot shields in a prominent US museum, he was informed that he would have to obtain permission from each tribe to look at the photographs. In another situation, he was told by another museum that he would have to get permission from the Wind River Shoshone tribe to look at drawings of shields. Similar restrictions increasingly apply in New Zealand, where the National Museum, most municipal museums and art galleries, and some regional institutions, will not provide reproduction rights for provenanced Māori images or access to provenanced *taonga Māori* unless permission has been obtained first from the origin communities. The same conditions of use and access are not extended to other indigenous origin communities, however, most notably those from Pacific islands.

A further example of conflict in democratic and cultural values occurred in late 2010 when visitors to the Māori storeroom at the Museum of New Zealand Te Papa Tongarewa were given the choice not to enter if they were menstruating or pregnant. Te Papa claimed that the advisory was given to protect women from the *tapu* (sacredness; prohibition) of

the objects, although a number of commentators (both Māori and non-Māori and female and male) viewed the position as restrictive and not in keeping with the mandate of a publicly funded equal opportunity-oriented institution (TVNZ, 2010).

Despite such controversies, small gains are being made in the recognition of *tapu* as a restrictive condition within a democratic legal system. In its advice to the Commissioner for Trademarks, the Māori Trademarks Advisory Committee of the Intellectual Property Office of New Zealand tests whether trademark applications are offensive by assessing whether the *tapu* or *mana* (status; prestige) of a word or device (image) is in danger of violation. Although much of the discussion about the appropriation of Māori words and symbolism into commercial culture has revolved around the concept of ‘appropriateness’, the Trade Marks Act (2002) only prohibits the registration of marks that are ‘offensive’. The threshold of offensiveness is much higher than that of inappropriateness. As the *tapu* and associated *mana* of a Māori word or image increases so does the likelihood of offensiveness that might be caused by products bearing these words or images that are *noa* (elements free from *tapu* such as food or products related to, or from, the body, as well as alcohol or tobacco at the extreme end of this range) (Figure 1). A similar philosophical matrix informs the advisory for entry to the Te Papa storeroom and restrictions around access to culturally sensitive images and information. These restrictions are not abstract interpretations of ancient customs intended to impede the freedom of

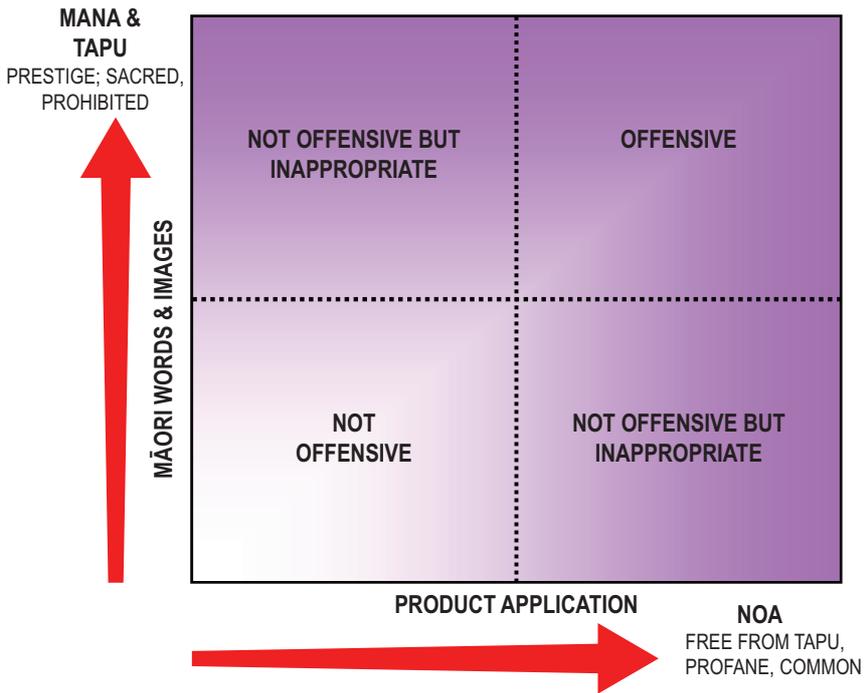


Figure 1. *Kaupapa Māori* (Māori Values) assessment matrix for Māori trademarks. Diagram produced by Grant Bulley after an original sketch by Pare Keiha. © Pare Keiha and Grant Bulley. Reproduced with permission.

information through censorship; they instead provide protection from offensiveness, misappropriation and transgression in contemporary contexts, including the accessing of digital information.

While some institutional databases are more responsive to cultural property protocols than others, many are still inhibited by their association with organizational, cultural and political hegemonies that maintain their distance from communities (Becvar and Srinivasan, 2009: 428–429; Smith, 1997). In order to remedy this problem, some institutions have joined with communities to manage initiatives that enable indigenous people to organize and maintain digital collections of their treasures in relational databases (Srinivasan et al., 2009b: 667–668), as in the case of the RRN. By means of this particular project of virtual ‘reciprocation’ (as opposed to ‘repatriation’, which may never be possible in the virtual world; see Hogsden and Poulter, 2012, this issue), communities and researchers have access to over 247,000 items and more than 160,000 photographs, in addition to the physical collections at the participating museums.

Like the RRN, KIWA (which takes its name from the great Polynesian navigator) is a digital research environment, in this case based at the University of Cambridge, UK, and providing electronic access to institutionally held Polynesian objects (including *taonga Māori*) collected by European voyagers between 1765 and 1840. One of the aims of the database is to reinstate the original role of the cultural object as a generator, rather than an artefact, of cultural information and interpretation for the benefit of communities and research teams. In a pre-digital age, meeting such objectives would have been impossible given the number of islands, voyages, object types and institutions covered by the project, despite the close ancestral bonds between the populations represented by the objects. KIWA is accompanied by a partner project that involves the creation of a database called Te Rauata to archive *taonga* associated with the Te Aitanga a Hauiti tribe, some of which, collected by Captain James Cook and members of his crew in 1769, were among the first Māori objects to be obtained by Europeans. The database is for the tribe’s own use and content is managed by their Trust, which retains control over access to resources made through their portal and retains intellectual property rights over digital material created by their members, if not the original objects themselves (see Ngata et al. and Hogsden and Poulter, 2012, this issue). They select what material is released to the KIWA system, and what remains accessible to tribal members alone. The RRN, KIWA and Te Rauata are exciting ventures that attempt to balance both digital accessibility and cultural accountability with legal and cultural restrictions in order to harness the speed and relativity offered by digital databases. The global virtual research community of the RRN requires membership by application in order to access publicly restricted electronic material, whereas membership by ancestry determines the levels of access offered by community-based initiatives like Te Rauata. Both processes involve ‘gate-keeping’ as a way of overcoming the more problematic issues associated with unmediated access. Further examples of digital research environments include Kim Christen’s two community-based digital archiving and dissemination initiatives: Mukurtu An Indigenous Archive and Content Management Tool,⁹ developed with the Warumungu community of Australia, and the Plateau People’s Web-Portal,¹⁰ built with a number of Northwestern North American Tribes.

Many First Nations bands and Māori tribes manage digital databases of cultural objects that are in their own care, and these may be partially accessible through community websites. The Inuvialuit of northern Canada have developed a series of collaborative

projects with major museums to repatriate their intellectual property,¹¹ including digital and 3-D visualizations of Thule whalebone-framed houses (Dawson et al., 2011). In Rēkohu (Chatham Islands, New Zealand), the Hokotehi Trust is digitally recording elder knowledge and heritage landscapes in an effort to protect Moriori intellectual property, values, and identity (see Solomon and Thorpe, 2012, this issue).¹² The Ngai Tahu Māori Rock Art Trust's website describes how the Trust manages, documents, preserves and interprets petroglyphs in the Ngai Tahu tribal region for the benefit of the tribe and the wider population.¹³ This website includes a selection of digitally-simplified rock art symbols that are accompanied by a statement indicating Ngai Tahu's support for the Mataatua Declaration and the United Nations Draft Declaration on the Rights of Indigenous Peoples (both 1993), and acknowledgement of 'the right of indigenous people worldwide to own and control their cultural and intellectual property'. The statement continues by warning against appropriation and interpretation without obtaining consent from the traditional owners (in this instance the appropriate Ngai Tahu regional Māori council), situating these concerns within a cultural benefit rather than a legal context. These tribal and band websites are generally not interactive (comments and questions are directed to email addresses and phone numbers), but perform important 'front door' access and reporting functions. Most are not able to provide comprehensive databases of culturally sensitive material for the use of their members due to their public accessibility and the expense of developing and maintaining multilayered platforms.

Community co-managed contextualizations of digitized cultural materials are never quite the same as having the objects within their context of origin. Time estranges people from the institutionalized objects that were once part of their communities, and the opportunity to reinstate the personal relationships between people and their cultural treasures diminishes as it passes. There also remains the issue of the digital divide as a manifestation of social, political, economic, educational and generational differences within indigenous communities (Niezen, 2005: 548). The concept of creating co-partnerships overseen by bicultural advisory boards that manage databases of objects located physically and digitally within institutions is perhaps out-of-step with both the fluidity of the technology and the way that indigenous peoples are communicating electronically with each other. As inviting and accessible as co-managed research platforms are, the number of community members who would have the academic, cultural and technical confidence to engage with them is still growing but varies considerably between communities and in different parts of the world.

To provide full public access to collections, however, exposes them to the threat of inappropriate, offensive or dangerously transgressive use. One complicating factor is that for some indigenous groups, such as Māori and the Zuni, no distinction is made between sacred objects, and the like, and copies (including photographs) of them. All are equally powerful, sacred, or otherwise instilled with vital values and thus require appropriate care and protection (Brown, 2008; Isaac, 2011), which presumably holds true for digital representations as well. Furthermore, commentary sections inviting interactive community feedback often remain very quiet (Srinivasan et al., 2009b: 676–677).¹⁴ In their study of how museum catalogue data concerning Native American material could be made more accessible and useful online, Srinivasan et al. (2009b: 677) identified a number of issues that need to be addressed in the construction of culturally responsive

databases. They include: the provision of high-quality digital images; the categorization and contextualization of indigenous objects using terminology that communities can understand; and participation of indigenous partners so they may promote their own understanding of the collections, and identify and challenge inappropriate use of them. However, the researchers also discovered that the most engaging conversations and contextualizations of cultural information have occurred in less hierarchical social media domains.

Whilst not overcoming the digital divide, social networking might offer another means by which communities could make manifest culturally relevant information and initiate discussions about their heritage. Institutional databases may indeed already have been superseded by social networking sites as digital repositories for cultural information. Some indigenous groups have social networking pages, in some instances set up by their organizational authorities and in others established by individuals, on which members can discuss topical issues, and paste links to relevant media stories and digital document banks. Indigenous people are also increasingly using genealogical websites that allow members to post names, and upload the stories and pictures of their ancestors in the hope that other family members may be able to supply missing or supplementary information, verify or correct 'facts' or simply make contact after years, even generations, of separation.

Whakapapa and Facebook: A personal encounter with a digital ancestor

Social networking is already enabling Māori people at *whānau* (extended family) and *hapu* (subtribal) levels to reconnect with each other, discuss heritage matters and reinforce the *mana* (standing) of their group (sometimes purposefully in contrast to how they are portrayed in the general media or by neighbouring groups).¹⁵ This is also true of the use of Facebook and similar media by indigenous North Americans to extend or strengthen social networks. The objects and narratives that they share come from stories handed down between generations, photograph albums and, occasionally, 'pirated' images ripped from institutional online databases or photographed directly from museum displays. Faced with the challenge of reassembling one's identity, the intellectual property rights associated with archived images and institutionally held objects are no match for ancestral sanction or genealogical connections.

One of us (Brown) became aware of social media's efficacy as a means to reconnect people and narratives with cultural objects when she recently googled the name of her great-great-grandmother's mother, Peti Ngapapa, that she had found on a handwritten *whakapapa* (genealogical sequence; see explanation below) for which she was temporary *kaitiaki* (guardian). Peti Ngapapa was not a notable historical figure, but a woman who (she knew through oral narrative) was married to an early European settler, William Rogers, probably from New England. He went on to have relationships with at least two other Māori women, starting complementary lines of the family. To Brown's surprise, given that her ancestor was born almost 200 years ago and does not figure in any written histories, she learned that Peti had a lively online presence from as early as 1999 that had been increasing in prominence over the past few years to include, among other sites,

Bebo and Facebook pages. Searching further, it became apparent that many Māori were using genealogical websites to make connections with family members that they had never met personally, in order to piece together fragmented genealogical information related to ancestral as well as more recent births, deaths, marriages and life stories, for the ultimate goal of (re)producing cultural knowledge. People were freely posting this information, as well as photographs, lithographs and paintings of long-deceased family members and associated *taonga*, some from family albums and others cut-and-pasted (most likely without permission) from institutional databases. Some of the most active members of these discussions live overseas.

The online discussions about *taonga* on these social networking sites were unselfconscious, being personal posts from family members, yet were regulated by the group without deference to any social or organizational hierarchy. The ‘collapsed’ space of the internet enabled family members living in diasporic contexts—specifically Australia and North America—to have an equivalent ‘talking status’ to those who live locally, which is not always the case when families living overseas visit their home *marae* (communal meeting place). With respect to Ngapapa’s pages, a conversation thread had developed on one site about the existence of a wedding photograph, the validity of which as an historical document was eventually undermined by later posts.¹⁶ As the discussion thread developed, the conversations became increasingly exclusive, despite it taking place in an ‘open’ web environment, as members of the complementary Rogers’ *whakapapa* or genealogical line (both North American and Māori descendants) realized they had little to add to the conversation and dropped out. Google enabled cross-referencing between sites and provided a form of relativity. The discussion among users was reminiscent of those that take place on *marae*, except that social networking also provides the ability to reconnect family branches that have become estranged over time, and a forum to share imagery, albeit in a context that is not regulated by the same socio-cultural protocols. Furthermore, these connections are occurring at the sub-tribal levels of *hapu* and *whānau*, the ‘everyday’ kin groups associated with ancestral *mana* and social governance, rather than at the level of *iwi*, an ‘ethnic’ kin group recognized by government (Ballara, 1998: 161; Sissons, 2004: 23–24). In many ways, social networking is achieving the goals of knowledge sharing, retention (in terms of users generating and maintaining information for their exclusive needs) and discussion that institutional databases are still struggling to achieve, partly because the sharing is mediated neither by intellectual property rights nor by organizational hierarchies.

Nevertheless, there are still important cultural and cultural property issues to be considered, since such social networks are not regulated by cultural custom, let alone copyright. Within each generation in a *whakapapa* there is a hierarchy of power, associated with knowledge retention, the possession of *taonga*, and land rights. *Whakapapa* is more than a family tree. It is regarded as a *taonga*. All inanimate and animate entities have a *whakapapa*, most beginning with either Te Kore (a universal void) and the deities that evolved from that state, or a supreme being known as Io, with each subsequent generation recounted as a sequence of *papa* or layers. *Mana* is attributed to senior lines or layers associated with birth order, gender, personal achievement and continued presence on ancestral landscapes. These power relationships are negotiated through direct conversation and observed action, and the people who inherit this *mana* are expected to respect

the access conditions to knowledge, objects and land laid down by the previous generation. Social media cut across these hierarchies, and therefore may undermine the choices made by ancestors. The reasons why ancestors chose to suspend communication with members of their immediate family may have been lost to time, but their legacy is the disconnection of certain branches. This might lead us to ask: would the benefits of 'reconnection' be outweighed by the problems associated with reigniting old disputes? Under the scrutiny that comes with being treated as 'historical' documents, rather than treasures passed down, are the *mana* and *tapu* of certain *taonga* (like the wedding photograph) at risk? Can cultural knowledge be acquired in a social networking context, or is it merely a new road back to the *marae* and face-to-face encounters (Iseke-Barnes, 2002: 193)? And what of the *mana* of elders who may not be able to participate in these discussions, or whose *mana* is not recognized in the 'democracy' and anonymity of digital space? When Brown informed an elderly uncle, who is a *kaumatua* (elder) of her *whānau*, of an impending reunion announced on the websites but of which he had no knowledge, he commented 'I used to think that I knew everything about our family, until now'.

Therefore, in time, and given the self-regulation that is already evident, users might create culturally responsive social networking sites that respect the *mana* of people and the *tapu* of information through self-policing or a new type of digital cultural etiquette (Coombe and Herman, 2004: 571). Institutions may even consider releasing digital information related to their collections back into the hands of these subtribal discussion groups to build new, or recover old, narratives around community treasures.

Digital cultural mapping

While social networking allows indigenous people to initiate their own discussions, collate records and share information about genealogies and ancestral heritage, the landscape itself is continuing to generate cultural information in the digital domain through cultural mapping projects like the Aboriginal Mapping Network (AMN) and Māori Maps. Cultural mapping is a process that occurs in all cultures as a means to transmit knowledge embedded in physical and metaphysical landscapes through oratory, performance, writing, architecture and art. This type of mapping is different to cartography, which is more product-orientated in that users acquire 'maps' as tools to achieve other ends, and are not usually involved in the map making process (Wickens Pearce and Pualani Louis, 2008: 110). As the geographer Robert Rundstrom (1990: 156) notes, all maps 'reflect and reinforce [the] cultural values and beliefs of the people who make them', and in Canada and New Zealand cartography was certainly an important legal tool in the colonial annexation and alienation of indigenous land. Although cartography is in many ways inconsistent with indigenous understandings of landscape, there are some notable examples of early Māori and Inuit people unaccustomed to drawing making highly detailed maps of large areas for Europeans.¹⁷ Furthermore, since the early 1970s, indigenous groups in both countries have co-opted conventional cartography to reclaim territory and negotiate or defend access rights to resources, in a process called 'tenure mapping' (Poole, 2003: 12–13). Contemporary cultural mapping, however, is concerned more with revitalization than legal restoration and is most often deployed by communities to define and negotiate boundaries and resources, for talking between cultures and,

like the AMN and Māori Maps, for the transmission of local knowledge outside of, or in addition to, narrative storytelling.

Collectively, many community and institutionally sponsored cultural mapping projects associated with Canadian First Nations groups can be viewed online as part of the Aboriginal Mapping Network.¹⁸ Founded in 1998 by the Gitksan and Ahousaht First Nations and Ecotrust Canada as a forum for sharing cultural mapping information and processes, the AMN has since grown to support a global network of indigenous groups engaged in map making as part of land claim, treaty negotiation and resource development initiatives. Among the many online services provided on its website, users can find information about training opportunities, the application of GIS (Geographic Information Systems), best practice guidelines, and funding, as well as a gallery of member organizations' maps and a virtual space for sharing experiences. From a digital perspective, the AMN is more than just a service provider, since it promotes the practice of 'decolonizing' Western mapping processes, in particular those related to GIS, through the online dissemination of conventional and alternative information made by and for indigenous people.

Māori Maps is a non-institutionally aligned initiative that enables Māori who are internet-savvy but may not be culturally connected, to initiate and maintain relationships with their *marae*. Currently governed by Te Potiki National Trust, the Māori Maps project uses GPS to record the location of all *marae* in New Zealand and includes the capacity to electronically store data—including *whakapapa*, narratives and images of places, people and other *taonga*—related to those cultural sites, at the request of *marae* authorities. The project was initiated when one of its directors, Paul Tapsell (a descendant of the Ngati Whakaue and Ngati Raukawa tribes) realized that many *marae* were at risk of generational estrangement, exacerbated by language loss and urbanization. Since these meeting places are the repository of communal *whakapapa*, *taonga*, stories and images, as well as active fora for debate and cultural development initiatives, the consequences of *marae* alienation are dire. In acknowledgement of Māori cultural property concerns and in accordance with the custom of revealing information to those who have demonstrated cultural responsibility and understanding, three tiers of accessibility to the Māori Maps database are offered: open access, providing location, general background and contact information; password-initiated access, with permission of designated elders, to community archives for descendants wishing to learn more about their heritage; and a cache of sensitive information maintained as a back-up record for the use of designated community elders (Tapsell, 2009).

The integrity of the information provided by these cultural maps is not determined by its completeness, in an academic sense, but by its ability to undergo further development under appropriate cultural property protections. The techniques employed to record and transmit the information are critical to achieving a culturally responsive and responsible map. A variety of participatory processes employing digital and non-digital technologies are used: making maps from narratives on the ground or on paper; mind-mapping; annotating topographical maps; making physical or computer-generated three-dimensional site models; and moving away from longitude and latitude by training community members in the use of GPS to record the presence of special objects, sites or animals (Poole, 2003: 14–16). The increasing use of digital GIS has enabled additional layers of and

opportunities for interactivity and electronic storage, and has provided for the recording and illustration of accessible and confidential multi-layered communal knowledge.

Although cultural mapping has been an empowering tool for indigenous communities and others who work with them, cartography and GIS standard systems of representation remain the dominant methods of expression to the cost of the complexity and nuances of customary knowledge. Being digitally interactive or multi-layered does not in itself offer a closer correspondence to customary forms of cultural mapping. With poor management, the result can be a digital map of superficial understanding, where land-based cultural knowledge could be potentially 'distorted, suppressed, and assimilated' and underlying cultural understandings of space (particularly human, animal and supernatural scale) and time (cyclical and sequential) are lost (Wickens Pearce and Pualani Louis, 2008: 109). Visually, the outcomes of many cultural maps are generally not much of a departure from conventional cartographic maps except for the provision of map legends, although exceptions to this rule are those cultural maps made by digitally and/or visually literate people who are not geographers or cartographers.¹⁹

As part of the 2006 project *Naming and Claiming: A Visual History of the Bella Coola Estuary*,²⁰ for example, a group of architecture staff and graduate students from the University of British Columbia collaborated with local elders to culturally map the 'contested nature of the needs potentially fulfilled by, and desires projected onto, the estuary by its community' (Bass, 2006: 4). The research and production methodologies involved listening to local stories, studying the environment, and then making drawings using a mixture of Western and First Nations visual conventions that had been specifically adapted to reflect the unique processes and information of the project. Their work is successful because it uses innovative or culturally responsive representational techniques, and demonstrates sensitivity and self-reflexivity by illustrating doubt where there is uncertainty about what it is that is being mapped. Like social media, cultural mapping can potentially use digital media in a subjective way that invites further expression and queries, rather than 'locking down' concepts as objects.

Conclusion

In an age of digital democracy, there remain elements of culture that can be shared and others that cannot be so easily shared, or even shared at all. While intellectual property rights afford some protection of cultural heritage (Brown and Nicholas, 2010), such 'top down' policing is difficult in the electronic domain. In highlighting some important as well as everyday instances of the promotion, management and protection of Canadian First Nations and Māori objects and knowledges in digital media formats, it has become clear that communities are increasingly assuming a 'grass roots and up' approach in these processes.

A key concern related to museum databases is that the historical, organizational, social and cultural processes that have kept indigenous people at a distance from institutional collections of their treasures should not be replicated by online institutional, community or co-managed databases. At its best, the Internet is a fluid and interactive medium that invites multivocal participation. Within this system it should be possible to accommodate specific cultural needs in terms of access, control, interpretation and,

potentially, repatriation. A handful of the many institutional databases that deal with cultural material have developed meaningful partnerships with origin communities, but the majority still seem to be repeating the architecture of their institutional hierarchy within the architecture of their websites. Less hierarchical discussion threads that can be user-initiated, like those provided by social media, have been more inviting platforms for cultural discussions, debates, documentation and the promotion of group identity, occasionally (and ironically) illustrated by images taken from institutional databases.

Like databases, cultural mapping is undergoing significant conceptual transformations due to the involvement of indigenous people and the development of innovative digital representational systems. Like their ancestors before them, contemporary indigenous people are exploring ways in which new tools like GIS can be turned to specific cultural needs, and are finding that access to these tools and interpretation of their products present as many problems as opportunities. As indigenous peoples have come to learn from previous encounters with maps, the drawn line is a divisive mark that is difficult to contest when the maker's 'hand' or the 'eye of God' deployed are not one's own. The challenge is for communities themselves to develop forms of visual cultural representation that are more permeable, nuanced, balanced and potentially multi-sensory to depict tangible and intangible elements, sites of dispute or reconciliation, competing foregrounds and backgrounds, memories and intergenerational memories, and non-linear understandings of time and space.

In this article, we have touched on some of the many concerns and challenges confronting indigenous peoples as they seek to maintain control over, and benefit from, the digitization of their cultural heritage. Although our focus has been on Māori and Canadian First Nations, these issues are playing out across the world and are having the most effect on those descendant communities who were disenfranchised and otherwise affected by colonialism. Digital databases coupled with indigenous information networks provide powerful and effective tools for protecting and promoting cultural identity and heritage, even in (or perhaps partly because of) the absence of effective conventional legal provisions to monitor and control their dissemination.

Our focus here has been less on an in-depth analysis of the many differences between Māori and Canadian First Nations responses to the challenges of digitization and more on the similarities between the potential and actual impacts of unwelcome or inappropriate use of their heritage by others, and on new initiatives that enable sharing of traditional knowledge. It should be evident that the situation in both New Zealand and Canada (and elsewhere) is complex and constantly changing, and transcends the familiar 'indigenous' vs. 'Western' dialectic. Indeed, acknowledging that tangible and intangible knowledge are indivisible, as is the case for many indigenous peoples, requires new modes of protection, especially in the digital age. The digitization of cultural heritage introduces new ways in which social and economic harm can be done to indigenous peoples through new forms of appropriation and commodification. And yet those same technologies are facilitating new initiatives, both proactive and reactive, that promote more collaborative research practices and knowledge sharing, as well as models for more satisfying political, economic, and legal solutions grounded in indigenous sensibilities and world views.

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Notes

1. Examples of these include iCommons and Creative Commons, and the A2K (Access to Knowledge) movement, all of which seek to adjudicate ownership and control of digital objects (Boyle, 2008; Lessig, 2004).
2. eBooks are electronic or digital publications. For Project Gutenberg Mission Statement see URL: http://www.gutenberg.org/wiki/Gutenberg:Project_Gutenberg_Mission_Statement_by_Michael_Hart; see also URL: <http://www.gutenberg.org/wiki/Gutenberg>About>
3. <http://copyright.columbia.edu/copyright/2011/03/22/google-books-copyright-settlement-rejected/> Notable too is that increasing access doesn't always lead to democratized access; for example, scholars accessing Google books via a North American IP address can often download the full text of a book, whereas those accessing via UK or New Zealand normally only have partial access to an exclusively online version. For a discussion on this, see URL: http://www.fas.harvard.edu/~histecon/research/digitization/copyright_law.html
4. 'Digital Democracy' (URL: <http://digital-democracy.org/>), for example, is an organization that provides digital technologies to support humanitarian organizations working in 'post-disaster, transitioning states and repressive regimes' but not to indigenous people living in former colonies.
5. <http://www.rnnpilot.org/pages/about>
6. URL: http://www.moa.ubc.ca/RRN/about_overview.html Researchers can apply for an RRN account, and can develop projects on the RRN, as well as participate in various working groups.
7. http://digitool.auckland.ac.nz/exlibris/dtl/u3_1/dtle/www_r_eng/icon/anthro01.html
8. http://digitool.auckland.ac.nz/exlibris/dtl/u3_1/dtle/www_r_eng/icon/collections/ahid/content/copyright.htm
9. <http://www.mukurtuarchive.org/>
10. URL: <http://plateauportal.wsulibs.wsu.edu/html/ppp/index.php>
11. URL: <http://www.sfu.ca/ipinch/node/506>
12. URL: <http://www.sfu.ca/ipinch/node/508> This and the Inuvialuit example are part of the Intellectual Property Issues in Cultural Heritage (IPinCH) project (URL: <http://www.sfu.ca/ipinch/>), which fully funds the Moriōri project, and partially funds the Inuvialuit initiative.
13. URL: <http://www.ngaitahu.co.nz/RockArt/profile.htm>
14. For example, as of April 2011, the 'Lindauer Online' website of Māori portraits run by Auckland Art Gallery had only received two comments in two years (URL: <http://www.lindaueronline.co.nz/>).
15. For example, see URL: <https://www.facebook.com/pages/Te-Aitanga-a-Hauiti/147185551958818>. This Facebook page includes images of *taonga* taken in museums, family photographs, documents supporting their identity as a small tribe (rather than a subtribe of the neighbouring Ngati Porou), and critical commentary on current media stories related to their group and *turangawaewae* (land/seascapes of belonging).
16. The marriage took place in 1829, predating the arrival of photography in New Zealand. However, the 'wedding' photograph is regarded as an important *taonga* that legitimizes the union, and validates the seniority of the Rogers-Ngapapa descendants, in contrast to the

relationships and associated family lines that followed. The internet discussion about the photograph, however, once and possibly for all undermined the legitimacy of the photograph as documentation of an ancestral marriage.

17. See, for example, Tuki Tahua's 1793 map of Aotearoa New Zealand, Public Record Office, London, MPG/532; and Powon's 1894 map of the Caribou Inuit Keewatin District (Rundstrom, 1990: 160).
18. URL: <http://nativemaps.org/taxonomy/term/32?page=74>
19. For example, see the Zuni MapArt project. URL: <http://www.ashiwi-museum.org/mapart.html>
20. URL: <http://www.ashiwi-museum.org/mapart.html>

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