Indigenous Intellectual Property Rights in the Arctic

Robert P. Wheelersburg & Sean Melvin

The Arctic has been a region long characterized by knowledge transfer between northern residents and people from southern states. Over the past few decades, the transfer of Arctic traditional knowledge ("TK" here including Indigenous knowledge) has accelerated at a fast pace due to research, the exploration and exploitation of resources, and movement of peoples in and out of the region. In some cases, TK has been lifted wholesale without consideration in an asymmetrical relationship. Southern residents have their intellectual property rights (IPY) protected by national and global level laws and agreements. Conversely, due to its nature as a communal property held and passed down through the generations at the societal level, TK from Arctic Indigenous peoples is not as well protected. This paper summarizes some national and global level IPY protections such as patents that could be applied to Indigenous TK. In addition, recent efforts by Saami and Inuit at the national and global levels, respectively, are reviewed. The authors recommend that Indigenous groups use their status as permeant participants on the Arctic Council to create and implement TK IPR that is appropriate to the nature of Indigenous societies and yet provides a sufficient level of protection for future generations. Such protection is important as the impacts of the melting ice cap will increase information transfer from the Arctic.

Introduction

Much attention today is focused on Traditional Knowledge (TK)[1] in the Arctic due to the importance of using local understanding of environmental factors to reduce the negative influence of global climate change on sustainable development. Statements like the following seem commonplace:

> Arctic biodiversity has been and continues to be managed and sustained by Arctic Indigenous peoples through their traditional knowledge. Traditional knowledge is used to observe, evaluate and form views about a particular situation on the land. This knowledge reflects perceptions and wisdom that has been passed to new generations to the present day. However, steps need to be taken to ensure that traditional knowledge is renewed and passed on to the generations to come (Mustonen & Ford 2015: 1).

We believe that Indigenous TK based on shared cultural traits such as handicrafts, rituals and performance art, as an aspect of intellectual property rights (IPR) is as worthy of protection as ecological knowledge, especially as increased interaction brings more people and commercial enterprises to the Arctic looking to capitalize on (or at least collect) such knowledge. For example, the British design firm Kokon To Zai recently apologized and removed an Inuit sacred parka design it used in a new clothing line that was apparently lifted from the 2006 film *Journals of Knud Rasmussen*

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(Off & Douglas 2015). Creating programs and policies to strengthen the protection and sustainability of Arctic Indigenous IPR can have far reaching influence not only on the continued interactions of resident (i.e., local) populations with the land but through cultural aspects that support the functioning of their societies as well. If one accepts that premise, then it is important to maintain cultural as well as biological diversity in the face of globalization spreading mass culture that has been and continues to permeate the northern regions.

Yet, despite the importance of such protection, what are the legal and ethical ramifications of IPR for contemporary Arctic Indigenous peoples, especially given the tremendous changes in the region over the past hundred years or so? Are the Indigenous groups in the region able to define and establish which TK is important enough to use IPR protections and once so protected, determine who owns the rights to it? Are Arctic Indigenous societies capable of receiving and incorporating IPR protective measures similar to those functioning in other parts of the globe? Perhaps more importantly, are such societies able to create and disseminate their own IPR protection protocols in the face of tremendous changes within those societies? Are there problems with using IPR for TK that is often developed communally and handed down from earlier generations? To further that last point, should contemporary, undocumented Arctic TK changed by modernization and cultural borrowing from outside sources be subjected to IPR protection? Lastly, what is the appropriate way for Arctic Indigenous groups to manage contemporary TK systems and who determines which are subject to IPR legal protection?

These questions stand in opposition to some previous examinations of Arctic Indigenous IPR protection because it takes as its fundamental assumption that these peoples should be in control over what TK is protected, who receives the protection, and what laws and regulations should be exercised to avoid such protection. In contrast, while much of the literature related to Indigenous intellectual property rights is based on proposals to increase IPR protections for Indigenous peoples, some scholars have argued that the protection of Arctic traditional knowledge-based intellectual property rights is problematic and unlikely to serve the long-term interests of either the Indigenous people or researchers (Wenzell, 1999: 123). Davis and Wagner cautioned that intellectual property protection requires a defining of traditional knowledge through local expertise and that researchers have not established appropriate standards for identification and selection of local experts (2003, 464).

Using this perspective, this paper examines legal aspects of IPR that are mostly created and enforced by government bodies from outside the region. In addition, examples of how Arctic peoples themselves have obtained and/or strengthened IPR protection are described. Although our focus is on the western Nordic region and the North American Arctic, the recommendations contained herein can also be applicable to the Eurasian Arctic should the states located there agree to participate in global IPR efforts.

Legal Aspects of Intellectual Property Rights

Figure 1. ILO 169 Definition of Indigenous Peoples

Part IV. Vocational Training, Handicrafts and Rural Industries, Article 23.

1. Handicrafts, rural and community-based industries, and subsistence economy and traditional activities of the peoples concerned, such as hunting, fishing, trapping and gathering, shall be

> recognised (sic) as important factors in the maintenance of their cultures and in their economic self-reliance and development. Governments shall, with the participation of these people and whenever appropriate, ensure that these activities are strengthened and promoted.
>
> 2. Upon the request of the peoples concerned, appropriate technical and financial assistance shall be provided wherever possible, taking into account the traditional technologies and cultural characteristics of these peoples, as well as the importance of sustainable and equitable development.

For many Indigenous groups in the Arctic, their protection begins with the International Labour Organization Indigenous and Tribal Peoples Convention 169. While the convention defines who is able to claim the status of an Indigenous people, there are problems when trying to apply that to IPR protection. The convention's section covering TK presented above is not strongly stated, leaving the protection of peoples' intellectual property up to the benevolence of individual states' politicians. In addition, of the Arctic Eight only Denmark and Norway have ratified the convention, requiring Indigenous groups in the remaining countries to seek redress elsewhere. Thus, while it may seem a simple matter to obtain IPR in the international community, it is in fact a difficult task navigating through a web of incomplete and confusing laws and policies.

As with many aspects of Arctic legal issues, agreeing upon intellectual property rights for northern residents is complex; made all the more so by the hodge-podge of treaties, laws, regulations, political statements, etc. that apply to the issue due to the region's standing as a geographical territory, not a political one. Populations who live in the Arctic, including those in semi-autonomous areas such as Greenland are members of nation-states primarily occupying territory to the south of the region and are therefore subjected to the policies and laws produced by their respective countries. As pointed out by Bankes and Koivurova (2014), jurisprudence in the north is mostly a product of the legal systems of the individual Arctic eight states. Even that figure does not fully define the complexity as in the authors' words when describing the various polities in the Arctic (2014: 223 – 224, 230, 240)

> … of which three are federal states (with law-making powers devolved in varying degrees to their northern subunits) and five are unitary states. Greenland has a distinct status, having opted for Self-Rule in 2009. Global and regional norms of international law are also significant, as are the norms of the European Union (EU) that bind Finland and Sweden as member states. In addition, as members of the European Economic Area (EEA) Agreement Norway and Iceland apply many EU norms. A more pluralist account of legal systems includes less formal arrangements such as the customary norms of the Indigenous peoples (Watson and Hamilton 2013; Webber 2013 [citation in original]) … To a certain extent, [I]ndigenous customs also apply to many of the behaviors of Arctic residents. … While most of the norms that apply in the Arctic are general … there is a limited amount of law, both domestic and international, that is specific to the Arctic. Some of these have relatively long history, but none relate to IPR. … While we can identify a clear trend in the consolidation of [I]ndigenous rights in international law, this trend has only penetrated the domestic legal systems of the Arctic states in a limited fashion, especially the large federal states – the USA, Canada and Russia. The four Nordic states have been more open to influences from international law.

Global non-governmental organizations (NGO's) also present a myriad of policies and processes involving IPR and none have the legal authority to impose and regulate protective measures. For

example, UNESCO policy is that all interactions with Indigenous peoples must go through their member states because Indigenous peoples have no direct communication channel with UNESCO. According to that reasoning, even Arctic Indigenous organizations like the Inuit Circumpolar Conference or the Swedish Sami Parliament should retain no means of influencing member states because they have no shared governance with majority societies at the national level (Shadian, 2010) and their pan-national forms are not recognized as legitimate by their constituent states. What makes the Arctic different from other regions, however, is that there is a clear channel by which Indigenous groups like the ICC and RAIPON may influence the constituent states as permanent participants of the Arctic Council. It is that channel that could provide the unique avenue for these Indigenous groups at the collective level to influence their own IPR protection.

Bankes and Koivurova (2014) describe the role that global norms play in Arctic law, which, in addition to domestic laws and international treaties that apply there, often focus on a single aspect of cooperation such as the Law of the Sea Convention (LOSC). Even when there is a general agreement and a resulting document specifying the responsibility each state must make to resolve legal issues, there is no mechanism for forcing states, autonomous regions or even northern residents to comply above national level law enforcement. That situation occurred in 2017 when President Donald Trump refused to comply with the Paris Agreement signed by a previous administration. Global or hemispheric legal norms that apply to Indigenous peoples include the International Labor Organization's Convention concerning Indigenous and Tribal Peoples in Independent Countries (ILO 169), the UN Declaration on the Rights of Indigenous Peoples, and the Organization of American States' proposed American Declaration on the Rights of Indigenous Peoples rely on state-level agreement and enforcement to force compliance. To determine how Indigenous groups might take steps to prevent problems regarding IPR, we surveyed appropriate legal entities and policies that currently affect international IPR that may be extended to the Arctic.

International Recognition and Protection of Indigenous IPR

Outside of the Arctic there have been examples of a state granting IPR to Indigenous groups. Perhaps the first example of an Indigenous intellectual property protection in the world was in 2000 when Panama passed a law granting its Indigenous peoples "exclusive, collective, and perpetual rights to their creations, inventions, and traditional expressions" (Obaldia, 2005: 338). The law was passed in response to protection for a cloth called *mola*, a garment that contains Indigenous designs related to the Kuna Nation's cosmology. Importantly, for Arctic Indigenous peoples, the law recognizes IPR over the *mola* designs despite the influence that modern values/ideas (in this case Christian notions of modesty) have had on TK. Thus, protection was accorded to an important handicraft that combined Indigenous knowledge and modern values related to globalization for which the Kuna will benefit.

IPR for the traditional cultural expressions, traditional knowledge, genetic resources, and inventions of Indigenous people in the Arctic region have also recently entered the "ambit of intellectual property discussions" (von Lewinski 2004: 3). This recent focus on intellectual property rights has been primarily driven by an awareness of increased industrial exploitation of Indigenous people's knowledge and resources without their consent. As Tobias-Stoll and von Hahn (2004) point out, the industrial exploitation has largely complied with existing intellectual property laws since most Indigenous knowledge was considered in the public domain as that term has traditionally been defined in international law. The other reason for an increased awareness of

Indigenous IPR has been the self-organization of Indigenous people and their representatives, which have pressured international organizations to re-examine intellectual property protections. Even with this increased awareness by the international legal community, Indigenous peoples face significant obstacles in establishing intellectual property rights. These obstacles include definitional issues for determining who is recognized as Indigenous peoples, clashes in cultural perspectives between so-called Western civilization and Indigenous peoples (Bird, 2002), and aligning relevant human norms in the context of Indigenous knowledge (Davis & Wagner, 2001).

Perhaps the most important advance in establishing traditional knowledge, expression, and resources was the establishment in 2000 of the World Intellectual Property Organization's (WIPO) Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge, and Folklore (Intergovernmental Committee). WIPO began working in the area of folklore in the late 1970s/early 1980s with the first draft of a model law for protecting expressions of folklore against exploitation adopted in 1982. Since then, through fact finding missions in various parts of the world and an exchange of views on cultural norms, the committee has developed proposed polices intended to raise traditional knowledge and cultural expression to the same level of recognition afforded to other forms of intellectual property. Specifically, the Intergovernmental Committee recently released a proposed preamble recognizing that:

> the [holistic] [distinctive] nature of traditional knowledge and its [intrinsic] value, including its social, spiritual, [economic], intellectual, scientific, ecological, technological, [commercial], educational and cultural value, and acknowledge that traditional knowledge systems are frameworks of ongoing innovation and distinctive intellectual and creative life that are [fundamentally] intrinsically important for indigenous [peoples] and local communities and have equal scientific value as other knowledge systems (WIPO, 2017).

WIPO is responsible for administering a number of international treaties in the field of intellectual property and disseminates information and advice to organizations with a special interest in protecting intellectual property. WIPO provides technical advice and assistance to developing countries on protecting intellectual property while promoting economic, social and cultural development. WIPO's Global Intellectual Property Issues Division (the Global Issues Division) is more of an oversight body directly related to Indigenous peoples. It is a research unit that conducts studies and practical activities to better understand the relationships between intellectual property and access to, and benefit-sharing in, genetic resources; the protection of traditional knowledge; and the protection of expressions of folklore. WIPO fields missions to study current approaches and future possibilities for protection of intellectual property rights of those who hold traditional knowledge, including Indigenous peoples.

Typically, intellectual property rights in the international sphere are based on a general protection of economic, social, and cultural rights by virtue of the United Nations Charter or upon specific statutory protections afforded to citizens of World Trade Organization (WTO) member countries through the Trade Related Aspects of Intellectual Property Rights (TRIPS). The TRIPS intellectual property rights standards provide a convenient baseline because all WTO member countries are bound to impose certain uniform standards of protection for both domestic and foreign intellectual property holders/applicants (Schaffer, 2014). These rights essentially arise under the U.N. Charter of 1945's Article 55 (Fundamental Freedoms) and the International Covenant on Economic, Social,

and Cultural rights, passed in 1960. Intellectual property rights were strengthened by TRIPS in 2000, which imposes positive obligations on member countries (e.g., standards for copyrights and patent time period minimums for member states). Intellectual property may be protected through provisions on copyrights (i.e., music, paintings, sculpture) or on industrial property (i.e., patent standards and trademark characteristics).

The WTO is primarily a European-based trade organization (although Japan and other Asian and Middle East countries are either members or observers). All members of the Arctic Council are original members of the WTO (Jan, 1995) and therefore the protections (such as TRIPs) would also apply to Indigenous people to the extent the IPR "fit" the mold established in TRIPs (which is part of the problem—the Indigenous culture doesn't always align with legal norms established by the WTO or TRIPs). TRIPs is the primary international treaty for intellectual property protection. It is binding on all WTO members—including all Arctic states. Copyright is controversial because folklore doesn't fit the copyright standards of fixation, originality, authorship, and term. However, Lucas-Schloetter argues that there is an indirect protection of "collections, anthologies, and compilations" that are arranged, adapted (transformed), or derived from sources which are not, in and of themselves, protectable (Lucas-Schloetter, 2004: 300).

Patents

Leistner concluded that "virtually all" forms of intellectual property can play a part in the protection of traditional knowledge (2004: 64). Since patent law is the most important source of economic protection for traditional knowledge, much of the existing literature focuses on its applicability to traditional knowledge. For example, much of the traditional knowledge used to invent devices related to hunting, fishing, and farming meet the requirements for protectable subject matter under the WTO's TRIPSs standards. Patents are an appropriate protective tool for Indigenous IPY since Art 27 of TRIPs protecting patents "leaves practically no possibility" of excluding traditional knowledge-based inventions from patent protection in general (Leistner, 2004: 68). The primary questions are how to meet the origin and novelty requirement. However, scholars argue that the TRIPs Agreement implicitly answers these requirements by requiring an applicant to "only disclose the invention in a manner sufficiently clear and complete for an invention to be carried out by a person skilled in the art…" (TRIPs Art. 29(1)). However, the next hurdle, novelty, is more difficult to satisfy. According to Article 27 of TRIPS, patents may only be granted if invention are "new, involve an inventive step, and are capable of industrial application". Therefore, traditional knowledge that is protectable subject matter may still fail to gain patent protection if the invention is derived from the "public domain knowledge stock" (Leistner, 2004: 65).

Copyrights

According to Cornish, traditional knowledge "in the wider sense will, in most cases, be covered by the scope" of the Berne Convention's copyright protections (2013: 22). Apart from the Berne Convention, the other basic source of international copyright law is found in TRIPS Articles 9-14 that gives protection to expressions, but not to ideas, procedures, or operation of mathematical concepts. This limitation narrows the use of copyright law to "folklore" protection.

Photograph 1. *Kiiñåuq* – Inuit Anaktuvuk Pass Caribou Skin Mask, Justice Mekiana, artist. Collected by Wheelersburg in Fairbanks, Alaska, 1990.

Photograph 2. Čážehat – reindeer skin baby shoes, unknown Saami artist. Collected by Wheelersburg in Jokkmokk, Sweden, 1986.

Trademarks

One scholar argues that one of the easiest and "most adequate" protections of the intellectual property of Indigenous peoples is through registration of traditional, Indigenous, or tribal names as a trademark (Kerr, 2004: 86-87). Trademarks protection is primarily rooted in identity and genuineness and not on protection of an achievement (e.g., patents). This eliminates the traditional barriers to protection of intellectual property that has existed in the public domain, which is so problematic in obtaining patents and copyright protection.

Indigenous IPR and TRIPS

International legal scholars have argued that the TRIPS agreement is inadequate to protect Indigenous IPR for two reasons. First, the TRIPS escape clause allows individual nations to deny patents based on the nation's public order/morality; protection of human, animal or plant life or health; or to avoid environmental harm, provided that the exclusion is not made merely because the exploitation is permitted by law (Patel, 1996). Second, as Weeraworawit points out, TRIPS standards and practices are geared towards privately owned intellectual property and is virtually "non-responsive to protection of innovation and creativity (in the form of traditional knowledge and folklore) as intellectual property" (2003: 771). Moreover, as Bird argues, the mixed economy that resulted when modern-era wage labor and market economy concepts were mixed with traditionally communally-owned property, further complicates protection because the TRIPS regime does not "readily apply to collectively owned traditional knowledge of [I]ndigenous people" (2002: 3). Still, even under the current intellectual property law, some have argued that Indigenous people may *already* collectively own certain intellectual property rights. For example, Stevenson advances a collective intellectual property theory regarding Inuit ecological knowledge, even if much of it has yet to be written down (1996: 4). Lesitner (2004) maintains that traditional knowledge may overcome concerns of patentability by adding value to an existing invention or process in the public domain.

Solutions

While providing final solutions to the obstacles in obtaining IPR for Indigenous people is well outside the scope of this paper, one example, the Pauktuutit Inuit Women's Association project, offers valuable insights in traversing the complex international legal standards (Bird, 2002: 1). The project set out to develop a Canadian national inventory of seamstresses and designers that documented regional variations in the design of Inuit women's parkas called *amautis*. The project then sought to create an association of manufacturers who would share trademark rights and provide a seal of guarantee that consumers were buying a truly handcrafted product from an Inuit seamstress. Since the project was developed to provide employment in rural and remote Arctic communities by creating products for lower latitude markets, Bird argued that such a collective may be protected by existing IPR laws under the "appellation of origin" provisions of trademark law since the *amautis* are tied specifically to a geographic region thus meeting a primary goal of trademark protection – consumer confidence. Although trademarks are typically not recognized as collective right, a collective *group* may maintain a single right that any member may use without obtaining permission. One of the important aspects of the project is that the Canadian government is also encouraging *amauti* production as it supports Inuit women's participation in a mixed economy combining wage employment with traditional handicraft protection. Although in a

different part of the north, a study of work patterns by men and women in the Nordic region compared part-time and full-time employment for those aged 25 to 64. There was a definite difference between the amount of part-time work based upon gender, with females participating more in part-time work than their male counterparts (Lanninger & Sundström, 2014). Thus, providing Indigenous Arctic women with increased labor options through IPR protection provided by trademark law benefitted their communities two-fold - flexible work schedules combining wage and traditional work and the impetus to produce and disseminate TK in the form of handicrafts.

A second possibility has already occurred with Alaskan Inuit through their use of the "Silver Hand" trademark since 1972. As part of the protections provided by the 1972 Marine Mammal Protection Act (MMPA), the Act allows only Alaskan natives to use ivory to produce handicrafts for sale within the U.S. Importantly, the MMPA allows only individuals to use the Silver Hand to produce and market authentic handicrafts, removing the ability of the entire Indigenous community to regulate the use of the trademark by its individual members. The trademark is important to Alaska as a state due to its reliance on tourism to generate income, of which the purchase of native arts and crafts is a critical part. Unfortunately for Alaskan Indigenous peoples, the Silver Hand is a mark given on the basis of "blood quantum" and any Alaskan native with ¼ native blood is eligible to use the trademark. Instead of protecting native industries, however, the ability of anybody who possesses the right to use the Silver Hand regardless of artistic talent (i.e. knowledge and skills) dilutes the quality of native arts and crafts as the trademark only guarantees authenticity, not quality. Unscrupulous companies may employ such people without appropriate talent and training to produce cheap trinkets that are purchased by tourists based only upon their authenticity. Ultimately, the Silver Hand hurts Alaskan native artists for two reasons: their products are too expensive for the tourist trade compared to the lesser quality handicrafts and some feel that putting a collective trademark on the work of individual artists diminishes their work within the global fine arts community (Hollowell-Zimmer 2000). A possible solution for the Alaskan Inuit may be within reach as recently the Canadian Government transferred the rights of its Inuit trademark, the "Igloo Tag" to the Inuit Art Foundation so that they can control its use (Frizzell, 2017).

Figure 2. Indigenous Peoples Protection of Their Own IPR

Inuit Circumpolar Conference Statements on Intellectual Property Rights

[Paragraph] 14. PROMOTE the removal of international and national trade barriers that affect all forms of Inuit livelihood, in consultation with affected Inuit, at the same time ensuring that the rights of Inuit to their intellectual and cultural property, traditional [i.e. indigenous] knowledge, and access to capital, employment, contracts, financing, royalties, local revenue, and other financial benefits of development are enhanced in the process;

[Paragraph] 18. DIRECT ICC to represent Inuit by promoting their rights and protecting their interests in the World Intellectual Property Organization (WIPO), European Union (EU), Organization of American States (OAS), North American Free Trade Agreement (NAFTA), the Free Trade Agreement of the Americas (FTAA), the International Whaling Commission (IWC), the Convention on Biological Diversity (CBD), the World Conversation Union (IUCN), and the World Trade Organization (WTO), and other relevant organizations.

The Kuujjuaq Declaration declared by Inuit of Greenland, Canada, Alaska, and Russia On the occasion of the 9th General Assembly of the Inuit Circumpolar Conference. August 11 - 16, 2002.

WHEREAS the article 27 of the Universal Declaration Human Rights and article 15 of the Covenant on Economic, Social and Cultural Rights have recognized the right of Indigenous Peoples to protect their intellectual/cultural property. WHEREAS the Inuit of the circumpolar

> regions have developed intellectual/cultural property that is integral to Inuit culture. […] WHEREAS ICC re-affirmed its commitment to protect the intellectual cultural/property of Inuit in paragraphs 14 and 18 of the Kuujjuaq Declaration. […] WHEREAS some Inuit businesses may be selling the products of this exploitation, for example by selling mass-produced replicas of Inuit designs and artwork and use other Inuit intellectual products. WHEREAS enterprises continue to misappropriate Inuit traditional dances, songs and folklore; THEREFORE BE IT RESOLVED that ICC will step up its efforts to ensure that Inuit intellectual/cultural property rights are adequately protected. BE IT FURTHER RESOLVED that ICC will, through its respective national organizations where appropriate, encourage Inuit-owned businesses and other companies to stop selling products that are unduly exploiting Inuit intellectual/cultural property.
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> *Protection of Inuit Intellectual Property Rights, ICC Executive Council Resolution 2003 – 03.* Inuit Circumpolar Conference Meeting of the Executive Council, Nome, Alaska, U.S.A., June 26 – 27, 2003.

The Swedish Saami Parliament's Policy Document on Traditional Knowledge

> **Our Vision**: A Sápmi where traditional knowledge [*árbediehtu*] has a living and strong position in the society. We Saami want to live in a Sápmi, where transference, care of, documentation and conservation of traditional knowledge is based upon the Saami value system. We strive to have control and influence over our Saami traditional knowledge, which is clearly based on international law and its regulations on self-determination. We want to live in a society where we can achieve solutions, models and experiences from our traditional knowledge, which is enriching as much for us Sami as it is for society as a whole. …
>
> **Possession of Knowledge**
>
> Traditional knowledge is a non-material property, which belongs to us Saami, since no other folk group possesses the specific knowledge as it is seen with the concept *árbediehtu* [Saami traditional knowledge]. … Saami traditional knowledge is both collectively and individually owned, which facilitates that we Saami can both use it and forward it to future generations. … It also means that common symbols will continue to be collective and that no one, regardless of ethnicity, will claim individual ownership of them. The Patent Office should therefore not give patent rights to individuals on what can be considered collective symbols, *árbediehtu* and so on, which are found in the Sami culture. *Árbediehtu* has as a character that it has never been actually owned by individuals, since it was the direct prerequisite for being able to make a living in Sápmi. Other societies' methods for protecting knowledge, for example by patents and copyrights, do not work as well for indigenous peoples, because large parts of the traditional knowledge are collectively owned and have been created through multi-generational use of the environment in specific areas. Patent collection of collective property can create problems in the local community, for who has more right to the collective knowledge than anyone else[?]. To protect ownership of the *árbediehtu* through national and international legislation is also associated with difficulties, because these legislative measures are adapted to other cultures. Therefore, it is important that ownership of *árbediehtu*, is granted to the Sami so that it can be respected as both a collective and individual knowledge as it actually is and as it has been.
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> *Árbediehtu. Árbbediehto/Aerpimaahtoe. Sametingets Policydokument för Traditional Knowledge*, pp. 4, 13 - 15, 17 – 18. *2010. The [Swedish] Saami Parliament's Policy Document for Traditional Knowledge.* Kiruna: Saami Parliament. [In Swedish, translated by Wheelersburg].

As indicated in Figure 2, Arctic Indigenous organizations are sophisticated in their understanding and use of IPR international laws and policies. Both Sami and Inuit organizations have created policies and procedures for using and protecting traditional knowledge, including who is authorized to produce and document it. Examples include the Swedish Sami Parliament's Policy Document on Traditional Knowledge (Jonsson, 2010; Utsi, 2007) and the Wildlife Management Advisory Council North Slope's reference guide for the conduct of indigenous knowledge research

(Armitage & Kilburn, 2015). While these publications are not legally binding, they represent important steps taken by Arctic Indigenous groups to protect the cultural values and behaviors necessary to retain their identities and their societies as viable entities in an increasingly crowded and multi-ethnic Arctic region.

Yet, these important steps also reveal problems associated with attempting to protect Indigenous knowledge from the perspective of the peoples who possess it. The ICC's document calls for the elimination of all trade barriers that prevent Inuit communities regardless of their location from having free access to markets. For example, CITES (Convention on International Trade in Endangered Species of Wild Flora and Fauna) forbids exporting Greenlandic *tupilaks* made with ivory – an Indigenous raw material used in their making, which ultimately limits the ability of the Pan-Inuit to sell traditional goods. Further, in addition to the U.S. Marine Mammal Protection Act, recent bans by various American states, along with an eventual international ban on ivory could prevent Inuit society from selling ivory handicrafts. The ICC resolution above also addresses misappropriation of Indigenous knowledge by businesses and other entities for exploitative purposes. Not restricted to material objects, the document includes in its concern for exploitation "dances, songs and folklore" by even Inuit-owned businesses. Perhaps more importantly, the Sami policy document states emphatically that Indigenous knowledge is owned by the entire society, not the property of individuals. As such, it cannot be capitalized on by anyone below the level of the society as a whole. Significantly, the Swedish Sami Parliament's policy rejects the use of non-Sami protective measures like patents and copyrights since that would give advantage to others within the society. Thus, a complicated issue of Arctic IPR becomes even more complex due to both external and internal dynamics of the Indigenous groups themselves.

Conclusion

Since explorers like Peary and Nanson began traveling to the Arctic, Westerners have collected traditional knowledge and transmitted it to the world freely without considering its ownership. That information transfer increased recently with the emphasis on TK as a primary topic for Arctic social science research and its funding. For example, during the International Polar Year (sic) beginning on March 1, 2007 and continuing until its conclusion on March 1, 2009, IPY's 228 projects spanning the range of academic disciplines brought more than 50,000 researchers from 60 different countries to the Arctic to be engaged in a globally launched, but community-based effort to engage local residents in their own research. Along the way those projects and researchers produced a massive database of Arctic TK (National Academy of Sciences, 2012). That database may contain information that can solve a myriad of problems from curing diseases to harvesting enough food to feed the planet to providing a world view that explains our place in the universe better than existing models. Such Indigenous TK could have obvious commercial importance, not to mention tremendous value for humans generally, and is deserving of IPR protection.

To help Indigenous peoples meet that goal, this paper examined examples of IPR protection within various Arctic groups and reviewed how they are and could be affected by current IPR regulations. In addition, global-level laws and regulations were summarized and applied to IPR protection for Indigenous peoples. Regardless of the current state of Arctic TK management, the authors recommend that Arctic Indigenous peoples be actively involved in shaping future IPR agreements and practices to safeguard their own cultural property at both the national and international levels.

As permanent participants to the Arctic Council, Indigenous organizations should encourage the formation of a working group to review the appropriateness of using existing IPR protections and to draft new ones that are perhaps more culturally appropriate. Northern residents who also possess TK but are not Indigenous (e.g., Icelanders) should also mobilize in a cooperative manner with local Indigenous groups to ensure appropriate IPR protection is a priority to preserve and sustain their own long-standing traditions.

Although known to each other for decades, the authors of this piece have not interacted previously on a scholarly level. The combination of a nearly four-decade Arctic anthropologist and a lawyer with one of the most widely used textbooks on IPR created a unique team to address the issue of TK protection for northern Indigenous people. At the same time, our difficulty with initial communication and understanding of each other's expertise revealed obstacles that Indigenous groups may have using global, national and even their own IPR protections. On one hand, the desire for Indigenous groups to retain and protect essentially communal property often clashes with their belief that no individuals own their culture's knowledge – a factor in using established IPR protection. On the other hand, with few exceptions, courts are run and staffed by lawyers who sometimes do not have experience with Indigenous beliefs and therefore cannot understand the reluctance of Arctic peoples to use existing laws and regulations for their own protection. With the long-term goal of retaining sufficient cultural integrity to survive in a rapidly changing region, Arctic Indigenous peoples must continue to develop culturally-appropriate mechanisms to retain the integrity of their TK. They also should ensure that some of their members have sufficient legal expertise to modify existing means, if necessary, and then use them to protect their IPR. It is our hope that by surveying existing IPR protections, peoples and groups who have yet to develop that legal expertise have a road map for determining which measures might work in their societies. In that way, Arctic Indigenous peoples may help the emerging global society to place the same emphasis on maintaining cultural variability in the north that has already been emphasized for biological diversity.

Notes

1. TK is used herein as an all-encompassing term to include both Traditional Knowledge and Indigenous Knowledge. In addition, for this paper the definition of IPR (intellectual property rights) for the most part refers to indigenous TK except in cases where policies and laws are described as global phenomena and therefore apply to non-Indigenous IPR.

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