universität wien

DISSERTATION / DOCTORAL THESIS

Titel der Dissertation / Title of the Doctoral Thesis

„Indigenizing the Internet: Socio-technical change, technology appropriation and digital practices in remote First Nation communities in Northwestern Ontario, Canada“

verfasst von / submitted by

Mag. Philipp Budka

angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of

Doktor der Philosophie (Dr. Phil.)

Wien, 2017

Studienkennzahl lt. Studienblatt / degree programme code as it appears on the student record sheet:	A 092 307
Dissertationsgebiet lt. Studienblatt / field of study as it appears on the student record sheet:	Dr.-Studium der Philosophie Kultur- und Sozialanthropologie
Betreut von / Supervisor:	Univ.-Prof. Dr. Elke Mader

ACKNOWLEDGMENTS

This dissertation would not have been possible without the support of my family, my friends, my colleagues, and of course the people of Northwestern Ontario I was able to work with. My thanks go out to all of them. In particular, I would like to thank Brian Beaton and the KO-KNET staff, Florence Woolner, Elke Mader, John Postill, Adam Fiser, Brian Walmark, Jesse Fiddler and family, Franz Seibel, Joshane Fiddler, Wawatay, Julia Rous, Franz Graf, and Rafael Budka. I would also like to thank the University of Vienna, the Keewaytinook Okimakanak Kuhkenah Network, and the German Foundation for Canadian Studies for their financial support.

TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION

There are many stories and myths about the role of digital media technologies in society and culture. One of those narratives centres around the political power of digital technologies, such as the internet and social media, to democratize societies and to erase racial, cultural, and ethnic inequalities. Besides the obvious technological determinism and oversimplification resonating with such assumptions, there is an increasing number of critical accounts and in-depth studies, which indicate that sociopolitical phenomena and digital technologies are connected in more complex, diverse, and context-related ways (e.g., Coleman, 2010; Postill, 2012, 2014; Tufekci, 2013). By discussing the case of an indigenous internet network/organization and one of its services, I am exploring how relationships between indigenous people and digital media technologies contribute to processes of sociopolitical an cultural change. Thus, this dissertation connects an ethnographic case study with questions about the sociopolitical relevance and consequences of digital media technologies. Even though, research investigated socio-technical change, technology appropriation, and digital practices from an anthropological perspective, it also had a strong historical dimension.[1] This is because I analyzed the rapidly changing "life" of and in a digital social environment over a period of more than six years. Long-term (ethnographic) research in digital media and technologies needs to consider the aspects of change and (historical) development to make sense of contemporary sociocultural practices and phenomena, "For perhaps the most direct means of demystifying the image of modernity that stands between us and the reality of our societies is to look back at history" (Sigaut, 1997, p. 452). While media technologies are changing fast, I suggest that there is no immanent need for constantly reinventing theoretical approaches and methodologies. There is a field-tested body of anthropological concepts and methods that can be utilized also in new digital fields.

To begin with, what does "to indigenize" or "indigenizing" mean? There are several definitions of "indigenize". The web-version of the *English Oxford Dictionary* defines "indigenize" as to "bring (something) under the control, dominance, or influence of indigenous or local people". *Merriam-Webster's* online dictionary describes the term as "to

[1] I am using the shorter term "anthropology" to refer to social and cultural anthropology as the anthropological study of culture and social life (e.g., Barnard & Spencer, 1998; Ingold, 1997; Rapport & Overing, 2000).

cause to have indigenous characteristics or personnel". And *Dictionary.com* defines "indigenize" in three ways: (a) "to make indigenous"; (b) " to increase local participation in or ownership of" and (c) "to adapt (beliefs, customs, etc.) to local ways". These general definitions already point in the direction this dissertation is going. This doctoral thesis is about the local appropriation of "the internet" and related technologies.[2] It tells (parts of) the story of the indigenous owned and controlled internet organization Keewaytinook Okimakanak Kuhkenah Network (KO-KNET), which was established to digitally connect remote First Nation communities in Northwestern Ontario, Canada. This internet network not only provides connectivity with the help of indigenous and non-indigenous partners, it has also developed various internet-related services for First Nation people. KO-KNET's homepage system MyKnet.org is explored and discussed by drawing on ethnographic fieldwork in Northwestern Ontario and in the online environment itself. But this text is not only about an indigenous internet organization and one of its services, it is actually about the people living in Northwestern Ontario and how they utilized the internet and other digital media technologies. How they integrated and appropriated this global technology in their everyday local lives. In short, this dissertation investigates how the internet was "indigenized" in Northwestern Ontario. In doing so, it adds to the argument that many everyday internet-related practices can only be fully understood by "localizing" the world's largest computer network (e.g., Miller & Slater, 2000, 2003; Postill, 2008, 2011).

How did Northwestern Ontario's First Nations manage to take control over specific aspects in the planing, creation, distribution, and uses of information and communication technologies (ICT), such as broadband internet? What are the consequences of these processes for the local communities? I suggest that taking "control" and "ownership" over a (global) technology facilitated the "self-determined participation" of remote First Nation communities in Northwestern Ontario to processes of national and international ICT connectivity. And this self-determined participation, on the other hand, contributed to the "digital de-marginalization" of these indigenous communities. Research focused on (a) the geographical, historical, and sociocultural contexts, (b) the socio-technical infrastructures and relationships, and (c) the digital practices and activities, related to the local everyday

[2] I am following here Woolgar (2002) who signals "our gradually increasing familiarity with 'the Internet' and its various ramifications" by its description as "the internet" (lower case) (p. 12). The same goes for terms like "the world wide web" or "the web".

appropriation of internet technologies. It intended thus to contribute not only to the understanding of what can be termed “digital indigenized modernity”, but also to an anthropologically informed understanding of being human in a digital world (Miller & Horst, 2012). The development and utilization of digital infrastructures and technologies in the geographical and sociocultural contexts of indigenous Northwestern Ontario are discussed. In doing so, it is analyzed how digital infrastructures not only connect First Nations people and communities but how they also enable relationships and partnerships between local communities and non-indigenous institutions. Digital practices in the homepage environment MyKnet.org are investigated to understand how people appropriate digital technologies for their specific sociocultural needs in a remote and isolated area.

KO-KNET was established by the Keewaytinook Okimakanak Tribal Council (KO), which was founded by the leaderships of six First Nations in Northwestern Ontario. It is one of the most sophisticated and successful programs of its kind and understands itself as example of “best practice” from which other indigenous communities, especially in developing regions of the world can learn (Ramirez et al., 2003). Over the years, KO-KNET has developed and provided different services, which all basically rely on the internet broadband network the organization started to construct around the year 2000. These services, such as videoconferencing, telehealth, and online learning, have become integral parts of people’s lives in the remote region of Northwestern Ontario. MyKnet.org can be understood as KO-KNET's most mundane service and was utilized by an impressive number of people to create their own homepages or to use these homepages as information and communication tools. How did First Nations people in Northwestern Ontario “made themselves a(t) home on the web”? (Budka et al., 2009; see also Miller & Slater, 2000, p. 1). And how did users embed a locally based and community-driven digital service into the global internet/web?

MyKnet.org, a loosely structured system of personal homepages, was set up to provide in particular young First Nations people of the KO tribal council with a commercial-free space on the web. It exclusively provides First Nations people in the remote communities in Northwestern Ontario and in neighbouring regions with possibilities to represent themselves, to network and communicate with friends and family as well as to share local information. What does an exclusively indigenous online environment mean to First Nation people in the

contexts of their everyday life? This online environment reflects the demographic and geographic profile of this huge and remote region. It is predominantly youth-based and was built around the communities' need to maintain social ties across great distances. Even though MyKnet.org still exists, it's user base decreased significantly over the last seven years. This was due to technical changes but also because of the rise of new social networking and social media platforms, such as Facebook. How was MyKnet.org experienced by its users? And how did this change through the rise of Facebook? The aspect of locality in MyKnet.org is of particular importance and can be explained by the environment's close connection to KO-NET's development as a regional indigenous computerization movement that has been aiming to bring internet broadband communications to remote First Nation communities. During its heydays, MyKnet.org was used to build and maintain family, friendship, and community relationships. And these relations were structured within and through the realities of the geographical location and the demographic make-up of First Nations in Northwestern Ontario. How did MyKnet.org as a community-developed and community-controlled digital service represent everyday life in the remote First Nations?

MyKnet.org can be conceptualized and understood as a "field of practices" that includes and connects several digital practices that are essential for being part of this social field (Schatzki, 2001, p. 2; see also Postill, 2010; Reckwitz, 2002). To be in and with MyKnet.org requires practices such as (a) producing personal homepages and their content, (b) communicating and networking through homepages, and (c) consuming the homepages' content. These broader digital practices consisted of various digital activities and were furthermore interconnected with practices like social networking, family bonding, or learning, which are again connected with each other and to a wider set of questions about culture, language, knowledge, politics, and power (Budka, 2015). The focus on practices holds the potential to contribute to the understanding of the key meta-questions of practice theory: "Why people do what they do?" and "How do they do those things in the way that they do?" (Warde, 2005, p. 140). To put it another way: a practice approach in digital media research allows for shifting the analytical focus from the use and consumption of digital media technologies to the practices which are integrating these technologies in everyday life (e.g., Christensen & Røpke, 2010).

Landzelius (2006b) argues that new communicative spaces of interaction and technologically mediated social relations pose new challenges to anthropological methodology and theory alike. For her, "anthropology's strongest contribution" to the study of digital media technologies is it's potential "to situate fieldwork at the culturally-constructed (and hence shifting) interface between offline and online" (p. 33). Connected to these challenges is the "renewed challenge to capture the dynamics of 'native' (i.e. 'local') identities". Therefore, the meta-question that also guided this dissertation project is: "Can (digital) technologies be indigenized?" (p. 33). And if so, what are the specifics of indigenized technologies? What are possible limitations, constraints, contexts, and conditions that have to be considered in processes of indigenizing technologies, such as the internet? These questions are further related to questions about individual and collective identity construction, culture and cultural representation as well as community and other forms of sociality.[3]

Identity, Globalization and Media

Working with indigenous people, particularly as an anthropologists, raises questions about (cultural) diversity, variability, and variations; otherness and difference; identity, alterity, and essentialism; as well as approaches to culture and the cultural. Barth (1994), for instance, states that (sociocultural) anthropology should be used for exploring diversity and alternatives in the world. He argues that the perspective of relativity in anthropology, that is to acknowledge the diversity and difference of ways of life, "has been nearly lost in the polarization of 'we' and 'they'" due to the rhetoric of reflexivity that positions the ethnographer "in relation to 'the' other" in egocentric manners (Barth, 1994, p. 351). The "organization of diversity" constitutes moreover complex society (Hannerz, 1998, p. 124). Keesing (1994), on the other hand, identifies "radical alterity", that is "a culturally constructed Other radically different from Us", in connection with conceptualizations of culture that reflect anthropology's "interests in characterizing exotic otherness" as one of the discipline's most pressing problems (p. 301). He argues that "radical alterity" builds on "extreme relativism and cultural constructivism" which tend to overstate cultural diversity

[3] During the course of the dissertation project, I continuously published and presented research, also in cooperation with colleagues (e.g., Bell, Budka, & Fiser, 2012; Budka, 2008, 2009, 2012, 2015; Budka & Fiser, 2010; Budka & Mader, 2009; Budka, Bell, & Fiser, 2009; Molyneaux et al., 2014).

while downplaying ethnographic evidence (p. 305). This culturally constructed "other", radically different from "us", does not exist, according to him. However, to avoid essentializing conceptualizations of the sociocultural world, Barth (1994) suggests, and I agree, to start with the particular and to observe "relations over time, and in their variety" (p. 352). He states that more of anthropology's "attention should be given to the contexts of the particulars, their embeddedness and linkages" in the "search for connections and systems" (p. 352; see also Bateson, 1972/2000; Kottak & Colson, 1994; Vayda, 1994).

The world's indigenous people(s) connect, network, and collaborate across local, regional, and national boundaries. They come together, for instance, during international United Nations meetings, sharing their histories and experiences of local oppression and marginalization. "Indigeneity", as a sociopolitical concept and process of identity formation can only be produced through the consideration of the non-indigenous other (de la Cadena & Starn, 2007, p. 4). This relationship, however, is far from even, because "being indigenous" is "one side of a relationship, the side which has been dispossessed" (Kenrick & Lewis, 2004, p. 263). As a "worldwide field of governance, subjectivities, and knowledges" that involves indigenous and non-indigenous agents, indigeneity can be understood as a wider category as indigenism (De la Cadena & Starn, 2007, p. 12). Globalization and connected phenomena and processes, such as the global distribution of media and technologies and the transnational networking of indigenous peoples, are closely related to what has been termed "modernity" (e.g., Appadurai, 1996, Featherstone, Lash, & Robertson, 1995).

Modernity, according to Giddens (1991), generally refers to institutions and modes of behaviour in post-feudal Europa that have become globalized in the 20th century. It is thus "essentially a post-traditional order" (p. 20). While Giddens (1991) emphasizes the importance of global processes in connection with self-identity for understanding modernity, his body of thought is dominated by a Eurocentric *Weltanschauung*. Ideas and imaginations of European individualism define and dominate what modernity is, how it evolved, and who is modern and who is not. This stands for an ideological bias that anthropology has been trying to overcome. Anthropology has been concerned with the ethnographic study of modernity as a "condition of the world" (Spencer, 1998, p. 378). This is being done within different fields of anthropology such as the anthropology of media (e.g., Ginsburg, Abu-

Lughod, & Larkin, 2002a), the anthropology of consumption (e.g., Miller, 1987), or the anthropology of globalization (e.g., Inda & Rosaldo, 2002a). Spencer (1998), by referring to Latour's (1993) argument that modernity is based on sets of "impossible intellectual distinctions", argues that "an anthropology of modernity would employ ethnographic holism to dissolve the illusions that convince us that 'we' are modern, unprecedented but objective observers of other people's cultural worlds" (p. 379).[4] While there might be no agreement on the meaning and the consequences of modernity, this phenomenon is undoubtedly related to processes of globalization.

Inda and Rosaldo (2002b) argue that the term "globalization" refers to the "intensification of global interconnectedness, suggesting a world full of movement and mixture, contact and linkage, and persistent cultural interaction and exchange" (p. 2). The mobility of people, goods, capital, images, ideas, and their interconnections are characteristics of this globalized world. In this interconnected world in motion we experience an increasing compression of "our sense of time and space" (p. 4). Global interconnections of people and goods already date back to colonial times (e.g., Wolf, 1982/1997). Globalization is therefore not something completely new. What has changed over the centuries is that many people are now aware of the fact that they actually live in a globalized world (e.g., Inda & Rosaldo, 2002a). Modern communication media are contributing extensively to the compression of time and space, for instance through live broadcasting and online communication. Giddens (1990), for instance, argues that through new communication and transportation technologies people are able to stretch their social life from local face-to-face interactions to remote global encounters. "Modern localities, then, are settings for distanciated relations – for relations at a distance, stretching out time and space" (Inda & Rosaldo, 2002b, p. 8). The local and the global are thus entangled fields (e.g., Appadurai, 1996; Robertson, 1992, 1995).

Appadurai (1996) identifies five (cultural) dimensions of globalization to explore the "disjunctures between economy, culture, and politics" (p. 33-35). He develops the concept of "(land)scapes" to understand the "global cultural flows" of people, media technologies, capital, and ideas: (a) "ethnoscapes", (b) "mediascapes", (c) "technoscapes", (d) "financescapes", and (e) "ideoscapes" (p. 33). The "scape" suffix indicates the fluid and

[4] For discussions about an "anthropology of the contemporary" see Rabinow (2008) and Rabinow and Marcus (2008).

irregular shapes of these landscapes that "are the building blocks" of "imagined worlds"; "worlds that are constituted by the historically situated imaginations of persons and groups spread around the globe" (p. 33). "Technoscapes" mean "the global configuration, also ever fluid, of technology and the fact that technology, both high and low, both mechanical and informational, now moves at high speed across various kinds of previously impervious boundaries" (p. 34). Technologies cross, on a global scale, nation state boundaries forming technoscapes that depend on factors such as migration, financial flows, and political and economic situations. "Mediascapes" refer to the imaginations and images which are created and distributed by mass media and are therefore related to "ideoscapes". On the other hand, this dimension of globalization includes "the distribution of the electronic capabilities to produce and disseminate information . . . , which are now available to a growing number of private and public interests throughout the world, and to the images of the world created by these media" (p. 35). Thus, mediascapes provide a large, mixed repertoire of images and narratives to worldwide audiences. And particularly digital media technologies have been creating "new possibilities for transnational forms of communication, often bypassing the intermediate surveillance of the nation state and of major media conglomerates", as exemplified in the following chapters (p. 194; see also Ginsburg, Abu-Lughod, & Larkin 2002a, Landzelius, 2006a).

This chapter introduced the subject of this dissertation, the research questions, and the theoretical framework. Chapter 2 discusses the methodological aspects of research by focusing on ethnographic fieldwork, ethnographic engagements with digital media technologies, and research with indigenous people. Chapter 3 reviews definitions, politics, and research related to indigenous peoples. Media and digital anthropology, their historical background and their relevance, is the topic of chapter 4. This is followed by a critical discussion of indigenous media in the global and the local context in chapter 5. The indigenous engagements with digital media technologies is presented in chapter 6. While chapter 7 is introducing the internet organization KO-KNET, chapter 8 concentrates on the ethnographic case study MyKnet.org by analyzing its history and development, the aspects of digital socialities and practices, two online surveys as well as processes of technology appropriation. The final chapter draws conclusions by emphasizing the main points of this dissertation.

METHODOLOGY: FIELDWORK, DIGITAL MEDIA AND ETHNOGRAPHY

For my first field trip to Northwestern Ontario in 2006, I decided not to fly but to take the train from Toronto to Sioux Lookout, Northwestern Ontario's transportation hub. This ride with "The Canadian", which connects Toronto and Vancouver, took about 26 hours and demonstrated very vividly the vastness of Ontario. I could not believe that I had spent more than an entire day on a train without even leaving the province. Finally, I arrived at Sioux Lookout, where I would be working with the Keewaytinook Okimakanak Kuhkenah Network (KO-KNET), one of the world's leading indigenous internet organizations. I learned about KO-KNET and its work with remote First Nations by participating to the "Kuh-ke-nah International Indigenous SMART Communities Gathering" in March 2004 (http://smart.knet.ca/international/).[5] Shortly after this meeting, which was part of KO-KNET's Smart Communities project and which was organized via an online conference system, I decided that KO-KNET would make a perfect case for my dissertation project on indigenous engagements with digital media technologies. Two years later, I was actually standing in Sioux Lookout in the very same office where the online conference was organized.

After my first day at the office, KO-KNET's coordinator wanted to show me something. We jumped in his car and drove to the outskirts of the town where he stopped in front of a big satellite dish. Only through this dish, he explained, the remote First Nation communities in the North can be connected to the internet. I was pretty impressed, but had no idea how this should really work. While the satellite dish was physically visible to me, the underlying infrastructure of interconnected, digital information, and communication systems was not. In the weeks and months to follow, I learned about the technical aspects of internet networks and broadband connectivity, about hubs, switches, and cables, about towers, points of presence, and loops. And I found out that internet via satellite might look impressive, but is actually the last resort and a very expensive way to establish and maintain internet connectivity for remote and isolated communities.

Between 2006 and 2008, I did six months of ethnographic fieldwork in Northwestern

[5] For details about this online gathering which aimed at sharing indigenous experiences with ICT, see Keewaytinook Okimakanak Kuhkenah Network (2004).

Ontario to explore how indigenous people had been appropriating and utilizing digital media technologies. While working with the First Nations internet organization KO-KNET, I became particularly interested in one of its most popular services and people's engagement with it: the homepage environment MyKnet.org (http://myknet.org/). So I travelled to 12 different First Nation communities to talk to MyKnet.org users, ICT technicians, politicians, teachers and students as well as health and social workers. Besides having informal conversations, I recorded 96 unstructured and partially structured interviews (some only a few minutes, others several hours, including multiple interviews with one person).[6] I also conducted participant observation in homes, local offices, public internet places (till 2012 in MyKnet.org), and analyzed the content of documents, websites, and visual material. In addition, I carried out two online surveys to explore MyKnet.org's sociocultural significance. The first survey was conducted in 2007 (N=1,246) and focused on the utilization of the online environment MyKnet.org (Budka, 2008). The second online survey was conducted in 2011 (N=117) again aiming to investigate the use of MyKnet.org, but this time in relation and comparison to the social networking site Facebook (Budka, 2012; Budka, 2015; Molyneaux et al., 2014). The ethnographic research for this project was supported by the University of Vienna's Research Scholarship and a grant for Academic Research Abroad as well as the German Foundation for Canadian Studies and the Keewaytinook Okimakanak Tribal Council / KO-KNET.

[6] The names of interview partners are generally anonymized, unless name and job position contribute substantially to the confirmation of a statement.

Table 1

Fieldwork, Interviews, and Community Visits, 2006-2008

Fieldwork Period	Recorded Interviews	First Nation Visits	Remote/Fly-In Communities
July-Aug. 2006	21 (1 video conference)	Fort William	
		Lac Seul	
July-Sept. 2007	49	Bearskin Lake	X
		Deer Lake	X
		Kingfisher Lake	X
		Mishkeegogamang	
		Koocheeching	X
		Sandy Lake	X
		Wawakapewin	X
		Wunnumin	X
Feb. 2008	26	Fort Severn	X
		Keewaywin	X
		Lac Seul	
		Sandy Lake	X
6 Months	96	14 (2 revisits)	10 (1 revisit)

My first field trip to Canada in June and July 2006 began with a stay in Toronto where I conducted literature research at university libraries and interviews with experts on First Nations and (digital) media. These experts were identified by myself and with the help of KO-KNET's coordinator Brian Beaton and Adam Fiser, a PhD candidate at the University of Toronto and a member of the Canadian Research Alliance For Community Innovation And Networking (CRACIN) and who was working with KO-KNET. In one those expert interviews, I was told by an indigenous anthropologist that "TV has done a lot of damage" to Aboriginal communities in Canada and that (community) radio is a much better medium to strengthen indigenous language and culture. While in Toronto, I also attended the "Gii-Kaan-Dann – Ontario First Nations Telehealth Conference" which was organized by the Keewaytinook Okimakanak Research Institute (KORI) with the support of local researchers like Fiser. In Sioux Lookout I recorded interviews with KO-KNET staff members and participated in meetings and workshops. I also had a chance to talk to Dan Pellerin, who,

conceptualized and – together with Brian Beaton and Jesse Fiddler – developed MyKnet.org. Moreover, I had my first conversations with MyKnet.org users while visiting the First Nation Sandy Lake with Lorraine Kenny. For these informal interviews, which were not recorded, I used a simple questionnaire to cover some of the basic aspect of MyKnet.org usage such as motivations for use and usage practices. I also talked to a long-time MyKnet.org user in his home community via video conference. While MyKnet.org users were generally identified through snowball sampling, "early adopters or innovators" and "second generation" homepage producers were mainly pointed out to me by KO-KNET staff and MyKnet.org developers. For a better understanding of indigenous media (initiatives) and their history in Northern Ontario, I conducted interviews and informal conversations with Wawatay News' publisher and editor Bryan Phelan as well as Florence Woolner and Garnet Angeconeb, who initiated and supported First Nations media projects for decades. In Thunder Bay, I interviewed KORI's coordinator Brian Walmark. Furthermore, I visited Fort William First Nation and interviewed two KORI interns from this community about their MyKnet.org experience.

My fieldwork in 2007 started again with a visit to Toronto to interview and meet with experts. I also participated to a telephone conference with KO-KNET and partners to talk about an upcoming project. Then, I travelled to Montreal to participate to the last CRACIN workshop where Adam Fiser, Brandi Bell, and I were presented first research results on MyKnet.org (see Budka et al., 2009). In Sioux Lookout, I continued my work with KO-KNET and on MyKnet.org. Thanks to KO-KNET and Florence Woolner, I was able to visit this time seven of the remote fly-in First Nation communities in Northwestern Ontario: Bearskin Lake First Nation, Deer Lake First Nation, Kingfisher Lake First Nation, Koocheeching First Nation, Sandy Lake First Nation, Wawakapewin First Nation, and Wunnumin First Nation. To visit and stay in a remote First Nation community, it is necessary to inform the local Chief and Council, usually with an e-mail to the band office, about the purpose of the visit. I also had the chance to accompany Tina Kakapeetum of KO's health department to Mishkeegogamang First Nation, which can be reached by car, to participate to a telemedicine workshop. Again, I did interviews with KO-KNET staff and Wawatay representatives in Sioux Lookout and with MyKnet.org users in the First Nations whom I identified mainly through snowball sampling. In the remote communities, I also

talked to "local experts" in the fields of digital technologies, media, youth, and education: technicians, social workers, cultural coordinators, e-centre managers, telehealth coordinators, media managers, band office employees, and teachers. And I spent long hours in public internet-access places like internet cafes and e-centres.[7] Moreover, I organized a workshop via video conference with KO-KNET and KORI staff to develop and evaluate the questionnaire for my first online survey. I also took a trip to Balmertown and Red Lake to talk to representatives of the KO Tribal Council, KO Telemedicin/Telehealth, and the Keewaytinook Internet High School (KIHS). At the end of fieldwork, I stopped in Thunder Bay to meet with KORI staff.

My final field trip to Canada was in early 2008. After my usual stay in Toronto, I travelled north to Sioux Lookout where I met with my research partners at KO-KNET and Florence Woolner. I revisited Lac Seul First Nation and the remote Sandy Lake First Nation from where I travelled further to Keewaywin First Nation, which can be reached from Sandy Lake by car over the winter road. Travelling during winter time in Northwestern Ontario is much easier than in summer. A system of roads over frozen rivers and lakes connects the remote communities, allowing people to become much more mobile. To visit Fort Severn First Nation, which is the most northern of the remote First Nation communities in Ontario, I still had to take the plane. Back in Sioux Lookout, I visited Pelican Falls First Nation High School and Queen Elizabeth High School to talk with teachers, educational councillors and coordinators, and of course with students about MyKnet.org and digital media technologies in the educational context. At the end of this trip, I visited the KORI people in Thunder Bay.

Besides conducting interviews and informal conversations, I took field notes and pictures, and I documented events, meetings, and workshops. I used a blog to document my research (http://www.philbu.net/blog/) and KO-KNET provided me with a "meeting place" in their Moodle learning environment to share results and to communicate with research partners (http://meeting.knet.ca/mp19/course/view.php?id=7). In between and after fieldwork in Northwestern Ontario, I continued to observe, document, and follow MyKnet.org users, their online presences and digital practices; also beyond MyKnet.org into new digital

[7] E-centres are local public-access facilities, usually housed in or near a community band office or school, that provide computers and internet access free of charge to residents and visitors. E-centres were also used for relevant workshops and classes of the Keewaytinook Internet High School (KIHS).

environments such as commercial social networking sites and social media platform. My research methodology can therefore best be understood with Wulff's (2002) notion of "yo-yo fieldwork": repetitive visits in the field were supplemented by the intensive use of digital communication tools, such as e-mail, online conferences, or simply visits of online presences (see also Marcus & Okely, 2007). In 2011, and because of the rise of Facebook as the world's dominant social networking site, I created and conducted a follow-up online survey to find out more about Facebook's relevance in relation to MyKnet.org.

Moreover, my research was supplemented with empirical data collected in smaller joint research projects in which I was either directly involved (Bell et al., 2012; Budka et al., 2009) or participated only marginally (Molyneaux et al., 2014). For the project with Adam Fiser and Brandi Bell about the development, uses, and meanings of MyKnet.org, I was directly involved in ten interviews completed by online conference and ten online encounters with users via email (Bell et al., 2012; Budka et al., 2009). The sample was made up of "key informants" who possess an emic understanding of KO-KNET and MyKnet.org and its embeddedness in the context of Northwestern Ontario First Nations life. This helped us to understand MyKnet.org's relevance in comparison to and in the context of other regional community media initiatives such as community radio.

During the complete duration of my dissertation project, e-mail correspondence, website content, online conferences, and online documents were systematically collected and stored. Following a grounded theory approach, all the collected data – field notes, interview transcripts, context information, e-mails, as well as visual material – was then analyzed with the support of the software package ATLAS.ti (e.g., Glaser, 1992; Lewins & Silver, 2007; Strauss, 1987). This approach builds on the inductive coding of qualitative data to "prevent existing theoretical concepts from over-defining the analysis and obscuring the possibility of identifying and developing new concepts and theories" (Lewins & Silver, p. 84). In other words, the empirical data should speak for itself. According to Lewins and Silver (2007), coding in qualitative data analysis can generally be understood as "the process by which segments of data are identified as relating to, or being an example of, a more general idea, instance, theme, or category" (p. 81).[8]

[8] For details on coding in grounded theory see, for example, Strauss and Corbin (1998); for more details on coding and working with ATLAS.ti see, for instance, Lewins and Silver (2007).

Ethnographic Engagements With Digital Media Technologies

How to conduct research in digital, online, or virtual environments has been an issue of considerable debate (e.g., Boellstorff, 2008; Hine, 2000, 2005; Lyman & Wakeford, 1999; Lysloff, 2003; Pink et al., 2016; Whitehead, 2010). The internet and digital media technologies have been becoming part of every day life. How people engage with these technologies has thus to be studied and analyzed by the social sciences. In doing so, traditional methods and methodological techniques, such as interviewing, participant observation, content analysis, and so forth, can still be utilized. On the other hand, new social environments, such as online social networks, digital platforms, and social media, need also to be examined by new methods and tools (e.g., Rogers, 2015). This can be accomplished, for instance, through hyperlink and online issue mapping, social media visualizations, or digital content archiving. A methodological pluralism seems therefore to be the most efficient and promising way to understand internet media technologies as expanding fields of research for the social sciences (e.g., Lyman & Wakeford, 1999). I suggest further that an ethnographic approach to (digital) media technologies is not only capable of including different methods and methodological tools, it is also providing possible solutions to some of the problems that have been troubling media and internet research for quite some time.

During my ethnographic fieldwork in Sioux Lookout, I began to systematically investigate the online environment MyKnet.org. First, I randomly browsed through the homepages, I used the lists of the "most popular homepages" and "recently updated homepages" to identify particularly active users. In addition, I used the MyKnet.org search engine to look for pages that cover specific issues and topics that I was able to identify in my interviews, such as music, cultural events, or the sharing of homepage layouts. I began to download and archive complete websites and their content, such as images, graphics, or texts. After each interview with a MyKnet.org user, I visited his or her homepage to archive and store the page for future content analysis. When I knew the name of an interview partner before the meeting, I looked at the respective homepage and referred to it during the interview. I repetitively talked with some research partners, particularly with my "key informants", and I

also followed and documented their changing online presences over an extended period of time. To experience the complete process of producing a MyKnet.org homepage, I set up a simple homepage myself. I thus became part of this online environment which helped a lot in promoting the first online survey for example. Ethical dilemmas were mitigated by the fact that MyKnet.org homepages were and still are already in the public domain, and that there was sufficient reason to believe that they were voluntarily posted there. I never considered my online fieldwork in MyKnet.org as separated from offline fieldwork in remote communities and with research partners. I rather understand MyKnet.org as just an additional sociocultural field that needs to be integrated in what can be termed "digital ethnography".

Ethnography, as Sanjek (1998) notes, "may profitably be envisioned as one point of an anthropological triangle" (p. 193). Comparison and contextualization are the two other points of this triangle, which defines "the operational system by which anthropologists acquire and use ethnographic data in writing ethnographies" (p. 193). In anthropology, ethnography refers to the research process during which empirical data – usually to describe sociocultural phenomena – is collected in the field and analyzed. This process not only has a methodological aspect in deploying different research techniques, such as participant observation or interviews, but also a theoretical one, as theories and theoretical concepts shape ethnography (e.g., Sanjek, 1998). In recognizing ethnography's processual character, different aspects come into play:

- Considering the historical context within which "the cultural" is (re)constructed and generated leads to the rejection of the illusion of cultural entities as monolithic and static cultural units or cultures (Hastrup & Olwig, 1997, p. 9).
- "Local culture" is not necessarily constructed and defined by "the locals", but in relation, under the influence, and sometimes in opposition to centres of power and their representatives.
- As cultural producers, people are not only aware of specific political and economic conditions, they sometimes intend to challenge those through activist practices (e.g., Coleman, 2010; Ginsburg et al., 2002b).
- Research partners' reflexivity in respect to the representation of their culture and cultural practices has become an eminent issue in ethnographic research.

Ingold (2014) argues that ethnography has become such an overused term that it has lost much of its meaning. He identifies a conflation of ethnography with fieldwork and therefore pleads for a return to and the strengthening of participant observation as the "way of working" in anthropology (Ingold 2014, p. 386-387). Seeing no connection between ethnography and theory, he concludes that dropping both would result "in an undivided, interstitial field of *anthropology*" (p. 393). As "philosophy with people in", such an anthropology would turn ethnography into an "educational correspondence of real life" and theory into an "imagination nourished by its observational engagements with the world" (p. 393). In doing so, Ingold neglects the interdisciplinary value and practice of ethnography as a way of knowing. Research fields and areas not centring in a specific discipline, such as internet research, but which are also interested in understanding sociocultural phenomena and processes have not only made extensive use of ethnography – mainly as methodological approach and sometimes in a questionable manner – they also contributed decisively to the development of contemporary ethnography.

With Nader (2011), I argue that understanding ethnography (also) as theory can be quite beneficial, particularly for interdisciplinary fields such as media and digital anthropology and media and internet studies in general. By discussing the role of ethnography in the understanding of "ubiquitous computing", Dourish and Bell (2011) stress that ethnographic research cannot be reduced to "a toolbox of methods for extracting data from settings" (p. 68). Such a view, they argue, just marginalizes the theoretical and analytical characteristics of ethnographic studies. Indeed, ethnography is producing "conceptual claims" and "analytical statements" about "relationships of observations", including research partners' experiences in relation to the ethnographer (p. 68). Nader (2011) simply defines theory as an analysis of facts in relation to one another. Ethnography, she explains, is not only a description in context, but a theoretical endeavour of describing (sociocultural) facts. Therefore, ethnography can be also understood as "a theory of description" (p. 211). This conceptualization of ethnography as theory includes several important aspects:

- Cultures are interconnected, not isolated or fragmented, and therefore should be studied as whole systems. This idea of holism has its limitations and should rather be understood as a target to aim for.

- Participant observation as “a practice in defamiliarization” and the “key operational phrase” in ethnography has been constantly combined with shifting theoretical frameworks (Nader, 2011, pp. 212-213). This implies that ethnography – as research practice or approach – has always been open to innovation and change.
- The relationship between ethnographer/theory/science and informant/knowledge/life-worlds, between “us” and “them” has been continuously reflected upon in ethnography. This contributes to the rejection of simplifying dichotomies as well as to the understanding of cultural constraints of both researcher and research partner.
- The world is changing and so are people. Processes of globalization and technological developments have affected all cultures and societies and have been increasingly changing relationships between ethnographer, people, localities, fields, and technologies.

Ethnography is closely related to “context” which can be understood as “an aid to interpretation” (Strathern, 2002, p. 302). As for instance Strathern (2002) points out, “contexts are regarded as piling one layer of understanding, which should thus become deeper, richer; one tool of this deepening process is research through ethnography” (pp. 302-303). Referring to Schlecker and Hirsch's (2001, p. 76) discussion of the “crisis of context” in ethnographic research in media and cultural studies as well as science and technology studies, Strathern (2002) underlines their argument that contexts, while generating new data, at the same time “point to yet more possibilities for contextualization” (p. 303). But more contextualization, Schlecker and Hirsch (2001) conclude, does not necessarily equal more knowledge. The multiplication of contexts, the problem of too many contexts, contributes rather to an increase of complexity. This is somehow ironic because according to Schlecker and Hirsch (2001), ethnography's growing popularity in media and technology studies is a response to the problem of increasing complexity in these fields of research. The underlying problem here, Strathern (2002) argues, is to understand context as being including or encompassing. With Schlecker and Hirsch (2001), she proposes to understand and adopt ethnography in an inclusive rather than an exclusive manner. Like people's behaviour in society, Strathern (2002) states further, ethnography tolerates disconnections and loose ends. Ethnography “throws up the unplanned, the counter-intuitive, the unpredictable” (p. 309). And this is done by ethnography's ability to detect “people's activities and narratives as *they*

cross domains" and by that unpacking "the heterogeneous social worlds people pile up for themselves" (p. 309). Instead of analyzing differences or similarities between contexts, an intensive mode of ethnography tracks people while traversing contexts.

In times of increasing movement of people, ideas, images, objects, and technologies, the ethnographic research field is not primarily defined in terms of localities, but through the social relations developed within an ethnographic study (Hastrup & Olwig, 1997; see also Appadurai, 1996). Thus, ethnographers follow their research partners as they, for instance, migrate to urban centres and other countries or as they move their online profiles from one social networking site or digital platform to another. Marcus (1998, p. 79) coined the term "multi-sited ethnography" to examine contemporary phenomena in an increasingly globalized world in motion. Ethnographies have a processual character. And since contemporary anthropology and ethnography are usually more interested in cultural (re)constructions rather than in cultural entities or units – often connected to the illusion of monolithic and temporarily static cultures – "studying the historical context within which they have been generated will help us to understand their significance today" (Hastrup & Olwig, 1997, p. 9).

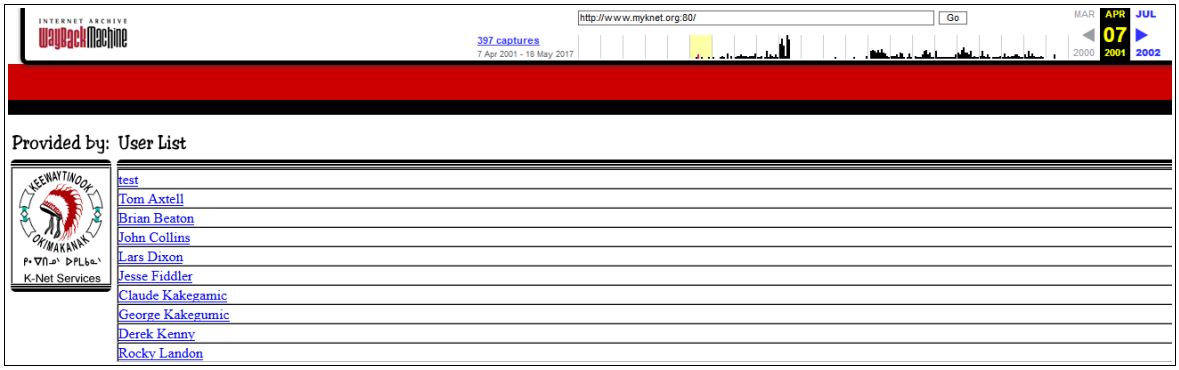
This means that to understand everyday internet practices in Northwestern Ontario, for instance, it is not only necessary to consider sociocultural settings and geographical conditions, but also the historical development of pre-digital communication media, such as community radio, that already established deep roots in this remote region long before the internet (e.g., Budka, 2009, Budka, et al., 2009). During fieldwork many people told me stories about their first MyKnet.org websites in the early 2000s and how they changed over time. People very vividly described how their homepages were designed and structured and to which other sites they were linked. To deepen my interpretation and understanding of these stories, I utilized the Internet Archive (https://archive.org/) and its Wayback Machine (https://web.archive.org/) to recover archived versions of these old, inactive websites. Thus, the Waybeback Machine became an important archaeological tool for me and my research into the history of MyKnet.org and its websites.[9] Such an approach focuses not only on the

[9] Murphy, Hashim, and O'Connor (2007) conclude in their validation of the Wayback Machine that it is a "viable research tool" for "taking a historical perspective" that "should lead to a better understanding of website evolutions" (p. 71).

stories told by people but also on the digital artifacts – such as multimedia components of websites – created by people and has therefore been described as "cyber-archaeology" (e.g., Jones, 1997; Harrison, 2009). These digital artifacts are also cultural artifacts through which a digital/virtual/online sociality and its historical development can be studied. Moreover, a study in digital cultural artifacts is also a study of "virtual heritage" that is "the production of a sense of community through memorials which produce a sense of 'rootedness' and materialize social memory" (Harrison, 2009, p. 95).

Figure 1

MyKnet.org Website in the Wayback Machine



Note: Screenshot of the MyKnet.org Website, 7 April 2001, as archived by the Wayback Machine.

The methodological strategy of ethnographic fieldwork adapts to the field as well as to the sociocultural practices of humans (e.g., Kremser, 1998; Marcus, 1998). It is thus not necessarily limited to a field locality, but is, for example, able to adapt to people's performative practices and spaces that are socially generated. The ethnography of media, therefore, can not limit itself to the reception of media content. Ginsburg et al. (2002) define the "ethnography of media" as a "category of media studies" that decentres "the textual content of media technologies in favor of analyzing the social context of their reception" (p. 19). According to them, it is further necessary to extend this definition "by taking into consideration the physical and sensory properties of the technologies themselves and examining the materiality of communication across cultures" (p. 19). This conceptualization of media ethnography draws from two basic principles that derive from media and communication studies as well as science and technology studies. First, to map and examine

media practices across different social spaces it is necessary to concentrate on the physical qualities of media rather than on their content (e.g., Larkin, 2002). This means to understand and conceptualize media also as technologies. Secondly, media technologies impose, through their very form, new relations to the human body, to time, space, and perception. Media technologies are thus not neutral and their materiality subject to ethnographic investigation. Ginsberg et al. (2002b) conclude that media ethnography needs to consider "the phenomenological experience of diverse forms of media technologies" (p. 21). Moreover, Peterson (2003) argues that media ethnography involves a "thick contextual mode of detailed description" that aims to capture everyday life as accurate as possible and in its whole complexity and which situates the ethnographer in people's daily lives (p. 8). (Media) ethnography is thus a very intimate way of knowledge production that situates the researcher in people's private and professional lives.

Ethnography as methodological approach to collect and analyze empirical data has been applied in studies of digital media technologies, such as the internet, for quite some time (e.g., Baym 2000; Boellstorff 2008; Boellstorff, Nardi, Pearce & Taylor, 2012; Hakken 1999; Hine 2000, 2005; Horst & Miller, 2012; Markham, 2005; Miller & Slater 2000; Pink, et al. 2016; Whitehead & Wesch 2012). In these studies ethnographic approaches are utilized to describe and investigate human behaviour and sociocultural practices related to "the digital". Behaviour and practices connect further to rules, norms, power relations, communicative figurations, constructions of socialities, and individual and collective identity formations. As an ethnographic project, digital ethnography is particularly interested in social and cultural phenomena related to digital media technologies. There are, of course, different approaches to the ethnographic examination of digital life worlds that are created particularly in and through the internet. Whereas anthropology and ethnography joined the study of online phenomena and digital technologies with some few exceptions relatively late and sometimes hesitant, communication and media studies, sociology, linguistics and psychology were already investigating these new phenomena (e.g., Silver, 2004; Wellman, 2004). One anthropological and ethnographic research concept that has been trying to define the sociocultural characteristics of digital media technologies and their relevance to society is the concept of "cyberculture" which was discussed by Escobar in 1994. Within an "anthropology of cyberculture", Escobar (1994) proposes different domains for ethnographic

research: (a) fields where new technologies are produced, used, and consumed; (b) online networks and communities with their own code of conduct and language; (c) "the political economy of cyberculture" in which the relationship between information and capital should be investigated (p. 220).

That "cyberspace" has been understood in anthropology as an essentially social space, created and kept alive by human beings and their interactions is in stark contrast to, particular earlier, work that used to understand cyberspace as just another locality inhabited by human beings (e.g., Rheingold, 1993/2000). Understanding cyberspace as socially constructed, moreover, helps to deconstruct dichotomies like offline/online and real/virtual (e.g., Boellstorff, 2008 ; Bräuchler, 2013). As research indicates, there is usually a tied connection between offline and online practices and processes (e.g., Baym, 2010, Woolgar, 2002). Thus, online and offline life is not to be separated; because together it constitutes life in a world of digital mediation. This, however, does not mean that online life-worlds or virtual worlds cannot be studied ethnographically on their own terms and by their own contexts (e.g., Boellstorff, 2008, Lysloff, 2003). In a review of ethnographic studies on digital media, Coleman (2010) divides the corpus of studies into three categories (p. 2):

- The relationship between digital media and the cultural politics of media, studies about sociocultural identity construction and forms of (cultural) representation.
- Inquiries into the "vernacular" cultures of digital media, for example the free software movement and digital activism.
- Studies about the "prosaics" of digital media, how they are related to other social practices of piracy, journalism, or religion.

She concludes that "despite the massive amount of data and new forms of visibility shored up by computational media, many of these worlds remain veiled, cloaked, and difficult to decipher" (p. 12). Long-term ethnographic fieldwork is therefore necessary and well suited to unveil practices of everyday digital life. In addition, Axel (2006) calls for critical anthropological projects to study the human as communicating subject by opening "traditional" ethnographic inquiries beyond the fetishized mode of face-to-face communication. Such a project was conducted by Boellstorff (2008) who argues that virtual worlds are as real as actual worlds and that they should be ethnographically investigated on

their own terms.

Ethnographic Research With First Nations

An important issue that has to be considered in any ethnographic research is what Hastrup and Olwig (1997) call “uneven encounters” (p. 9). This basically means that “local culture” is not necessarily constructed and defined by “the locals”, but in relation, under the influence, and sometimes in opposition to centres of power, such as cities, and their representatives. Locality and local culture in the remote region of Northwestern Ontario, for instance, is frequently being imagined, constructed, and negotiated in opposition to the province's urban South and its image. Furthermore, research partners' reflexivity in respect to the representation of “local culture” has become an eminent issue in ethnographic research. Cultural products, such as books, music, films, or websites are created by local people who are not only aware of local, national, and global political and economic conditions, but also intend to challenge those. In the context of indigenous media production this means that indigenous people sometimes strategically objectify their culture and mediate it in an essentialist and essentializing manner to make their voices heard (e.g., Ginsburg, 2002a; Ginsburg et al., 2002b).

The representation of “the other” is central to processes of decolonization and therefore anthropology and post-colonial theory (e.g., Minh-ha, 1989; Spivak, 1988). This complex issue raises and reopens important questions concerning the relations and frictions of science and art, documentary and fiction, the universal and the personal, objectivity and subjectivity, masculinity and femininity as well as outsider and insider. This is further related to questions of power, identity (construction and negotiation), difference, and control. In anthropology, these issues connect to the role anthropologists and “natives” take or are forced to take. This outsider-insider relationship follows, according to Minh-ha (1989), (neo)colonial patterns of interdependency. In a “paradoxical twist of the colonial mind” the outsider expects from the insider “a projection of an all-knowing subject that this Outsider usually attributes to himself and to his own kind” (pp. 136-137). But in doing so, “the other would always remains the shadow of the self” and thus in fact not all-knowing (p. 137). Spivak (1988) questions whether subaltern people, who have been heavily influenced by imperialism and

(neo)colonialism, are able “to speak” and to be heard (p. 25). She states that the construction of “the other” within an outside context, that is “western” context, only perpetuates the domination of the powerful by reproducing hegemonic (power) structures on sociopolitical and economic levels. Under such conditions, she concludes, “the subaltern has no history and cannot speak” (p. 28). In her study of communication technologies' use to promote indigenous cultural activism in Mexico, Smith (2010) proposes to understand indigenous media producers as “valid producers of technoscientific knowledge” (p. 255). Following Haraway, she understands technoscience as a mode of (collective) knowledge production as well as a cultural practice that is mediated by technology. Moreover, Smith argues that indigenous media makers are contributing to the decolonization of “authoritative knowledge about indigenous people, place and practices” by producing alternative articulations of indigenous causes and hybrid or multiple types of identity (p. 257). Indigenous media technologies as “post-colonial technoscience” enable thus articulations of indigeneity.

In articulating an indigenous research agenda, Linda Tuhiwai Smith (2005) discusses community research as a specific research approaches which is as complex to define as is the notion or concept of community itself. But what community research relies upon is “that the community makes itself its own definitions” about research goals, strategies, and methodologies (p. 127). This also includes the enabling of indigenous researchers to work within their own communities. The Keewaytinook Okimakanak Tribal Council established is own community research organization in 2004. Since then, the Keewaytinook Okimakanak Research Institute (KORI) has been conducting numerous research projects on the community level and in cooperation with different university and research institutions:

> The Chiefs of Keewaytinook Okimakanak created the research institute (KORI) to document, conduct and promote community-led research on issues relevant to First Nation communities. KORI has developed relationships with a number of academic partners and community-driven organizations across Canada. The KO Research Institute's mandate is to change the way First Nation research is conducted within its sphere of influence. (KORI, 2016)

Being aware of the contested political dimensions of fieldwork and research, making research results public through digital platforms, such as my blog and the KO meeting place,

formed part of my applied research ethics. In an attempt to keep my research partners up to date with my project, selected research results and preliminary findings were shared in KO's online meeting place; also to stimulate follow-up discussions (http://meeting.knet.ca/mp19/course/view.php?id=7). In addition, I documented aspects of my ethnographic research on my personal blog (http://www.philbu.net/blog/) and the online photo service Flickr (http://www.flickr.com/photos/philbu/). My project was thus not only about digital media technologies and related practices, I also utilized these technologies to present, document, and discuss research. Adding this way not only reflexivity to the research process, but also a kind of social responsibility towards my research partners. Opening research also meant to write all project relevant documents, including this thesis, in English. This research draws from research partnerships with people in Northwestern Ontario and with KO-KNET alike. With guidance from and in collaboration with staff at KO-KNET and KORI, research was designed and planned, like for instance the online surveys. Establishing community participation and community control over data collection were essential to the research process. That's why visits to the First Nation communities, schools, band offices, media centres, and public internet-access places, individual interviews, as well as researcher participation in discussions and workshops were jointly organized.

In my work an indigenous and an anthropological research agenda were in constant dialogue with each other and developed together in the course of this project. This touches issues of reciprocity and reflexivity in the research process. What do indigenous people, communities, groups, and organizations gain from working with researchers, particularly social scientists like anthropologists? In my case there was considerable influence by indigenous representatives on research focus and concepts. This, on the hand, also helped me to develop my research project. Close research partners facilitated my visits to First Nation communities and prepared me for these trips. Moreover, I was generously supported in applying for funds and grants as well as in attending conferences and workshops. KO-KNET contributed funding to cover the costs of research, flights, and accommodations. And one of my research partners emphasized the importance of academic research – also for indigenous communities – and the sharing of knowledge with other indigenous organizations around the world. During research, we continuously discussed theoretical concepts and written texts face-to-face, via e-mail, and in the meeting place. Furthermore, I received valuable feedback

during fieldwork and in the writing phase of my thesis. I learned that First Nation organizations, such as KO-KNET, have a clear view of what they want to have studied, either by themselves or with the support of and in cooperation with external researchers. I therefore suggest that an indigenous research agenda can be framed as a context for an anthropological research agenda.

INDIGENOUS PEOPLES: DEFINITIONS, POLITICS AND RESEARCH AGENDAS

The most obvious question related to indigenous people(s) is the question of definition: Who is indigenous? First of all, there is no inclusive or comprehensive definition of "indigenous people(s)" that could be applied globally. Attempts to define "indigenous (people)" are therefore difficult, conflict-laden, sometimes contradicting, and always context-related. Nevertheless, I will briefly discuss a selection of definitions that underscore in particular the political dimension of the concept "indigenous peoples". According to Niezen (2003), there are three ways to define "indigenous peoples": legally and analytically, that is the definition by the "other"; practically and strategically, that is self-definition; and collectively, that is the global in-group definition (p. 19). As he notes further, the problem of definition in the case of indigenous peoples is "pitting analysis against identity"; "there will inevitably be a group, seeing itself as indigenous, that is excluded from the scholarly definition" (p. 19).

The probably most prominent legal or analytical definition of "indigenous peoples" is Martínez Cobo's working definition developed in his *Study of the Problem of the Discrimination Against Indigenous Populations* for the United Nations Economic and Social Council in 1983.[10] This definition aimed at international actions that may impact the future existence of "indigenous populations" (Martínez Cobo, 1983, p. 50). At the heart of the definition's first section (para. 379) are historical continuity, territory, cultural distinctiveness, societal non-domination, and ethnic identity:

> Indigenous communities, peoples and nations are those which, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing on those territories, or parts of them. They form at present non-dominant sectors of society and are determined to preserve, develop and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal system. (Martínez Cobo, 1983, p. 50)

[10] Another definition of "indigenous peoples", which has been frequently referred to, is the one of the Indigenous and Tribal Peoples Convention, 1989 (No. 169). This convention is a revision of the International Labour Organization's (ILO) Indigenous and Tribal Populations Convention from 1957 (No. 107), which is one of the first international agreements on how nation states should engage with indigenous population groups on a global scale; however without including the indigenous voice here (Niezen, 2003).

The last two sections (para. 381 and 382) include the aspects of self-identification and – without mentioning it directly – self-determination:

> On an individual basis, an indigenous person is one who belongs to these indigenous populations through self-identification as indigenous (group consciousness) and is recognized and accepted by these populations as one of its members (acceptance by the group).
>
> This preserves for these communities the sovereign right and power to decide who belongs to them, without external interference.
>
> (Martínez Cobo, 1983, p. 51)

Despite considering important aspects, such as the right to self-identification and the indigenous communities' right to decide independently who belongs to them, Martínez Cobo's attempt for a universal definition of "indigenous peoples" is on shaky ground.[11] The term "indigenous peoples" aims to include an extreme diversity of distinct societies with different sociocultural organizations, languages, and modes of living. Moreover, there are many different historical, geographical, and sociopolitical contexts that have to be considered. The *Encyclopedia of Social and Cultural Anthropology*, for example, only contains a short glossary entry on "indigenous peoples", which indicates that the term refers to "peoples who were present in a given territory before the arrival of larger, usually European population groups" and that a definition is problematic in some geographical regions (Barnard & Spencer, 1998, p. 609). Barnard (2006) even states that a universal definition of "indigenous people(s)" is impossible (p. 9).

Māori researcher Smith (2005) argues that the term "indigenous" is generally problematic, because it "collectivize many distinct populations whose experiences under imperialism have been vastly different" (p. 6). The term "indigenous peoples", emerged in the 1970s and has been aiming to "internationalize the experiences, the issues and struggles of some of the world's colonized peoples" and to strategically express their "collective voices" in the international arena (p. 7). In the debate about indigenous peoples, the term "peoples" has been key because it implies certain international rights for self-determination: "So within indigenous discourses the term 'peoples' has become an important linguistic symbol of our

[11] This applies to all attempts by international organizations to universally define indigenous peoples.

identification as self-determining peoples" (pp. 114-115). The political struggle over the definition and its status continued during the drafting process of what eventually resulted in the United Nations Declaration on the Rights of Indigenous Peoples, which was adopted by the United Nations General Assembly in 2007 (United Nations [UN], 2007).

A global definition of "indigenous peoples" has political and legal implications. It might be "a fragile legal concept", as Niezen (2003, p. 4) notes, but "this category and process in international law" has led to the unification of indigenous peoples through the recognition of "their distinct position of marginality in their relationship with nation-states" (p. 218). Niezen (2003) emphasizes that it is the sharing of experiences of oppression that contributes to a possible understanding of "indigenous peoples" as "the . . . sum of the historical and personal experiences of those . . . who share . . . the notion that they have all been oppressed in similar ways for similar motives by similar states and similar corporate entities" (p. 4). And Clifford (2007) adds that "indigenous peoples" can be identified through "a long attachment to a locale and by violent histories of occupation, expropriation, and marginalization" (p. 198). Moreover, Niezen argues that the term has become "a marker of global identity, associated with mainly positive ideas about cultural wisdom and integrity and with politically significant claims to self-determination" (p. 217).

Drawing on different definitions and categorizations of "indigenous peoples", Wilson and Stewart (2008b) suggest four points of reference to understand the term:

- priority in time of occupying and utilizing a particular territory;
- cultural distinctiveness, including language, religion, and social organization;
- self-identification as "indigenous" and recognition by other groups and entities as a distinct group;
- experience of marginalization, dispossession, and exclusion (p. 14).

They further argue that indigenous self-determination "as the necessary response to the legacy of colonization and the only means to ensure the survival of Indigenous peoples" is key in conceptualizing "the indigenous" (p. 8). The conception of "indigenous people(s)" therefore has a strong sociopolitical connotation and is always shaped by different historical and cultural contexts.[12]

[12] From an anthropological perspective, this holds true for all forms of identity and alterity conception (e.g., Baumann & Gingrich, 2004a).

The Politics of Indigenous Activism and Global Indigenous Identity

The United Nations Permanent Forum on Indigenous Issues decided not to adopt any formal definition of who is and who is not "indigenous". Instead, self-identification should be the ultimate criterion for defining someone as "indigenous" (Gausett, Kenrick, & Gibb, 2011). It follows that indigenous people(s) are in the end "those who claim to be indigenous" (Gausett, et al., 2011, p. 137). While this practice works for some nation states, it does not work for others. And also international bodies, such as the UN, are constituted by individual nation states "whose legitimacy and power is derived from the primacy of a conception of the nation state challenged by the continued existence of indigenous peoples" (Gausett et al., 2011, p. 137). It has been quite a struggle, for instance, to replace the term "indigenous populations" with "indigenous peoples" in the ILO Convention No. 169, because the latter term is associated by many nation states with self-determination and, ultimately, the right of independent statehood (Niezen, 2003, p. 38).

But as Niezen (2003, pp. 202-207) demonstrates, indigenous peoples and their political agenda, including claims to self-determination or self-government, are not necessarily a threat to the nation state. In fact, indigenous people have been rather reluctant in politically aiming for secession or independent statehood:

> Although international law provides for secession as an option in situations in which states are violating a people's basic human rights and fundamental freedoms, the rhetoric of self-determination, self-government, autonomy, and ownership of land is not aimed at carving out pieces of existing states to establish breakaway indigenous peoples' republics. (Niezen, 2003, p. 204)

And here lies, according to Niezen (2003), the fundamental difference between "indigenism" – as a form of transnational identity including "distinct relationships with states, based on state obligations of trusteeship" (pp. 213-214) – and "ethnonationalism" – as "collective identities with clear cultural and linguistic contours" aiming for independence from the state (p. 8). This difference, however, is often not acknowledged or even ignored by nation states, resulting in misunderstandings and the obstruction of indigenous claims for self-

determination.

In his book *The Origins of Indigenism*, Niezen (2003) provides a profound overview about the historical development of the international movement of indigenous peoples. He discusses the politics of global indigenous identity in relation to activism, forms of resistance, and the nation state. He uses the term "indigenism" to "describe the international movement that aspires to promote and protect the rights of the world's 'first peoples'" (2003, p. 4). This concept has some parallels with the notion of "indigenismo" as it is used in the Latin American context (see e.g., Churchill, 1996). For Niezen, indigenism is further "an identity . . . grounded in evidence, testimony, and collective memory" (p. 15) and as a "significantly distinct global phenomenon" should not be confused with ethnonationalism or civil rights movements (p. 25).

Niezen (2003) identifies two categories of collectivities that can challenge the nation state due to their claim for self-determination: ethnic groups and indigenous peoples. The political movement of ethnic groups for self-determination and independence is often described as "ethnonationalism" (e.g., Niezen, 2003). As Hobsbawm (1992) emphasizes, nationalism – as a political concept or program – should generally not be confused with ethnicity as a "way of expressing" ethnic or cultural group identity (p. 4). However, ethnicity, he continues, "may acquire political functions in certain circumstances, and may therefore find itself associated with programmes, including nationalist and separatist ones" (Hobsbawm, p. 4; see also Govers & Vermeulen, 1997). There are, of course, several approaches to the understanding of ethnicity and nationalism (e.g., Eriksen, 1993). From a constructivist point of view, for instance, ethnicity is "based not on a cultural inventory but on manipulation of identities and their situational character" (Sokolovskii & Tishkow, 1998, p. 192; see also Barth, 1969/1998). The (strategic) conflation of the political and the cultural is specific for ethnonationalist projects. Comaroff and Comaroff (2009) argue that ethnicity understood "as a loose, labile repertoire of signs by means of which relations are constructed and communicated" (p. 38) can be related to political and cultural identity programs as "quite different phenomena" (p. 44). Moreover, they note that ethnonationalism in general includes "a vision of political being that bases belonging not on universal citizenship or on a social contract, but on ascription, cultural particularity, and shared essence" (p. 118).

In contrast to ethnonationalism projects, the indigenous peoples movement collaborates more on a transnational level to achieve its, in many cases collective, objectives. In addition, indigenous groups historically experienced different forms of oppression and violence by dominant populations, larger ethnic groups, and nation states (Niezen, 2003). This does not mean, however, that indigenous peoples have given up on the strategic utilization of ethnic identity, nor that indigenous nationalism is inherently more peaceful or law abiding than other forms of nationalism.[13] As political tool, these concepts help to generate, for instance, international recognition and support of indigenous causes. This, in turn, can provide protection from governmental authorities while enabling indigenous peoples to continue their relationship with the respective state (Morin & Saladin d'Anglure, 1997, p. 188). Niezen (2003) argues that indigenous nationalism and traditionalism are direct results of the sometimes desperate situation indigenous peoples are in, often lacking the most basic human rights. Thus, indigenous peoples also aim to establish themselves as nation states' equal partners in the international arena.

Indigenous and minority peoples do not have an easy stand in many nations states worldwide; and consequently in international organizations that are constituted by nation states. Being involved in all kinds of contests among each other, states are not, as Niezen (2003) puts it, "the proper guardians of the politics, culture, and economies of indigenous peoples" (p. 196). And he continues that,

> there is little chance that the expectations of indigenous peoples will be fully met by states and international organizations. States' and indigenous peoples' political points of view will probably always be starkly different, failing to meet on basic premises, and at times diametrically opposed, yet they must somehow coexist and build a foundation of tolerance. (p. 243, endnote 1)

The transnational indigenous peoples movement, as Niezen (2003) concludes, impacts the world's indigenous peoples by resisting nations states hegemonic tendencies: "clearly the movement is founded on a premise of critique, nonviolent, restless opposition to monopolies of power and profit" (p. 207). Crucial in that development has been the switch from ascribed

[13] Ethnic identity can be understood as "an identity distinguished from other social identities by a belief in a common origin, descent, history and culture" (Vermeulen & Govers, 1997, p. 6).

to chosen identities, because “the controls and constraints that define indigenous or 'segmentary' societies” vanish this way (p. 209). Indigenism “is a political hybrid, that pursues pluralism within state systems while absorbing individuals in the embrace of ascribed identities, informal networks of obligation and patronage, and cultural orthodoxy” (p. 212). Being neither a manifestation of civil society in a (neo)liberal sense nor a repressive society, it is acting against the centralizing efforts of the state, but without threatening the nation state's sovereignty through secessionist intentions. Indigenism as a pluralistic movement that includes multiple cultural, religious, and social orders, rather seeks “openness and pluralism from nation-states and international order” (p. 212).

By transcending nation state authority, indigenism – as a transnational phenomenon and process – is a challenge to the state and its internal and external hegemonic tendencies. New media and communication technologies that support the formation of networks and collaborative activism play an important role here: “if we accept the idea that the information age contributes to the erosion of national legal and political systems, the interest groups so fervently communicating with one another are not discussing and supporting exclusively international interests” (Niezen, 2003, p. 198). That's why state representatives and international organizations sometimes argue that indigenous peoples are weakening the nation states through claims of autonomy. But “indigenous nationalism” and traditionalism are direct results of the sometimes desperate situation indigenous peoples are in, often lacking the most basic human rights (Niezen, 2003). Thus, indigenous peoples aim to establish themselves as equal partners to states in an international arena. That's one reason why Canadian Indians, for instance, identify themselves as First Nations.

As Niezen (2003) reminds us, “the self-determination goals of distinct societies offer a way out of state hegemony but leave open the question of how individual rights can be accommodated within assertions of collective values and powers” (p. 220). This becomes even more problematic when new organizational structures and powers are acquired through interactions with the state and international entities that are facilitated by new technologies, forms of bureaucracy, and law. How to make sure that individual rights are not left out in the pursuit for collective rights? Kuper (2003) criticizes, for instance, that the Canadian government acknowledges indigenous claims to land and indigenous status only on the

grounds of descent. That ancestry and descent alone decide on the granting of Aboriginal status in Canada is no longer completely true. Through changes to the Indian Act in 1985, Indian status can also be granted to persons who have a non-Indian parent (e.g., Giokas & Groves, 2003). It nevertheless remains a heatedly debated legal document since Métis, the second largest of the indigenous groups of Canada, are still excluded from this status and hence certain privileges.

For de la Cadena and Starn (2007), "indigenism is a process; a series of encounters; a structure of power; a set of relationships; a matter of becoming, in short, and not a fixed state of being" (p. 11). Indigenous activism, it follows, is not a monolithic entity, but a "fragmented process" of hegemonic and counter-hegemonic movements and formations (p. 11). Indigenous activism as global movement started with indigenous demands on local, regional, and national level; including claims to land, control over culture and language, multilingual education, the integration of indigenous history in national collective memory, and the right of self-representation. These indigenous voices were heard, also because indigenous and non-indigenous groups "that share relatively similar political interests" were teaming up to jointly demand their cultural rights (p. 11). The Zapatista movement in Mexico, for instance, can be understood as such a common project of politically marginalized indigenous and non-indigenous organizations; contributing thus to a new expression of "indigeneity".

As de la Cadena and Starn (2007) argue, indigeneity "emerges only within larger social fields of difference and sameness" (p. 4). This means that indigeneity can only be constructed through the consideration of the "non-indigenous". Indigenous identity, as every form of identity construction, needs "the other" – that is the settler for indigenous people – to give meaning to distinct political practices, institutions, and forms of activism. Indigeneity should thus also be understood as a historically rooted social formation. Even though the concept of "indigeneity" itself is a "western construct", similar to other "constructivist" conceptions of collective identity formation, this does not mean that "claims to it follow a western social construction of 'indigenous' authenticity", as Barnard states (2006, p. 7). Indigeneity is a "worldwide field of governance, subjectivities, and knowledges" that involves indigenous and non-indigenous agents (p. 12). Indigeneity is thus more than

identities and social movements.[14] And any normative attempt to categorize or define indigenousness, indigenous culture, and politics has its limitations: "To define what is indigenous and what is not is necessarily relational and historical – and therefore provisional and context related" (p. 12). Consequently, "the boundaries between indigenous and non-indigenous spheres are a matter of history and politics" (p. 18). In the wake of post-structural and post-colonial theory, it seems, on the one hand, natural to be suspicious about "purity claims, fixed borders, and singular narratives" (de la Cadena & Starn, 2007, p. 22). On the other hand, "tracing the trajectories of indigeneity should be about enablement and not endless deconstruction" (p. 22).

Tsing (2007) summarizes in her exploration of, what she calls, the "indigenous voice" in the contemporary world that the global indigenous movement endorses some seeming contradictions: "authenticity *and* invention, subsistence *and* wealth, traditional knowledge *and* new technologies, territory *and* diaspora" (p. 33). For her "indigenous voice" means, on the one hand, the "variations in the public articulation of indigeneity in different places" (p. 38). On the other hand, this term refers to the "genre conventions with which public affirmations of identity are articulated" (p. 38). It is because of the articulation within the frame of a publicly recognizable and accepted genre or forum that speakers gain voice. Because the global indigenous movement, indigenous politics, and hence indigeneity, are inherently diverse and manifold, strict, static, or essentialist definitions and categorizations are thus refused by most indigenous representatives, particularly in the international or transnational context. And this is, according to Tsing (2007), the strength of global indigenous politics. On the other hand, this strength lies in the cross-national connections between indigenous peoples. Indigeneity, as a transnational model of indigenous voice, "requires linking across national borders" (p. 39).[15] Such cross-national connections within the global indigenous movement do not always complement each other; they rather form "semi-autonomous axes of indigenous voice" (p. 41). All those connections and activist approaches have their overlaps and differences. And some work better than the other to get indigenous voices heard. Indigenous voices are thus not universal and homogeneous, but dissonant and diverse. And despite the growing importance of transnational connections, the

[14] For a discussion of indigeneity in relation to the concept of "autochthony", see Gausett et al. (2011).

[15] A prominent example for such transnational connections is the linkage of indigenous groups in Canada and New Zealand around the sovereignty debates in the 1970s (e.g., Forte, 2006; Niezen, 2003).

nation state context remains the main arena for political struggle and negotiations. However, these connections contribute decisively to the empowerment of indigenous approaches to national problems and mistreatments.

Even though indigeneity is geographically context related, it is not a locally bounded phenomenon. It crosses borders, changes, and moves continuously with the people who are forming it. Clifford (2007) therefore speaks of "indigenous diasporas", meaning that indigenous people are not bound to one place, but always have been mobile. As de la Cadena and Starn (2007) stress, "indigenous cosmopolitanism has only increased with the borders between tribal 'homeland' and urban center, home and away, here and there now crisscrossed everywhere by frequent travel, family visits, e-mail, text messages, and phone calls" (p. 17). Clifford argues that the "diasporic dimensions" of contemporary indigenous lives "are understood as aspects of an uneven, continuum of attachments" with "strong alternate claims to autochthony, localism, and cultural or racial essence" (p. 215). Thus, (indigenous) diaspora cannot be understood detached from claims of identity and the fact that indigenous historical experiences are always multi-layered and relational. He concludes that one of the benefits of "bringing diaspora into the complex domain of the indigenous is to import a constitutive ambivalence" (p. 217). Diaspora includes both the "nationalist" and the "anti-nationalist", the claim of land and heritage and the need to move and leave the homeland behind. And, as Clifford states, "diasporic ruptures and connections – lost homelands, partial returns, relational identities, and world-spanning networks – are fundamental components of indigenous experience today" (p. 217).

Considering the difficulties in defining the world's "indigenous peoples", it is not surprising that is as difficult to give an exact number how many people can be identified – or identify themselves – as "indigenous". According to Secretariat of the United Nations Permanent Forum on Indigenous Issues (2009), there are about 370 million indigenous people worldwide, living in more than 90 countries, and speaking more than 4,000 of the world's estimated 7,000 languages (p.1). By referring to the organization Survival International, de la Cadena and Starn (2007) place the total number of indigenous people at over 250 million spread across more than 4,000 distinct groups (p. 1). Niezen (2003), on the other hand, estimates that there are about 300 million indigenous people. And he continues that more

precise data "is confounded by both the paucity and irregularities of national census information and the problem of defining 'indigenous peoples'" (pp. 224-225, endnote 5). It is, however, safe to say that there are hundreds of millions of people around the world who can be identified as indigenous.

Debating Indigenous People in Anthropology

Anthropologists have been actively supporting marginalized groups to claim indigenous status, because it sometimes is the only political and legal way to "stop more powerful actors from further dominating and dispossessing them" (Gausett et al., 2011, p. 137). Since any social and cultural identity is constructed in one way or the other, it is thus a matter of actively contributing to this construction process or to leave the power of definition to the dominating other. Indigenous researchers, on the other hand, have critically argued that academic disciplines, such as anthropology, have made the study of indigenous peoples "into 'their' science" (Smith, 2005, p. 11). It is fair to say that the term "indigenous" is loaded with context-related, historical, and political meaning and has therefore become "subject of much debate" (Kuper, 2003, p. 389).

This debate about indigenous peoples, the term's political meaning and its relevance and consequences for anthropological research, gained new momentum in 2003 with a controversial paper by Kuper in the journal *Current Anthropology*.[16] Kuper (2003) states in his text that the current indigenous peoples movement supports essentialist ideologies of culture and identity that may have dangerous political consequences and that should therefore be challenged by anthropologists (p. 390). "The initial assumption" of the indigenous peoples movement, he notes,

> is that descendants of the original inhabitants of a country should have privileged rights, perhaps even exclusive rights, to its resources. Conversely, immigrants are simply guests and should behave accordingly. These propositions are popular with extreme right-wing parties in Europe, although the argument is seldom pushed to its logical conclusion given that the history of all European countries is a history of successive migrations. (p. 390)

[16] For a contextualization of this debate see, for instance, Barnard (2006).

Continuous waves of migration, he continues, took place in all parts of the world, constantly changing population groups and structures. Thus, some of the indigenous peoples of North America, for instance, that came in contact with first European settlers were not "merely immigrants but actually colonizers" that assimilated or replaced local populations (p. 392). Kuper concludes that considering cultural identity and descent as principles for rights always includes the danger of racism (p. 392). He thus remains doubtful about the indigenous peoples movement, its rhetoric and the "justice and good sense" of different political initiatives that, for example, aim to return land to indigenous peoples on basis of descent (p. 395). Quite a few of those claims for land disregard current anthropological concepts and critical ethnographic insights. Moreover, he understands the popularity of the indigenous peoples movement in close relation to the (re)construction of the imaginary of the "primitive" that is being used particularly by the anti-globalization movement and the Green parties: "Authentic natives represent a world to which we should, apparently, wish to be returned, a world in which culture does not challenge nature." (p. 395)

The response to Kuper's article in the anthropological community has been diverse and mainly critical (see Barnard, 2006). Some agreed that it is important to stress that indigenous groups, as all other population groups, have experienced continuous sociocultural change through migration, change of language or modes of subsistence, and that essentialist definitions and discourses have to be challenged. At the same time it should not be forgotten that it has been the Euro-American essentialist ideology that have been dominating discourses about definitions and hence the construction of the indigenous peoples' imaginary. Indigenous peoples have been starting to redefine their identities, challenging this way essentializing Western ideologies (e.g., Omura, 2003). Other respondents to Kuper's article state that the strategic essentialist constructions of identity can support marginalized peoples' sociopolitical activism and demands (e.g., Robins, 2003; see also Spivak, 1988). Strategic essentialism is furthermore not incompatible with modernity and its contradictions; challenging, for instance, the Western dichotomy of "the traditional" and "the modern" by creating what Sahlins (1999b) has termed "indigenous modernity". Other critics remind us that Western expansion and conquest are hardly comparable with indigenous peoples struggle for recognition and land, since this would minimize the violence of that expansion

(e.g., Ramos, 2003).

In other reactions to Kuper's provocative text, anthropologists have been rethinking the role of the discipline of anthropology within the indigenous peoples movement. How to bring two main streams of anthropological epistemology together? Celebrating man's cultural diversity on the one hand, for example, by supporting indigenous activism, and emphasizing human commonalities on the other, for instance, by challenging essentialist constructions of indigenous identity (Plaice, 2003). For some commentators, anthropology should stay away from dangerous generalizations and accept the fact that there are only locally distinct ways of analyzing indigenous issues (e.g., Ramos, 2003). Others remind us that histories and identities are increasingly being created from below, without ethnographic authority and that anthropology should accept that and deal with it (e.g., Robins 2003). In his reply to the comments on his paper, Kuper (2003) emphasizes that anthropology must continue producing critical ethnographic analysis: “If we report only what is convenient and refrain from analysing intellectual confusion, then our ethnographies will be worthless except as propaganda” (p. 400).

Barnard (2006) states that “indigenous peoples” might be a useful legal concept, but not a very good anthropological one. There simply might be no “theoretically-unproblematic anthropological definition of 'indigenous' (p. 8). Kuper, he continues, is therefore right to question the usefulness of “indigenous peoples” as a theoretical concept (p. 11). Only if it is possible to “free the idea [of the indigenous] from its association with the 'primitive' or 'primal'”, the concept might be an acceptable notion for anthropology (p. 7). While Barnard agrees with Kuper on the problem of essentialist conceptions of “indigenous peoples”, he disagrees on the “implications of this for the political strategies of those seeking to regain the lands of their ancestors or to link their causes with the causes of others, on different continents, in similar positions” (p. 13).

Gausett et al. (2011) propose that the conception of “indigeneity” should be understood in relation to the concept of “autochthony” and that this adds an important aspect to the Kuper debate. While indigenous peoples are already marginalized on local, regional, and national levels, autochthonous peoples, despite being dominant in a distinct area, fear some form of

future marginalization. The latter "believe that their resources, cultures or power are threatened by 'migrants'" (p. 139). Thus, both concepts centre around the politics of marginalization, "either as a way to secure privileges and exclude others, or as a way to fight for equal rights, self-determination or redress past wrongs" (p. 141). According to Gausett et al. (2011), it is time for anthropology to leave aside the differences or similarities and concentrate on the political projects that lie behind these conceptions.

Aboriginal Peoples in Canada

The official name for "indigenous people(s)" in Canada is "Aboriginal people(s)" (upper case). According to the Canadian Constitution Act, 1982, the term "Aboriginal" refers to three distinct and constitutionally recognized groups of indigenous inhabitants: First Nations (North American Indian), Métis (mix of Indian and European ancestry), and Inuit. First Nation designates an Indian band registered with Indigenous and Northern Affairs Canada under the Indian Act (R.S.C., 1985, c. I-5).[17] A First Nations person can be officially categorized as "Registered Indian", that is registered under the Indian Act, or "Treaty Indian", that is belonging to a First Nation that signed a treaty with the state and the government; both are sometimes referred to as "Status Indians" (e.g., Chartrand, 2003; Frideres & Gadacz, 2001; Statistics Canada, 2013). The *2011 Canadian National Household Survey* indicates that 1,400,685 people identified themselves as Aboriginal, that is 4.3% of the total Canadian population and an increase of 20.1% between 2006 and 2011 (Statistics Canada, 2013).[18] The Aboriginal population in Canada is increasingly younger than the non-Aboriginal population. While 46.2% of the total Aboriginal population were aged 24 and under in 2011, only 29.5% of the non-Aboriginal population were 24 years of age or younger. The median age of the Aboriginal population was 28 years; 13 years younger than

[17] The legal title of "Indigenous and Northern Affairs Canada" is "Department of Indian Affairs and Northern Development" (Government of Canada, 2016).

[18] Canada's national census is conducted every five years; the data on Aboriginal people of the 2016 census will be available in October 2017 (Statistics Canada, 2017). Since there is no universal definition of "Aboriginal", the Canadian national census is using different indicators to identify "Aboriginal people": (a) ethnic origin including Aboriginal ancestry; (b) Aboriginal identity, an indicator for a person's affiliation with one of the three Aboriginal groups in Canada; (c) identification as Registered Indian or Treaty Indian; and (d) whether a person is a member of a First Nation. The "Aboriginal identity" indicator was applied for the first time in the 1986 national census in response to Aboriginal people's concerns that ancestry does not necessarily reflect an individual's "feelings of belonging to a specific group" (Statistics Canada, 2007, part 3). There are also other sources providing data on Aboriginal people that are not discussed here; for instance the *Aboriginal Peoples Survey*, a post-censal survey that concentrates on specific Aboriginal issues, the *Aboriginal Children's Survey*, and the *Canadian Community Health Survey*.

the median of 41 years for the non-Aboriginal population.

In 2011, First Nations people represented 60.8% of the total Aboriginal population in Canada (851,560). Between 2006 and 2011, the number of persons identified as First Nations people increased by 23%. The *2011 Canadian National Household Survey* reports 600 different First Nation communities (Indian bands) speaking over 60 indigenous languages (Statistics Canada, 2013). While 74.9% of First Nations people were Registered Indians in 2011, the share of not Registered Indians increased by 61% between 2006 and 2011. Among those who reported being a Registered Indian in 2011, almost half lived on reserve (49.3%). The First Nations population was, with a median age of 26 years, two years younger than the total Aboriginal population in 2011. According to latest census results from 2011, 34.4% of Aboriginal children aged 14 and under lived in a lone-parent family compared with 17.4% of non-Aboriginal children. But only 45% of First Nations children lived in a family with both of their parents. As census data from 2006 indicates, 11% of the Aboriginal population lived in crowded homes, that means more than one person per room, while only 3% of the non-Aboriginal population did (Statistics Canada, 2008). In addition, 23% of Aboriginals lived in homes that were in need of major repairs, compared to 7% of the non-Aboriginal population. The dwelling situation of First Nations people was even worse. Fifteen percent of First Nations people reported that they lived in crowded dwellings. On-reserve, even 26% lived under crowded conditions. In Ontario, the proportion of on-reserve population living in crowded homes was 19%, and hence considerably lower than the national average. Twenty eight percent of First Nations people lived in homes in need of major repairs. Again, the situation on reserve was worse; 44% of on-reserve population lived in dwellings requiring major repairs. In Ontario the dwelling situation on reserve was slightly better than in other provinces; 41% of people lived in homes in need of major repairs in 2006.

In the *2011 National Household Survey*, 17.2% of the population who had an Aboriginal identity reported that they were able to conduct a conversation in an indigenous language (Statistics Canada, 2013). This number of Aboriginal language speakers declined by 2% between 2006 and 2011, while the total Aboriginal identity population increased by 20.1%. Among the respondents who identified as First Nations people, 22.4% declared that they

were able to conduct a conversation in an Aboriginal language. The indigenous languages of Northwestern Ontario – Cree, Oji-Cree, and Ojibwe – were listed among the five First Nation languages in Canada with the most speakers. Between 2001 and 2006, the number of Oji-Cree speakers increased by 20%, while the number of Cree speakers increased by 7%. In 2011, 23.1% of First Nations people reported that they were able to converse also in another Aboriginal language than their own. Considerably more First Nations people were able to speak an Aboriginal language on-reserve (44.7%) than people who were living off reserve (14.1%). Moreover, as data from the national census in 2006 shows, First Nations people aged 75 years and older who lived on-reserve were most likely to speak an Aboriginal language (83%) (Statistics Canada, 2008). Twenty one percent of First Nations children aged 14 years and under and 24% of youth, 15 to 24 years of age, were able to carry on a conversation in an indigenous language. Again, on-reserve children were more likely to speak an Aboriginal language (39%) than their off-reserve peers (6%).

Research and the "Indigenous Knowledge Society"

A growing number of the world's indigenous peoples is actively shaping indigenous visions of a knowledge-based society. These visions are not simply indigenous responses to global mainstream debates over post-industrial development, techno-scientific culture, or "network society". They articulate the actual deployment of ICT, informational and educational resources by indigenous communities to forward their own policies and practices. They frame how indigenous communities, for example, are mobilizing over the internet and on the web to communicate their lived experiences and extend their local networks to global audiences, including and most importantly, a global indigenous audience (e.g., Landzelius, 2006a). For academics in the field, indigenous peoples are opening up spaces of inquiry beyond the digital divide by actively co-creating online communities and transforming their cultural experience through digital media technologies. Questions about resources, knowledge, power, and access continue to be important, but they have become more complicated by issues of networking and social life, virtual reproduction, and information policy.

Knowledge production within the "knowledge society" is not only closely related to new

forms of communication and technologies, it is also the basic principle of research and academic work. Research with indigenous peoples has been changing dramatically over the last forty years, particularly because more and more members of indigenous communities have become actively involved in shaping research policy and undertaking research projects (e.g., Keewaytinook Okimakanak [KO], 2004; Keewaytinook Okimakanak Research Institute [KORI], 2016). There is also a heightened sensitivity that research with indigenous people and communities can be a conflict-ridden endeavour, as Smith (2005), a Māori researcher, notes when she identifies research as "a significant site of struggle between the interests and ways of knowing of the West and the interests and ways of resisting of the Other" (p. 2). The other in her example, and in this dissertation, represents the position that indigenous peoples take as marginal forces within the mainstream currents of the global knowledge society (Budka & Fiser, 2010).

Research is not, as Smith (2005) puts it, "an innocent or distant academic exercise but an activity that has something at stake and that occurs in a set of political and social conditions" (p. 5). "Reporting back" and "sharing knowledge" are two important venues to address and involve the people one is doing research with, not only in an indigenous research context (pp. 15-16). Coloniality has been constantly reinforced by hierarchies of knowledge in all kinds of contexts, from language learning to education and scientific research. Although still under heavy influence of diverse power structures, knowledge production has started to change through hybrid genres of academic and non-academic work, local and global developments and the constant blurring of these spheres (de la Cadena & Starn, 2007).

In the history of contact between settlers and indigenous peoples, knowledge and the production of knowledge rapidly became commodities to be exploited by the colonizers. Only the recent global decolonization movement of indigenous peoples allowed for the creation of an indigenous research agenda. Decolonization as important concept and principle of today's indigenous politics and research should simultaneously consider the time before colonization as well as the time of colonization. This way, Smith argues (2005), "solutions are posed from a combination" of those two historic periods (p. 24). In the context of academic research, decolonization does not mean the complete rejection of "Western" ideas, theories, concepts, and methods. It is rather about centring indigenous peoples

concerns and world views to understand theory and research from their own perspectives and for their own purpose (p. 39). Imperialism and colonization brought disorder to the colonized people. It "disconnected them from their histories, their landscapes, their languages, their social relations and their own way of thinking, feeling and interacting with the world", resulting in a complete fragmentation of life (p. 28).

As Smith (2005) reminds us further, it still is extremely rare and unusual in the international arena "when indigenous accounts are accepted and acknowledged as valid interpretations of what has taken place" (p. 35). For indigenous people it is thus even more important to create and provide the means for sharing and distributing those stories, for instance through indigenous research and communication media. Indigenous societies, cultures, and knowledge haven been coded into systems of categories that allow for classification, evaluation, and representation by following "western" standards, concepts, and ideas (e.g., Hall, 1992). Ignoring and oppressing this way the diversity of human knowledge, these classification systems are also systems of control, power, and domination:

> Systems of classification and representation enable different traditions or fragments of traditions to be retrieved and reformulated in different contexts as discourses, and then to be played out in systems of power and domination, with real material consequences for colonized people. (Smith, 2005, p. 44)

The Canadian residential schools, for instance, forced indigenous children into a western education system by controlling and dominating language use as well as cultural and religious practices. This led to the disconnection of sociocultural traditions and a fragmentation of knowledge (e.g., Niezen, 2013). In times of colonization and imperialism, knowledge and the production of knowledge "became as much commodities of colonial exploitation as other natural resources" (Smith, 2005, p. 59). And indigenous people were classified, ranked, and represented alongside with animals and plants. Anthropology also played a crucial part here.

In many research projects with indigenous peoples, one problem seems to be ubiquitous, namely that "the locus of a particular research problem lies with the indigenous individual or community rather than with other social or structural issues" (Smith, 2005, p. 92). Wider

social, cultural, or economic contexts are often neglected to identify "the problem" solely within the indigenous community, may this be health or educational issues. And this view is then easily transferred to the mass media and to the rhetoric of politicians who talk about the "general hopelessness or corruption of indigenous communities and indigenous peoples" (Smith, 2005, p. 92).

While colonial and imperial times are over, the colonization of indigenous cultures and knowledge still exists under new disguise and by using a changed language of imperialism. Smith (2005) puts together a list of new practices of colonization and imperialism; on this list we find: stealing, copying, and patenting of genealogies, identities, and rituals; commodifying of indigenous spirituality; creating of virtual culture as authentic culture; denying indigenous peoples global citizenship (pp. 100-103). In response to this development, Smith argues, indigenous peoples need to create their own research project with its own agenda:

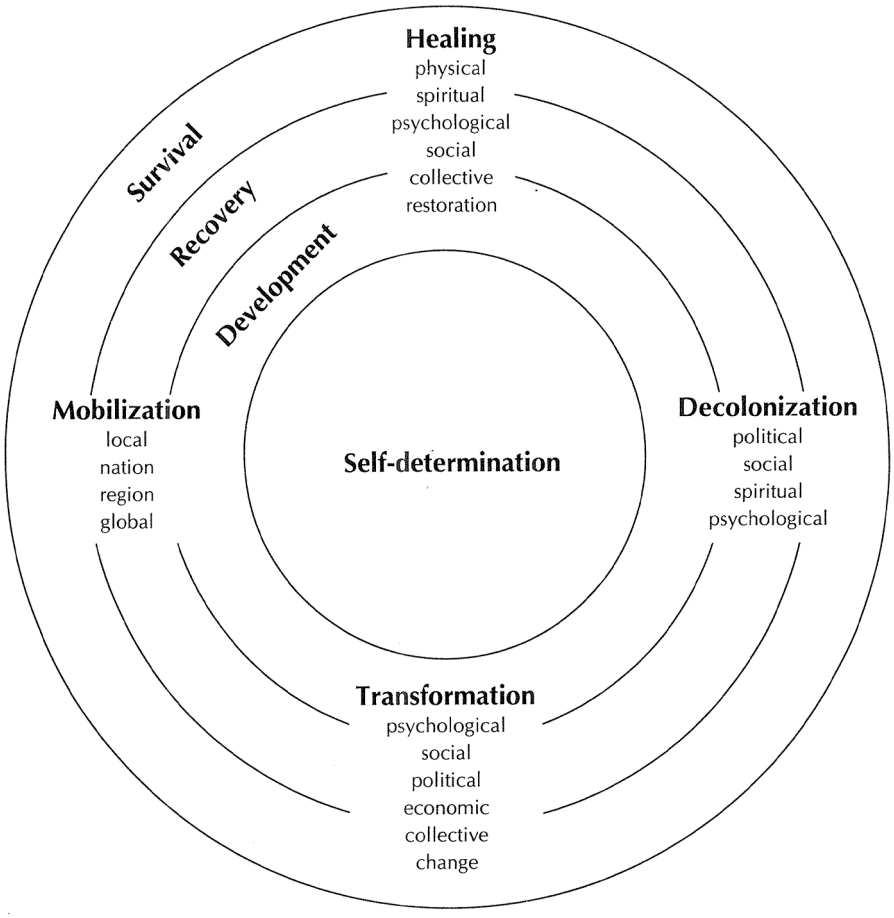
> This is a project which many of its participants would argue has been defined by over 500 years of contact with the West. In this sense it might also be described as a modernist resistance struggle. For most of the 500 years the indigenous peoples' project has had one major priority: *survival*. (p. 107)

In the last decades, the networking and sharing between indigenous groups and organizations on a transnational scale have become of growing importance to this project. Prior to this international social movement, indigenous peoples had already contact with each other, doing politics, sharing goods, and ideas. But through the "assertion of European sovereignty over indigenous peoples effectively shifted the focus of indigenous international relations to a colonizer / colonized relationship" (p. 112). Consequently, the struggle for self-determination has been key for the international movement of indigenous peoples. Within the indigenous peoples' project a research agenda can be identified that constitutes "a programme and set of approaches that are situated within the decolonization politics of the indigenous peoples' movement" (p. 115). This global indigenous research agenda consists of four main "conditions and states of being through which indigenous communities are moving": survival, recovery, development, and self-determination (p. 115-118). The ultimate goal of the indigenous research agenda is self-determination, which not only becomes a

political goal, but also a goal of social justice (p. 116).

Figure 2

The Indigenous Research Agenda



Note: Indigenous research agenda according to Smith (2005, p. 117).

Smith (2005) continues her inquiries into (social) research and knowledge production in the indigenous context by identifying 25 distinct indigenous research projects that constitute the current global indigenous research program (pp. 142-162). These projects are not conducted in isolation, but rather in collaboration with different indigenous and non-indigenous research partners. I am listing here only those projects that seem to be particularly interesting for work in the field of indigenous media and digital technologies:

- Claiming: making claims about the rights and dues of indigenous peoples;
- Story telling: sharing collective oral history;

- Celebrating survival: celebrating successfully retained cultural and spiritual values and authenticity of indigenous peoples;
- Indigenizing: putting indigenous politics and cultural activism in the centre;
- Connecting: relating indigenous people to other people and the environment;
- Representing: representation as political concept and as voice and expression of indigenous peoples;
- Reframing: taking control over the ways indigenous issues are discussed and handled;
- Networking: building and disseminating knowledge through networks;
- Creating: fostering invention, discoveries and creativity;
- Sharing: sharing knowledge as a collective benefit and a form of resistance, which becomes a responsibility of research with indigenous peoples.

Smith (2005) concludes that indigenous peoples have their own research needs and priorities, which can – but need not to – agree with the interests of non-indigenous researchers.

It remains crucial not to forget that only few members of indigenous communities actually have access and the means to control new media technologies independently of the dominant mainstream societies in their regions. Yet what seems clear and exciting is that the "knowledge society", with all its new digital technologies and ways to locally produce and globally disseminate knowledge, provides new and positive opportunities for indigenous peoples to continue resisting the dominant currents of mainstream global society.

MEDIA AND DIGITAL ANTHROPOLOGY: UNDERSTANDING MEDIATION THROUGH EVERYDAY LIFE

Today, there is hardly any anthropology conference that is not hosting media related workshops or panels. The German Association of Anthropologists (DGV), the European Association of Social Anthropologists (EASA) and the American Anthropological Association (AAA), are all supporting media technology related events at their conferences

and research networks within their associations. In 2004, for example, members of the EASA created the EASA Media Anthropology Network (www.media-anthropology.net), which aims to foster the exchange of information and the cooperation in media related research and teaching projects. The anthropology of media is a lively and continuously growing research branch within anthropology. It is methodological and theoretical well suited to actively and critically contribute to the understanding of media technologies in diverse sociocultural contexts. Reasons for anthropology's growing interest in media technologies can be found in theoretical and geographical shifts in the discipline and in the inherently interdisciplinary character of the field of media studies. The theoretical and methodological changes in the anthropology of the 1980s and 1990s as well as the relocation of ethnographic fields – from remote villages in developing countries to urban, media-saturated places in industrial countries – contributed to the creation of an "anthropology of media" (e.g., Ginsburg et al., 2002b).

Despite honourable exceptions, such as Powdermaker's ethnography of Hollywood's cultural industry and the media analyses of Mead and Bateson in the 1940s, mass media only became more interesting to anthropology in the 1980s (Ginsburg et al., 2002b). While particularly media consumption was increasingly recognized as important element of human everyday life, there were still only few anthropology projects with a specific (mass) media focus (e.g., Kottak, 1990/2016). That's why Spitulnik wrote in 1993, "there is yet no 'anthropology of mass media'" (p. 293). Dracklé (1999) traces this disinterest in mass media back to the 1940s and to representatives of the Frankfurt School and it's critical theory, most notably Adorno and Horkheimer. Their negative experience with mass media in Nazi Germany lead to the attribution of dangerous qualities – such as the "totalization" of society and the "massification" of the individual – to mass media. This, on the other hand, resulted in a phase of cultural pessimism that only mitigated when the analytical focus in media studies shifted from analyzing media effects and impacts to the active reception of media.

British cultural studies contributed decisively to this paradigm shift in the early 1970s. Influenced by the work of Marx, Gramsci, and Althusser, who focused on power, dominant ideologies, and societal structures, early cultural studies representatives like Hall and Morley understood humans not as passive media consumers, but as active recipients who are able to

ascribe different meaning to media (messages). Thus, media recipients are also able to resist dominant ideologies (e.g., Askew, 2002, Dracklé, 1999). After a closer consideration of empirical, particularly ethnographic, data, the concept of the more or less free deciding media recipient was criticized for underestimating the actual power relationships between media producers and media consumers (e.g., Rojek, 2003). Through the influence of cultural studies, anthropology began to turn its focus to popular culture, its elements, structures, and communication channels, also in contemporary "western" societies (e.g., Appadurai & Breckenridge, 1988).

Anthropological Engagements With Media Technologies

"Media anthropology" or the "anthropology of media" is one of those branches of social and cultural anthropology that continuously has been gaining importance and relevance in the twenty-first century. A growing number of publications, research events, organizations and networks as well as study programs are proof of this development. One of the motivations for anthropology to finally contribute to the interdisciplinary debate in media studies lies in other disciplines' ignorance of non-western media technologies and practices (e.g., Ginsburg et al., 2002b). Anthropology's cross-cultural perspective and its comparative approach to sociocultural phenomena seem particularly fruitful to answer questions about the production of individual and collective identities, the construction and negotiation of socialities, or the shift of power relations in media-related contexts. And in a world where mass media as well as digital and mobile communication technologies are produced, distributed, and used on a constantly increasing scale, in multiple contexts and situations, it seems impossible to deny anthropology's responsibility to add to the systematic understanding of these processes and phenomena. Moreover, anthropology has been countering widespread tendencies to investigate and understand media technologies detached from human sociocultural life (e.g., Askew, 2002). May these media technologies enable individual and interpersonal communication and connections or nation-wide information.

The use of particularly visual media technologies, such as film and photography, in ethnographic fieldwork and in education has a long history in anthropology (e.g., Banks, 2012; Banks & Morphy, 1999; Banks & Ruby, 2011; Hockings, 1995; Ruby, 2005). While

visual anthropology was reduced for quite some time to a purely (visual) media producing field, it has now established itself as just another anthropological subdiscipline aiming also for the analysis and understanding of media-related processes and phenomena (e.g., Banks, 1998; Rapport & Overing, 2000). Consequently, Murdock and Pink (2005) identify as the three "key areas" in visual anthropology: (a) the production of visual material, (b) the analysis of visual material, and (c) the use of visual tools to represent research results (p. 149). Visual anthropology can thus be understood as „the anthropological study of the visual and the visual study of the anthropological" (Banks, 2012, para. 1). Together with the anthropology of media and also the new project of digital anthropology, visual anthropology is contributing to the anthropological investigations of everyday media practices.[19] Murdock and Pink (2005) summarize that by „drawing on artefacts manufactured within the cultural industries, participants' own productions, and researcher-made materials, visual anthropology aims to develop visually thick and open-ended accounts of everyday visual practices and visual environments" (p. 152).

In the introduction to the edited volume *Connected: Engagements With Media*, Marcus (1996b) notes that "contemporary media technologies . . . are the contemporary space of imagination where new, progressive, if not fantastic, things are thought capable of happening" (p. 6). The anthropological engagements with media at the end of the twentieth century can thus also be understood as engagements with the "media imaginary", particularly in the context of, then relatively new, digital media technologies and the activist and political use of media (Marcus, 1996b, p. 6). These two projects remained important to social and cultural anthropology and resulted eventually in the anthropology of media (e.g., Ginsburg et al, 2002a) and digital anthropology (e.g., Horst & Miller, 2012). The scope of anthropological inquiry broadened, of course, with the global distribution of media technologies and the increasing integration of media practices into day-to-day activities (e.g., Bräuchler & Postill, 2010).

Within anthropology, research in media technologies can be basically understood as research in human communication that is mediated by technologies. Of particular relevance for anthropology are the sociocultural and historical processes and contexts in which this

[19] See Pink (2005) on the future of visual anthropology and Pink (2011) on the potentials and challenges of "digital visual anthropology".

mediation of communication is embedded. Or as Peterson (2003) puts it "the key questions for the anthropologist are how these technologies operate to mediate human communication, and how such mediation is embedded in broader social and historical processes" (p. 5). Media anthropology is thus interested in the mediation of (human) communication in different sociocultural contexts and under specific historical, political, and economic conditions. In anthropology, conceptualizations of "medium" and "media" are usually broader, more open and inclusive than in other disciplines that are engaged in the interdisciplinary study of media and communication. Thus, media related research questions in anthropology are usually not necessarily built upon a distinct definition or classification of the concept. Anthropologists are rather interested in processes of mediation or mediatization which can, of course, also relate to questions of media definition and constitution (e.g., Boyer, 2012; Eisenlohr, 2011; Mazzarella, 2004; Meyer, 2011).[20]

Basically, media can be understood as means of communication which allow human beings to get into contact in different ways. This can either be done verbally, by using language, or non-verbally, by using the body, as well as on an individual or collective level. Within anthropology media are not reduced to their contents or messages. Anthropology aims to get the most holistic idea of media phenomena. Therefore, the anthropology of media also analyzes the contexts and conditions of media production, diffusion, and consumption as well as media's technical and technological aspects. Media always contains technologies which enable the mediation of communication. It seems therefore useful to understand media as media technologies. In relation to culture, Newman (2014) argues that from a "cultural perspective", a medium can be understood "relationally, according to how it is constituted through its complementary or distinction to other media within a wider ecology of technologies, representations, and meanings" (p. 3). Moreover, a medium is understood "in terms not only of its materiality, affordances, and conventions of usage, but also of everyday, commonsense ideas about its cultural status in a given historical context" (p. 3). In short, anthropology provides a particular perspective on media technologies through its focus on the sociocultural.

Spitulnik (2000) traces the concept of "media" and its relevance and utilization in media and

[20] For a discussion of the conceptual differences between "mediation" and "mediatization" see, for instance, Couldry (2008).

visual anthropology. She discusses, in particular, the role of language in respect to human mediation. According to her, media's relevance for culture rests on language's relevance in media. Processes of mediation and communication are at the very heart of media and visual anthropology. Boyer (2012), for instances, even advocates a re-conceptualization of the media anthropology project into a broader "anthropology of mediation". Such an anthropological approach could expand research in media anthropology beyond communication media to include "semiotic, social and material aspects of mediation", that is social transaction of images, discourses, people and objects for example (Boyer, 2012, p. 388). While Ong (1991) argues that communication and knowledge flowers particularly in speech, he also reminds us that we communicate with the whole body and our senses. In the exploitation of our senses – for instance taste, sounds, and so forth – cultural differences can be identified. The culturally distinct organization of the human "sensorium" is therefore at the centre of research in human communication and mediation. How has the organization of the senses changed in the shift from orality to literacy, from oral culture to writing, print, electronic and digital media culture?

Eisenlohr (2011) and Meyer (2011), for instance, investigate the disappearing of media in the process of mediation and in the context of religious practices. This dissolving of a medium during the act of – in this case religious – mediation, its withdrawal from human perception is, according to Eisenlohr (2011), "central to the definition of what constitutes a medium" (p. 44). In addition, Meyer (2011) states that the "presence" and the "disappearance" of media in practices of mediation "is socially produced and depends on authorised perspectives of what media are and do, or are not supposed to do" (p. 32). She argues further that what a medium is can only be identified by adopting a viewpoint outside of its "semiotic ideology" (p. 27). To accomplish just that, it is necessary to place the paradox of mediation and immediacy in the centre of research.

Boyer (2012) identifies a "productive" tension within media anthropology between research projects focusing on the technological and representational aspects of media and what he calls "processes of social mediation" (p. 383). While mediation raises questions about media conceptualization, it also opens the possibility to connect research about infrastructure, migration, finance, and so forth, as mediated practices and processes with research about

communication media "under the rubric of a broader *anthropology of mediation*" (p. 384). Media anthropological research could thus be connected more closely with long-standing anthropological research, counteracting subdisciplinary tendencies of fragmentation. Boyer (2012) further reminds us that media anthropological research has been changing in close connection to changes in media environments and media landscapes. Digital media technologies, for instance, changed the conceptualizations of media producers and media consumers/recipients and their relations. Resilient anthropological concepts such as "sharing", "exchange", or "circulation" regain importance in the media anthropological analysis of digital culture and economy.

There have been attempts in anthropology to define and categorize "mass media". In conceptualizing "mass media", it is not "the aggregation of the audience" that is relevant, but the absence of face-to-face communication (Peterson, 2003, p. 6). These definitions should be rather understood as working definitions aiming to ease scholarly work with media technologies. Generally, mass media technologies can be categorized as:

- "traditional" media, such as theatre;
- print media, such as newspapers and books;
- electronic media, such as television, radio, and also digital media such as internet technologies (e.g., Salzman, 1996, pp. 355-358).

Peterson (2003) developed a typology of (mass) media (technologies) by referring to their main characteristics. He distinguishes between

- broadcast media, such as television and radio;
- circulated media, such as newspapers and books;
- displayed media, such as posters and billboards;
- interactive media, such as internet and world wide web applications and services (p. 6).

In their introduction to the volume *Media Worlds: Anthropology on New Terrain*, Ginsburg, Abu-Lughod, and Larkin (2002b) position anthropological and ethnographic research in indigenous media at one end of a sociocultural power spectrum that also reflects the larger media anthropology research project:

- On one end of this spectrum, anthropological research is dealing with the production and distribution of mass media through commercial organizations and governmental institutions, as the most powerful agents, as well as with the consumption of media products.
- In the middle of the spectrum, processes and contexts of media production and consumption by diasporic and minority groups are the focal points of research.
- At the other end of the spectrum, we find anthropological research on media practices that aim to empower marginalized and disfranchised people, including particularly indigenous people.

Central themes of media anthropology, such as the mediation of power and conflict, media related forms of production and consumption, the relationship between media and religion, and the mediation of knowledge and forms of expression have already been identified and discussed in earlier works, for instance in the edited volumes by Askew and Wilk (2002), Faye Ginsburg et al. (2002a), and Rothenbuhler and Coman (2005) as well as in Peterson' monograph (2003). These topics moreover connect to anthropological key questions about hierarchies, power relationships, norms and political agency, materiality, exchange and reciprocity, rituals and ritualization, the construction of histories and traditions as well as symbolism and the meaning of the cultural. Now what does media anthropology do? Or what should it do according to the first media anthropologists?

Rothenbuhler and Coman (2005) discuss in the introductory chapter of their interdisciplinary reader what they call the “promise of media anthropology” (p. 1). They argue that media anthropology “prepares media studies for more complete engagement with the symbolic construction of reality and the fundamental importance of symbolic structures, myth, and ritual in everyday life” (p. 1). What anthropology can contribute to the interdisciplinary field of media studies is the method and idea of ethnography as well as concepts widely used in anthropology, such as culture, ritual, religion, performance, or myth. One of the promises of media anthropology is thus the exploration of new application areas for these concepts and methods which have been part and parcel of anthropology for more than 100 years.

In her contribution to Rothenbuhler and Coman's volume, Ginsburg (2005, p. 17) reminds us

that “for many years, mass media were seen as almost a taboo topic for anthropology”. But through the global distribution of media technologies and the growing importance of mass media in people's everyday life, anthropologists began to study the production, circulation and consumption of media. In doing so, anthropologists have been particularly interested in the “mediation and expression of social processes and cultural meaning” (p. 17). In employing ethnographic research, anthropologists, according to Ginsburg (2005), understand media as “cultural artifacts enmeshed in daily lives” (p. 20). It is, furthermore, media anthropology's task to investigate how this new “contemporary cultural force” engage with sociocultural processes such as the circulation of public culture, commercialization, nation building, or identity production by drawing particular attention to “how those processes are being localized” (p. 21-22).

Elsewhere, Ginsburg et al. (2002b) argue that anthropology situates media as a social practice within “shifting political and cultural frames” looking for “how media enable or challenge the workings of power and the potential of activism; the enforcement of inequality and the sources of imagination; and the impact of technologies on the production of individual and collective identities” (p. 3). Media constitute thus different social fields for anthropological research. Media anthropology's models, Ginsburg et al. (2002b) suggest, “must allow for the simultaneity of hegemonic and anti-hegemonic effects as we [anthropologists] examine how 'technologies of power' are created and contested within intimate institutional cultures, shaped by ideologies ranging from public services, to audience appeal, to aesthetics, to political empowerment” (p. 23). In another introduction to one of the first media anthropology volumes, Askew (2002) notes that the volume's aim is to “engage readers in an anthropological critique of how mass media are employed to represent and construct cultures, both Western and non-Western” (p. 1). And she continues that media anthropological research includes “ethnographically informed, historically grounded, and context-sensitive analyses of the ways in which people use and make sense of media technologies” (p. 3).

Through the anthropological analysis of Brazilian television, Kottak (1990/2016) developed “a comparative and historical model of TV's spread and impact” (p, xix). He understands “TV impact” as a process and not as “a matter of simple, automatic, programmed responses

to irresistible, omnipotent stimuli" (Kottak, 1990/2016, p. 191-192). The cultural context of the media audiences is particularly important in this process. In the introduction to the updated edition of his book *Prime-Time Society*, he emphasizes the importance of change, monitored through cultural comparison and historical contextualization, in extending his "stage model of TV impact" (p. xxiv-xxvii). While media diversification, digital technologies, and increasing globalization of TV changed television in Brazil, Kottak (1990/2016) also recognizes media content, forms, and formats that haven't changed.

In her groundbreaking book *Hollywood: The Dream Factory*, Powdermaker (1950/2013) studies Hollywood as social system, in which movies are made, and in relation to American society. She notes that "in any society, changes in technology and the introduction of new ideas are often accompanied by conflict and tension, since they require modifications not only of knowledge, but also of social organization, of attitudes and behavior" (p. 185). The problem is then the integration of old and new (technologies and/or ideas) and resulting conflicts. And this is precisely what anthropologists are particularly interested in. The inclusion of change contributes decisively to the understanding and interpretation of sociocultural complexes and relationships – as Powdermaker (1950/2013) demonstrated.

Under the title "What is the point of media anthropology?", Postill and Peterson (2009) exchanged ideas in the journal *Social Anthropology* about what anthropology can hope to contribute to the interdisciplinary field of media and communication studies. Postill summarizes that according to Peterson (2003) media anthropology has three main contributions to make: (1) ethnography, (2) the decentring of "the West" and (3) alternative theoretical concepts and approaches (Postill & Peterson, 2009, p. 334). But for Postill there is one crucial dimension missing: history. And this is because most media anthropology projects focus primarily on contemporary societies through ethnographic fieldwork associating thus media anthropology with media ethnography. But "media anthropology is *not* media ethnography", as Postill (p. 335) puts it by adapting Ingold's argument that anthropology is not ethnography. He concludes that the strengthening of media historical research can contribute to the comparative study of media phenomena in an anthropology of media.

In his response to Postill's statement, Peterson argues that ethnography continues to be “the most common feature” of anthropological research in media (Postill & Peterson, 2009, p. 339) and, by following Geertz, that anthropology is in the end what anthropologists do. He then concludes that “the point of media anthropology is to broaden and deepen our understandings of human engagements with media through the application of the anthropological perspective – broadly comparative, holistic in its approach to complexity, ethnographically empirical, aware of historical contingency and relativistic” (p. 339). And Peterson continues that there is a connection between the understanding and conceptualization of “media” and the field of media anthropology: “policing the boundaries of what constitutes 'media' is as fraught as the problem of locating the boundaries of anthropology in this work we're calling 'media anthropology'” (p. 343).

Whether or not an “anthropology of mediation” holds the potential to integrate related anthropological subfields or “subdisciplines” – such as media anthropology, visual anthropology, and digital anthropology – is, as I would argue, highly doubtful. It rather seems that each wave of new media and technology innovations is generating a new wave of anthropological subfields or even subdisciplines. First anthropological studies on the role of the then new medium of television in remote indigenous communities were celebrated as “anthropology of TV” (Ruby, 1990). Earlier works in digital anthropology tended to neglect anthropological work that has been done in the field of digital communication and technologies under the rubrics of “cyberanthropology”, “cyborg anthropology”, or “the anthropology of cyberculture” (e.g., Downey, Dumit, & Williams, 1995; Escobar, 1994). And recently, a boom in “anthropologies of social media” can be identified (e.g., Miller, 2010, 2011; Miller et al., 2016).

At this point, I can summarize in a rather generalizing manner that the media anthropology project is ethnographically investigating the mediation of (human) communication that is enabled by technologies in different sociocultural contexts and under specific historical, political, and economic conditions. Moreover, the fragmentation of anthropological engagements with media technologies, as identified by Boyer (2012), seems to increase with the rise of new media technologies and new fields of media practice. If this is changing through the increasing digitalization and monopolization of the mediascape remains to be

seen.

The anthropology of media is, on the one hand, closely connected to other media studying disciplines, borrowing, for instance, theoretical concepts for the analysis of media phenomena. On the other hand, anthropology itself has developed a lot of useful analytical concepts and frameworks as well as methodological techniques and instruments to contribute to the investigation of media technologies: “Cultural anthropology is filled with concepts that define cultural structures and processes and leave their empirical contents as matters of ethnographic investigation” (Coman & Rothenbuhler, 2005, p. 11). Prominent examples for concepts and methods that have been used in media anthropology, but which have another disciplinary background, are Anderson's concept of “imagined communities”, Habermas' theoretical conceptualization of the public sphere, and the actor-network theory developed, among others, by Latour and Law. Established anthropological concepts are, on the other hand, not only used by anthropologists. In the interdisciplinary field of media studies, theories on ritual, myths, and religion, theories on exchange and trade as well as theoretical conceptions about material culture are frequently utilized to examine media phenomena and processes. In addition, anthropology provides a variety of theories on cultural, social, and ethnic identity as well as different conceptual approaches on communality and sociality (e.g., Rothenbuhler & Coman, 2005). Appadurai (1996), for instance, deploys Anderson's notion of “imagined communities” to emphasize the importance of imaginations in the creation of transnational media(land)scapes. He also utilizes Habermas' understanding of the public sphere to create a hypothetical arena – “public culture” – that dissociate itself from a differentiation into “First”, “Second”, and “Third” World by objecting a cultural hierarchization (Kreff, 2003, p. 130, see also Appadurai & Breckenridge, 1988). In this “public culture” (mass) media play an important role.

Research in media anthropology is constantly exploring new theoretical and methodological approaches for understanding media-related phenomena and processes. Bräuchler and Postill (2010), for instance, compiled a collection of anthropological and ethnographic work that is aiming to theorize media as practice. Putting thus theories of practice to the test in the sociocultural study of media. Even though there is no universal definition or general conception of “practice theory”, specific aspects of this theoretical approach for

understanding social life can be identified.[21] First, the focus on practice intents "to overcome the old theoretical division between structure and agency" (Couldry, 2010, p. 41). Secondly, this includes the consideration of the dialectic relationship between social structure and human agency by paying particular attention to social (dis)position, social hierarchy, and the historical dimension. Ortner (2006), for instance, notes that "a theory of practice is a theory of history", because past events and individual histories are crucial for understanding (contemporary) practices (p. 9). And Bourdieu (1977) states, that "habitus" – that for him is, among other things, "a system of dispositions" – is "the product of history" that invokes (individual and collective) practices and thus again history (p. 28).

A theory of practice perspective in the study of media, Postill (2010) argues, allows for focusing, particularly through ethnographic fieldwork, on (a) media practices in everyday life, (b) media in relation to the human body, and (c) fields of media production (p. 12-16). He concludes that "a practice theory approach to media suggests that people use a range of media partly to try to maintain – not always with success – a sense of ontological security in a modern world" (p. 18). Media practices are thus also connected to rituals and (other) performative practices that influence each other. Practice theory contributes this way to the opening and broadening of media studies. In two contributions to the Bräuchler and Postill (2010) volume, the notion of "media practices" is further specified. Couldry (2010) proposes to understand media not as text or production process, but as "the open set of practices relating to, or oriented around, media" (p. 36). "Media-oriented practices" refer to what people do in relation to media in different contexts and situations. By theorizing media as practice, it becomes necessary to identify and investigate the "range of practices oriented to media" and the "role of media-oriented practices in ordering other practices" (p. 50). Hobart (2010) suggests to understand practices as social activities and articulations "through which agents set out to maintain and change themselves"(p. 63). Particularly important here is to consider the hierarchical relations between different practices. Consequently, he argues for the conceptualization of media practices as "media-related practices" to "provide an initial circumscription out of the whole range of identifiable practices in a society at any moment" (p. 67). Such an understanding allows for the linking of media practices to other everyday practices and their joint analysis.

[21] For different understandings of "practice theory" see, for instance, Bourdieu (1977) and Ortner (2006).

Technologies From an Anthropological Perspective

Anthropology can contribute decisively to the understanding of the contemporary world, modern society, and science and technology (e.g., Fischer, 1999, 2007; Pfaffenberger, 1988, 1992). According to Adams (1996), for instance, anthropological insights into technology are useful to:

- avoid reducibility to simple regularities and measurable quantities by openness to complexities of interaction;
- maintain an integrative and contextual emphasis to understand change and continuity;
- search diverse, improbable kinds of patterning through scepticism towards commonly accepted categories and boundaries (p. xiii).

Sigaut (1997) argues that "attempts to define technology . . . usually turn out to be contradictory . . . and, in the end, as useless as they are numerous" (p. 422). Following Mauss, he understands technology as a science and furthermore as a branch of anthropology because "technical facts are facts of human activity" (p. 422). And he continues that "technology is to technics what every science is or would be to its object" (p. 422). Sigaut (1997) proposes further that to create a "truly scientific technology" it is necessary to construct an object of study "through observation and description", work that he terms "technography" (p. 423). Such an approach is necessary to establish and conduct a "real *anthropology* of technics" (p. 438). Mauss defines technique as "any set of movements or acts, . . ., combined to achieve a known physical, chemical or organic goal" (as cited in Sigaut, 1997, p. 423). Technics require knowledge and skills (see also Ingold, 2000). Knowledge about technical things does not mean the ability to actually operate them. For that, specific skills are needed. Turning knowledge into skills requires learning (over different periods of time). And, as Sigaut (1997) states, skills "cannot exist apart from permanent practice", owing "their existence to constant renewal in the course of practical action" (pp. 445-446). Moreover, technical skills are socially produced and connected to the production of material goods. It is this relationship that, according to Sigaut (1997) promises the most interesting answers about technological phenomena in our societies.

Since the 1950s, anthropologists have been studying new technologies and their effects on, particularly, non-western societies (e.g., Godelier, 1971; Pfaffenberger, 1992; Sharp, 1951). One of the best known examples is Godelier's (1971) work on the impact of introducing steel axes to indigenous communities in Australia and Papua New Guinea. But, as Escobar (1994) among others (e.g., Pfaffenberger, 1988, 1992) notes, it can become difficult to adapt these approaches to highly complex technological systems in larger societies. This does not necessarily imply an hierarchization of sociotechnical systems or a degradation of less technologized societies. All those systems, from pottery making in India to software engineering in California, are highly complex and heterogeneous, as Pfaffenberger (1992) emphasizes. In his attempt to develop an anthropology of technology and material culture, he identifies the concept of "sociotechnical systems" as particularly useful. He concludes that sociotechnical systems are able to recognize and integrate complex social structure, nonverbal activity systems, advanced linguistic communication, the ritual coordination of labour, advanced artifact manufacture, the linkage of phenomenally diverse social and nonsocial actors, as well as the social use of diverse artifacts as parts of a single complex that is simultaneously adaptive and expressive (p. 513).

A relatively new disciplinary project, the study of science and technology, have started to deal with questions about the social construction of technology and the contextualization of technology and science in complex societies (e.g., Bijker & Law, 1992). But also anthropology has been putting forward the analysis of complex sociotechnical systems in contemporary society. Also because there are questions on the sociocultural meaning of technology that anthropology is best equipped to answer (e.g., Pfaffenberger, 1988, 1992). In the anthropological discourse about technology, Pfaffenberger (1988), for instance, argues against two extreme positions in understanding the relationship between society and technology: "technological somnambulism" and technological determinism (p. 238). The first perspective holds that there is no causal link between technology, society, and culture and that hence technology is neutral. The latter view understands technology as the dictating driving force of social life, assuming that a linkage between technology and society always exists. Pfaffenberger (1988) proposes that technology should rather be understood as "humanised nature", as a social construction of our surrounding nature (p. 244). Technology is thus a socially constructed phenomenon, a social or, following Mauss, a "total"

phenomenon (p. 244). Technology as total social phenomenon is more than material culture since it combines the material, the social, and the symbolic in an associative web. This, however, does not mean that material culture is not a useful conceptual approach to understand sociotechnical processes and phenomena. Moreover, Pfaffenberger (1988) urges anthropology to concentrate on human social behaviour "in which people engage when they create or use a technology" (p. 243). Anthropological engagements with digital technologies have been following these paths to understand the growing complexity of sociotechnical systems in contemporary societies.

Anthropology and Digital Media Technologies

The internet is the largest global computer network, which connects millions of computers and their users. It has never been a monolithic media technology. On the contrary, it can be understood as a technology that allows for the integration of different kinds of computer networks and communication media. The world wide web (WWW) serves as a kind of graphical interface to the internet, allowing the implementation of multimedia and the (hyper)linking of documents. Thus, the web has facilitated access to the internet and has decisively contributed to its distribution across large parts of the world. This distribution, however, is far from even, and has resulted in discussions about what has been termed "the digital divide". As Miller and Slater (2000) summarize, the internet is "a range of practices, software and hardware technologies, modes of representation and interaction that may or may not be interrelated by participants, machines and programs" (p. 14). The internet is thus not a purely technical, technological, or infrastructural phenomenon, but also a sociocultural one. It connects people, it enables communication, interaction, and representation. How people use, develop, and appropriate, internet and related technologies is therefore subject to anthropological inquiry.[22]

Internet technologies and the WWW promised a lot of things: from instantaneous global communication and fast information gathering to new forms of politics, economy, organizations, and socialities, including a renewed sense of community. Rheingold (1993/2000), for example, emphasized in his book *The Virtual Community* "the importance

[22] For the history and origins of the internet see, for instance, Hafner & Lyon (1998) and Internet Society (2017).

of cyberspace to political liberties and the ways virtual communities are likely to change our experience of the real world" (p. xviii). By studying these online and "virtual" communities, internet researchers initially focused on their structure and development (e.g., Jones, 1995; Smith & Kollock, 1999). Then, social network theory changed decisively the way communities on the web were conceptualized and analyzed. Several social scientists have been arguing that in "the internet age", societies, communities, and individuals all have a network(ed) character (e.g., Castells, 2000; Rainie & Wellman, 2012; Wellman, 1997; Wellman et al., 2002). The conceptualization of digital "togetherness" as social networks has thus become widespread in internet studies.

Anthropology can contribute to this debate about online or digital sociality in internet studies by providing and exploring concepts developed through ethnographic research (e.g., Budka & Mader, 2009). The notion of "sociality" already opens the "modernist" and "western" vocabulary to alternative forms of "the social" by highlighting the importance of individual agency in understanding "the social" (e.g., Amit, 2015; Overing & Passes, 2000). Community and social network as basic conceptions of sociality have been critically reviewed by anthropologists, particularly in the context and in the process of ethnographic fieldwork. Some state, for instance, that community is, because of its emotional significance and popularity in public discourses, a rather poor analytical tool (e.g., Amit, 2002). Internet ethnographers have thus started to look for alternative ways of understanding internet-related socialities by moving beyond the community/network paradigm (Postill, 2008). Among such anthropological conceptions of sociality that have been deployed in internet research are V. Turner's "communitas", "liminality", and "social drama" (e.g., Mader, 2011; Postill, 2011; Waskul, 2005); the Manchester School's and Bourdieu's "social field" (e.g., Postill, 2008, 2011), and Overing's conception of "conviviality" (e.g., Budka & Mader, 2009). Anthropology engaged with computers, computing, computer networks, ICT, the internet, and most recently with digital media and mobile communication technologies, social media, social networking sites, and digital platforms, in a variety of projects and under different labels (e.g., Boellstorff, 2008; Hakken, 1993). Some of these projects have been building on early ideas about the systemic interaction between human and non-human entities.

Cyberanthropology and the Anthropology of Cyberculture

After the Second World War, cybernetics was established and popularized as (inter)disciplinary project, mainly by the work of Wiener (1948, see also Wiener & Masani, 1985). There are several definitions of "cybernetics" which all build around communication in and control of systems, may they be informational, mechanical, or natural. Wiener defines cybernetics in its basic form as a theory of messages with the goal "to develop a technique for producing and refining a message form that is recognizable and efficient as both a mobile value-bearing container of meaning and a sensory prosthesis" (as cited in Axel, 2006, p. 359). The interdisciplinary work of the cyberneticians contributed to the centring of communication and technological relations in the anthropology projects of, for instance, Bateson, Mead, Lévi-Strauss, and Geertz.[23] Mead (1968) wrote about her anthropological interest in cybernetics:

> As an anthropologist, I have been interested in the effects that the theories of cybernetics have within our society. I am not referring to computers or to the electronic revolution as a whole, or to the "implosion" and the end of dependence on script for knowledge, or to the way that dress has succeeded the mimeo, graphing machine as a form of communication among the dissenting young. I specifically want to consider the significance of the set of cross-disciplinary ideas which we first called "feedback" and then called "teleological mechanisms," and then called "cybernetics" – a form of cross-disciplinary thought which made it possible for members of many disciplines to communicate with each other easily in a language which all could understand. (p. 1)

After it became apparent that cybernetics had not evolved into such a cross-disciplinary language, she noted that she would like "to consider cybernetics as a way of looking at things and as a language for expressing what one sees" (Mead, 1968, p. 1). Her research partner and husband Bateson (1972/2000) was particularly interest how organisms – humans and animals – relate to each other and their environment through communication. He was searching for a way to structure and analyze what he called the "ecology of ideas" or the "ecology of mind" (Bateson, 1972/2000). Cybernetics, he hoped, could contribute decisively

[23] See Axel (2006), Boyer (2012), and Rapport and Overing (2000) for detailed discussions on the relationship between cybernetics and anthropology.

to the answering of his research questions about difference, holism, context, meaning, system, and the self in human and non-human interaction. For Bateson, cybernetics stood for radical change, not only in research but also in academia as such. Moreover, he considered cybernetics to be crucial in understanding complex systems, human-non-human interaction, communication within larger environments and ecologies, and also the human mind. While cybernetics lost its momentum as driving interdisciplinary project in the 1980s, the quest for understanding increasingly complex and technologized systems as well human and non-human interaction and communication continued in anthropology.

"Cyberanthropology" can be understood as an anthropological research branch or field, which aims for the understanding of human engagements with computer and biological technologies in sociocultural contexts. Through shared research topics and interests, it is closely connected to other anthropological fields such as digital anthropology, anthropology of science and technology, media anthropology, and medical anthropology. Two alternative labels for anthropological research into human-technology relations are "cyborg anthropology" (Downey et al., 1995) and the "anthropology of cyberspace" (Hakken, 1999, 2003). The term "cyberanthropology" etymologically derives from neologisms such as "cyberspace", "cyberculture", or "cyberpunk", notions that were created in popular culture and especially in science fiction literature. Gibson, for example, coined the term "cyberspace" in his science fiction essay *Burning Chrome* in 1992, which was then popularized through his novel *Neuromancer* in 1984. The prefix "cyber", on the other hand, derives from "cybernetics", a concept established by Wiener at the end of the 1940s to describe the complex of sciences that deals with communication and control in artificial and organic systems such as human-machine interaction. Wiener had in mind the Greek word for "steersman" or "governor" – *kybernetes* – to describe a steering or controlling device for machines. In fact, the Greek term had already been used long before Wiener, for instance by Ampère and Plato, to describe related phenomena (e.g., Wiener & Masani, 1985). Today, the prefix "cyber" generally refers to computer and information technologies and how humans are interacting with and through them.

One of the first attempts to identify cyberanthropology's fields of inquiry was done in 1994 by Escobar in his article "Welcome to Cyberia". Escobar (1994) utilizes the concept of

"cyberculture" to analyze fundamental transformations in the structure and meaning of "modern" society and culture due to computer information, and biological technologies: "As a new domain of anthropological practice, the study of cyberculture is particularly concerned with the cultural construction and reconstruction on which the new technologies are based and which they in turn help to shape" (p. 211). These new technologies are computer and information technologies, including artificial intelligence, and biotechnologies, including genetic engineering. While the first are bringing about a regime of "technosociality" as a process of sociocultural construction activated by new technologies, biotechnologies "are giving rise to biosociality, a new order for the production of life, nature and the body" (Escobar 1994, p. 214). In both forms of sociality, nature and culture are reinvented under specific political and economic conditions that should be considered in an anthropology of cyberculture (Escobar, 1995). I will concentrate in the following on computer and information technologies, leaving biotechnologies aside.

How should anthropology deal with the emerging ICT? What are the sociocultural, political, and economic consequences of these new digital technologies? Escobar (1994) identified three different projects at the beginning of the 1990s that could provide answers to these and similar questions:

- According to Tomas "we are witnessing a transition to a postcorporeal stage that has great promise for creative social logics and sensorial regimes" (as cited in Escobar, 1994, p. 216). For anthropologists it is inevitable to study how these "new virtual world technologies" are socially produced (Tomas, 1991, p. 33). Boellstorff (2008) argues for an "anthropology of virtual worlds" that does not consider "the virtual" and "the real" as opposing categories, but rather understands "the virtual" as real in its own terms (pp. 248-249). Human worlds and cultures which are realized through the internet can be described as "virtual"; while worlds which are not mediated in such ways can be referred to as "actual". Virtual worlds are as real as actual worlds, particularly for their residents who generate the worlds' specific political, economic, or sociocultural contexts. Consequently, these worlds should also be (ethnographically) investigated on their own terms (see also Boellstorff et al., 2012).
- The main goal of the second project – "cyborg anthropology" – is "the ethnographic study of the boundaries between humans and machines" that are specific to

contemporary societies (Escobar, 1994, p. 216). A "cyborg" can be understood as a "cybernetic organism" – part human and part machine – and as a conception of "hybrid" that has been used and explored by feminist anthropology (e.g., Haraway, 1991) and the anthropology of science and technology (e.g., Fischer, 2007). Haraway (1991), for instance, employs the concept of "cyborg" to question and criticize the boundaries between human, animal, and machine as well as between "the physical" and "the ideological", which, according to her, have been constructed through male dominated ideologies, ontologies, and epistemologies. "Cyborg anthropology", Downey, Dumit, and Williams (1995) argue, should focus on three research areas: (a) science and technology as a form of cultural activism, (b) human-machine relations, (c) technologies as producers of sociocultural life.

- The third project, the "anthropology of cyberculture", holds that the discipline of anthropology is well suited for describing, "in the manner of an initial cultural diagnosis, what is happening in terms of the emerging practices and transformations associated with rising technoscientific developments" (Escobar, 1994, p. 216, see also Haraway, 1991).

Within an anthropology of cyberculture, which focuses on the cultural contexts of "technoscience", ethnographic research, according to Escobar (1994, 1995), can be conducted in different areas or domains:

- Fields where new technologies are produced and used, for instance computer labs and companies, internet service providers, and virtual reality design centres, but also homes, schools, and workplaces as places of consumption and reception.
- Through internet-related technologies, people are forming networks and communities with their own code of conduct and language. These "virtual" or "online communities" and "online social networks" offer a rich social field for ethnographic investigation. Ethnographers can, for instance, study the diverse relationships between language, social structure, and cultural identity that are produced by computer-mediated communication.
- "The political economy of cyberculture", as another field of ethnographic investigations, examines the relationship between information and capital as well as the cultural dynamics and politics that information sets in motion (Escobar, 1994, p.

220). Here, the political and economic relations between so called "developed" and "developing" countries must be taken into account.

Hakken (1999) continues this outlook into the future of ethnographic research in relation to ICT. He identifies the potential of, what he calls, "cyberspace ethnography" to contribute substantially to the "cultural construction of this new social arena" (p. 2). For the ethnographic study of "cyberspace" it is initially necessary to outline the "key issues":

- The basic characteristics of the entities carrying cyberspace;
- The self-identities formed by such entities;
- Close social relations these entities construct (e.g., with intimates and friends);
- Intermediate social relations of these entities (e.g., community, regional, and civil relations);
- Macro-social relations (e.g., national, transnational);
- The political economic structures which cyberspace entities produce and reproduce and by which they are constrained (pp. 7-11).

This range of issues form a framework of "cyberspace" as a sociocultural space with different levels of interaction that is predestined to be investigated in an ethnographic manner, by asking questions about "this possible new way of being human" (Hakken, 1999, p. 10; see also Bräuchler, 2013). Studies on cyberculture are, of course, not only an anthropological project, but instead an interdisciplinary one, including a multitude of disciplines, from philosophy to communication studies (e.g., Silver, 2004). But the discipline of anthropology, with its elaborated methods and concepts, is predestined to investigate technologies, their sociocultural construction and consequences, as well new forms of (technology-mediated) communication (e.g., Axel, 2006; Miller, 2010; Pfaffenberger, 1988, 1992). Within new, highly dynamic spaces of sociocultural interaction and organization created and maintained through ICT practices, anthropologists deal with phenomena well known to the discipline, such as gender, ethnicity, religion, mystification or exchange (e.g., Budka & Kremser, 2004). Human beings produce, use, and consume ICT by including their offline lives and cultures. Therefore, if the anthropology of cyberculture operates in a holistic and open way, it can help to highlight seemingly contradicting phenomena within anthropology, such as the global and the local in the case of the internet (e.g., Miller &

Slater, 2003). In addition, the anthropology of cyberculture can contribute to the blurring of categories and boundaries, such as nature/culture or human/machine that are sometimes treated as fixed and indestructible: “cyberculture, moreover, offers a chance for anthropology to renew itself without again reaching, as in the anthropology of this century, premature closure around the figures of the other and the same” (Escobar, 1994, p. 223). Or to put it another way, the anthropology of cyberculture, according to Escobar (1995), holds the potential to overcome the dichotomy of the “modern” and the “savage” or “the civilized self” and the “uncivilized other” (p. 418).

The Project of Digital Anthropology

Today, digital media technologies are part and parcel of everyday social and cultural life. They have become ubiquitous. No wonder that also anthropologists are becoming more and more interested in conducting research projects, creating research networks, and organizing workshops on digital practices. Synonymous for “the digital age” is the internet. The first holistic ethnographic study of “the internet” was conducted by Miller and Slater, which resulted in the book *The Internet: An Ethnographic Approach* (2000). In this volume, they analyze “how members of a specific culture attempt to make themselves a(t) home in a transforming communicative environment, how they can find themselves in this environment and at the same time try to mould it in their own image” (Miller & Slater, 2000, p. 1). The research took place in the Caribbean, on the island of Trinidad. There, Miller and Slater (2000) investigated how Trinidadians make use of “their internet” and its applications and services in religious, political, ethnical, social, and economic contexts (p. 14). They ethnographically examined the local consequences of a global phenomenon. And they found, that in an ethnographic context, the internet can be understood as a phenomenon that comprises “different social relations” rather than as “a single 'object' with inherent properties” (p. 52).

Miller and Slater (2000) conclude that the internet in the Trinidadian case can be understood as material culture rather than technology, since technologies “have become forms of practice” (p. 193). According to Miller (2000), material culture is a “subset of culture”, an “aspect of objectification” which consists in the material forms of the cultural process (p.

399):

> If culture is understood not in the narrow sense of some particular element of the human environment, but in the more general sense of the process through which human groups construct themselves and are socialized, then material culture becomes an aspect of objectification, consisting in the material forms taken by this cultural process. (p. 399)

To study material culture, "is to consider the implications of the materiality of form for the cultural process" (Miller, 2000, p. 399). The sociocultural meaning of artifacts, therefore, includes the ordering of and the being ordered by objects as well as the significance of their physical and symbolic qualities (p. 415). For Miller (2000) it is important to resist assumptions that objects have already been established and "whose social meaning has to be (retrospectively) determined" (p. 417). Ethnographic research rather indicates that these "objects only come into being through prior acts of construction, and in the process of their manufacture they manifest a particular system of categorization" (p. 417). Correspondingly, Miller (2000) argues, "persons only come into being, with the particular cultural identities that they have, through a process of socialization involving the same material taxonomies" (p. 417). To overcome the dualism of artifacts and persons, he concludes that it is necessary to recognize that the "process by which meaning is given to things is the same process by which meaning is given to lives" (p. 417).

In anthropology, material culture is closely connected to consumption and its sociocultural implications. And the first step in the process of consumption is the transformation of objects "from being impersonal commodities into things with distinctive meanings for the consumer and distinct places in consumers' lives"(Carrier, 1998, pp. 128-129, see also Appadurai, 1986). And this was precisely what, according to Miller and Slater (2000), happened with internet technologies in Trinidad. Even though Axel (2006) finds Miller and Slater's (2000) commitment to ethnographic holism and "traditional" ethnography exceptional and rather extreme, he admits that their text pushes "the limits of the normativity of a certain discursive formulation that conditions ethnographic approaches to the study of new technologies of communication" (pp. 365-366).

10 years later Miller, returned to Trinidad to investigate another booming digital media phenomenon and its consequences for people: Facebook (Miller, 2010, 2011). With about 1,6 billion users in 2016, Facebook is the world's largest and most dominant social networking site (e.g., Internet World Stats, 2016). On Facebook people create profiles, they share stories, pictures, network, create and join groups of common interest, support ideas and activities, and they simply communicate. Through his ethnographic case study and an "extreme reading" of Facebook, Miller (2010, 2011) developed an anthropological theory of Facebook. Just like with his first ethnographic study about the internet, he concentrates on the local interpretation of this phenomenon and the idea that Facebook is in fact a Trinidadian invention, "rather than an imported facility" (Miller 2011, p. 159). He finds that:

- Facebook is only an aggregate of regional usage and practices; cultural difference and diversity therefore become crucial.
- Facebook provides means to complement offline communities; this is in particular affecting diaspora populations.
- Facebook is a crucial medium for visibility and public witnessing, not for all people and not necessarily.
- Facebook internationalize local events, thus shrinking social worlds.
- Facebook, and the practices related to it, brings a shift from sociology to anthropology in respect of understanding specific issues in contemporary society; because only anthropology can provide answers to some of the questions posed by this social networking platform.

According to Miller (2011), Facebook is a social network that is able to reconstruct relationships, particularly among families and friends. Emerging questions about kinship and close social relationships should be answered by anthropology and more ethnographic research. Miller contributed to just that by leading an anthropological research project on social media use in different sociocultural contexts (Miller et al., 2016).

In the introduction to their edited volume *Digital Anthropology*, Miller and Horst (2012) identify six principles for an anthropology of "the digital" as a new anthropological subdiscipline (pp. 3-4). "The digital", they argue, can be understood as a "highly effect means for reflecting upon what it means to be human" (p. 3).

- "The digital" is intensifying the dialectical nature of culture; digital refers here to "all that which can be ultimately reduced to binary code but which produces a further proliferation of particularity and difference" (p. 3).
- Humanity is not more mediated through "the digital"; pre-digital life was not more "authentic" or "real".
- The commitment to holism as anthropology's foundation.[24]
- The significance of cultural relativism; opposing assumptions about the homogenizing effects of "the digital".
- The ambiguity of digital culture; possibilities open and close at the same time.
- The acknowledgement of the materiality of digital worlds. "The digital", like every form of material culture, becomes "a constitutive part of what makes us human" (p. 4).

The materiality of "the digital", as the "bedrock of digital anthropology", and its normativity can further be divided into:

- The materiality of digital infrastructures and technologies, e.g., the physicality of the internet;
- The materiality of digital content, e.g., the sharing of visual material;
- The materiality of digital contexts, e.g., issues of space and place (p. 25).

Particularly interesting for digital anthropology is not the speed of the development of digital devices and technologies, but the speed of their moral incorporation and how these things become so quickly mundane. Miller and Horst (2012) conclude that „not only are we just as human within the digital world, the digital also provides many new opportunities for anthropology to help us understand what it means to be human" (p. 4). And Boellstorff (2012) adds that digital anthropology as framework is able to "link the online and offline *through similitude and difference* and by a methodological focus on participant observation" (p. 56-57). Digital anthropology, he continues, can become an important approach in the examination of digital culture's past and present, but for that it must represent more than online ethnography (p. 57). The main difference between cyber anthropology and digital

[24] Holism, as anthropology's attempt to understand a sociocultural phenomenon or process in its whole complexity by treating "the whole as greater than the sum of its parts", is rather an ideal, anthropology is striving for (Barnard & Spencer, 1998, p. 608; see also Marcus, 1998).

anthropology is that the former considers biological technologies and related sociocultural phenomena as part of its research area. Cyber anthropology is thus broader in scope and closer to the anthropology of science and technology. And while cyberanthropology or the anthropology of cyberculture can be rooted in cybernetics, with closer connections to science and technology studies and the American tradition of anthropology, digital anthropology seems to be particularly tied to material culture studies and to British anthropology.

Digital Media Activism and Social Change

Activism with/in/through digital media technologies can be understood as a specific form of technology mediated activism that has been called "cyberactivism", "digital activism", "online activism", or "internet activism" (e.g., Silver, 2003). These are all terms that describe more or less the same phenomenon: the potential of media technologies and related practices for sparking, creating, and supporting social and political change.[25] After a first hype about the potential of the so called "social media" to "democratize" nation-states or to "liberate" whole regions, a growing number of critical in-depth studies have been emerging that paint a more realistic picture of the activist potential of digital media practices (e.g., Coleman, 2010; Postill, 2012, 2014; Tufekci, 2013). What should not be forgotten in this debate about the sociopolitical potential of digital media is that there have been digital activist projects already before the arrival of "social media" such as Facebook, Twitter, or YouTube (e.g., Landzelius, 2006a; McCaughey & Ayers, 2003a).

Social change is at the heart of media activism, as Kidd and Rodriguez (2009) note*:* "Grassroots media have grown from a set of small and isolated experiments to a complex of networks of participatory communications that are integral to local, national, and transnational projects of social change" (p. 1). They trace the development of "modern" grassroots media back to the 1970s and the initiative for a New World Information Order (NWIO) that emerged under the leadership of countries of the Global South in the United Nations Educational, Scientific and Cultural Organization (UNESCO). The goal was to redress inequalities and asymmetries of the colonial and post-colonial system and related media power structures and flows of information. To accomplish just that, a democratization

[25] For an early account and critical discussion of computing and social change, see Hakken (1993).

of media would have been necessary and this could not be done by following dominating states' or industries' efforts. The NWIO initiative eventually resulted in a strategic shift "in which the civil society took the leading role in developing alternative media projects and models of communication" (p. 4). In producing, distributing, and utilizing alternative media, people also empowered themselves in processes of self-directed identity formation and self-representation: "The combination of creative and tactical uses of communications, emphasizing local and direct self-representation, contrasted with the relentless and anonymous messages of corporate globalization and became a source of inspiration for media activists from around the world" (Kidd & Rodriguez, 2009, p. 7).

To understand media activism in relation to social change, it seems crucial to consider power as key-element and social driving force. Power is significant to social struggles and conflicts over, for instance, the control and domination of media and forms of representation. It does therefore make sense to talk about "media power". According to Couldry and Curran (2003), media power is a paradox (p. 3). Media, on the one hand, are deployed by different "powers", such as economic and political powers, to support their struggles and activities. On the other hand, "media's representational power is one of society's main forces in its own right" that is not "made explicit by those who benefit from it: the media" (p. 4). Media power can thus be understood as "*an emergent form of social power* in complex societies whose basic infrastructure depends increasingly on the fast circulation of information and images" (p. 4). Moreover, "media power itself is an increasingly important *emergent theme of social conflict*", as Couldry and Curran (2003, p. 4) put it. To understand media power as social phenomenon, it is necessary to open the "black box" of media (power). And this can be accomplished by focusing, for instance, on how decisions are made in the media and what their consequences are, rather than to concentrate on how media (messages) affect audiences. Here, it is necessary to "think concretely about the *range of power sources*" that can influence and change media: the state, the market, civil society, and new forms of digital media technologies such as social media (p. 5). Since media power seems to be "an increasingly significant theme of social conflict", it is necessary not only to focus on mainstream media, but also on what can be termed "alternative media" that seek to challenge "central concentrations of media resources" (p. 7).[26] Moreover, alternative media are related

[26] For more definitions of non-mainstream media and a critique of the concept of "alternative media" see, for instance, Rodriguez, Kidd, and Stein (2009).

to questions and issues of power, structures, and relationships, such as the relation and interaction of public and counter-public spheres, global and local media relations, the relevance of culture and politics in processes of mediation, and the social realities of inequalities in media production, distribution, and consumption (e.g., Kidd & Rodriguez, 2009).

Digital and social media are among those alternative media technologies used by different groups, organizations, networks, and communities to contribute to social change. The internet, for instance, changed the access to means of self-representation on a global scale. Couldry and Curran (2003) even state that the internet "gives any local actor the potential to reach global audiences" (p. 5). One should not forget, however, that there are still existing inequalities in access to and knowledge of these technologies. Internet technologies are not equally distributed, neither on global nor on local scale (e.g., Chadwick, 2006). Activists, particularly in countries with the necessary infrastructure, have "not only incorporated the Internet into their repertoire but also, . . . , have changed substantially what counts as activism, what counts as community, collective identity, democratic space, and political strategy" (McCaughey & Ayers, 2003b, p. 1). These activists share to some degree the believe that digital technologies can contribute to social and political change. But to define what constitutes as digital activism "is as difficult as defining activism before the Internet" (p.14). McCaughey and Ayers (2003b) remind us further that "activism takes many forms – including direct action, protests, efforts to change laws, self-help groups, educational groups, cultural groups, activist newspapers, and political bookstores" (p. 14). Nevertheless, some researchers suggest to categorize digital activism along the directions digital or online activities are taking: from advocacy and awareness raising, to mobilization and organization, to pure online direct action (e.g., Chadwick, 2006; Vegh, 2003). These types of digital activism are further connected to questions about the conception of time and space, organizational structures, collective identities, and different forms of sociality.[27] Therefore, research on digital activism should (a) be historically informed, (b) concentrate on the rhetorical aspects of activism, (c) draw on ethnographic research, and (d) emphasize the importance of code and design (Silver, 2003, pp. 288-289; see also Silver, 2004; Wellman, 2004).

[27] For a discussion of the organizational structure of networks in digital activism see, for example, Bennett (2003).

According to van de Donk et al. (2004), internet activism and protest is not going to replace other protest forms. They argue that despite the usage of new ICT by social movements to network and communicate, the existing constellations of power are not fundamentally changing. In a similar vein, van Aelst and Walgrave (2004) state that internet technologies support the integration of different organizations within the anti-globalization movement. However, little evidence can be found that internet practices are substituting other traditional forms of protest. In considering the limitations of digital media activism and internet empowerment, Bennett (2003) argues that "the political impacts of emerging technologies reflect the changing social, psychological, and economic conditions experienced by citizens who use them" (p. 35). As Dahlgren (2004) emphasizes, politics and political processes have been changing considerably in the era of globalization, neoliberalism, and late modernity: "The boundaries between politics, cultural values, identity processes and collective self-reliance become fluid; politics becomes not only an instrumental activity for achieving concrete goals, but even at times an expressive and performative activity, entwined with the development of the self" (p. xii). A lot of new social movements and alternative politics developed since the 1990s that utilized emerging internet technologies for their purposes. So the internet enables and supports the formation of alternative or counter public spheres by providing discursive spaces where civic discussions can take place. Dahlgren (2004) reminds us though that these developments should not lead to technological determinism, but instead to questions of how ICT "interplay with the dynamics of the social movements, as well as with the mainstream political structures and contemporary cultural trends that frame these movements" (p. xv). Marginalized population groups are often seen as helpless "cue balls" in processes of globalization and modernization. However, as this thesis demonstrates, indigenous people(s), groups, and movements are shaping diverse processes of globalization, through their engagements with digital technologies.

INDIGENOUS MEDIA TECHNOLOGIES

Indigenous media can be broadly defined as media and forms of media expression conceived and produced by indigenous people (Ginsburg, 1991; Wilson & Stewart, 2008b; Wilson, Hearne, Córdova, & Thorner, 2014). It is important here to consider the technological dimension of (indigenous) media, because it is through technologies that communication, culture, and identity are mediated. Moreover, the physical qualities of a medium and the materiality of communication have to be considered in attempts to understand media practices in different and changing sociocultural contexts (e.g., Bräuchler & Postill, 2010; Ginsburg, et al, 2002a). By emphasizing the cultural dimension in processes of technology appropriation, Salazar (2007), for instance, suggests to understand indigenous media "as a socio-technical system of relations where technology becomes a cultural construction appropriated according to relevant cultural codes and social relations" (p. 16).[28]

Moreover, media for and by indigenous populations have also been included in the "ethnic media" category (e.g., Matsaganis, Katz, & Ball-Rokeach, 2011, p. xiii). Deuze (2006) proposes to understand ethnic media as a global "social trend" of "all kinds of community, alternative, oppositional, participatory and collaborative media practices" rather than as a "causal relationship" between "ethnic/minority media and immigration flows" (p. 263). Such an interpretation opens the possibility for media studies to (re)focus on people who are "becoming the media"; that is to actively engage "in some type of media-making on and of their own" in the broadest possible sense (p. 263). Particularly in times of digital media technologies, the boundaries between media production and media consumption become increasingly blurred, a phenomenon which also has been described as "convergence culture" (e.g., Jenkins, 2006). According to Deuze (2006), ethnic media can be understood as an example and as an expression of this form of participatory media culture. Moreover, Salazar and Córdova (2008) suggest that conceptualizing indigenous media as "imperfect media" – a term which implies a strong anti-colonial and anti-hegemonic media agenda – may also "contribute to the theorization of a politically emancipatory form of citizens' media" (p. 55).[29]

---

[28] For historical accounts of indigenous media see Alia (2010), Cardús i Font (2014), Hafsteinsson (2013), Wilson and Stewart (2008b), Wilson et al. (2014), or Wortham (2013).

[29] The term "imperfect media" derives from the notion of "imperfect cinema" (e.g., Minh-ha, 1989).

In an attempt to specify the main reasons for making indigenous media, Ginsburg (2000) identifies four dimensions: (a) the recognition of indigenous people(s) and their cultural practices on a world stage; (b) the sustaining and transformation of contemporary indigenous culture; (c) the enhancement of the struggle for indigenous rights; (d) the critique of non-indigenous representations of indigenous people and cultures (pp. 29-30). By (strategically) inserting their own narratives in the dominant media landscape – may this be accomplished through films, TV and radio programs, or websites – indigenous people also utilize media technologies as means for social change and political transformation. Such media-making practices include "the sense of both political agency and cultural intervention that people bring to these efforts" (Ginsburg et al., 2002b, p. 8) and have thus become part of the "ongoing struggles for Indigenous recognition and self-determination" (Ginsburg, 2000, p. 30). Indigenous media practices can therefore be understood as cultural activism (see also Ginsburg, 1997). To understand indigenous media practices as a form of cultural activism means to acknowledge indigenous people's agency to self-consciously respond to structures of power. Such an activist approach considers media technologies as tools to make the voices of marginalized and disfranchised people heard. Indigenous media making, moreover, includes the creation of social connections to other indigenous people and to non-indigenous agents alike. Thus, contributing to an alternative cultural project which is "created by Indigenous people about their own lives and cultures" and which is closely related to the mediation of culture and the (re)production and transformation of identities (Ginsburg, 2000, p. 45). And this is key to cultural survival. By reflecting upon contemporary sociocultural and political situations and by recombining elements from both the indigenous and the non-indigenous society, indigenous media challenge essentializing conceptions of identity and culture (see also de la Cadena & Starn, 2007).

However, critics of this activist approach to indigenous media contend that the indigenous appropriation of "western" media technologies result in the loss of "traditional" culture, language, and knowledge (e.g., Weiner, 1997). While this might be true to some extent, such a view rests on an essentializing and static understanding of culture and, moreover, denies indigenous people agency. To renounce the use of media technologies would mean to give up on the control over the mediation of culture and identity, which is key to cultural survival

(e.g., Ginsburg, 1991; Turner, 1992). A completely different strand of critique argues that the activism narrative tends to neglect indigenous people's own articulations of media practices (e.g., Hafsteinsson, 2013). Such articulations relate to individual experiences and local changes as well as social transformations invoked by media technologies. This approach pays particular attention to media technologies' distinct limitations and to the communicative constraints, norms, and regulations in indigenous cultures (see also Michaels, 1985). I propose that to gain insights into the relationship between indigenous identity formation processes and media-making practices, it is necessary to consider the relational aspects of indigenous media as tools for cultural activism as well as media's (technical) constraints and the distinct rules and values of an indigenous knowledge economy.

Indigenizing Media Technologies

In media and visual anthropology, anthropologists are, among other things of course, interested in how indigenous, disfranchised, and marginalized people have started to talk back to systems of power that neglect their political, cultural, and economic needs and interests by producing and distributing their own media technologies (e.g., Ginsburg, 1991, 1997, 2002a, 2002b; Michaels, 1995, 1994; Prins, 2002; Turner, 1992, 2002). “Indigenized” media technologies are providing indigenous people with possibilities to make their voices heard, to network and connect, to distribute information, to revitalize culture and language, and to become politically engaged and active (Ginsburg, 2002a, 2002b). As, for instance, Wortham (2004) in her discussion of indigenous video practices in relation to projects of self-determination in Mexico notes “as the state builds its patrimony of pluralism, indigenous activists are constructing forms of autonomy that redefine their communities through the use of audiovisual technology” (p. 367). And Brooten (2008) demonstrates that indigenous media in Myanmar contribute to in-group communication and outside representation by “identifying the patterns of resistance and survival that begin to alter stereotypes of Indigenous peoples as helpless, hopeless victims” (pp. 111-12). Media technologies have thus become tools for social change (see also Pietikäinen, 2008; Smith, 2010; Wortham, 2013).

As part of a wider set of sociocultural and political practices, indigenous media practices are closely connected to the mediation of culture and the construction of (collective) identities (Ginsburg, 1991, 2002a, 2002b). Indigenous people have been appropriating media technologies for decades to communicate within and outside the communities, to resist outside domination, and for self-determination. Indigenous media thus contribute to the reflection and the transformation of the conditions of indigenous lives. Ginsburg (2002b) argues that "when other forms are no longer effective, indigenous media offers a possible means – social, cultural, and political – for reproducing and transforming cultural identity among people who have experienced massive political, geographical, and economic disruption" (p. 217). Moreover, indigenous media producers are "engaged in a powerful new process of constructing identities on their own terms but in ways that address the relationships between indigenous histories and cultures and the encompassing societies in which they live" (p. 213). The mediation and (re-)construction of culture and identity through "modern" media technologies include cultural elements and characteristics of the dominant, non-indigenous societies which are recombined with indigenous, "traditional" elements (Ginsburg, 1991). Ginsburg (2002a) states further that indigenous media practices contribute to the creation of a future in which traditional narratives and practices and "modern" technologies are combined. To understand indigenous media as a form of cultural activism therefore proposes an open and dynamic understanding of culture. Static conceptualizations of authenticity or culture have to give way to more flexible and dynamic notions of, for example, hybridization, self-consciousness, and self-expression in understanding contemporary processes of identity construction.

Worth and Adair (1970) gave one of the very first anthropological accounts of indigenous media appropriation and production. Within a project at a Navajo reservation in Arizona, they documented and investigated (a) how Navajo appropriate and use film cameras for producing their own films, (b) the characteristics of these films, and (c) how the films were then received by a cross-cultural audience. They taught a selected group of people the basics of film making, hoping that their (indigenous) film making practices and patterns would reflect the specifics and uniqueness of Navajo culture and cognition. Thus, this project was aiming to contribute, through cross-cultural comparison, to the clarification of the "relationships between linguistics, cognitive, cultural, and visual phenomena" (Worth &

Adair, 1970, p. 12). Worth and Adair compared Navajo film making with other film making "cultures", identifying cultural differences in respect to (a) context, such as the film makers' individual learning situations and their working methods, and (b) code, such as the films' narrative styles and the cultural, perceptual, and cognitive taboos while filming and editing. They note that "the Navajo on first using film, in an endeavour to communicate their view of their world, chose to create forms that were fulfilling, . . . , to them in traditional Navajo style" (p. 33). According to Worth and Adair (1972), visual communication structures reality in culturally distinct ways.

At the beginning of the 1980s, Michaels (1985, 1994) started to investigate the role and the implications of electronic communication in remote indigenous communities in Australia. In doing so, he became particularly interested in the (changing) situation of Warlpiri media producers in an oral culture context. He examined the interaction and relations between "modern" electronic media, such as television and video, and "traditional" life worlds and practices by focusing on cultural phenomena such as "speech restriction", that is the prohibition of referring to specific names or terms in case of death or in relation to sacred knowledge production. Michaels (1985) emphasizes that Aboriginal orality depends on the control and ownership of communication and knowledge processes and that "constraints of knowledge" have to be considered when producing, distributing, and utilizing media technologies in an economy of oral information (p. 506). By understanding culture as the communication of traditions, the introduction of new means of communication is of crucial concern for indigenous people (Michaels, 1994). Moreover, Michaels (1994) proposes that without indigenous owned and controlled media, indigenous people simply produce local content that only becomes "indigenous" outside of its local context (pp. 43-44). According to Ruby (1990), Michaels was at the forefront of social scientists who were applying ethnographic methods in the study of mass media such as television; contributed thus to an "anthropology of TV" within the framework of an "anthropology of visual communication" (para. 1).

As Turner (1992, 2002) showed with the case of the Kayapo and their video making projects in Brazil, (indigenous) media appropriation is just another cultural performance that is not necessarily replacing other performances or cultural practices. These new performative

practices rather extend the cultural repertoire of indigenous people and communities. By appropriating video technologies, the Kayapo continue, according to Turner (1992), their tradition of objectifying modes of representation. Video technologies in the Kayapo case have led to the objectification of indigenous people's own culture for political struggle – what Ginsburg et al. (2002) have called "strategic objectification" (p. 10) – and, at the same time, to the hybridization of culture through the indigenous integration of techniques of the dominating culture. Moreover, video making has been used by the Kayapo to establish (political) facts and (social) reality. Indigenous media have thus become key in mediating social and political activities and for sociopolitical empowerment. According to Turner (1992), the Kayapo are transforming their culture and the conceptions of themselves through media technologies. Turner (2002) furthermore emphasizes the particularity of indigenous media making as a process that also mediates sociocultural and political relationships in an indigenous community and which differs considerably from an "outsider" – for instance ethnographic/anthropological – mode of mediation. He states that indigenous media production is not about preserving culture, but instead about the empowerment of social actors by producing "their own cultural mediations" (p. 80). Through visual media technologies indigenous people with no writing tradition construct their own objectively determined social reality, thus "heightening their sense of control over the process of objectification itself" (p. 88).

Weiner (1997) criticized anthropologists, such as Turner and Ginsburg, who have been arguing that "modern" media technologies allow indigenous people to find their own ways of transmitting, expressing, and negotiating their sociocultural identities. He states that the appropriation of "western" media also means the appropriation of the dominant, "modern" world view and that this goes at the cost of "traditional" knowledge. In summary, he questions the usefulness of (audio-visual) media technologies for indigenous people at large. Weiner's argument was then criticized by several anthropologists who completely disagreed with his assumptions, arguing instead that media are crucial for cultural survival in giving indigenous people control over their future. For Turner (1992) indigenous media are a voice in the mainstream media. And Wood (2008) adds that indigenous media production, in particular indigenous film making, contributes to the correction of misrepresentation of indigenous people by the dominant non-indigenous media industry. Thus, indigenous media

makers, according to Wood (2008, pp. 81-83), largely reject assumptions that "media swallow culture", a phrase coined by Carpenter (1972), and the resonating media determinism (see also Bishop & Prins, 2003). Media making for indigenous people rather means to continue their (oral) story telling traditions with new means. There is, however, hardly any doubt that "western" media technologies lead to linguistic adaptation and acculturation. But without the necessary loss of distinct cultural features.

Weiner (1997) is furthermore critical of the activist role some anthropologists play in indigenous media projects. While actively being involved in such projects, anthropologists leave the describing outsider position that is, according to Weiner, necessary for conducting anthropological or ethnographic research. Working together with indigenous people to produce videos (Turner, 2002), websites (Forte, 2006), or films (Ginsburg, 2002a, 2002b), some anthropologists have actually become media activists, and hence cultural activists, themselves. Considering the difficult and sometimes even desperate situations in which many indigenous people have to live, I find it understandable that researchers turn into activists of some kind. Extending thus their studies and descriptions to active support, for example, in media projects. Anthropologists become this way deeply involved and incorporated into processes, procedures, and practices, which they maybe indented to examine initially from the "outside". A lot of ethical as well as moral questions are emerging here, which are discussed particularly within the fields of applied and action anthropology.[30] As stated by Boyer (2006), Turner understands media anthropology as action anthropology that puts the self-realization of people through the (technological) mediation of human agency in the centre. In this respect, research in indigenous media has become an important lesson for anthropology and media studies alike. In his collaborative work with a community-based Maya Q`eqchi' video project in Guatemala, Flores (2004), for instance, suggests an applied visual/media anthropology approach that has its roots in Rouch's "shared anthropology" (p. 35). This applied/shared anthropological endeavour is characterized by a shift from an objective to an (inter)subjective approach and position as well as the production of meaningful outcomes for the respective communities. And Pratt (2010), being an indigenous researcher herself, proposes "participatory research models" to answer

[30] Many indigenous people strongly reject the objectification of their lives and cultures through anthropological and ethnographic research by allowing only work that directly contributes to indigenous projects or initiatives (e.g., Smith, 2005).

questions about the future of indigenous "communication needs and priorities" (p. 163). Indigenous researcher, she states, are particularly well equipped to examine new communication media and practices in indigenous communities by offering a unique perspective (p. 170). Such an applied, action-oriented approach to media research holds the potential not only to empower the community, for example by providing the community with first-hand and beneficial research results, it is also the researcher herself who is empowered through close partnerships and bonds of trust.

Indigenous Media in a Globalized World

Media technologies are key in experiencing and understanding current processes of globalization and modernity. The internet, for example, is often considered a crucial aspect or dimension of globalization by contributing to global interconnectedness and instantaneous, transnational communication (e.g., Eriksen, 2007a; Lewellen, 2002; Miller & Slater, 2003). Anthropologists therefore have been investigating the relationships and interconnections between media technologies, globalization, and related phenomena. Mazzarella (2004: 361), for instance, argues that mediation is the root of social life and that it produces dialectic "configurations of close-distance" such as "the personal through the impersonal, the near through the far, and the self through the other". For Appadurai (1996) media and migration, their connections and effects on the "work of imagination", are constitutive features of "modern subjectivity" (p. 3). Through mass mediation, electronic media contribute to the "construction of the imagined self and imagined worlds" (p. 3). Thus, they "give a new twist to the environment within which the modern and the global often appears as flip sides of the same coin" (p. 3). And because of their multiple forms and formats and their ubiquitous availability, media provide "resources for self-imagination as an everyday social project" (p. 4). Together with migration and diaspora phenomena, mass mediated events define "the core of the link between globalization and the modern" (p. 4). Imagination in this context has a "project sense" that can lead to (collective) action, for example migration, and can therefore be understood as social practice and force that works across nation state borders (p. 7).

Despite many predictions that indigenous people will not survive "modernization" and

"western" influence, "native people today show demographic strength, even growth" (de la Cadena & Starn 2007: 1). To understand indigeneity as a global (ideological, political, and sociocultural) idea as well as a social (identity) formation it is, according to de la Cadena and Starn (2007), crucial to recognize that indigeneity is only possible within a relational context which connects to fields of sameness and otherness as well as to different processes in time and space: "Indigeneity, in other words, is at once historically contingent and encompassing of the nonindigenous – and thus never about untouched reality" (p. 4). The past decades saw a worldwide increase of indigenous activism which has been centring around land claims, language, and human rights, education and "the rights of indigenous peoples to speak for and represent themselves as opposed to being 'spoken for' by nonindigenous experts, bureaucrats, and policymakers" (p. 10). Media technologies, the control over their production and distribution, play an important role in the representation and articulation of indigenous people(s). Some of these activist initiatives have been jointly brought forward by indigenous and non-indigenous activists to mutually represent subaltern interests. A prominent example for such a project is the Zapatista struggle in Mexico, which evolved from a local and regional indigenous uprising into a national and even international struggle of (parts of) the civil society for human rights. Such projects have been converging in the global indigenous movement also referred to as "indigenism". But, as de la Cadena and Starn (2007) remind us, indigeneity is more than identity formations and social movements: "It is a worldwide field of governance, subjectivities, and knowledges involving both indigenous and nonindigenous peoples in their own different ways" (de la Cadena & Starn 2007: 12). The shifting boundaries between "the indigenous" and "the non-indigenous" are thus matters of (regional, national, and international) politics and history, putting indigeneity in a larger structural framework of identification and ethnicity.

Wilson and Stewart (2008) state that indigenous media "have emerged from geographically scattered, locally based production centers to become part of globally linked media networks with increased effectiveness and reach". Thus, indigenous media are not only examined and contextualized by researchers and activists as local or regional phenomena, but as truly global projects and initiatives which connect local and transnational discourses, policies, and funding structures. Media technologies have become central to indigenous people(s)' movements and their organization. Indigenous issues, such as control over land,

(de)colonization, cultural and linguistic diversity, traditional and local knowledge as well as questions of self-identification and the negotiation of identities, are put to the discursive foreground through indigenous media on local, national, and global level. This resulted, for example, in the explicit mentioning of indigenous peoples' right to media (representation) in the United Nations Declaration on the Rights of Indigenous Peoples. Article 16 of the declaration states that:

> 1. Indigenous peoples have the right to establish their own media in their own languages and to have access to all forms of non-indigenous media without discrimination.
> 2. States shall take effective measures to ensure that State-owned media duly reflect indigenous cultural diversity. States, without prejudice to ensuring full freedom of expression, should encourage privately owned media to adequately reflect indigenous cultural diversity. (United Nations, 2007, p. 6)

The active involvement of indigenous people in the debates about indigenous identity and definitions as well as about the rights of indigenous people, on the global stage and in international and nongovernmental forums and organizations, is key in the development and negotiation of a global indigenous identity. Such processes of globalization have "improved communication and networking among Indigenous communities", giving them "a sense of belonging to a global society" (Wilson & Stewart 2008, p. 12). While media technologies allow for the recognition and celebration of local cultural distinctiveness, they also enable the world's indigenous people to connect, network, and collaborate across nation state borders. Pietikäinen (2008), for instance, shows that indigenous media in the case of the Sámi, who reside in a territory stretching across northern Norway, Sweden, Finland, and Russia, resonate on a local level and, at the same time, serve for transnational "pan-Sámi" political and sociocultural needs (p. 198). "Sámi media now offer a significant public voice for the transnational Sámi nation, reaching out to its own people and outsiders alike", contributing thus to collective identity construction and the formation of a symbolic Sámi nation across nation state borders and territories (Pietikäinen, 2008, p. 199).

However, as Smith, Burke, and Ward (2000) state, globalization remains a challenge to the world's indigenous people; it offers new possibilities of connecting and networking and it

creates new threats to property and knowledge rights at the very same time (see also Ginsburg, 1991). On the one hand, globalization threatens to accelerate the centuries-old process of colonization by facilitating new waves of "invasion" through mass tourism, globally distributed media technologies, and the domination of "western" popular culture and its products (p. 2). These processes, on the other hand, also enable indigenous people to present themselves and their cultures to a wider audience and to connect and network with other indigenous people on a global scale. The increasing public awareness of indigenous distinctiveness and diversity as well as the networking between indigenous people, who share the common experience of colonization, are fundamental for indigenous empowerment. And the creation of indigenous networks with their implicit empowering character contributes to the process of decolonization which again transforms sociopolitical orders. For Smith et al. (2000) the key issue for indigenous people in times of globalization is control: control over land, knowledge, past, present, and future. Media and communication technologies contribute decisively to the maintenance and reinforcement of (ethnic and cultural) identity on the local as well as on the global level. Indigeneity, as the global sense of an indigenous identity, thereby coexists with the local sense of belonging to a distinct indigenous group or community. Arising from the "imperative to communicate" in an oral tradition, indigenous people have a long-standing history of connectedness among each other: "this imperative to communicate places Indigenous peoples in a powerful position to take advantage of many possibilities provided by globalisation" (Smith et al., 2000, p. 9). Besides control, indigenous activism focuses and depends on ownership and protection, particularly of cultural knowledge (see also Michaels, 1994).

Ginsburg (2000) argues that in a globalization context, media can be understood as a social phenomenon that is being continuously globalized. Indigenous people have been starting to insert their own narratives in the dominant media landscape; also to create a kind of "counter public". Moreover, indigenous media production in an globalization context has become an important part of the broader project of indigenous cultural creativity. Considering the "poetics of media", Salazar and Córdova (2008) argue, may enable the identification of culture-related processes that are made visible through indigenous media (making) practices (p. 55). They continue that indigenous media as a "field of cultural production by and for Indigenous peoples" may provide "new guideposts for all media producers working outside a

hegemonic order of mass, corporate media" (p. 56). The making of media also means the active construction of social relations and connections, to other indigenous people, projects and organizations and to non-indigenous agents alike. Salazar and Córdova (2008), for instance, have shown how indigenous media production in Latin America has fostered transnational indigenous movements, particularly in respect to self-representation. For Ginsburg (2000) "indigenous media offer an alternative model of grounded and increasingly global interconnectedness" (p. 45).

Wawatay: First Nations Media Communication in Northwestern Ontario

When there was the famine in Biafra back in the 1980s, the First Nation community of Sandy Lake in Northwestern Ontario was raising money to support the aid agencies that went there to help the starving people. To raise these funds, the people of Sandy Lake utilized television in a rather unusual way. The women of the community went to the local communication centre where they switched off the TV transmitter of the Canadian Broadcasting Cooperation (CBC). They did this just before Saturday night ice hockey was going to be on (*Hockey Night in Canada*), which was and still is one of the most popular TV shows, particularly among the community's male residents. After shutting down the transmitter, the women went on community radio and announced that they would not turn the transmitter back on until the men had given a certain amount of money. The following Monday, the Sandy Lake men turned off the TV transmitter at the communication centre. This time, just before another popular CBC program was on: the soap opera *All my Children*, which was particularly watched by the community's women. The men then declared via community radio that they wouldn't put the show back on until the women had donated money. This is a story I was told by one of my research partners to exemplify how members of a remote indigenous community took control and ownership of media technologies. Even though the technical equipment for receiving TV signals did not belong to the community – it was the property of the CBC and therefore should not be manipulated – people used it for their own, very special, purpose. They appropriated the technology for their local needs and in a distinct sociocultural context.

Only larger First Nation communities like Sandy Lake had been provided with TV and radio

transmitters by the CBC and were thus able to receive mainstream media programming. Smaller communities in Northern Ontario had no access to media and media content. So the region's First Nations established their own communication organization that pioneered in the production of indigenous media and media content as well as in the creation of community-controlled communication networks: the Wawatay Native Communications Society (WNCS) (e.g., Bredin, 1996; Budka, 2009). Today, this organization is providing the approximately 45,000 indigenous people of the Nishnawbe Aski Nation, which encompasses Treaty No. 9 and Ontario's portion of Treaty No. 5, and the people living on the territory of Treaty No. 3 with newspapers, radio, and TV programming as well as online news (see Figure 5). In doing so, Wawatay's mandate as an First Nations communication society has also been to preserve and enhance indigenous cultures and languages:

> Wawatay Native Communications Society is a self-governing, independent community-driven entrepreneurial native organization dedicated to using appropriate technologies to meet the communication needs of people of Aboriginal ancestry in Northern Ontario, wherever they live. In doing so, its founders intended that Wawatay would serve their communities by preserving, maintaining and enhancing indigenous languages and culture.(Wawatay News, 2016, para 2)

At the beginning of the 1970s, WNCS initiated and supported the creation of an indigenous-controlled community radio system for Ontario's northern, remote First Nations. This network of high frequency radios was the only possible way to communicate between the remote communities and with southern towns at that time:

> So the region that we call NAN [Nishnawbe Aski Nation], which is most of Northwestern Ontario, has no roads. And so in the seventies there were no phones and no roads and so Wawatay got started originally because the chiefs who were unable to communicate at all . . . wanted to have something that would be a network. . . . and there were high frequency radios in the nursing station up there. So that nurses could communicate with hospitals where there were doctors. But there was nothing that the chiefs could control. So if you want to make a call to another chief or to call someone in another community you had to go to the nursing station. So in fact the whole idea of Wawatay started with let's buy our own high frequency radios and have them networked. There would be one in the band office so you could

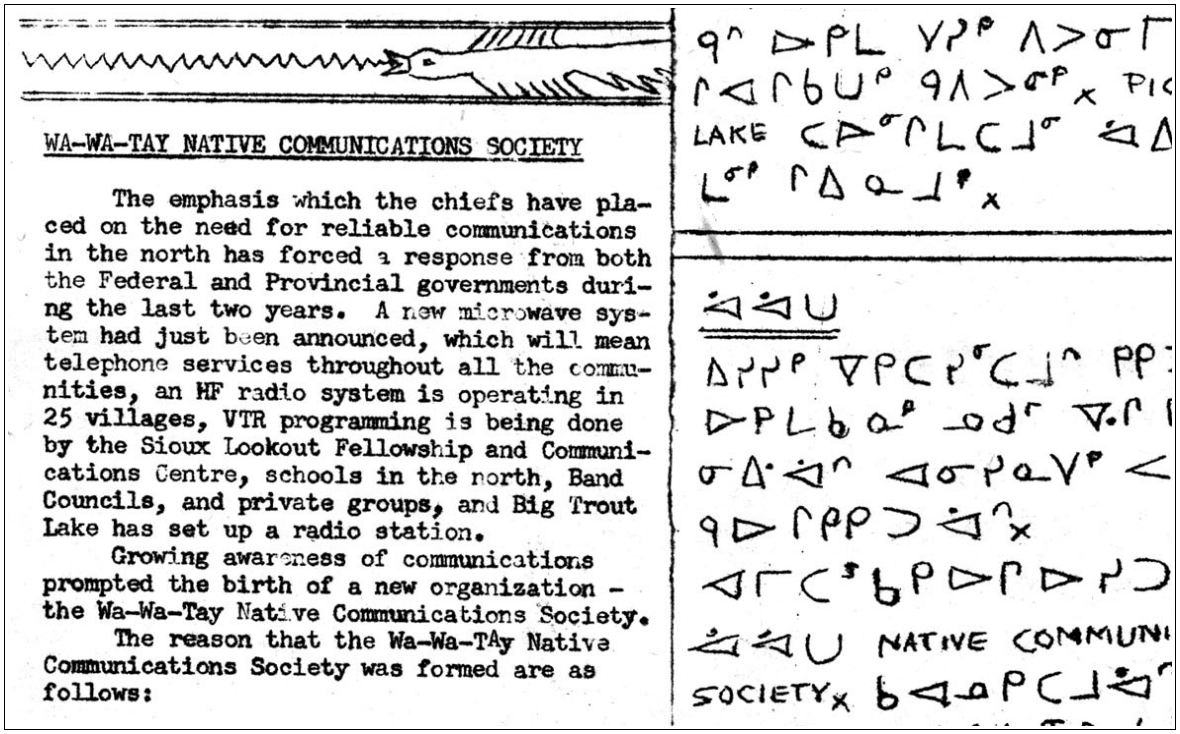
> talk to each other on that frequency radio. So that was the first network, which was completely separate from the south or any other network. It was very much locally controlled. (F. Woolner, Independent Media Consultant, personal communication, 2006)

After the first community radio stations were established in 1974, the Canadian Radio-Television and Telecommunications Commission (CRTC) eventually licensed the Wawatay Radio Network in 1986. Since then, the radio network has been producing and broadcasting Ojibwe, Oji-Cree and Cree language radio programming for several hours a day at its stations in the Ontario towns of Sioux Lookout and Timmins. Particularly in the most northern communities, where the native languages were spoken by a majority of residents, the Wawatay Radio's programs used to reach up to 80% of the population (Karam & Zuckernick, 1992, p. 43). Also because a majority of the younger generations are no longer fluent in the native languages, First Nation radio broadcasting has lost some of its audiences to the English language media television and internet. This development is closely connected to community language politics and local engagements with the native languages. While in some First Nation communities children are already introduced to indigenous languages in the kindergarten, other communities do not support language learning at all. Wawatay Radio has remained one of the most important means to preserve and maintain indigenous languages, as stated in Wawatay's mandate. And Wawatay representatives seemed to be confident that indigenous radio broadcasting will have future audiences knowledgeable of the languages (A. Fox-Keesic, Wawatay Radio Director; B. Phelan, Wawatay News Publisher and Editor, personal communication, 2007). Today, listening to the radio in the remote communities has become a combination of local community radio, including announcements for events and games such as radio bingo, and the regional Wawatay Radio broadcasting with call-in shows, music, and also religious programming. Community radio has established itself as one of the most popular communication media in the First Nation communities. Many people consider the local community radio as an indigenous communication tool, controlled and owned by the First Nations (Bredin, 1996, p. 116). The idea that communication has to be locally controlled has been fundamental for the development of WNCS and its services.

During the 1970s, several Aboriginal newspapers and newsletters were founded all across Canada following the release of the White Paper on Indian Policy in 1969 by the Canadian government (e.g., Demay, 1993). This paper proposed to abolish the Indian Act, thus eliminating the Indian Status, and to surrender federal responsibility for Aboriginal Canadians to the individual provinces. Indigenous people responded with protests because giving up on individual legal status would also mean to give up on collective rights as indigenous peoples. Moreover, they were skeptical that individual assimilation would actually reduce historically rooted inequality and injustice (e.g., Frideres & Gadacz, 2001; Giokas & Groves, 2003; Wilson & Urion, 2004). In 1974, the WNCS published Wawatay News, a monthly publication with the goal to provide Northwestern Ontario's remote First Nations with news in English and Ojibwe, which evolved from a bilingual newsletter. Most of the money for indigenous media production at that time came from the federal Native Communication Program, which was established in 1973 (Avison & Meadows, 2000).

Figure 3

Screenshot of a Section of a Digital Scan of the First Wawatay Newsletter (1972)



WA-WA-TAY NATIVE COMMUNICATIONS SOCIETY

The emphasis which the chiefs have placed on the need for reliable communications in the north has forced a response from both the Federal and Provincial governments during the last two years. A new microwave system had just been announced, which will mean telephone services throughout all the communities, an HF radio system is operating in 25 villages, VTR programming is being done by the Sioux Lookout Fellowship and Communications Centre, schools in the north, Band Councils, and private groups, and Big Trout Lake has set up a radio station.

Growing awareness of communications prompted the birth of a new organization - the Wa-Wa-Tay Native Communications Society.

The reason that the Wa-Wa-TAy Native Communications Society was formed are as follows:

Note: The Wawatay Newsletter was divided in an English section on the left and a section with handwritten Ojibwe syllabics on the right.

However, when the Canadian government cut the funding in 1990, some newspapers were forced to cease publishing while others, such as Wawatay News, commercialized and had to include advertisements at the cost of other content (e.g., Demay, 1993). Besides relying on advertisements, Wawatay News also has to provide various language and print related services, such as translating between Oji-Cree and English and printing brochures and posters, "to make money to survive" (B. Phelan, personal communication, 2006). And this, of course, has consequences for the indigenous language content:

> For the newspaper we would like more Aboriginal language but its a function of space we are covering this huge region and all the news. We have a hard time just fitting the English news into the number of pages we have. The number of pages is dictated by the number of ads. So if we would publish all our stories in English and Aboriginal language there would be no room, like the ads pay for the printing costs. The more ads the bigger we can go. Because the printing costs are a big one. (B. Phelan, personal communication, 2006)

Another problem for Wawatay News has been logistics and transportation in the remote region of Northwestern Ontario. Delivering newspapers to remote fly-in communities has never been an easy task. And even though Wawatay managed to improve delivery and transportation processes, there are still people in some of the most remote communities who have to wait up to one week to receive their newspaper by plane. This also contributed to the rise of electronic media, such as TV and internet, as news sources. Again, the need for indigenous controlled media and native media content has been particularly high, not only in the remote First Nation communities of Northwestern Ontario but in many aboriginal communities in Canada (e.g., Alia, 2010; Roth, 2005).

Roth (2010) identifies six (overlapping) phases in the history of the indigenous Canadian television, each marked by distinct changes in representation practices and infrastructure developments (see also Roth, 2005). The first phase preceded the introduction of television in the Canadian North and was dominated by stereotypical representations of aboriginal people in the non-indigenous media. In the second phase (1968-1981), indigenous people acknowledged the potential of televisual media as empowering tools for their own agenda. This process was accompanied by conflicts and heated debates about television's

(sociocultural) impact in indigenous communities. During this phase Canada launched the first domestic communication satellite which provided the larger northern communities with access to TV. In phase three (1978-1991), the first television experiments in indigenous communities resulted in the licensing of the Inuit Broadcasting Corporation, which started to provide indigenous language programming (see also Baltruschat, 2004). At the same time the Canadian broadcasting policy was reshaped. In a fourth phase (1983-1992), the broadcasting infrastructure was consolidated and expanded. In 1983, the Northern Broadcasting Policy and the Northern Native Broadcast Access Program were announced, recognizing "the importance of Native participation in both media programming and the regulatory process" (Roth, 2010, p. 20). In phase five (1986-1999), indigenous communication societies began to produce programs, also for a nationwide audience. After the amendment of the Broadcasting Act in 1991, the broadcasting license for Television Northern Canada (TVNC) was approved. In 1992, TVNC began broadcasting as the world's first indigenous television network with "a high volume of programming from indigenous sources" (Roth, 2010, p. 22, see also Baltruschat, 2004, p. 3). This was also the beginning of the sixth phase (1992-1999), which finally resulted in the launch of the Aboriginal Peoples Television Network (APTN) as nationwide indigenous television network in 1999.

As Roth (2010) emphasizes, APTN proved itself as a valuable media network that provides information from the heart of Aboriginal Canada to native and non-native audiences alike. Roth (2010) summarizes that "despite its complex and challenging program mandate to serve all Aboriginal and non-Aboriginal communities, North and South, the network has engaged with its constituency groups well in that it has northernized and indigenized Canadian programming" (p. 32). Hafsteinsson (2013) understands APTN and its communicative and journalistic practices as an example of, what he – referring to Appadurai – calls "deep democracy", that is to consider (indigenous) media practices as basically democratic practices of "inclusion and participation" (pp. 66-68). While APTN, as an indigenous owned and controlled TV broadcaster, aims to reflect the cultural diversity of indigenous people in Canada by focusing on local news and community issues which are not covered by Canada's mainstream media, it also manages to fulfill its mandate as national TV network by reaching out to non-indigenous audiences. As translator between cultures, APTN is successfully bridging indigenous and non-indigenous people. APTN blends multi-lingual programming

about aboriginal cultures, lives, traditions, and histories with news and entertainment in a mainstream broadcasting style. In doing so, it depends on local and regional Aboriginal media producers, such as Wawatay, for content.

Wawatay not only produces indigenous media content, provides local communication infrastructure and training programs for utilizing and supporting the technologies, its mandate is also to preserve, maintain, and enhance indigenous languages and culture (Wawatay News, 2016, para 2). The organization therefore receives money from the Canadian Heritage Fund, particularly for its radio and TV programming. But that is not enough to keep the whole organization running. As indigenous media organization, Wawatay has therefore struggled to combine its cultural mandate, which is also economically rewarded, the emphasis of local control and ownership in respect to communication, and the need to survive in a capitalistic media economy. Digital media technologies and the digitalization of journalistic practices have been identified as key in maintaining and reorganizing the society's media work. In 2007, Wawatay Online News started to offer

> cultural and language content in web-based media that is accessible and of interest to all members of NAN and Treaty 3, especially youth. The website provides a unique perspective on the people, languages and culture of NAN and Treaty 3 in particular through multimedia content that combines photos, audio, video and text. (Wawatay News, 2016, para 4)

Besides providing different online and multimedia content and services, Wawatay also developed a digital version of Wawatay News as well as online live streams and podcasts of Wawatay Radio. Moreover, digital media technologies have become important means to engage and integrate community members into the production of media content. To produce content directly from the remote First Nations, Wawatay employs – in addition to its permanent staff – freelance writers and photographers in some communities to provide the organization with local stories:

> I think they call it “citizen journalism” these days and this is already happening. We can't go in all of the communities and we can't always be there, so we have to rely on community members contributing to the media. I think some communities are more

> ahead of the game than others. That depends on the people contributing and their mindset and the environment. It is now more easier for community members to contribute to the media than three years ago, thanks to broadband internet connection. (B. Wesley, Wawatay Journalist and Multimedia Producer, personal communication, 2007)

Digital video and photo cameras, audio recorders, and internet connections allow for the creation of multimedia stories and reports that can easily be edited and used for the Wawatay News website, the communities' websites, the newspaper, and the radio program. Thus, one story can be used and reused in several ways and formats. Digital media technologies have thus changed communicative and journalistic practices in (indigenous) media production permanently. “In appropriating communication technologies for cultural purpose, Wawatay has participated in the transformation of the technology and how it is used, organized and situated” while simultaneously the First Nation communities and “Wawatay itself are reorganized around the new communication technologies” (Bredin, 1996, p. 118).

INDIGENOUS ENGAGEMENTS WITH DIGITAL MEDIA TECHNOLOGIES

Indigenous engagements with digital media technologies have been analyzed from different angles and by discussing a variety of issues: from technology access and literacy, to language, culture, and politics (e.g., Dyson, 2011; Dyson, Hendriks, & Grant, 2007; Dyson, Grant, & Hendriks, 2016; Landzelius, 2006a; Maybury-Lewis, 1997). What is the relationship between indigenous people and digital media technologies? And how can an anthropological perspective with a focuses on digital practices contribute to the understanding of the mediation of culture and the formation of (cultural) identity? As I have discussed in the last chapter, this mediation process recombines cultural elements of the dominant, non-indigenous societies with elements from indigenous cultures. “Indigenized” media technologies promote thus an open and dynamic understanding of culture in “the digital age”. But when it comes to characterizing and understanding non-western media phenomena and processes, terms such as “the digital age” or “the network society” have

their conceptual weaknesses.[31] These concepts are inherently ethnocentric, that is Euro-American centred, implying an evolutionary world view that tends to ignore culturally different ascriptions of meaning to digital realities. I am following here Ginsburg (2008), who states that these concepts are rather reinforcing the imaginary of "the other", existing in "a time not contemporary with our own" (p. 291).

Indigenous people(s) have been utilizing digital media technologies, such as the internet and the world wide web, since the early 1990s to communicate, represent, connect, network, and cooperate on a local, regional, and global scale (e.g., Christensen, 2003; Dyson et al., 2007; Landzelius, 2006a; O'Donnell & Delgado 1995; Prins, 2002; Zimmerman, Zimmerman, & Bruguier, 2000). Particularly in regions where indigenous people had access to the necessary ICT infrastructure, they became "early adopters" of digital technologies. In the early phase of global internet technology distribution, one of the strongest reasons for indigenous peoples, groups, and organizations "for having a presence on the Internet is to provide information from a viewpoint that may not have found a voice in the mainstream media" (Cisler, 1998, p. 20). The Oneida Indian Nation of the State of New York was reported to be the first native group worldwide to put an indigenous owned website online in spring 1994 (e.g., Polly, 1997). The Blackfeet Confederacy in Alberta established the first indigenous Canadian web presence one year later (Prins, 2002). Precisely because of indigenous peoples collective experience with marginalization and dispossession, they were among the first to make strategic use of these alternative, globally networked technologies; for instance in the global movement of indigenous peoples and for the construction of a global indigenous identity (e.g., Forte, 2006; Niezen, 2005; Wilson & Stewart, 2008a). Thus, the indigenous appropriation of digital media technologies had and still has a strong sociopolitical meaning.[32] Landzelius (2006b) therefore refers to indigenous people's "self-authored engagements" with digital media technologies as "indigenous cyberactivism" (pp. 4-6, see also Landzelius, 2003, p. 8).

Moreover, Landzelius (2006b) reminds us that indigenous and diasporic people's increasing attempts to "world cyberspace" are closely connected to questions about and the exploration

[31] See Curran and Park (2000) for a collection of attempts to de-westernize media studies.

[32] Among the multiple ways indigenous people engage with digital technologies, there are, of course, some with more and some with less political meaning and intention (e.g., Wilson et al., 2014).

of globality and locality: "how . . . global information-communications resources entangle (with) the micro and macro-dynamics of locality's challenges and of challenges to locality" (p. 3). According to her, digital activities in the indigenous context can be categorized as "specific engagements along an *inreach-outreach* continuum" (p. 6). Since the agendas of these "genres regularly crisscross and are mutually reinforcing", Landzelius (2003) suggests further to think of indigenous inreach and outreach activities as a "spectrum of orientations" (p. 8). Indigenous outreach initiatives with and through digital technologies are geared towards an external public and include public relations and tourism management, sovereignty campaigns, liberation movements as well as global solidarity networks and networking between indigenous and non-indigenous groups (e.g., Christensen, 2006; Forte, 2006; Cleaver, 1998b). Inreach practices, on the other hand, are oriented towards an internal public. These digital activities cover community services for local residents – such as e-health and e-learning – cultural revitalization, reconciliation, pan-indigenous networking as well as personal communication and self-representation (e.g., Bell et al., 2012; Budka, 2015; Sandvig, 2012). As the following discussion of selected case studies demonstrates, these two categories should not be considered as fixed and exclusive but rather as flexible and open.[33]

One of the first examples of indigenous digital media activism is the Zapatista movement in Mexico (e.g., Belausteguigoitia, 2006; Cleaver, 1998a, 1998b).[34] In 1994, the Ejército Zapatista de Liberación Nacional (EZLN), as the Zapatistas are officially called, seized towns in the Mexican province of Chiapas to draw attention to the indigenous population's struggle for human and land rights.[35] Even though the Mexican military quickly pushed them back and despite the fact that the Mexican media were largely controlled by the state, their call for indigenous recognition and rights was heard nationally and internationally. This was mainly because of alternative communication technologies, such as the internet, and early forms of online communication which enabled the transnational circulation of the Zapatista cause and subsequently the continuation of the struggle (e.g., Cleaver, 1998a, 1998b). Without direct access to digital technologies, the EZLN relied on the support of national and

[33] For more case studies of indigenous engagements with digital media technologies see, for instance, Carlson (2013), Christensen (2003), Landzelius (2006a), Dyson et al. (2007, 2016), and Srinivasan (2006).

[34] Castells (1997) even identified the Zapatista movement as the world's "first informational guerrilla movement" (p. 79). For a discussion of the bigger picture of indigenous people and digital technologies in Latin American, see Salazar (2007).

[35] The Zapatistas were created by Chiapas' larger indigenous population groups: Tzeltales, Tzotziles, Choles, and Tojolabales (e.g., Belausteguigoitia, 2006).

transnational non-governmental organizations and solidarity networks to disseminate and share information. These digital solidarity networks supported the construction of a transnational counter-public, which allowed the Zapatista narrative to spread (Budka, 2004; Budka & Trupp, 2009). Thus, sociopolitical ideas and visions about human rights, economic solidarity, and social justice resonating with the indigenous Zapatista movement also shaped Mexico's civil society.[36] Cleaver (1998b) notes that "as the struggles on The Net have moved from mobilization against military repression to the circulation of Zapatista ideas and the discussion of their political visions and programs, the conflicts in this electronic fabric of connections will increasingly take on all the complexity of the more general political, economic and social crisis in Mexico" (p. 20). Digital technologies contributed this way to the global popularization of the Zapatistas, the insertion of the indigenous cause into the national civil society, and eventually the survival of a regional sociopolitical movement.

Globally distributed digital technologies also support the political endeavours of indigenous groups for the recognition of their collective identity. Carib and Taino communities in the Caribbean and the diaspora, for instance, have been utilizing the internet to create forums of self-representation and networks of support to strengthen their struggle for cultural revival and indigenous identity reconstruction (Forte, 2006). In doing so, their priority objective has been to (re)embed themselves as indigenous peoples on a regional, national, and transnational stage. Challenging thus assumptions that the indigenous peoples of the Caribbean are extinct. As Landzelius (2006b) argues, these indigenous groups are "laying claim to indigeneity", as collective indigenous identity, by aiming to prove the continuity of the regions' indigenous cultures (p. 18). And the internet and related online spaces have become their global forums to stage this continuity and to perform authenticity. Digital practices, which are connected to processes of self-representation and identity (re)construction, are affected by and are able to shape national politics, as also the Zapatista example illustrates. Moreover, internet technologies play "an increasingly central role in enabling the global diffusion of ideas of indigeneity" (Forte, 2006, p. 146). Internet related indigenous networking on a transnational level created an "indigenous macro-community that is trans-local and constitutes a virtual meta-indigeneity"; a phenomenon to which Forte (2006) refers to as "internet indigeneity" (p. 146). Thus, globally distributed digital

[36] For a discussion of the Zapatistas' role in the Mexican indigenous mediascape see Wortham (2013).

technologies support the political struggle of indigenous groups for the recognition of their identity.

Internet connectivity and the use of internet technologies and services rely on ICT infrastructures. But to connect local, indigenous communities to the internet and to maintain the necessary infrastructures is challenging for these small, often remote, communities. (e.g., Bell et al. 2012; Fiser, 2012). Sandvig (2012) demonstrates with the Tribal Digital Village (TDV) initiative in Southern California reservations of the Kumeyaay, how indigenous people in a remote area connected to the internet and how this challenged the local society in multiple ways.[37] Infrastructure projects for remote communities are particularly expensive and public funding policies therefore aim at big sociocultural and economic issues which are usually identified by the funding bodies (see also Fiser & Clement, 2012). In the indigenous case, these are problems commonly associated with indigenous communities: poverty, lack of education, and cultural decline. But as Sandvig (2012) exemplifies, there is a discrepancy between the intended use and the actual everyday appropriation of ICT infrastructures and digital technologies with severe sociocultural consequences:

> To justify their expensive and heavily subsidized use of the Internet they [the indigenous people] must perform difference – they must act like disadvantaged Indians who seek uplift and the preservation of their culture, despite the fact that . . ., they may be more interested in MySpace or soccer games. (p. 185)

It seems thus necessary to look beyond the purely technical dimension of ICT infrastructure projects and to consider the locally specific aspects of technology appropriation and socio-technical change (e.g., Star, 1999). In their study of digital (global) positioning systems (GPS) in relation to indigenous methods of way-finding in Nunavut, Aporta and Higgs (2005) suggest to understand technology as a system of socio-technical relationships. In doing so, they discuss and employ different (theoretical) approaches to the understanding of technology appropriation in a specific cultural context. Considering the ecology of a technology allows to focus on the contexts of technology production, use, and exchange. Conceptualizing technology as, what Borgmann has called, “device paradigma”, means to reduce “things to devices” to identify and investigate patterns of device usage that result

[37] See Kampf (2004) for Kumeyaay language revitalization initiatives through digital technologies.

either in less or more engagement with the (natural and social) environment (p. 741). And finally, acknowledging the relationship people establish and maintain with technologies is essential to understand technology appropriation. Aporta and Higgs (2005) state that the case of Inuit GPS appropriation investigated through an ecology of technology and device paradigma approach "produces a worrisome portrait of the power of devices to separate people, . . ., from engagement with focal experiences" (p. 745). To put it another way: the utilization of technological devices can result in the loss of the traditional knowledge; because, as the case of GPS in the Inuit cultural context indicates, human engagement with the land and the environment cannot be replaced with commodities.

By acknowledging the dynamic nature of technology and its continuously changing relationship to society and culture, a focus on technology appropriation and socio-technical relationships and change hold the potential to "free us from the assumption that technologies always unfold in the ways they are intended to" (Sandvig, 2012, p. 191). Control and ownership are important factors in indigenous engagements with digital technologies (see also Salazar, 2007). The generally poor state of telecommunication infrastructure on indigenous land, for instance, has forced many indigenous groups and organizations to establish their own initiatives to connect local communities to the internet. And indigenous communities haven been quite successful in creating and maintaining their own ICT infrastructures and services, as the case of the KO-KNET in Northwestern Ontario indicates.

Indigenized Media Technologies in "The Digital Age"

The relationship between indigenous people(s) and digital media technologies is ambivalent and enthusiastic at the same time; reflecting individual experiences and expectations as well as collective sociocultural contexts and developments. Considering indigenous people's colonial history and colonization's continuing effects on indigenous communities, it is not surprising that many indigenous representatives are particularly concerned about issues of power, control, and ownership related to digital technologies and new ways of knowledge production, circulation, and representation (e.g., Fiser & Clement, 2012; Ginsburg, 2008). There is a strong sense of sociopolitical activism and agency in indigenous people's collective engagements with digital media technologies which are closely connected to the

(re)construction and mediation of cultural identity, cultural articulation, social intervention, and self-determination. At the same time, indigenous people's digital practices are related to mundane necessities of everyday communication, social networking, family bonding, or self-expression. Thus, digital platforms and social media have been widely used in indigenous communities (e.g., Budka, 2015; Carlson, 2013; Carlson, Farelly, Frazer, & Borthwick, 2015; Fish, 2011; Molyneaux et al., 2014; Virtanen, 2015). To understand indigenous media in "the digital age", the collective and the individual dimension need to be considered.

However, indigenous people's articulations of their own "digital realities" are rarely noticed by the non-indigenous public, policy makers, and the technology industry. According to Ginsburg (2008), this ignorance is related to the "common sense discourse" created by terms such as "the digital age" or "the digital divide", which tend to ignore the "cultural significance" of marginalized communities (p. 303).[38] By capturing the digital world from a solely Euro-American perspective, these concepts "have taken on a sense of evolutionary inevitability, thus creating an increasing stratification and ethnocentrism in the distribution of certain kinds of media practices" (Ginsburg, 2008, p. 290). Such conceptualizations are constructed upon an ethnocentric understanding of modernity that situates "the other" in a different, non-modern time, and on a static understanding of culture that puts, for instance, "the modern" and "the traditional" in opposition. This has sociopolitical and cultural consequences for indigenous people(s) by increasing their "already existing sense of marginalization" (Ginsburg, 2008, p. 303). Of course, these conceptualizations and the resonating rhetoric are not only problematic for indigenous people but for other marginalized groups as well.

Nakamura and Chow-White (2012b) argue that digital technologies themselves "will not fix social and racial inequality", but "indeed may produce new forms of inequality" (p. 10; see also Nakamura & Chow-White, 2012a). "The digital divide", for instance, as "an attractive formulation" that promises "that computer access in and of itself is a meaningful measure of information power and privilege", resonates with (the rhetoric of) technological determinism (p. 10). Green (2003) states that it is the rhetoric "surrounding the introduction and

[38] The concept of "the network society", a term particularly popularized by Castells (1996), was already criticized in the context of indigenous people's utilization of digital technologies by Cisler (1997). For a critique of "the digital divide" concept see, for instance, Gurstein (2015).

promotion" of new digital technologies that constitutes the "impact" they would have, "rather than the technologies themselves" (p.49). Prominent techno-narratives range from ideas about an internet-generated revolution in time and space, resulting in more individual freedom and self-expression, new forms of sociality, more work flexibility, and global economic expansion for the benefit of all (e.g., Castells, 2000; Kollock & Smith, 1999; Rheingold, 1993/2000) to views of internet related technologies as generators of (new) socioeconomic inequalities ("the digital divide" or "the information poor") and sociopsychological isolation (e.g., Castells, 2001; Turkle, 2011; Wellman & Haythornthwaite, 2002). Green (2003) suggests that this whole debate has been "a citation" of similar, Euro-American "forms of debate concerning the relationship between the individual, the social, the economic and the technical" (p. 57). And this debate was constituting the reality it was actually describing by referring to "culturally marked ideas" that were generally known and, of course, understood (Green, 2003, p. 58). The underlying technological determinism is not new, as she notes, but "a key aspect in modernist representations of technology" (p. 60; see also Bijker & Law, 1992; Fischer, 1999, 2007; Woolgar, 2002). This, on the other hand, implies that non-use, no access, or no connectivity represent the non-modern past that must be overcome (Green, Harvey, & Knox, 2005).

In respect to cultural and ethnic groups, the "the digital divide" discourse, for example, contributed to the construction and naturalization of an "IT insider/outsider binary opposition that easily casts underrepresented racial minority groups (Everett, 2008b, p. 2). And this narrative about digital technology haves and have-nots has become "the metaphor of choice for race and technology matters", particularly in the U.S. (Everett, 2008b, p. 3; see also Everett, 2008a). Neglecting, at the same time, the "co-production of race and computing" and the obvious need for the critical reexamination of it (Nakamura & Chow-White, 2012b, p. 6). Moreover, as Dourish and Bell (2011) argue, the study of everyday digital life, its "complex patterns of social actors, contexts, and experiences", generally demands new concepts and theoretical frameworks (p. 204). Such new "conceptual tools" allow to look beyond and to reexamine oversimplified conceptions of, for instance, internet access, and their presumed correlations with economy or politics. They note further that "how we account for, theorize about, and design toward those who are disengaged and differently engaged with new technologies is a fertile area for future inquire" (p. 204).

Indigenous engagements with the internet is an example of how people engage differently with new, digital technologies.

It is important to note here that indigenous people(s) have been constantly attempting to participate to global political debates and decision-making processes concerning digital technologies. Indigenous representatives contributed, for instance, to the forums and meetings at the early World Summits on the Information Society (WSIS) (e.g., Alia, 2010; Brown & Tidwell Cullen, 2005). The Global Forum of Indigenous Peoples and the Information Society at the first WSIS in Geneva (2003), for example, "led to the integration of indigenous concerns in the WSIS Declaration" (Alia, 2010, p. 168). Indigenous peoples and issues were also represented in the statements of the second WSIS in Tunis in 2005. The *Tunis Agenda for the Information Society* mentions indigenous peoples in "the information society" in regard to the need to support language diversity, ICT capacity building, and content development in indigenous languages (WSIS, 2005a). And the *Tunis Commitment* states that "in the evolution of the Information Society, particular attention must be given to the special situation of indigenous peoples, as well as to the preservation of their heritage and their cultural legacy" (WSIS, 2005b, para. 22); and further that the representatives at the WSIS commit themselves "to promote the inclusion of all peoples in the Information Society through the development and use of local and/or indigenous languages in ICTs" (para. 32).[39] Even though these statements can be understood as not legally binding propositions, such involvements demonstrate indigenous people(s) commitment to actively contribute in the shaping of global digital processes.

Anthropology, as the empirical study of cultural particularities and human universals, has been critically reviewing modernity and related processes and phenomena (e.g., Appadurai, 1996; Eriksen, 2003, 2007a; Hannerz, 1996). Sahlins (1999), for instance, finds that indigenous, "traditional" cultures have not been destroyed by modernity and "western" culture, but that modernity has rather been "indigenized" (p. x). Culture has always been changing and cultures have constantly influenced each other. In times of increasing globalization and high-tech modernization, local cultures are changing faster, but they are not disappearing (Sahlins, 1999, p. xx). Understanding culture as a dynamic phenomenon

[39] See also the UNESCO website on "Indigenous Peoples and the Information Society" for various documents that were created in relation to the WSIS meetings (UNESCO, 2017).

also underpins what Larkin (1997) has termed “parallel modernities” (p. 407). He argues for various versions of “modernity” that coexist with the “westernized” meaning of modernity (Larkin, 1997). Locally distinct media practices, for example, can contribute to the creation of these modernities. Instead of reinforcing the imaginary of “the other” by building on static and essentializing cultural models, anthropology provides alternative approaches to the conceptualization of modernity by including non-western perspectives and realities.

The world's indigenous people(s) have been strategically utilizing digital media technologies to create their own versions of modernity, that could be called “digital indigenous modernities”. This does not imply that indigenous people live in a separate reality. It rather means that modernity and related concepts, such as “the digital age”, are experienced differently, depending on historical, cultural, and economic contexts and sociopolitical power relationships. Through the appropriation of media, indigenous people articulate themselves, they network, distribute information, and revitalize their culture and language. They “indigenize” digital media technologies in a process which includes various digital practices and activities and which is embedded in changing sociocultural, political, and economic realities. This process is connected to the mediation and (re)construction of indigenous culture and identity, containing indigenous and non-indigenous elements. And it is within these “social fields of difference and sameness” that indigeneity as a process of (collective) identity formation emerges (De la Cadena & Starn, 2007, p. 4). Digital media making has become an important part of the indigenous cultural and sociopolitical project, particularly because this also means to establish social relations to other indigenous people and to non-indigenous agents alike. And perhaps it is time, as Ginsburg (2006) suggests, “to invent new language and begin to use terms other than Digital Age that better fit a more inclusive future” (p. 133).

KO-KNET: INTERNET FOR REMOTE FIRST NATION COMMUNITIES IN NORTHWESTERN ONTARIO

"This place is so remote and small and away from the outside world. But technology is moving with fast pace around here."
(Community Technician, Keewaywin First Nation, personal communication, 2008)

According to the *2011 Canadian National Household Survey*, the province of Ontario is home to 201,100 First Nations people, representing 23.6% of the total First Nations population in Canada (Statistics Canada, 2013). But only 37% of First Nations people with registered Indian status in Ontario lived on a reserve and 35.3% are without registered status. This means that a majority of First Nations people in Ontario lived off-reserve in towns or urban centres and that the highest share of non-status First Nations people in Canada live in this province. According to Indigenous and Northern Affairs Canada (2017), there are 139 First Nations in the province of Ontario, living in 221 reserves, settlements, or villages. There is no universal understanding about the total number of First Nations in Ontario, as the First Nations organization Chiefs of Ontario (2016), for instance, lists only 133 First Nations in the province.

Figure 4

Map of Ontario

Note: Map of Ontario, Natural Resources Canada.

The Nishnawbe Aski Nation (NAN) is, on the one hand, a political territorial organization representing 49 First Nations in Northern Ontario. On the other hand, NAN is the indigenous name for the land encompassing James Bay Treaty No. 9 and Ontario's portion of Treaty No. 5 with about 45,000 Aboriginal people living on and off reserve (Nishnawbe Aski Nation, 2016). The territory of the NAN is neither completely corresponding with the geographical region of Northern Ontario nor with the sub-region of Northwestern Ontario. In this thesis, I am using the term "Northwestern Ontario" to refer to the northwestern part of the NAN, north of the 50º parallel. According to Adam Fiser and Andrew Clement (2012),

this “region is around 385,000 square kilometres, with a total population of less than 30,000, including the populations of the two nearest towns, Red Lake/Balmertown and Sioux Lookout” (p. 257). Since Sioux Lookout, a town of about 5,000 people, is the region's service centre, this region is also referred to as Sioux Lookout District. The Aboriginal people in this area are members of Ojibwe (also referred to as Ojibway or Ojibwa), Oji-Cree, and Cree speaking First Nations, residing mainly in remote fly-in communities, each with between 100 and 2,000 residents, that have reserve status.[40] Each First Nation occupies its own reserve where its members participate in local governance through the auspices of a band office directed by an elected Chief and Council. The term “remote community” refers to communities that do not have year-round road access and that are distant from the nearest town. During the winter months, when rivers and lakes are frozen, some communities construct temporary winter roads to link into a southern supply corridor. Without winter roads people have to take a plane to reach the nearest town, Sioux Lookout, or the cities of Thunder Bay and Winnipeg (Manitoba). Personal mobility is severely restricted under such conditions.

[40] For more statistical details on indigenous people in Canada see Statistics Canada (2013); for a general overview about indigenous peoples in Canada see, for instance, McMillan and Yellowhorn (2004) and Morrison and Wilson (2004); for a discussion of indigenous cultures and languages in the North American subarctic see Helm (1981) and for early anthropological accounts of Northern Ontario's First Nations see, for instance, Dunning (1959), Hallowell (1955), and Rogers (1962).

Figure 5

Map of the Nishnawbe Aski Nation (NAN)

Note: Map of the Nishnawbe Aski Nation (Treaties No. 9 and No. 5) including tribal councils and First Nations, Nishnawbe Aski Nation (http://www.nan.on.ca/upload/images/nan-map.jpg).

During fieldwork in Northwestern Ontario, I had my home base in Sioux Lookout, the region's transportation hub and the socioeconomic and political centre of the district (about 25,000 people reside in the Sioux Lookout District). People from the First Nations communities have to travel to this town, or even further south to urban centres, to continue

education, visit a doctor or a medical specialist, or to do some shopping.[41] Many even have to leave their home communities for good to find a permanent, better-paid job or to go to college or university. First Nations people have to move to such centres because their remote communities simply lack infrastructure. Northwestern Ontario is situated on the Canadian shield which is mostly covered with boreal forest and crossed by numerous rivers and lakes. Because of these geographical conditions it is expensive and challenging – sometimes even impossible – to connect the remote northern communities with southern towns and centres with a permanent system of roads for instance. Only during the winter months, when rivers and lakes are frozen, a network of winter roads connects the settlements with each other and the southern towns. But travelling on these winter roads by car over frozen lakes and rivers can become dangerous with temperatures dropping well below -20ºC. During the summer months, travelling in Northwestern Ontario is only possible via airplane, which is a cost-intensive way to travel. Plane tickets from the northern communities to Sioux Lookout can cost up to CAD $1,000. Food and basic goods also have to be flown into the communities, where they are sold according to their weight. Thus a litre of milk or a bag of potatoes become expensive items.

The larger communities provide school education up to the age of 14, they have nursing stations for basic medical and health care, grocery stores, churches, administrative buildings, and airfields. Smaller communities might have none of these. All of them lack a hospital with full medical staff and services. The smallest communities don't have a school. Jobs are rare, mostly temporary, and not well paid. Water supply, sewerage, electricity, and heating are usually existing and are operated according to the community's individual possibilities and needs. Living in a ”remote community” in Northwestern Ontario means that there is no year-round road access and that it is distant from other settlements and town service centres. Even though I was not able to identify an official definition of “remote community” in the Ontario context, it was pointed to me several times that “remote” means that these communities are generally north of the 50º parallel and/or over 350 km from the nearest town or service centre. In the context of infrastructure development, this remote region with low population density is considered as “high cost serving area” (Fiser & Clement, 2012, pp.

[41] For a discussion of the social relations between different ethnic and indigenous groups in Sioux Lookout in the early 1970s, see Stymeist (1975). He chose to anonymize the town by using a different name in the publication, but Sioux Lookout residents told me that Stymeist actually did his study in the town of Sioux Lookout.

256-258; see also Fiser, 2009; McMahon, 2011). The province of Ontario, the Canadian government, and the private sector have therefore been reluctant to invest in the infrastructural connectivity of the First Nation communities.

This remoteness also leads to isolation, not only infrastructural-wise but also in terms of feeling isolated, being behind the urban centres in the south, being not connected to the rest of the country.

> Because we are isolated up here we don't see the movement in the rest of the world. And so we think that we are doing really well because we compare it to what we did last year. They don't realize that in the city things have jumped two notches ahead and we only jumped one notch ahead. And so the city is constantly getting ahead of us. In terms of skills and they way they do things. (Sandy Lake First Nation Resident, personal communication, 2007)

However, as the case of the Keewaytinook Okimakanak Kuhkenah Network (KO-KNET) indicates, the remote communities in Northwestern Ontario can be connected to the infrastructural networks of the South. To establish and sustain such infrastructures, it is necessary to cooperate with different stakeholders and to include the local communities and their representatives right from the beginning. In 1994, the Keewaytinook Okimakanak (KO) Tribal Council initiated the Kuhkenah Network (K-Net), an amalgam of Oji-Cree and English meaning “everybody’s network”, to facilitate computer communication, and later (broadband) internet connectivity and different internet-related services for remote First Nation communities (e.g., Beaton, O'Donnell, Fiser, & Walmark, 2009; Fiser & Clement, 2012). Overall aim of this community-driven, socio-technical development was to give people a choice and the possibility to stay in their communities: “People in the North are saying: 'We wanna have our choice!' 'We wanna make choices!'” (B. Beaton, KO-KNET Coordinator, personal communication, 2008). To emphasize the importance of KO as the tribal council behind K-Net, the internet organization has been more recently referred to as KO-KNET, also in this thesis. KO-KNET is more than just a tribal council's ICT network or internet service provider. It can also be understood as a First Nations organization, an indigenous ICT initiative and program, or as a local computerization movement.

A tribal council in Canada can be understood as a regional, nonprofit association of First Nation communities aiming to bundle the multiple voices of the individual, usually small, communities. On the one hand to jointly decide on political and economic issues and on the other hand to gain a stronger voice in the dialogue with governmental organizations and institutions. KO, which was founded in 1991 and means "Northern Chiefs" in Oji-Cree, serves the First Nation communities of Deer Lake, Keewaywin, McDowell Lake, North Spirit Lake, Poplar Hill, and Fort Severn. While the first five are Oji-Cree speaking communities, the people of Fort Severn belong to the Cree language group. When KO-KNET started to operate in 1994, KO was also representing the First Nation community of Kasabonika, which left the tribal council in 1998. KO is a member of the Nishnawbe Aski Nation in Northwestern Ontario and

> is directed by the Chiefs of the member First Nations who form the Board of Directors. Through its close awareness of community needs and its team approach, the Council advises and assists its member First Nations. The Council provides services in the areas of health, education, economic development, employment assistance, legal, public works, finance and administration, and computer communications (K-Net Services). The Executive Director liaises with the six Chiefs, with the staff of the Council and with other organizations and governments. (Keewaytinook Okimakanak, 2016)

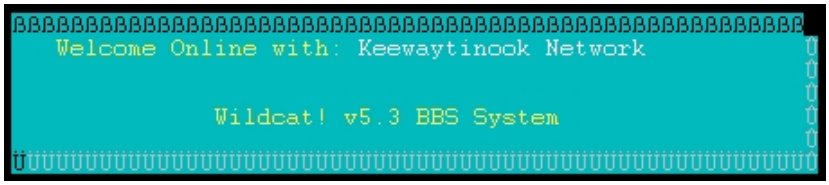
At the beginning of the 1990s, a telecommunications infrastructure in the indigenous communities in Northwestern Ontario was almost non-existent. There were no computers, computer networks, and sometimes even no phones. Some communities only had one public payphone, placed outside the community's band office. Others had to rely on community and trail radio provided by Wawatay for communications. Owned and controlled by First Nations, KO-KNET started as a simple pre-internet bulletin board system (BBS) that allowed community residents to communicate with family members who had to leave home to attend Pelican Falls high school in the Lace Seul First Nation close to Sioux Lookout. Pelican Falls is a First Nations high school of the Northern Nishnawbe Education Council that provides grade nine to twelve education for indigenous students of the Sioux Lookout District. To establish the BBS as a communications link between the First Nation communities, Pelican Falls high school, and Sioux Lookout, KO had to build an ICT

infrastructure from the ground up. Thus, they constituted a localized computerization movement focused on finding ways to utilize digital technologies to support and meet the needs of the local communities (Bell et al., 2012; Budka et al., 2009).

KO-KNET worked with community leaders, First Nations members, and interested parties from education, health, and community services to build a case for internet access. By negotiating public-private sector partnerships, KO was able to develop an indigenous network which was built around the principles of a not-for-profit organization and cooperative enterprise. Education and learning have been major components of the network. KO-KNET staff developed and communicated a “technology curriculum” in the communities by providing workshops for users to experiment with computers and by supporting individual “community champions” to manage and organize public computer access through local institutions such as band offices, e-centres, and schools (Beaton & Fiddler, 2002; Beaton, Fiddler, & Rowlandson, 2004, Budka et al., 2009). By 1996, 730 users in 21 First Nations communities of Northwestern Ontario had access to KO-KNET's BBS. What was initially a “stay in school” learning project became a regional communication tool for adults and youth alike, despite being limited by a text-based low-bandwidth device.

Figure 6

KO-KNET's Text-Based Interface (circa 1996)



At the end of 1997, KO-KNET staff members managed to interconnect the BBS with the internet. The remote communities had still no access to the world wide web, and all of the online connections went through dial-up in Sioux Lookout. So KO-KNET paid for this dial-up connection and people could call in via a toll-free number to communicate through the internet. Despite slow download speeds, users were creating and linking personal profiles, sharing messages, writing stories and jokes, discussing current events, posting notices and

ads, learning about computing, and so forth. Some of the very remote communities, such as North Spirit Lake and Keewaywin, had no direct access to KO-KNET, but they acquired computers and KO airmailed floppy disks between the communities and the BBS server to update the messages. This demonstrates nicely the commitment organizers had to serve local communities and the commitment of the remote communities to utilize new technologies to facilitate community development and communication.

To understand KO-KNET as a computerization movement means that while this initiative was driven by local community needs, it was also related to a broader national computerization movement (Budka et al., 2009). From 1997 to 2000, KO worked with Industry Canada's First Nations SchoolNet (Industry Canada is now the Department of Innovation, Science and Economic Development Canada), Telesat Canada, and the Stentor Alliance to install satellite internet technology in First Nations elementary schools and some off-reserve high schools (Fiser, 2009). In 1997, KO also began to receive support from Industry Canada's Community Access Program to establish public access sites (e-centres) in its communities. Between 1997 and 1999, the access program – together with the SchoolNet program, and regional and provincial partners – enabled KO communities to use school internet connectivity for public access and to hire local e-centre managers. Moreover, KO facilitated the SchoolNet initiative and the construction of public access sites in each community, by having its staff members travelling around northern Ontario to deliver workshops on computing, webpage development, and basic internet skills. This training was continued and supported online over the internet, building thus capacities in the remote communities.

The crucial project in KO-KNET's evolution into a regional wide area network and internet service provider was an Industry Canada's Smart Communities demonstration project which the organization managed to acquire in 2000 as the only indigenous competitor with a grant of almost CAD $5 million to be matched with an additional CAD $5 million from other resources (Fiser, 2009; Ramirez et al., 2003). Through the support from project partners, including Industry Canada, FedNor (the Government of Canada's economic development organization for Northern Ontario), and the Northern Ontario Heritage Fund, KO was able to order T1 services (1.544Mbps) for four of the KO communities and establish a shared, high-

speed satellite service for its most remote community, Fort Severn. In 2001, the Fort Severn satellite initiative led KO to cooperate with Telesat Canada Research and Development and Industry Canada to initiate the C-Band Public Benefits Transponder agreement (KORI, 2005). Together with the Smart Communities project, the C-Band satellite service would help deliver broadband applications in 12 remote First Nations that could not otherwise acquire internet services. With broadband, residential internet access finally became a feasible project in the region, although public access e-centres and schools continued to be the primary access points for internet users in the region.

The Industry Canada's Smart Communities project, and several follow-up projects, enabled KO-KNET to develop online learning and telemedicine services as well as to establish additional e-centres for public internet access in selected First Nation communities. Thus, ICT related projects provided jobs and training for many people; in the KO-KNET office in Sioux Lookout, in the KO offices in Balmertown (KO Health Services, KIHS), in the KORI office in Thunder Bay, and in the remote First Nation communities. I was told that more than 120 people were working on the Smart Communities project for example. This project, moreover, opened federal doors in terms of networking and cooperation (Fiser, 2009). It is important to note that governmental subsidies usually include the hope that one investment will make up for another – usually more expensive – investment. To (co-)subsidize broadband internet infrastructures to facilitate telemedicine services, for instance, holds the promise of saving governmental money for other investments such as doctors' visits to the remote communities. On the other hand, telemedicine and telehealth services were the main reason for federal investments in KO-KNET's broadband network. And these investments would then also benefit (and eventually pay for) other services, like education, online training, homepage service, and so forth.

KO Telemedicine allow for sending computer generated pictures to doctors to get a first diagnosis on possible medical problems before making an expensive trip to hospitals in southern towns. Only to find out later that such a trip wouldn't have been necessary and that insurance is not covering the costs. Video conferencing sessions are also an essential part of telemedicine services. People are thus able to communicate face-to-face online. This service is also being used for informal online meetings of community elders, for instance, who are

no longer able to travel to other communities to meet with family members or friends. Research partners told me that to illustrate the functioning of video conferencing to older generations, some people referred to the “shaking tent” in which shamans spiritually travelled over great distance to communicate with (other) spirits. By attending the Keewaytinook Internet High School (KIHS), students have the opportunity to complete their education in their home communities. The service MyKnet.org enables First Nations people to create their own web presence for free and without advertisements, and to communicate with friends and family members. Of all of these internet services, telemedicine and telehealth have always been at the top of the communities' and KO-KNET's priority list, as the community telehealth coordinator of a First Nation told me:

> We should get priority before everybody else. Because someones life could be on the line for a video conferencing . . . like a doctor may need to see a big gash on my arm or something like that. To see if he wants to see them, to come in personal. (Personal communication, 2008)

The importance of the telemedicine service reflects the problematic medical situation in remote First Nation communities in Northwestern Ontario. But it also points to KO-KNET's dependency on this service to justify federal investments that have kept the ICT infrastructure going (see also Sandvig, 2012). KO-KNET's digital services have become widely popular, not only with KO tribal council members, but also with many other First Nation communities in the Nishnawbe Aski Nation and beyond. All these services and programs have been aiming to offer people the choice and the possibility to stay in their remote home communities. In addition, KO-KNET and its services opened new windows to the world and thus contributed in some ways to the deisolation of the people in the remote communities in Northwestern Ontario:

> But that does not mean that they have to be isolated mentally, you know. In terms of learning that K-Net brings. This is one of the biggest things. Like before not everybody was flying out of the reserve to see what the world is doing. Because they don't have the money. So bring in the internet and see what's happening out there. And learn so that the reserve is not the only thing that they see. To learn about the world out there. (KO Staff Member, personal communication, 2007)

Table 2

Milestones in the History of Keewaytinook Okimakanak and its Kuhkenah Network

1991	Founding of Keewaytinook Okimakanak Tribal Council (KO)
1994	KO's education department launches an electronic bulletin board system (BBS) for its communities under the name of Kuhkenah Network (K-Net)
1995	The BBS expands to all First Nations in the Sioux Lookout District
1996	KO becomes Industry Canada's First Nation SchoolNet help desk serving northern Ontario
1997	Public internet access centres in the KO First Nation communities in partnership with Industry Canada's Community Access Program
2000	K-Net becomes one of Industry Canada's Smart Communities demonstration projects (the only indigenous one in Canada) First broadband connectivity projects Start of Keewaytinook Internet High School (KIHS, http://kihs.knet.ca/)
Circa 2000	Launch of personal homepage service MyKnet.org (http://myknet.org/)
2002	KO Telemedicine / KO eHealth established (https://tm.knet.ca/)
2004	Northern Indigenous Community Satellite Network (NICSN) created by K-Net (Ontario), Kativik Regional Government (Quebec), and Keewatin Tribal Council / Broadband Communications North (Manitoba)
2005	NICSN is officially launched, connecting more than 30 remote indigenous communities with satellite broadband internet
2009	Community-owned IP-cellular pilot projects launched in selected First Nation communities (K-Net Mobile)
2017	15 First Nations communities in Northwestern Ontario have access to K-Net Mobile's 3G broadband network, enabling broadband internet access via mobile phone

Note: Selected milestones in the historical development of the Keewaytinook Okimakanak tribal council with particular emphasis of digital media technology projects.

KO's and KO-KNET's "vision that was to become realized . . . was of a First Nations controlled IP network that would ride atop existing leased terrestrial and satellite carrier infrastructure" (Fiser, 2009, p. 123). This was made possible because of KO-KNET successfully secured funding for building the broadband infrastructure for the remote communities, mainly by competing for provincial and national project funds (e.g., Fiser, 2009).[42] This digital infrastructure was much needed and eagerly awaited, as a computer

[42] For details on KO-KNET's funding and project history as well as for the Canadian ICT policy context see Fiser (2009) as well as Fiser and Clement (2012).

technician told me with a smile in Sandy Lake First Nation: “Kids are asking for computers, asking for internet. Kids go back home and bug their mum and dad for internet line at home.” (Personal communication, 2008). In Deer Lake First Nation, the community technician remembered the time before KO-KNET and before broadband internet:

> Before K-Net came here with their internet service . . . we used to get disconnected a lot. Every time somebody calls you, you get disconnected with the dial-up. But like with K-Net, to me it was more advanced than dial-up and way better too. (Personal communication, 2007)

Today, digital infrastructures in Northwestern Ontario facilitates landline and satellite broadband internet as well as internet cell phone communication, constituting thus the regional backbone for all internet-related services and programs. However, the actual backbone remains the internet connectivity infrastructure controlled, maintained, and managed by Bell Canada from Canada's urban centres. KO-KNET is only leasing specific connections which are up to eight times more expensive for the remote First Nation communities than for urban population groups (e.g., Fiser 2009). While KO-KNET firstly supported only First Nation communities of the KO tribal council and the Sioux Lookout District in Northwestern Ontario, it has started to expand its services to the rest of Northern Ontario and even to neighbouring regions and provinces. KO-KNET and its historical development has been documented and examined by various researchers with different academic background and in close cooperation with KO-KNET staff members and representatives (e.g., Beaton et al., 2009; Fiser, 2009; Fiser & Clement, 2012; Fiser, Clement, & Walmark, 2006; Ramirez, Aitkin, Jamieson, & Richardson, 2003). Recently, Beaton, Burnard, Linden, and O’Donnell (2016), for instance, have discussed KO-KNET's mobile phone infrastructure and service. As the case of KO-KNET demonstrates, digital infrastructures not only connect people and communities but also enable relationships between local communities and non-indigenous institutions.

Figure 7

KO-KNET Satellite Dish

Note: KO-KNET satellite dish in Sioux Lookout, Philipp Budka, 2006.

Infrastructure and Relationships

Infrastructure, following Star (1999), is not a purely technical thing. It also involves the social relationships people establish while creating, for instance, technical connections. And relationships constitute one of the crucial "objects" of study for many social scientists, as Bateson, for example, emphasizes: "What can be studied is always a relationship or an infinite regress of relationships. Never a 'thing'." (Bateson as cited in Star, 1999, p. 379; see also Star & Ruhleder, 1996). Studying infrastructure, therefore, also means to study aspects of human organization (Star, 1999; see also Pinch, 2009). Fiser (2009) analyzes in detail how different stakeholders – from governmental organizations and the telecommunication industry to the local communities – have contributed to the internet network initiated by KO-

KNET (see also Fiser & Clement, 2012). These co-operations and partnerships enabled KO-KNET to develop into a regional social enterprise and to establish one of the world's most successful community broadband network models that is owned and controlled by indigenous people (Fiser, 2009). This success can be measured by the number and the value of projects KO-KNET has been able to acquire and complete, by the established infrastructure in the communities, and by the initiatives which are following the KO-KNET broadband community model in other regions (e.g., Fiser & Clement, 2012).

By simple definition infrastructures are "build networks that facilitate the flow of goods, people, or ideas and allow for their exchange over time" (Larkin, 2013, p. 328). Infrastructure is not technology, it can rather be understood as "objects that create the grounds on which other objects operate" (p. 329). These objects, furthermore, operate in systems. Infrastructure therefore is a system which enables the functioning of technological objects and things. Star (1999) argues that infrastructure as the relation of things might be to some extent not visible. For her, this invisibility is one of infrastructure's key properties. Larkin (2013), on the other hand, contends that infrastructure, or at least parts of it, is in many cases highly visible, like the KO-KNET satellite dish in Sioux Lookout. He therefore speaks of "hypervisibility" (p. 336). This (in)visibility of infrastructure depends on individual situations and conditions, and is often mobilized for political reasons. Defining infrastructure always means to include specific aspects by excluding others, which is determined by "epistemological and political commitments" (p. 330). Placing the analytical focus on the system rather than on the technology offers, according to Larkin (2013), "a more synthetic perspective" which also allows for including non-technological elements (p 330). This is of particular relevance when investigating the translational processes of system building and system development. For Star (1999) infrastructure is a relational concept with multiple meanings and not a purely technical or technological phenomenon. It means different things to different people and becomes "real infrastructure in relation to organized practices" (p. 380). Infrastructure includes thus not only the relationships people establish in the course of creating technological networks, but it is also closely connected to organizational phenomena and processes (Star, 1999; see also Pinch, 2009).

The co-operations and partnerships with different stakeholders – from governmental

organizations and the telecommunication industry to the local communities – enabled KO-KNET to develop into a regional social enterprise and to establish one of the world's most successful community broadband network models that is owned and controlled by indigenous people (Fiser, 2009; see also Budka, 2015; Fiser & Clement, 2012). This success can be measured by the number and the value of projects KO-KNET has been able to acquire and complete, by the established infrastructure in the communities, and by the initiatives which are following the KO-KNET broadband community model in other regions (e.g., Fiser & Clement, 2012). And, of course, it is the people's everyday appropriation of the technologies and services that build on the digital infrastructure, such as the homepage environment MyKnet.org, that indicates KO-KNET's success:

> You make it available and people may use it. And that's how I always presented it. You know you give people the proper road, they will use it. And they will use it for ways you and I don't think about it. Like you know, I never thought it would ever go. And they loved it. And they were sharing pictures and stories and things like that. Like you know. And it was a really friendly environment. And people just took to it like crazy and then, when machines were becoming more available, as broadband became available, it was much easier to use. (B. Beaton, KO-KNET coordinator, personal communication, 2006)

Fiser (2009) highlights in his study about KO-KNET the importance of governance – including questions about control, ownership, collaboration, and cooperation – which is "paramount for the local negotiations of broadband deployment in communities" (p. 7). By putting the focus on the role of governance in ICT initiatives it is possible to reveal "an emergent and evolving communications-information infrastructure that mirrors the complexity of societies and parallels their historically contingent pathways" (p. 7). For Fiser (2009), a feasible internet broadband governance model has to involve governments, industry, and non-governmental organizations. Such a model thus includes, on the one hand, "technological and economic actors as well as the social systems" (p. 37). On the other hand, this governance model pays particular attention to the social relationships partners and collaborators establish and maintain. Organizations applying such a model can thus be referred to as "social enterprises" (pp. 36-37). KO-KNET, according to Fiser (2009), is such a social enterprise because it includes the properties of being a "carriage level network of

community networks, a system of governance, and a social economy organization" (p. 39). He concludes that KO-KNET "presents a viable model to support broadband deployment for the public good" (p. 225). This has been accomplished "on the basis of social enterprise" and "in cooperation with First Nations communities, governments, and industry" because KO-KNET not only invested in infrastructures but also in the training of people to maintain infrastructures and services (p. 225; see also Ramirez et al., 2003). KO-KNET even managed to "change the rules of telecom for its constituent communities" by creating broadband community networks which are owned and controlled by the local communities under the KO-KNET governance model (Fiser, 2009, p. 225). As Larkin (2013) argues, and I strongly agree with him here, infrastructures are closely connected to conceptions of modernity and development as well as to related imaginations, fantasies, desires, and futures. By producing "the ambient conditions of everyday life", infrastructure also creates "a sensing of modernity" (Larkin, 2013, pp. 336-37). A sensual perception of what is modern, new, and progressive.

Digital infrastructures are not only the backbone of "important services", such as telemedicine, videoconferencing, or online learning, but also for services like MyKnet.org which allow mainly for mundane activities such as posting texts and pictures, social networking, or chatting. A closer look at these digital practices reveals that they require skills and knowledges which are fundamentally important in a digital world. Even though mundane services like MyKnet.org might not have a priority status for funding agencies, particularly in the indigenous context (e.g., Sandvig, 2012), they are certainly important for people who are deciding on a daily basis how to make use of digital technologies and infrastructures; how to appropriate these things in everyday life.

MYKNET.ORG: DIGITAL PRACTICES AND TECHNOLOGY APPROPRIATION

"For a lot of people the homepages are a connection to the outside world, perhaps the only connection."
(MyKnet.org User, personal communication, 2007)

When I came to Northwestern Ontario for the first time in 2006 to work with KO-KNET, I

was not particularly interested in its service MyKnet.org. It was only after e-mailing and some face-to-face conversations with KO-KNET's coordinator Brian Beaton that my interest in this homepage system began to grow. Brian told me that KO-KNET had already worked with a variety of researchers with all kinds of academic background who were all fascinated by KO-KNET and its (socio-technical) development as an indigenous internet organization in a remote region (e.g., Beaton et al., 2009; Ferreira, Walmark, & Kenny, 2004; Fiser, 2009; Fiser & Clement, 2012; Fiser et al., 2006; O'Donnell et al., 2011; Ramirez et al., 2003). But despite being frequently referred to as "the flagship" of First Nation internet use in Northwestern Ontario, particularly by KO-KNET staff members, MyKnet.org was only discussed by few researchers on the surface. I was once told by a fellow researcher that it is a messy environment where people are publicly cleaning their dirty laundry and chit-chatting, and that it is pretty much like a "puppet show". In other words: some researchers considered it more of a byproduct of KO-KNET's development and not as a "serious" (socio-technical) phenomenon of its own. Therefore, it was not of much interest to them. Quite in contrast to the people of Northwestern Ontario. They loved MyKnet.org.

In summer 2006, there were more than 30,000 user accounts registered. Even though some of them were connected to inactive or not updated homepages, and some users obviously had registered for more than one account, this was a very impressive number (keeping in mind that the overall population of Northwestern Ontario is about 30,000). There was virtually no one who had not registered for a MyKnet.org page at one point and/or knew at least a couple of people who did. So after several talks with KO-KNET staff members, indigenous media experts, MyKnet.org developers and users, and long hours of browsing the personal homepages, I began to develop the idea that this online environment was kind of digitally mediating everyday life of, particularly young, First Nation people in the remote communities. Providing thus the (participant) observer with a "digital window" to First Nation life, culture, and societal processes. From that day on, I was fascinated and decided to focus my ethnographic research on MyKnet.org. This chapter summarizes my anthropological engagement with MyKnet.org. In doing so, I am theoretically framing MyKnet.org by considering (a) its historical development, (b) questions about digital/online sociality, and (c) empirical data from ethnographic fieldwork in Northwestern Ontario and in MyKnet.org. This data was collected through participant observation, interviews, visual and

textual analyses as well as online surveys.

MyKnet.org was set up around the year 2000 for young First Nations people from the KO communities to create digital presences within a cost- and commercial-free space on the web. In the years to follow, different age groups across Northwestern Ontario and the neighbouring regions started to use this online environment, which still is a free homepage service exclusively for First Nations people. Many of these personal homepages and their content referred and still refer to the daily life of people in a world at the margins, where roads come to an end at the settlement's border, and where friends and families are split up to attend school or to find work in the urban south. According to two online surveys, which were conducted in 2007 (N=1,246) and 2011 (N=117), and ethnographic fieldwork on- and offline, the majority of MyKnet.org users were female, between 15-35 years old, and resided mainly in Northwestern Ontario's larger First Nation communities such as Sandy Lake, Deer Lake, or Fort Severn. This reflects Northwestern Ontario's demographics of a predominantly young First Nation population, particularly on reserve (about half of the First Nation population is 24 years of age and under; Statistics Canada, 2013). And this makes MyKnet.org primarily a youth-driven environment.

While the personal homepage system MyKnet.org had approximately 25,000 active homepages and more than 38,000 registered user accounts in 2013, these numbers dropped dramatically since 2014; with about 2,800 homepages in spring 2017. This decrease is mainly due to KO-KNET's decision to switch to Wordpress as MyKnet.org's hosting platform to reduce administration and maintenance costs. A move which required users to set up new websites. While the websites' content generally remained similar to the old system of homepages, the pages' structure and design now follow the Wordpress blog logic. In addition, MyKnet.org has experienced a steady decline of active users over the last six years due to the rise of commercial social networking platforms such as Facebook. Even though MyKnet.org's best days are over, it used to be extremely popular among First Nations people, particularly between 2004 and 2008. This was mainly because of two reasons (Bell et al., 2012; Budka, 2015; Budka et al., 2009).

First, MyKnet.org supported people to establish and maintain social connections across

spatial distance in an infrastructurally disadvantaged region. They communicated by writing messages in the homepage's c-boxes (guest-book-like, asynchronous communication boxes) for everyone to see. And they connect their homepages to other websites by adding hyperlinks, for instance to MyKnet.org pages of family members and friends.

> I was living in Thunder Bay and my sisters were living in Muskrat Dam [First Nation]. And a brother living in Saskatchewan. So we are visiting each others homepages. My older sister she lives here [Sandy Lake] and she was telling me how it was part of her daily routine just to visit mine and my other sisters and brothers . . . it is part of her lunch routine. And she laughs and says, "Yeah, it's weird I visit you at every lunch hour." So it's like a connection with us, connecting with us. And that's how I feel too. Get connected because they write down, "Kids are doing this." or "We are doing this." and "We did this this weekend." So we know what they are doing. We could call them. We still call each other quite a bit, but it's just a different point of view, I guess. (MyKnet.org User, personal communication, 2007)

Secondly, MyKnet.org contributed to different forms of cultural representation and identity construction. Homepage producers utilized the service to present and represent themselves, their families, and their communities by sharing pictures, music, texts, and artwork.

> I used to do all lot of multimedia stuff and jokes and recipe that I would share. I also use it for my own business site. You know, where I have a list of my services and my portfolio works. My wife also has a homepage there where she puts up a lot of photos and stuff. . . . Here you can see some of my work as graphic designer or my artwork, stuff like that. Occasionally someone is calling me up and says, "Oh I have seen your work on the website. Can you do a painting for me?". I have someone from BC who is a regular buyer now. (MyKnet.org User, personal communication, 2006)

MyKnet.org had become widely popular because it allows for establishing and maintaining social ties and connections over spatial distance and it enables different forms of cultural (self-)representation and individual expression. And since MyKnet.org is a locally developed and controlled First Nation service, which was enabled by KO-KNET, the organization that connected Northwestern Ontario's remote communities to the internet, people experienced a

strong sense of loyalty and belonging. This is why people kept using MyKnet.org despite the increasing dominance of commercial social networking platforms such as Facebook. To put it another way, users considered MyKnet.org as a kind of "native Facebook" that was established by an indigenous organization only for indigenous people (Budka, 2012). But like in many parts of the world, Facebook has also become very popular among First Nation communities in Northwestern Ontario and has in some respect replaced MyKnet.org, particularly as tool for online communication and for keeping in touch with family and friends (Budka, 2012, 2015; Molyneaux et al., 2014). According to the online survey from 2011, 56% of survey participants stated that they know more than 100 MyKnet.org homepage owners while 86% reported that they know more than 100 persons with a Facebook profile (Budka, 2012).

MyKnet.org's Early History

It was during a period of different funded projects that MyKnet.org's web-based precursors emerged (e.g., Bell et al., 2012; Budka et al., 2009). The web-based graphical interface of KO-KNET's BBS, which was developed between 1997 and 1998, enabled KO-KNET to serve community portals and homepages. The earliest homepages were written in simple HTML code and strictly service-oriented. KO-KNET staff created first templates and embedded them within a tutorial designed to facilitate self-directed learning. Most learning was undertaken by community members on their own initiative online at the public access sites in the remote communities. And the KO-KNET staff dedicated much effort to build online support systems, tutorials, chat rooms, e-mail services, and mailing lists. During that time, the first script of the MyKnet.org environment was conceived and developed by Dan Pellerin and Brian Beaton and then further developed by Jesse Fiddler. They were also the first ones to put their own MyKnet.org homepages online. In 2000, KO-KNET became one of Industry Canada's Smart Demonstration Projects and the BBS was retired, and MyKnet.org acquired its own domain name and dedicated server. (e.g., Fiser, 2009; Ramirez et al., 2003).

Figure 8

"K-Net Bulletin Board Service" (1999)

Note: Screenshot of the web-based interface of KO-KNET's bulletin board system.

Due to the high cost of network services in remote areas, limited bandwidth is an ongoing management issue, especially for users over KO-KNET's satellite network. As part of a community-based network, MyKnet.org users had to negotiate up-time with regularly scheduled high-capacity applications such as videoconferencing and telemedicine. The increasing use of audio/video on MyKnet.org homepages led to a decision by KO-KNET staff to introduce a daily quota to manage community bandwidth in 2006. Other than to support higher-capacity community-based applications, KO-KNET does not regulate the type of content created on the MyKnet.org server. However, to ensure that MyKnet.org did not disrupt services such as videoconferencing and telemedicine, especially in the satellite communities, KO-KNET employees evaluated pages and usage and temporarily suspended high bandwidth consuming pages until services are rendered, without deleting the the pages' content of course.

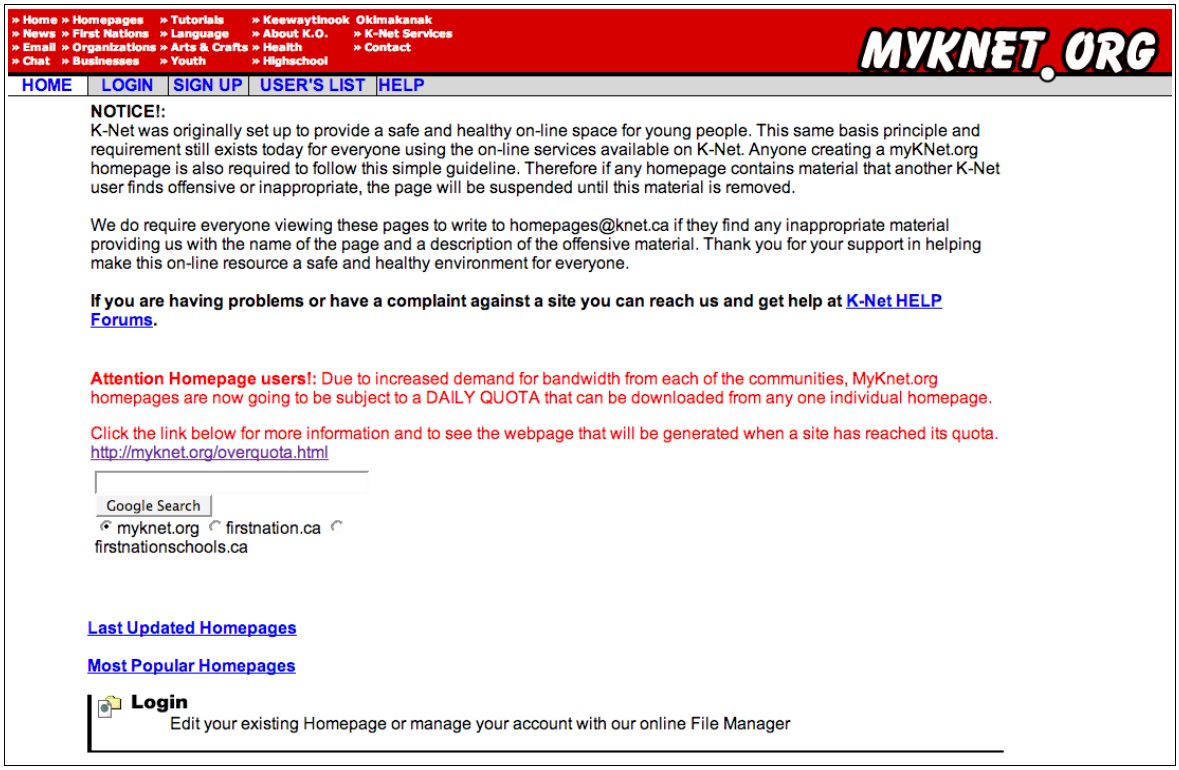
That MyKnet.org emerged out of a national computerization movement on the part of the Canadian government, which provided programs and funding for much of the technological implementation in the region, is key (e.g., Budka et al., 2009). However, it is its development within a local computerization movement in the region, that was (and remains) focused on local education, local ownership and control of media, and development of local capacities, that is central to its understanding by users and community members.

MyKnet.org was seen as belonging to the community and the environment was used in various ways as a means of supporting local communication and community-building.

When I arrived in Northwestern Ontario for the first time in 2006, MyKnet.org was at the peak of its popularity. On the MyKnet.org entry page one could read that the service was originally set up to provide a "safe and healthy on-line space for young people" where they can design and construct their own personal homepages (MyKnet.org, 2006). One of my first impressions when browsing through the thousands of homepages MyKnet.org's was that many of these personal homepages reflect directly on the daily life of people in a world at the margins, where roads come to an end at the settlement's border, and where friends and families are split up to attend school or to find work in the urban South. So my first ideas was that these homepages can be considered as local representations of First Nation cultures, lives, and identities in the global context of the internet and the world wide web.

Figure 9

MyKnet.org's Entry Page (2006)



Note: Screenshot of the MyKnet.org entry page, including links to the "last updated homepages" and "most popular homepages".

Digital Sociality

Questions about individual and collective identities in relation to digital media technologies such as the internet, can be considered as one of the building blocks of social science internet research, (see also chapter 4). What becomes of the self in a digital world and in virtual environments? What do individuals form when they engage in collective actions online? Does our vocabulary suffice to describe, examine, and understand digital (modes of) collectivity?

MyKnet.org contains homepages of individuals, groups, collectives, and communities. From traditional drumming and singing groups to hockey and football teams to hip hop artists, expecting mothers, students, and story tellers. They have all in common that they consider themselves as individuals who are, at the same time, part of a family, a community, and a First Nation. Through these digital forms of representation, First Nations, reconquer their fundamental right of representation. Moreover, these online presences offer the possibility to challenge stereotypical preconceptions and inherent marginalization (e.g., Hall, 1996). Representation, in this case, has a political character that raises questions about culture, identity, and ideology, (see also chapter 3). In the social sciences, it is the strategic and context related utilization of the concept of „identity“ that is of particular interest. According to Hall (1996), identities are constructed within representations and discourses, and therefore have always a temporary character. Besides this temporal aspect, identity and the “self” also have a spatial dimension which means that these notions can be re-conceptualized by spatial modes (Grossberg, 1996). The low population density in Northwestern Ontario, for example, can be understood as one reason why the online environment MyKnet was packed with people who created this way a digital centre where they transformed from villagers to “digital townspeople”.

According to Butler, identity work is only possible by explicit exclusion through the discursive construction of the outside(r) (as cited in Hall, 1996, p. 15). Identity is thus always a matter of difference or “otherness” (Grossberg, 1996). While difference works in an excluding, negative way, “otherness” as a non-essentialist concept provides a positive

alternative to realize belonging and the changing self (Grossberg, 1996). Baumann and Gingrich (2004b) suggest to understand identity as individual or collective "social subjectivities" that are "multidimensional and fluid; they include power-related ascriptions by selves as well as by others; and they simultaneously combine sameness, or belonging, with alterity, or otherness" (p. x). I would like to follow this "anthropological working definition" because it rejects essentialist connotations while emphasizes the importance of social processes, agency, and contexts (Baumann & Gingrich, 2004b, p. x). As I learned in many formal and informal conversations, the feeling of belonging and the awareness of exclusiveness were essential for MyKnet.org users. I was frequently told, by user and non-user alike, that MyKnet.org's peculiarity and popularity lie in the fact that it is a First Nation service provided by a First Nation organization only to First Nation people (of a specific region). So people also developed a strong sense of ownership towards MyKnet.org.

While identity is a concept of political relevance, it is not necessarily a good analytical concept or instrument (e.g., Brubaker & Cooper, 2000). Identity means different things, is used in multiple ways, and includes several dimensions and aspects. Therefore, Brubaker and Cooper (2000) suggest three possible alternatives to grasp identity phenomena and processes:

- The identification of "the self" and "the other", that is self-identification as specific aspect of social life (see, for instance, the Canadian census).
- The understanding of "the self", that includes "situational subjectivity" (see Baumann & Gingrich, 2004b).
- The communality, connectivity, and "groupness" of collective identities, that is emphasizing and sharing of common aspects.

"Community", as one of the most frequently used concepts in the social sciences, has been a concept of "always positive evaluation and evocation, whose usage expresses and elicits a social group and a social environment to which people would expect, advocate or wish to belong" (Rapport, 1998, p. 117). As the human world and the social conditions are changing, triggered for instance by processes of contemporary globalization, so do the understanding, meaning, and construction of community (e.g., Amit, 2002; Amit & Rapport, 2002). The distribution of media technologies (printing press) and media products (newspapers), for

example, contributed decisively to the creation of what Anderson (1983) has called the "imagined communities" of nation states. In anthropology, communities were traditionally considered as "the key structural units of social life" and therefore found themselves in the focus of most anthropological research (Rapport & Overing, 2000, p. 62). The symbolic approach understands community as a social construct that builds on common symbols as well as shared values and meaning. Rapport and Overing (2000) state that community, "describes the arena in which one learns and largely continues to practice being social" (p. 63). And since community is what informants frequently say they live in, the concept continues to be important to anthropologists.

In the early phase of internet studies, different kinds of online socialities, which were emerging all over the internet and the web, were classified as "virtual communities", "social spaces in which people still meet face-to-face, but under new definitions of both 'meet' and 'face'" (Stone, 1991, p. 85). Rheingold's *The Virtual Community* (1993/2000) was the first widely publicized book about the ability of internet technologies to create communities online. He utilizes an "Americanized" notion of community to describe his personal experiences in a computer-mediated communication environment. The catchy subtitle of the book – *Homesteading on the Electronic Frontier* – illustrates quite nicely the metaphor of the unknown and unoccupied cyberspace, so popular at the beginning of the 1990s, particularly in the U.S.[43] Intensive research in this field followed that tried to deepen the understanding of new forms of digitally mediated communities (e.g., Jones, 1995, 1998; Shields, 1996; Kollock & Smith, 1999). In the context of computer mediated communication, Baym (1998), for instance, identifies five sources of influence that – together with non-communicative and preexisting factors of influence – affect the development of and the communication in online communities: external contexts, temporal structures, system infrastructure, group purpose, and participant and group characteristics (p. 49).

In a revised edition of his book in 2000, Rheingold states that if he had learned about social networks sooner, he would have used this concept to describe "cyberspace cultures" (p. 359). He refers in particular to the work of Wellman who has written extensively about social

[43] For a critical study of this development see, for example, Turner (2005).

networks in relation to internet media (e.g., Wellman, 1997, 2001; Wellman & Gulia, 1999; Wellman et al., 2002). Together with other sociologists (e.g., Castells, 2000), Wellman argues that communities and societies have been moving towards "networked individualism" and that in networked societies "computer networks and social networks resonate with one another" (Wellman et al., 2002, p. 160). The concept of "the (social) network" basically aims to conceptualize the interconnections between individuals in their social environments, their relationships, and personal behaviour (e.g., Rapport & Overing, 2000). A network approach in internet studies, for instance, focuses on the interactions that create (online) communities rather than on "the place" of communities (e.g., Jones, 1995, 1998). From a pure technical perspective MyKnet.org was and still is not a social networking site such as Facebook. Instead it was more or less an aggregation of mostly static websites that were connected through hyperlinks. This active setting of links, however, can be considered as a conscious social or socio-technical activity. From a sociological and anthropological perspective, and by looking at the users' digital practices, it becomes clear that MyKnet.org certainly enables and maintains social connections, interactions, and social networks. Thus, it could also be understood as an online social network.

It seems that the notions of community and social network just work fine to conceptualize digital socialities. But again there are doubts concerning their analytical applicability. For Amit (2002) community is, because of its "strong emotional resonance" and its popularity in public discourses, not a good analytical and theoretical concept (Postill, 2008, p. 415). Postill (2008) adds to this critique by arguing that community is not the best conceptional tool for social analysis because it lacks an identifiable empirical object. By suggesting the field theories developed by Bourdieu and the Manchester School of social anthropology as alternative ways in conceptualizing online socialities, he moves "beyond the community/network paradigm". For Postill the main advantage in utilizing, for instance, the concept of the "social field" lies in the fact that "it is a neutral, technical term lacking the normative idealism of . . . community" (p. 418). He exemplifies the usefulness of alternative concepts, such as Victor Turner's "social arena", that is "a spatial unit" of public nature where social agents act as opponents to gain honour and prestige, by drawing on them to conceptualize the localization of the internet in Malaysia (p. 426). Moreover, Postill (2008) calls for the opening of "semantic spaces" in internet studies to integrate concepts that are

better suitable for social analysis (p. 426). I would add that already the notion of "sociality" opens the "modernist" and "western" vocabulary to alternative forms of "the social" (e.g., Overing & Passes, 2000).

In a similar vein, Budka and Mader (2009) demonstrate that the concepts of "conviviality" and "communitas" can be utilized to analyze digital interactions and practices of Bollywood fans (see also Mader & Budka, 2009). The concept of "communitas", developed by V. Turner, has been used to differentiate between society as social structure and communitas. In the context of the internet, the "liminal" experiences of people switching between these two stages is particularly interesting (e.g., Waskul, 2005). Conviviality a concept coined by Overing, on the other hand, accentuates the affective side of sociality and the virtues of sharing and generosity, as opposed to the structural functioning of society. Whereas communitas allows for understanding social structure in the classic sociological sense, using this structure also as conceptual counterpart (anti-structure), conviviality can be understood as an introduction to new forms of sociality that emphasis the affective aspects of "the social" through non-western ways of thinking and through an indigenous point of view. These concepts are thus able to contribute to the understanding of the distinct ways of living, experiencing, and feeling sociality, also in a digital environment. Bollywood fan practices, for example, constitute a space for experiencing various dimensions of conviviality and communitas (see also Mader, 2011, 2015). Anthropology provides numerous theoretical concepts and analytical tools – from field theory, social arena, communitas, to conviviality – for investigations in digital sociality.

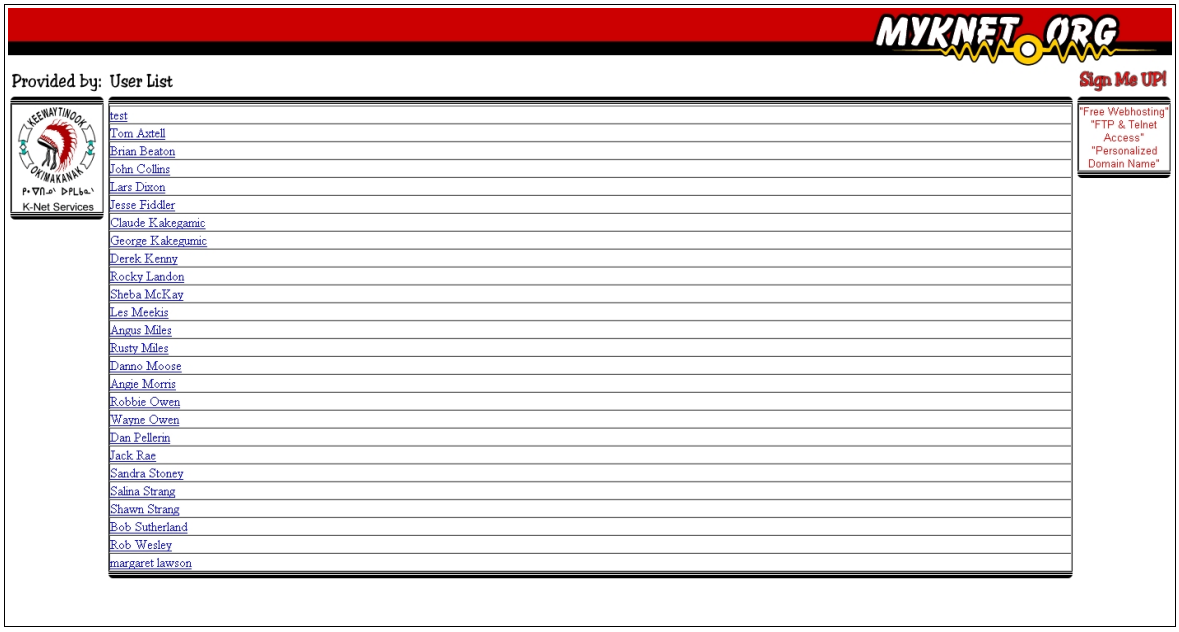
Digital Practices

When applying for a MyKnet.org user account, people had and still have to sign-up with their real name. The account is then manually approved by KO-KNET staff members who are familiar with the First Nation family names commonly used in the Northwestern Ontario. Preventing thus non-indigenous people to get a user account. The user's name then becomes part of the homepage's URL (name.myknet.org) and the page is displayed on the MyKnet.org homepages' list (http://myknet.org/sites/). This allows for an easy search for people and the content they are producing: "MyKnet is like a central directory of everybody

in the North. I think the potential aspect of MyKnet.org is that it is a directory of the community“ (MyKnet.org Developer and User, personal communication, 2007). Because of this “real name policy” and its then impressive user numbers, MyKnet.org had actually become such a directory of Northwestern Ontario's First Nations people. Thus, MyKnet.org not only provides users with the possibility to become producers by creating their own homepages, it also allows for following homepage producers, their online activities, and the information that is put online.

Figure 10

MyKnet.org User List (2001)



Note: Screenshot of the MyKnet.org user list.

MyKnet.org became widely popular because it allowed for establishing and maintaining social connections and different forms of cultural representations. These connections and representations were constructed and challenged through different digital practices: writing and blogging, sharing, copying and pasting, coding, lay-outing, graphical work, helping and teaching others, learning, listening to music, creating and uploading photos and videos, watching visual material, linking homepages, communicating, bullying, “stealing” identity, “flaming”, gossiping, browsing, gathering of information, and many more. How people engaged with MyKnet.org depended, on the one hand, on their knowledge and personal

skills, for instance to set up a homepage or to integrate technical applications such as the very popular c-boxes that allowed for anonymous chat-like communication. On the other hand, these practices depending on people's social networks; whether friends or family members were, for example, teaching novice users how to design homepages or how to use layouts. According to these levels of engagement and experience with the online environment MyKnet.org, different groups of users could be identified: homepage owners and producers that could be further divided into MyKnet.org developers, early adopters, and second generation producers; and homepage users with no personal homepage who were utilizing the homepages and their content for information gathering and online communication. There are, of course, also people who decided to stop using MyKnet.org and people who never intended to use this service. Naturally, most of my contacts during fieldwork were with MyKnet.org users. It is, however, important to consider the non-users and their relations to the users (of a technology, for example) (e.g., Wyatt, Thomas, & Terranova, 2002).

To build a MyKnet.org homepage, people had to acquire a basic understanding of design, layout, templates, and even HTML. MyKnet.org users supported each other in creating homepages. They learned from each other to edit and upload pictures or to change their homepages' backgrounds. Sharing pictures, music, texts, and artwork via homepages contributed to a digital learning process that demands specific knowledge and skills. Listening to music, for instance, was mainly accomplished by providing and sharing “music codes”. These HTML codes were usually copied and pasted from the source code of one page to another. Users communicated by leaving messages in people's c-boxes. They also connected their homepages to other websites by adding hyperlinks to MyKnet.org pages of family members and friends. But homepage producers not only learned to create homepages and to communicate online, they also learned to express and represent themselves, document their social development, give feedback and comments, and reflect on their changing personal situation. MyKnet.org was thus also a learning environment which allowed users to become digitally literate.

> From what I have seen from the kids and the youth, even the adults too. They embrace that homepage service as a tool to communicate to the outside world. Communicate with the other communities and the families. Even start off with the

> basic knowledge of webpage development . . . and I think that the homepages started all the webpage development in the youth. Because they are crazy about getting their c-box up and their music codes. And they know a lot more about that than I do or others do. And I am computer technician (laughs). They are much more faster than I am.
> (Technician, personal communication, 2008)

However, MyKnet.org was also used to illegally download and stream music and videos, to copy lay-outs without consent, to compete for homepage hits and website traffic and to bully other users by posting offensive messages on their homepages. Such digital practices led to conflicts both in and outside the communities. These practices resulted further in the reduction of internet bandwidth and the suspension of users by the service provider KO-KNET, and in heated debates – also on the highest political levels – about freedom of speech, control, power, education, and language use on the internet. This indicated MyKnet.org's relevance for the First Nation communities and that this digital service evolved into a complex sociocultural environment with the ambiguous characteristics of (digital) everyday life; from the creative and innovative production of digital artifacts, the connecting and networking between friends and families, and the sharing of knowledge and skills to the bullying of people and the policing and monitoring of usage practices. According to KORI's coordinator, this ambiguity could also be found in KO-KNET staff members' attitude towards MyKnet.org:

> It's greatest strength is as tool for communication. And a lot of families when they send kids down south, that's how they keep track of their kids. That's how they keep track of relatives in other communities and stuff like that. And I think it's potential is to just keep growing in that way. And it allows for all kinds of expression, political expression, artistic expression, cultural expression. And that's what I hope for. It will keep growing. You probably know yourself after the last couple of years that K-Net is kind of schizophrenic when it comes to MyKnet.org. There is times when . . . if the computer server accidentally fell in the lake on the way to get repaired, it would be such a terrible tragedy, uh, uh. On the other hand, the very same people who probably have used more aspirin for headaches caused by MyKnet.org are also its greatest champions, you know, look at the potential of this thing. (B. Walmark,

KORI Coordinator, personal communication, 2007)

MyKnet.org can be conceptualized as a field of practices that included and connected several digital practices and their elements on different levels (Reckwitz, 2002; Schatzki, 2001). I understand practices here as embodied activities "that humans perform with varying degrees of regularity, competence and flair" (Postill, 2010, p. 1). Moreover, Reckwitz (2002) states that practices can be understood as "a routinized type of behaviour which consists of several elements interconnected with each other" (p. 249). To become part of this social field, people either created and produced homepages and content, communicated and interacted through homepages, or read and consumed the homepages' content. These broader digital practices consisted of various digital activities and were furthermore interconnected with practices like social networking, family bonding, or learning, which are again connected with each other and to a wider set of questions about culture, language, knowledge, politics, and power (Budka, 2015). Producing and maintaining homepages, for example, included activities such as coding, designing, and sharing, but also measuring and displaying website popularity. These activities were closely connected to the changing socio-technical affordances of MyKnet.org as a system of homepages and as a service provided by a non-profit First Nations internet organization. To put it another way: some of the digital practices and activities that I identified during fieldwork are not possible and/or necessary with the new MyKnet.org environment in Wordpress. Such a practice approach allows for shifting the analytical focus from the use and consumption of digital media technologies to the practices which are integrating these technologies in everyday life (e.g., Christensen & Røpke, 2010, pp. 233-234).

Digital activities were generating social rewards that were closely connected with questions of social status and capital in this digital environment. And according to Alan Warde (2005), practices are socially rewarded either in intrinsic or extrinsic ways. During its heyday, one of the most popular activities in MyKnet.org was listening to music, mainly by sharing "music codes". These HTML codes were usually copied and pasted from the source code of one homepage to another. Besides creating this way a huge online music collection, homepage owners also utilized music codes to increase web traffic on their pages. This traffic was then measured and publicly displayed via "hit counters", little applications that count how many

people visit a website. Homepage layout templates, pictures, artwork, and videos provided as free downloads, were utilized in similar ways. Until 2007, the 100 "most popular homepages" were officially listed in a special section of the MyKnet.org website. And many homepage producers were eagerly trying to get on this list. An increase of homepage hits was thus "rewarded" extrinsically with an increase of symbolic and cultural capital in this social field (e.g., Bourdieu, 1977, 1993; Warde, 2005). By connecting the practice of sharing music codes with the practice of measuring and displaying website hits, homepage producers were co-creating an "economy of recognition" (Stern, 2008, p. 109).

This "digital economy of recognition" and its digital practices effected the whole KO-KNET network and its limited capacities of providing internet bandwidth to Northwestern Ontario's remote communities, also because hit counters were technically manipulated, as a one interview partner told me:

> With MyKnet.org there is counters, right. Just a simple script you can put there every time someone visits your homepage you get a hit. And than you get in the most popular list having so many hits per day. Oh not per day, but overall. I had fun . . . like you can actually keep resetting a page, a single page, right. And auto-refresh it. So I had one page auto-refreshing and it keep counting and counting, you know. So it was like one hit per two seconds. But then I am thinking, like you know, I put the page within a frame and so I had two counters. And I kept on this until I had about 24 frames counting at the same time. So I got about 12 hits per second, or was it 20 hits per second? I think it was 20 hits per second and like in a day I had a hundred thousand hits. (MyKnet.org User, personal communication, 2006)

The demand for bandwidth – for official community services and for personal use – was constantly increasing in the communities. And while videoconferencing and telemedicine services needed more and more bandwidth, more and more people also wanted to stream or download videos, upload pictures, play online games, and so forth. But telemedicine, videoconferencing, and e-learning had and still has a much higher priority than MyKnet.org, particularly when it comes to bandwidth distribution. That's why KO-KNET decided to temporarily suspend homepages when they exceeded a certain quota of data transfer, by providing music codes or video streaming for example. In addition, the website that used to

list the most popular MyKnet.org homepages was taken down. Despite these attempts to devalue this “recognition economy”, the data-intensive sharing of content remained an important activity in MyKnet.org (Budka, 2012; Budka et al., 2009). As the above examples illustrate, digital practices in MyKnet.org affected also KO-KNET's internet infrastructure and bandwidth policy as well as its MyKnet.org policy. Even though most of the network's bandwidth was allocated to services such as telemedicine and videoconferencing, MyKnet.org was actually the biggest bandwidth user.

Music also became an essential part of the homepages' audiovisual design and layout and thus the homepage owner's profile. Many homepages built on a simple HTML template that was provided by MyKnet.org developers and early adopters after launching a revised version of the online environment in 2001 to ease the creation of homepages also for inexperienced users (Budka et al., 2009). This template usually included the real name of the homepage owner, nicknames, the community's name where the person was from, occupation, hobbies, a favourite quote, a list of hyperlinks, and an e-mail address. Like with social networking sites, such as Facebook, users only had to fill in the information, select some graphics, such as background and profile pictures, and the homepage was ready to go.

Figure 11

MyKnet.org Homepage (2007)

Note: Screenshot of a homepage created with the MyKnet.org homepage layout template

There were many MyKnet.org homepages which displayed creative work in the form of photographs, images, edited graphics, poems, or song texts. Some homepage producers created and showcased their very own and original artwork such as landscape photography, website designs, or lyrics. Others integrated popular culture elements in their art, by creating digital collages and images of celebrities and stars. Homepage layouts that depict digitally arranged images of contemporary music stars were particularly popular. This practice of creating art and fan art not only generated social capital within the MyKnet.org community, it could also result in economic rewards. There are quite a few examples of young homepage producers who got a paid job as graphic designer or multimedia producer after they learned how to work with digital objects for their MyKnet.org pages. Through the massive amount of media and content that was created and shared by MyKnet.org users, this service established itself as a kind of informal indigenous media production and learning environment in the remote region of Northwestern Ontario.

The digital practices identified in or in relation to MyKnet.org are connected with different "stories" my research partners told me. Leaving anonymous messages in c-boxes, for instance, led to conflicts between users that had consequences for their school and family lives. I was told many stories about activities in MyKnet.org that affected not only individuals or groups of friends, but also families, school, and the local communities. These stories can be grouped around what I call "issues". And I tried to follow these issues related to MyKnet.org during ethnographic fieldwork (e.g., Marcus, 1998). Depending on their respective social positions, situations, and subjectivities, they were, of course, differently explained, interpreted, and rated by my research partners. But all the issues demonstrated to me how deeply integrated MyKnet.org was in individual and collective everyday life. Even though the issues are interconnected with each other and discussed in different contexts, they can be categorized around what I term "social institutions", which again can be understood as "issues" themselves.

Table 3

Institutions	MyKnet.org Related Issues
KO-KNET	Administration, Development, Control, Ownership, Governance, Policy, Financial Funding, Traffic, Bandwidth, Surveillance, Creativity, Priority, Belonging
Family	Children-Parent Relation, Privacy, Control, Language
School	Student-Teacher Relation, Learning, Surveillance, Control, Policy, (Digital) Literacy, Language (Use), Youth, Social Work, Counselling, Creativity, Priority
Workplace	Jobs, Employment, Control, Policy, Language (Use), Surveillance
Community & Society	Privacy, Generational Gap, Gender Differences, Moral Panic, Drama, Social Work, Counselling, Surveillance, Creativity, Belonging, Commercial Social Media

In its early days, MyKnet.org was banned in a school near Sioux Lookout because some

students were bullying each other and teachers online and because some were uploading pornographic material to their homepages during class. The school decided not only to ban the use of MyKnet.org in class room, but to block it completely with filter software. I was told that this block was actually only from nine in the morning to four in the afternoon. So students could potentially access MyKnet.org in their free time. But because there were only few, if any, computers in the student houses, they quickly figured out how to bypass the block by using Google's cache, that is a temporary storage of web documents, and to access the online environment again in class. Thus, they could read texts on the MyKnet.org homepages, but they could not update their own pages. The whole event to me seemed not to be about preventing children from accessing and sharing porn, but about preventing students from working with their personal homepages during class. Yet students discovered and started to use other website services like Piczo, while MyKnet.org was blocked. Not surprisingly, they did this during class when they had internet access.

This story was, of course, interpreted differently. While some teachers and school representatives argued that students were "misusing" MyKnet.org and their privileged access to the internet via school computers, KO-KNET representatives argued for "freedom of expression" and the need for (digital) tools like MyKnet.org to support students' development. How to deal with MyKnet.org, and the internet as such, in educational environments and in relation to youth (culture) and aspects of (digital) literacy continued to be debated during my fieldwork. MyKnet.org was, for instance, also temporarily blocked in a school during my second field trip. However, some teachers decided to consider MyKnet.org and other digital services as integral part of students' social environment also while attending class:

> At my later years . . . as a teacher, I started to say: "Well, I am not interested in blocking these sites anymore. Let's use it as an opportunity to learn how to do just that. Learn how to focus on the tasks at hand even though the internet provides these amazing things for us to do that are much more interesting in school. We need to learn to focus on this because we gonna be in such a working environment for the rest of our lives perhaps." (Personal communication, 2007)

MyKnet.org constitutes a field of practices that included and (inter)connected several digital

practices and activities that are necessary for being part of this social environment (Reckwitz, 2002). The meta-practice of engaging with MyKnet.org required several elements or sub-practices: (a) producing personal homepages and their content, (b) communicating and networking through homepages and their applications, and (c) consuming MyKnet.org homepages and their content. These digital practices again consisted of a variety of activities, as the sharing of music codes. These categories are overlapping, of course, since people who created their own websites also read the homepages of other producers. There were, however, persons who reduced their engagement with MyKnet.org to "browsing through homepages" or to "checking on people", as I was frequently told during fieldwork. The digital practices and activities in MyKnet.org, on the other hand, can be further understood in relation to specific social rewards they are generating (e.g., Stern, 2008; Warde, 2005). What are the rewards of creating and producing homepages, for example?

Producing homepages, like all forms of media production, can be understood as a process of cultural production (e.g., Couldry, 2003b, Peterson, 2003). According to Susannah Stern (2008), the reasons for young people to create a personal website are curiosity about authorship and eagerness to take on a technological challenge in establishing an online presence. She identifies three types of rewards that are connected with homepage production: (a) self-reflection, (b) catharsis, and (c) self-documentation. By self-reflecting through their online presences, homepage producers are able to take a break, think things through, doing some kind of digital self-inquiry. For some authors, homepages also provide "forums for cathartic release", writing, for instance, in a diary format about their daily life (p. 102). Creating and maintaining homepages also allows for self-documenting personal growth and self-evolution, in respect to website programming skills as well as in respect to personal and social development. Following Warde (2005), these rewards can be categorized as intrinsic rewards that deliver in particular individual self-esteem. Self-expression through online presence is thus not only about the audience that is actually reached (and measured, for example, by hit counters), but also about the feeling of empowerment through a potentially large audience on the web. How deeply embedded MyKnet.org was in the everyday life of particularly young people in Northwestern Ontario, will be exemplified with two case studies. The first case discusses MyKnet.org in relation to suicide as traumatic

experience and the second accentuates MyKnet.org's role in celebrating popular and fan culture.

Digitally Mediating Traumatic Experiences

In some Aboriginal communities in Canada, where about half of the population is 24 or under, suicide rates, alcohol and drug abuse, and domestic violence are significantly higher than within non-Aboriginal communities (e.g., Advisory Group on Suicide Prevention, 2002; Frideres & Gadacz, 2001). Health Canada (2013), for instance, reports that suicide rates for Aboriginal youth in Canada is among the highest in the world. Suicide rates among First Nations youth is five to seven times higher than among non-Aboriginal youth in Canada (Advisory Group on Suicide Prevention, 2002). However, it is important to notice that suicide is not a common Aboriginal problem, but a problem of some Aboriginal communities, where suicide and suicide attempts have reached epidemic proportions. Chandler and Lalonde (1998), for instance, found in a long-term study in British Columbia that First Nation communities with established "cultural continuity factors" – such as self-government and control over land, education, health services, and cultural facilities – have a significantly lower number of youth suicides (p. 19). In Northern Ontario, suicides among First Nations youth dramatically increased by more than 400% between the middle of the 1980s and the 1990s (Advisory Group on Suicide Prevention, 2002). Geographical remoteness and sociocultural isolation may be crucial factors here. As a KO employee told me, "With our communities, with the KO communities, with the NAN communities . . . suicide is an epidemic so you take it very, very seriously".

What causes suicide among youth? As reports and studies show, depression as well as acute and chronic stress are among the key factors that could result in suicidality (Advisory Group on Suicide Prevention, 2002; Dussault & Erasmus, 1995). Stress is closely related to the lack of basic needs such as adequate housing, education, employment, and nutrition. In 2006, 15% of First Nations people reported, for instance, that they lived in crowded dwellings. In Ontario, the proportion of on-reserve population living in crowded homes was 19% (Statistics Canada, 2008). And only 45% of First Nations children lived in a family with both of their parents in 2011 (Statistics Canada, 2013). Such factors can negatively influence the

social climate within the family, the core social group especially for youth. Asked why they attempted to commit suicide, young Cree people, for example, reported many stress factors that are closely connected to family life (Advisory Group on Suicide Prevention, 2002). Since this is kind of a case in the case study of MyKnet.org, I am not able to delve deeper into this problem. Nevertheless, I would like to emphasis that my remarks on suicide are guided by a sociological and anthropological understanding of this phenomenon (e.g., Durkheim, 1897/2006).

MyKnet.org was not only important for homepage owners and content producers, but also for information seekers and content consumers (Budka, 2012, Budka et al., 2009). One crucial aspect in the utilization of this online environment was the sharing of stories. This happened in all kinds of formats and for all kinds of occasions. People wrote about a local fishing derby or an ice hockey tournament, about the elections in their local community, or about the party they attended last weekend. Some MyKnet.org users considered this sharing of stories about family and community events a cultural activity that contributed to the celebration of First Nation culture. The sharing of stories also happened in cases of suicide, when family members or friends used their hompages to write about their experiences, feelings, and emotions. MyKnet.org was thus used as a kind of hybrid discursive or communicative space where people communicated very intimate and private thoughts about their traumatic experiences for everyone to see and react upon. This was, on the one hand, done in a very personal way, like writing in a diary. On the other hand, this was also done to inform the local community as well as friends and family members, who were living in other regions or provinces, about the tragic loss. So people were creating very personal and intimate texts also with the intention that others should read them; sometimes in the form of poems.

> ~*:::This is for my sistah:::*~
>
> i sit here wondering why god gave me life
> losing the people i love
> what more is there that i can hold
> in my heart i wanna fade

but i keep thinking about the babes
lost my sister how does that make me feel
suicide ... suicide
heart fills with hatred and pain
tears flowing as I wonder
how can things get so bad?
i love my sistah ... my sistah
cant i see her one last time ...
feeling so empty inside ...
this is my suicide ... suicide
feel the pain in my heart I hold
holdin the pain ... the pain I was told.
. . .
(From a MyKnet.org homepage)

The loss of someone due to suicide affects not only the core family and close relatives, but the whole community. Particularly suicide among youth can have devastating effects on peers and friends. Social workers and counsellors told me, for instance, that suicide pacts among young people are not uncommon in the remote communities of Northwestern Ontario. First Nations youth often perceive themselves as marginalized within the Aboriginal community and the non-Aboriginal society alike. Moreover, they are feeling the impact of "transgenerational grief" transferred from the older generations who experienced collective traumas of oppression (Advisory Group on Suicide Prevention, 2002, p. 36). A prominent example for such a collective traumatic experience of the older generations is the forcing of Aboriginal children into the Indian residential school system. Residential schools were established by churches in cooperation with provincial and/or federal institutions to culturally assimilate indigenous children. The last of these schools in Canada closed only in 1996.[44]

Suicide has become part of daily life in some communities. Everybody knows someone who committed or attempted to commit suicide. Losing a beloved person is part of people's

[44] For a critical discussion of Canada's attempts to come to terms with its legacy of Indian residential schools see Niezen (2013).

everyday life and therefore also reflected on MyKnet.org homepages. Some homepage owners even incorporated the suicide of a partner or family member into their online profile self-description, as the below shortened text example demonstrates.

> wHATCHA wAnna KNow...
>
> I'm livin in da bush, bein a bush Indian! I jus turned 22 yrs old, holy! I am a single mother of two beautiful, handsome boys. I just recently lost my partner... he committed suicide in September, 2006. I miss him soo much, he was the best daddy in the world. He was an awesome pow-wow singer. He was a lead singer. Oh yah and he was a mommy's boy too :) My Luv For you Is Never Ending...
> (From a MyKnet.org homepage)

The user also compiled a multimedia slideshow with pictures of her lost partner, which she put online on YouTube and then linked on her MyKnet.org homepage. This public sharing of traumatic experiences by producing different forms of personal texts and media content via MyKnet.org homepages contributed to the grieving process. And this is usually of collective nature in the closely linked communities in Northwestern Ontario. In case of suicide or similar traumatic experiences, people often find themselves in a liminal state which can develop, through the sharing of feelings, into a form of communitas. In MyKnet.org these communitas among users were expressed in intensive communication, empathy, and emotional support. On an individual or personal level, the incorporation and discussion of suicide related events online is rewarded, on the one hand, with emotional relief. Following Stern (2008) and her typology of rewards in the context of homepage production, practices of writing and sharing are furthermore rewarded with a state of "catharsis". To some minor degree these practices also contribute to self-reflection and particular self-documentation, as the above example shows. Many homepage owners who wrote about suicide-related issues were supported by other MyKnet.org users since suicide in this region is part of everyday life and affects everyone. The practice of publicly sharing traumatic experiences thus strengthened and expanded social connections and networks.

KO-KNET and its staff members treated suicide and death very carefully. In many cases

they knew the deceased or members of his or her family personally. When people died, their MyKnet.org homepages were manually put offline so that they would no longer be publicly visible but without deleting the content. This practice would allow relatives to access the digital content in case they wanted to.

> I just checked and all I did was suspend the page so the public could not see it but I am still able to access the page. I did not want to put this information into the public site for obvious reasons but mainly out of respect for the family who are still grieving the loss of their daughter after 2.5 years. (B. Beaton, personal communication, 2007)

Digital practices in relation to MyKnet.org also contributed to the prevention of suicide. Family members and friends were able, in some cases, to identify people who were at risk of committing suicide by considering and comparing personal notes and texts on the homepages. I was told the story of a mother and how she saved her daughter from committing suicide by remotely getting another family member to take care of her after she saw a worrisome text on the daughter's homepage.

> So what happened was mom checked out the daughter's webpage, this was just before Christmas vacation and she was gonna go home, and what happened was she had looked at the webpage and for Christmas time you are buying stuff and you have all that extra work to do. But then she checked her daughter's webpage and she hadn't looked at it for a couple of weeks and she identified eight out of the ten symptoms of someone who is about to commit suicide. You know there is risk factors and things like this. All the things that she was writing in her homepage: “God, I am not ready for this test.” “I am not gonna go to it.” “I am not ready for it, if I don't write the test, I am getting out of the program.” “If I fail the test I am thrown out of the program.” “My life is over.” “I am sorry mom, I am gonna be such a disappointment to you.” And all this . . .
>
> And she is reading this webpage she was, you know, these things were popping in her head. This is her daughter, but the person who wrote this webpage has got eight points of ten of a risk factor of committing suicide.
>
> So what she did was, she didn't bothered trying to get hold of her daughter. She phoned her sister in Thunder Bay and said: “Drop whatever you are doing, this is not something that can be done tomorrow or next hour or whatever. Go to Confederation

> College, get my daughter take her home, feed her, get some food into her, get her to bed, you know, do something with her. Get her out of this environment and don't let her out of your sight because I am afraid that she is gonna do something horrible." And that what she did, the woman, the sister dropped everything, went to the college, pulled her niece back home, fed her, made her feel loved, you know, got her back on her feed. And as the daughter apparently said later on, yeah she was actually, she got so wrapped up into failing this course, not doing this exam, school wasn't turning out. She was actually thinking that she would be such an embarrassment to her family that she just feeling so isolated so alone. That it actually seemed like a reasonable alternative. (Personal communication, 2006)

This practice of using MyKnet.org for suicide prevention had even been institutionalized in some communities, where social worker, counsellors, or teachers regularly checked on young people's homepages who seemed to be in a difficult phase of life. They were actively searching MyKnet.org for such calls for help as I was told by an education advisor. Particularly after a suicide or suicide attempt, social workers would look for messages, for instance in the victim's c-box, to identify people in danger.

> And I know for myself that when we have suicide in the North, I go and see if that student or that person had a homepage. And you would be surprised how fast people start leaving messages on the c-box. Like there was a suicide happening and by three in the morning there were the first people leaving messages, like, "Rest in peace." My nephew committed suicide in 2005 . . . His best friend, we found out later, that they had a pact together. That they are gonna kill themselves together. My nephew went through with it and his best friend didn't. And then felt so guilty and hurt that he didn't follow the plan they had. Now we always checked his homepage after we found out. And we talked to him and we got him counselling. We did a lot of work with him. But I checked his homepage out regularly. Just to keep an eye on him. (Personal communication, 2007)

All this was only possible because people were using MyKnet.org as a kind of public diary and digital condolence book. But it is always the homepage owner who actively decides what to express online and how. Deciding what not to say online, on the other hand, is,

particularly for young people, “an agentic act to protect their identity and their space of intimacy” (Livingston, 2008, p. 409). Also commercial social networking sites and digital platforms are being utilized to mediate tragedy and traumatic experiences. A recent study on indigenous use of social media in Australia indicates, for instance, that Aboriginal people engage with Facebook “to both seek and offer help for issues relating to suicide and self-harm” (Carlson et al., 2015, para. 1). Digital media, such as MyKnet.org or Facebook, can thus not only be understood as semi-public forums where particularly young people feel confident to open and express themselves, but also as communicative environments to actively search for help.

Co-Creating Hip Hop Culture and Fan Art

In this case study, I am discussing selected digital practices related to MyKnet.org in the context of the popular culture phenomenon hip hop. What kind of social rewards do young people receive for creating for producing and sharing artefacts of hip hop culture on their personal homepages? Fans are generally highly participatory (e.g., Jenkins, 2006). They engage in various forms of textual and visual productivity and play a special part in the construction and circulation of cultural artifact related to their fandom (e.g., Peterson, 2003). With digital technologies and the internet, the intensity of interactions between fans and media content as well as the range of fan productivity has increased significantly, as for instance Jenkins (2006) prominently argues. For quite some time, anthropology was not particularly interested in popular culture and related processes, like the production and consumption of (mass) media, music, fashion, advertisements, celebrities and stars. But through the influence of cultural studies these topics also became serious research fields for anthropologists. Particularly important for the anthropological study of popular culture was the introduction of the concept of “public culture” (Appadurai & Breckenridge, 1988). Through a transnational and interdisciplinary approach, this concept aims to avoid socioeconomic and cultural hierarchizations, such as the distinction between high culture, popular culture, and folk culture that also used to define research fields (e.g., Appadurai, 1988). The digital environment MyKnet.org was not only used to represent indigenous youth as members of local indigenous culture, but also as co-creators and participants of the global phenomenon of hip hop culture.

> Hip Hop music. This genre of music is very popular among teens and young adults today. You see people wearing baggy clothing, speaking with urban slang, or spending large amounts of money on outrageous items like chains, watches and grills. It also may cause some people to do things they hear in the music, joining gangs and such, its very influential. To me on the other hand, it's a necessity. I grew up with mostly boys as friends and they listened to rap music. While most girls were listening to Britney Spears and the Spice Girls, I was listening to artists like Eazy E, Big L, Sugarhill Gang, etc. It taught me how to write lyrics of my own and make them flow with an instrumental. I like to write lyrics or songs to express my emotions and opinions or just to tell a story about a point in my life. . . .
> (From a MyKnet.org homepage)

During my fieldwork, hip hop was a crucial component of youth culture in the First Nation communities in Northwestern Ontario. Many young people were listing to rap music, they used elements of hip hop language and gestures, and they dressed like famous rap stars. A teacher who used to work with First Nation students put it this way: "I think there is a real sense that they wanna be mainstream culture in what they are doing. For example . . . kids up North and Aboriginal kids here were all wearing gangster clothing" (personal communication, 2007). Visual mass media, in particular satellite television and music channels, communicated selected aspects of hip hop culture and life style. And a lot of MyKnet.org homepage producers transferred this life style on to their pages by celebrating, for example, rap icons such as Tupac Shakur (2Pac) and Biggie Smalls (The Notorious B.I.G.). Some adults, however, were not too happy with hip hop culture and identified connections between hip hop and gang cultures: "Today young boys carry knives not because they want to be hunters – warriors of the forest – they want to be gangsters" (personal communication, 2008).

MyKnet.org was used to present and advertise self-made rap music and lyrics, hip hop fashion, and other forms of hip hop related art. In Fort Severn First Nation, I met with the local e-centre manager who was also running a small hip hop fashion company „Warchief Native Apparel". He told me that he used to use MyKnet.org to promote his fashion line but

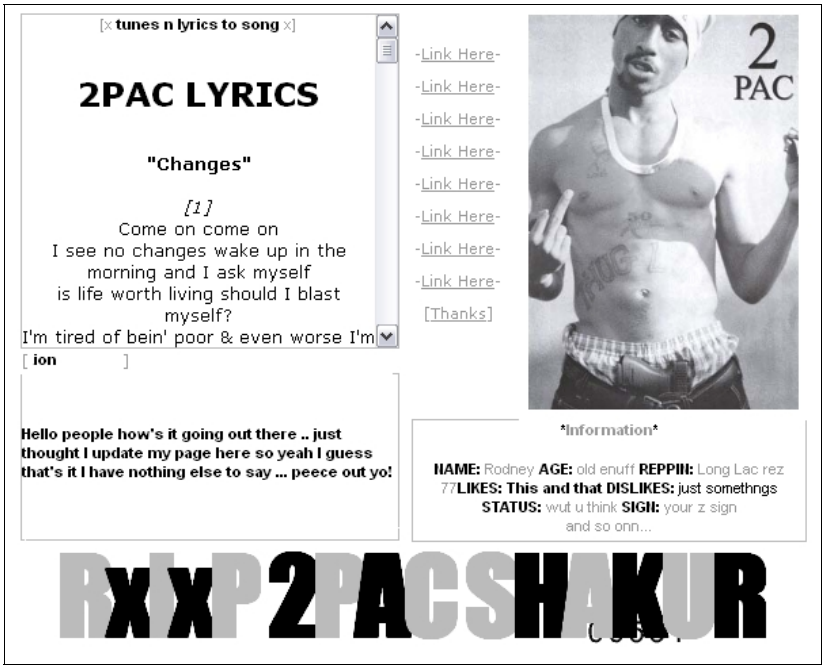
later switched to Myspace and Facebook to reach a larger audience. He would, for instance, use his online presences before going to concerts or pow wows, that are First Nations gatherings.

> Before I go to a pow wow, I go on MySpace or whatever and put a poster on there. And information, like on this day we are there and there. So were are promoting ahead of time. And that's pretty good.
>
> A lot of people work with musicians, hip hop musicians that win awards for the best native hip hop in Canada, like those kind of people I work with. The one thing . . . there is one competition that is called the People's Choice Awards, it's like how they win it's like by votes, internet votes. That's how the determine who the winner is, eh. From all their fans and friends. They log onto a site and just click on it. That's how they vote. That's how important the internet is. (Personal communication, 2008)

Wawatay's youth magazine SEVEN published an article on First Nations rap artists and their stories that also highlights the importance of digital media to present artistic work (Mckay, n.d.). And Wawatay News' emphasis in another text about Aboriginal hip hop culture in Canada that this cultural phenomenon allows First Nation people to "express themselves, and to tell stories about their culture" (Wesley, 2015). By sharing music codes that are copied and pasted from one page to another, people were listening to music in MyKnet.org, which became one of the most popular practices. And rap music, some of my interview partners argued, have a lot in common with traditional First Nation music, as both have their roots in drumming. Rap music was also frequently being used as background music for homepages. The music became part of the page's layout and its owner's profile, contributing thus to the representation and identity construction of their producers (e.g., Chandler, 1998).

Figure 12

MyKnet.org Fan Homepage (2012)

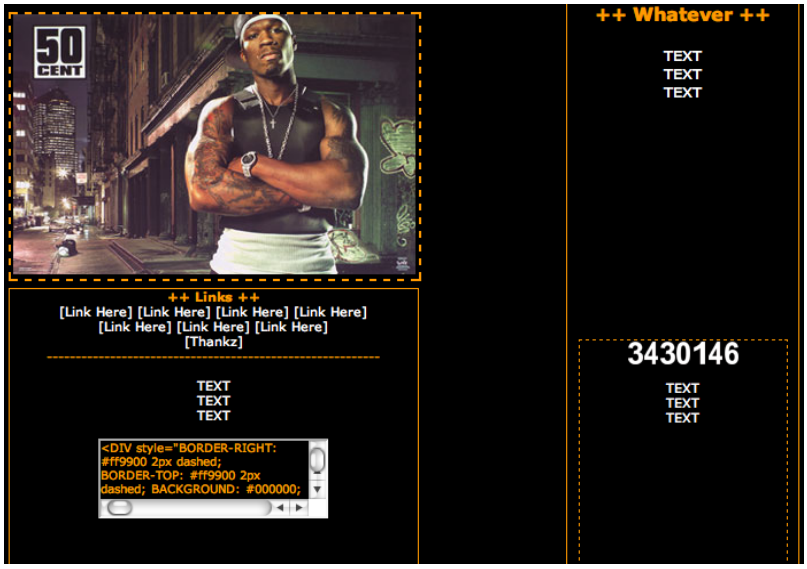


Note: Screenshot of a MyKnet.org homepage with picture and lyrics of 2Pac.

Quite a few MyKnet.org homepages were displaying images, edited and modified graphics, and lyrics of hip hop celebrities and stars. Especially 2Pac, who like Biggie was shot to death, was prominently represented on quite a few fan pages. He was celebrated by quoting his songs, by writing poems that referred to him, or by creating digital collages and images of the star. Homepage layouts that depict digitally prearranged images of prominent hip hop artists, such as Eminem or 50 Cent, were also very popular. Fans, in general, are utilizing products of the cultural industries, the media, and commercials to design and circulate visual art. They are, for instance, constantly producing digital collages that recycle and remix images and elements of images to turn them into new products of popular/public culture. In the process of creating digital artifacts of fan culture, the star is put "out of place" (Budka & Mader, 2009). He leaves his usual "location" on the TV screen, the magazine photo, or the website to be "relocated", shared, and circulated in digital collages or other artwork. And hip hop culture as global phenomenon is out of place as it is localized in a specific context, contributing thus to the construction of local fan communities and culture.

Figure 13

"50 Cent" Homepage Layout Template (circa 2008)



Note: Screenshot of MyKnet.org homepage layout template for free download with a picture of 50 Cent and a music code box below.

The process of producing fan art can be understood as being embedded in the "art of conviviality" (Budka & Mader, 2009). First, it involves sharing and generosity, two of the most important traits of conviviality. This applies to the circulation of pictures and music codes as well as to the sharing of knowledge about the necessary technical skills to produce this kind of artwork. These skills are transferred from experts to newcomers, fans help each other to solve problems, and discuss, for instance, new tools to create digital artwork. Secondly, the production and circulation of digital artifacts is part of the production and circulation of joy and happiness among fans, and often has a ritual character. Fan cultures are closely related to happiness as a set of experiences and feelings that are perceived individually but expressed and shared on an intersubjective level (Mader, 2011). Sharing popular culture artifacts and providing each other with all kind of resources for this joyful experience that forms part of the daily life of many fans is part of this form of conviviality.

The sharing and circulating of music codes, layout templates, and digitally modified pictures and artwork as free downloads in MyKnet.org, was also used to increase traffic to homepages. Hit counters were not only used to measure web traffic but also social popularity in this online environment. So an increase of traffic and hits equalled an increase of social

capital. Everybody could see that this homepage got a lot of hits, so its owner and/or her content had to be popular and particularly interesting. These creative practices of creating fan art not only generated social capital. There are quite a few examples of young homepage owners who managed to become graphic or web designers after learning the basics in and with MyKnet.org. Social rewards could thus be transferred into economic rewards. Through electronic and digital media (products) and as a cultural industry, hip hop influenced indigenous youth as it influenced non-indigenous youth. And hip hop culture has become an important part of First Nation youth identities. Digital self-representational practices as "identity experimentations" give people the possibility to play with different forms of identity in relatively protected and self-controlled spaces (Stern 2008, p. 107). Moreover, MyKnet.org can be understood as a rewarding informal learning environment where homepage producers not only learned to create homepages, but also to express and represent themselves, document their social development, receive and give feedback and comments, and reflect on their changing personal situation as young indigenous persons.

The Bigger Picture: Results of Two Online Surveys

The main objective of the first online survey in 2007 was to find out how and why First Nation people in Northwestern Ontario use the personal homepage service MyKnet.org (Budka, 2008). The survey was created, tested, and evaluated in June and July 2007 with draft versions of the questionnaire being discussed online on my dissertation meeting place in Moodle (http://meeting.knet.ca/mp19/course/view.php?id=7) and in a workshop which took place at the KO-KNET office in Sioux Lookout. During this workshop KO-KNET staff members, who were involved in the development and maintenance of MyKnet.org, discussed the questionnaire via videoconference with MyKnet.org users at the KORI office in Thunder Bay. To reach most possible potential respondents, the online survey was advertised on the MyKnet.org entry page and in the announcement box of the KO-KNET website. In addition, I promoted the survey during my visits to the First Nations communities.

The survey questionnaire was relatively brief to keep the survey participants interested and focused. An introductory statement informed participants (a) about the reasons for the survey, (b) that the collected data is handled confidentially and for scientific purpose only,

(c) about the person behind the survey and how to contact. Open and closed questions were mixed to keep the questionnaire interesting and dynamic and to cover a wider range of issues. Moreover, respondents were able to skip questions and/or quit the survey at any point. This, of course, resulted in different total numbers of responses. The questionnaire was constructed around four main areas of interest:

- Personal motivations and reasons for using MyKnet.org.
- The meaning of community, friends, and family in the use of MyKnet.org.
- The usage of MyKnet.org in relation to other communication media.
- Demographic data of survey participants.

The questionnaire was then implemented with SurveyMonkey (https://www.surveymonkey.com/), a tool which allows for an easy creation and processing of online surveys and their data. The survey started in August 2007 and ended in November 2007. 1,246 people participated to the survey, but only 1,006 completed it. This means, according to the survey tool SurveyMonkey, that 80.7% of respondents clicked the "done" button at the end of the survey. Since participants were able to skip questions or to quit the survey, not all of the questions were answered by the same number of people. Therefore, the total number of answers varies from question to question. I will discuss selected results of this survey to highlight MyKnet.org significance in 2007; see Budka (2008) for detailed results.

92.2% of survey participants reported that they had their own homepage with MyKnet.org (N=1206). The main reasons for not having a homepage were (a) lack of knowledge how to sign-up for one, (b) no interest in having a homepage, and (c) concerns about privacy. In 2007, 47% of respondents stated that they had a web presence with another service provider; Bebo, Piczo, Myspace, and Facebook with most nominations (N=1204). A majority of participants said that they learned about MyKnet.org from their friends (43.6%, N=1210). More than half of the respondents declared that they got their MyKnet.org homepage between 2002 and 2005 (51.6%, N=1194). A vast majority of 77.7% of survey participants reported that they use MyKnet.org to keep in touch with family and friends; 50.1% to browse through homepages; 30.1% to get in touch with new people; and 29.8% to improve HTML and homepage design skills (N=1202, multiple answers). People particularly liked

MyKnet.org because (a) it is easy to use and a free service, (b) it provides the possibility for self-expression, (c) it connects people, (d) it allows for sharing information, and (e) it allows for learning HTML and to improve design skills. Respondents also told me what they don't like about MyKnet.org: (a) that people left hate messages in c-boxes, (b) that people created offensive content and put it online, (c) that bandwidth is limited.

A majority of survey respondents stated that they celebrated their culture by sharing stories about social activities such as hunting and fishing as well as family and community events (58.3%). the sharing of music via MyKnet.org homepages was also considered a popular cultural activity (32.9 %). And 27.3% reported that they do not celebrate culture on MyKnet.org (N=1038, multiple answers). The vast majority of survey participants said that they linked their homepage to friends (70%) and members of their families (68.8%, N=1040, multiple answers). More than half of the respondents reported to talk about MyKnet.org at home (56.9%); followed by conversations about MyKnet.org via the internet (47.6%), the telephone (31.6%), and at the workplace (26.7%) and in school (25.1%, N=1038, multiple answers). Already in 2007, MyKnet.org homepages were predominantly up-dated from computers situated in the homes of survey participants (73.5%), with only 4.1% who maintained their pages from public access points (N=1028). More than half of participants said that they knew more than 100 people in their community who had their own MyKnet.org homepage (55.6%, N=1033).

The internet was rated as the most important (communication) medium for survey respondents, followed by cable and satellite television, telephone, and community radio. Books and video games were rated as least important. Participants reported that they up-dated their homepages mainly “several times a week” (21.3%), “once a day” (20.1%) and “several times a day” (16.5%, N=994). The greater part of survey participants spent “between one and two hours” (31.4%) and “less than one hour” (43%) per day browsing through MyKnet.org homepages; 7.4% even declared that they spent more than four hours a day browsing MyKnet.org (N=992). In comparison, most of the respondents stated that they spent “between one and two hours” (33.3%) and “between two and four hours” (29.7%) of watching television per day (N=984).

Even though 1,246 MyKnet.org users participated to the online survey, which is a high number out of the total number of about 25,000 First Nation people living in the Sioux Lookout District of Northwestern Ontario, the results should be interpreted carefully and in the contexts of additional ethnographic fieldwork data. The demographic data collected in the survey, for instance, did not exactly reflect the demography of MyKnet.org. There were simply more women (70.8%) interested in responding to this online survey than men (29.2%). The survey was however able to reflect the variety of age groups in MyKnet.org: from under 15 years (10.5%), to between 15 and 25 years (46.6%), to older than 35 years of ages (17.1%). This supported initial ideas that MyKnet.org was predominantly a young environment. It is also noticeable that communities in which the survey was actively promoted, either by me or by one of the workshop participants, provided the highest numbers of respondents. In addition, the community data demonstrated the diasporic movement of people from the First Nation communities to the urban centres and towns. In general, survey respondents were quite eager to share their experiences and to tell their stories, as 219 participants left their e-mail address to be contacted for follow-up research.

Discussing MyKnet.org's relation to other communication media, it is crucial to keep in mind that this survey was conducted via the internet. It was therefore hardly surprising that the internet was rated highest concerning its importance to survey respondents. Interestingly, video games were rated least important for survey participants albeit most respondents were 25 years and under. Even though people reported to spend on average less time per day using MyKnet.org than watching television, the online environment was utilized quite frequently and seemed to be well embedded into daily practices. MyKnet.org was mainly used and discussed at home and between family members and friends. People also linked their homepages primarily to relatives and friends. Community and cultural events were celebrated and integrated in MyKnet.org by sharing stories and music. In doing so, the majority of users were able to maintain their personal representations on the web without the help of others, even though most people knew a lot of other MyKnet.org homepage owners in their respective communities. Almost half of the survey respondents had also a homepage with other, commercially oriented, website providers. Already in 2007 particularly social networking sites had become popular in First Nation communities. Nevertheless, people kept their MyKnet.org homepages to stay in touch with family and friends and to access and

exchange information about people and communities in Northwestern Ontario. The KO-KNET service MyKnet.org, which was used by the majority of survey participants for a couple of years, had become popular through spreading the word among circles of friends, peer groups, and families as well as through the active promotion of KO-KNET.

The second online survey was aiming to find out how First Nation people in Northwestern Ontario used the personal homepage service MyKnet.org in relation and comparison to Facebook (https://www.facebook.com/), the world's largest social networking site; see Budka (2012) for detailed results and discussions. Again, KO-KNET staff members and fellow researchers provided valuable feedback for this survey. During the first online survey in 2007, the use of Facebook was already on the rise among MyKnet.org users. However, Facebook (founded 2004) was then only one of several social networking and social media sites such as Bebo (founded 2005), Piczo (2003-2012), or Myspace (founded 2003) that were used in Northwestern Ontario. Since then Facebook has outgrown those other providers to become the global leader in online social networking and social media.

This second survey was created, tested, and evaluated at the beginning of April 2011. Draft versions of the questionnaire were discussed with representatives of KO-KNET and KORI. The survey questionnaire basically built on the 2007 questionnaire, which then reached a considerably large group of people (N=1,246). The questionnaire was relatively brief to keep participants interested and focused. Besides basic information about the survey and the person behind it, the introductory statement this time also asked participants to promote the survey among friends and family members. Open and closed questions were used alternating and participants were again able to skip questions and/or quit the survey at any point. Again, this resulted in different total numbers of responses per question. The questionnaire was created similarly like the first questionnaire around four main areas of interest:

- Personal motivations and reasons for using MyKnet.org and Facebook.
- The meaning of culture and social connections in the usage of MyKnet.org and Facebook.
- The usage of MyKnet.org and Facebook in relation to other communication media and the time people spend using them.
- Demographic data of survey participants.

The questionnaire was again implemented with SurveyMonkey. To reach as many potential respondents as possible, the online survey was advertised on the MyKnet.org entry page as well as on the KO-KNET website. In addition, the survey was promoted by sending out personal e-mails to participants of the 2007 survey who left their e-mail addresses for participating to possible follow-up surveys and questions (60 of the 213 people who were contacted could not be reached due to wrong or non-existing e-mail addresses). The link of the survey was furthermore posted on the Facebook pages of the First Nation communities of Sandy Lake and Lac Seul. The survey started in April 2011 and was closed in December 2011. 117 people participated to this online survey, and 78% completed it. Participation was thus considerably lower than in 2007 and could be connected to the fact that this time I did not personally promote the survey in the First Nation communities. The results should therefore be interpreted with even more care. Survey respondents were mainly female and 35 years of age and younger. As results of the 2007 survey and ethnographic fieldwork suggested, there were more women (59%) interested in responding to such an online surveys than men. Notably, participants of this survey represent 35 First Nation communities in Northern Ontario and neighbouring regions.

Almost all survey respondents declared that they had a MyKnet.org and Facebook profile (95%, N=114). Moreover, participants reported that they liked MyKnet.org and Facebook mainly because they were easy and free to use services for keeping in touch with family and friends. On the other hand, survey respondents stated that they don't like offensive content and messages on MyKnet.org as well as lack of privacy and advertisements on Facebook, respectively. Reasons for using these online services also depend on their technical possibilities and features. That's why people reported that they also used MyKnet.org to improve their HTML programming and design skills and Facebook to share content. Creating and maintaining a webpage in MyKnet.org, allow users to learn how to design and code homepages. Facebook's pre-designed, but non-modifiable interface, on the other hand, makes it easy for users to upload and share content. MyKnet.org had its largest increase in homepage owners between 2003 and 2006; 47% of survey participants reported that they got their MyKnet.org homepage during that period of time (N=114). It is worthwhile mentioning that MyKnet.org also has a loyal base of early users who set up their homepage already

between 2000 and 2003 (28%). A majority of respondents said that they signed-up for Facebook between 2007 and 2009 (56%). While people learned about Facebook mainly through their friends (63%), they got to know MyKnet.org via a variety of sources, such as friends (36%), family members (26%), and KO-KNET (20%, N=113). MyKnet.org and Facebook were not the only, but the most popular webpage/online profile services in 2011. Only 30% of survey participants reported that they also had a web presence with other providers, such as Bebo and Piczo.

In the First Nation communities of Northwestern Ontario, MyKnet.org and Facebook had become ubiquitous communication media that are used to connect family members and friends. While both online services were predominantly used at home (80.2%, N=96), they were also discussed on the internet, via telephone, at work, and at school, mainly between family members and friends. The majority of people (83%, N=100) reported not to need any help or support to use MyKnet.org and Facebook, even though most people knew a lot of other MyKnet.org and Facebook users in their respective communities. While 56% of survey participants declared that they knew more than 100 MyKnet.org homepage owners, 86% said that they knew more than 100 persons with Facebook profiles. The sharing of content is an important cultural activity in MyKnet.org and Facebook. People reported that they celebrate their culture by sharing stories about cultural events as well as music and videos. But there were also people who declared that they did not use MyKnet.org and Facebook for culture related purposes.

The internet is the most important communication medium for survey participants. Since the survey was conducted online, this result is again not surprising. Video games were rated as least important by survey respondents although 48.8% were 25 years and younger. These findings in the media ranking corresponded with the results of the 2007 survey. Participants reported that they were up-dating their Facebook profiles much more frequently than their MyKnet.org homepages. While 44% stated that they up-dated their MyKnet.org pages either once a month or several times a month, 42% said that they up-dated their Facebook profiles several times a day. Even though the survey did not ask how much time this up-dating takes, it is probably considerably less time than people spend watching television; 61% reported that they spent between 1 and 4 hours a day watching TV. Nevertheless, particularly the

frequent utilization of Facebook suggested that online social networking services were deeply embedded in people's daily practices.

Facebook, the world's leading commercial social networking site, has also become very popular among First Nation communities in Northwestern Ontario. In 2011, people however kept and maintained their MyKnet.org homepages. This was particularly impressive since KO-KNET, as a non-profit First Nation organization, has neither the financial nor the promotional means to compete with a global player like Facebook. So one important reason why people stayed with MyKnet.org was because it is a local service, controlled and maintained by First Nation people, and exclusively provided to First Nation people. It is a kind of "native Facebook", as one survey participant put it. Moreover, survey results suggested that both services were well integrated into people's daily lives. This was mainly because they covered people's urgent needs to maintain social ties and personal connections over spatial distance, and to express and represent themselves and their communities. The First Nations homepage service MyKnet.org was not only able to provide such a space for self-presentation and self-expression; through its "real name" homepage and identity verification policy, it also enables users to search for people and to access as well as share information and content. Facebook, on the other hand, had replaced MyKnet.org in 2011 as communication tool to stay in touch with family and friends by keeping them up-dated on personal matters.

Digital Technology Appropriation

As the above case studies and the results of the online surveys indicate, particularly young people in the remote communities of Northwestern Ontario have been appropriating digital technologies and services through different digital practices into their day-to-day life. MyKnet.org is certainly KO-KNET's most mundane service, as such it is the perfect example of how a substantial portion of a population take ownership of a digital environment in the most variable and creative ways. However, as Sandvig (2012) reminds us, digital infrastructure projects, particularly on rural and remote indigenous land, are expensive and complex. The local population, which is diverse and heterogeneous in needs and expectations, has to deal with many political and economic challenges as well as socio-

technical changes. Governmental policies for the funding and implementation of indigenous internet connectivity projects and initiatives, such as TDV or KO-KNET, often aim for the reduction of poverty, the improvement of health and education, or the creation of jobs in the indigenous communities. Such noble objectives and expectations are often in contrast to people's everyday use of internet technologies; when these technologies are actually used for personal entertainment, self-representation, and individual social networking. Some MyKnet.org users were well aware of KO-KNET's intentions, the related technical constraints, and the sometimes conflicting actual usage practices:

> So there will be people downloading movies or music. And that kind of slows down everything. . . . There are a lot of people wanna use YouTube videos, a lot of people wanna do music over the internet. I mean personally speaking, I would like to do that. I would like to put some songs, my music videos on the internet somewhere. (MyKnet.org User, personal communication, 2008)

Because of funding policies and sometimes also because of terms of use, indigenous people often find themselves in the position to conceal their aspired utilization of internet technologies. But to deny the mundane appropriation of internet technologies and services only reinforces indigenous people's attributed marginal status as dependent people outside of "modern" society. I understand technology appropriation not as a techno-deterministic one-way street, but as a reciprocal process of changing relationships between humans and technologies. In the centre of such an approach are thus relationships (Bateson, 1972/2000) and processes (Miller, 2005), not "a thing" or "a people". Aporta and Higgs (2005) suggest to conceptualize technology appropriation as a system of socio-technical relationships people establish and maintain with and through technologies and to focus on the (changing) contexts of technology production, utilization, and exchange. Such an approach holds the potential to consider the changing nature of technology (development) and its relation to (changing) society and culture (Sandvig, 2012). Similar to Miller's (2010, 2011) experience with the local appropriation of Facebook in Trinidad, where this social networking site became "Fasbook", people in Northwestern Ontario considered MyKnet.org as "the internet". They made their first online experiences with and in MyKnet.org. When they randomly opened a web browser on a computer, they found themselves on the MyKnet.org entry page. They learned to set-up a homepage account, to create a website layout and to put

text and pictures online through MyKnet.org. They even learned to code basic HTML with MyKnet.org. So MyKnet.org can also be understood as a (informal) learning environment. But it was much bigger for the people in Northwestern Ontrio. It was "what they call internet, MyKnet.org is their internet", as a research partner told me (MyKnet.org User and IT manager, personal communication, 2007).

Considering MyKnet.org as local project deeply integrated in the collective "digital experience" of First Nation people and communities raises questions about how global and local processes of identity construction and self-representation are negotiated within this online environment. How do global and local cultures, their representatives, icons, and artifacts interact on these self-authored homepages? How do people from the local communities "make themselves a(t) home in a transforming communicative environment" (Miller & Slater, 2000, p. 1)? Even though MyKnet.org has very strong ties to the local First Nation communities and the region of Northwestern Ontario, it is, at the same time, part of the global web that connects billions of webpages, their content, their producers, and users. Users and producers of MyKnet.org homepages consider this environment their own space within cyberspace, where they can make themselves, their families, communities, and cultures at home. But as Appadurai reminds us, "home" is not a simple construct, but a rather fragile "production of locality" (as cited in Landzelius, 2006b, p. 3). And in an age where different processes of globalization – such as the transnational flows of people, technologies, ideologies, media, and money – are constantly speeding up, the production of locality gets challenged all the time. Moreover, globalized technologies, such as the internet, challenge the definition and the phenomenology of locality, "leading to repositionings in the experiencing and significance of centres and peripheries, and the meaning accorded them" (Landzelius, 2006c, p. 293).

Eriksen (2007b) argues that the internet and its applications have become major media "for the consolidation, strengthening and definition of collective identities, especially in the absence of a firm territorial and institutional base" (p. 8). He reminds us further that the internet has not a non-territorial character that leads "to fragmentation and unprecedented cultural differentiation" (p. 1). In fact it is the other way round: nations and other "abstract communities" are using the internet to strengthen, establish, and reinvent national and ethnic

identities in an age of increasing global movements and deterritorialization (Appadurai, 1996). And Baym (1998), among others, states that online groups and communities are deeply integrated into the offline lives of the people constituting new forms of online sociality. What does this mean for people and groups of people who have lost their traditional territory, who were forced to live on another land, and who frequently have to live separated from family and friends?

To understand MyKnet.org and its appropriation in the specific contexts of Northwestern Ontario, it is necessary to focus on the relation between digital technologies and social change (e.g., Aporta & Higgs, 2005; Bijker & Law, 1992; Budka, et al., 2009; Fiser & Clement, 2012). To conceptualize MyKnet.org, for instance as a "computerization movement" contributes to the integration of its development within a specific historical, geographical, and cultural contexts (Bell et al., 2012; Budka et al., 2009). MyKnet.org's development, which is inseparably connected to the evolution of KO-KNET, can be considered to be part of a computerization movement that connects local, regional, and national interests. MyKnet.org emerged at a time when much of KO-KNET's broadband infrastructure was being built and the Canadian government was focused on "connecting Canadians" to the internet. KO-NET's alliance of First Nation communities negotiated many funding opportunities and partnerships to develop their digital infrastructure, benefiting from this government-lead computerization movement to implement computer technology as a means of bridging socio-technical divides in Canada (Fiser, 2009; Fiser & Clement, 2012).

A key component of any computerization movement concerns the decisions made about control and utilization of technology during the development process (Kling & Iacono, 1988). At each step of KO-KNET and MyKnet.org's development, choices about investment and control over equipment and expertise had to be made within the communities. Thus, the development of KO-KNET and MyKnet.org can be understood as part of an indigenous computerization movement lead by local leaders in the First Nation communities of Northwestern Ontario. These leaders, from First Nations councils, economic development agencies, education and health authorities, and civic groups, collaborated with the purpose not only to implement computer technologies but to adopt and adapt these technologies to the local needs of the communities. They, for example, focused on youth training and

education opportunities to complement the physical network infrastructure's development. The experiences of these collaborators suggest that the acquisition, installation, and adoption of computers and ICT depend on an equally important array of non-economic choices and factors, such as culture, politics, education, health, and so forth. To put it another way: the appropriation of technologies is always connected with sociocultural, political, and economic processes.

While MyKnet.org's development can be interpreted as part of an indigenous computerization movement with strong ties to local and national interests, it is also important to recognize that MyKnet.org was a unique digital service that has been directly shaped by the interactions of its individual users who used it to extend their social ties online. In the remote First Nation communities of Northwestern Ontario, as research partners stated, any new medium that is made available will be used if community members have enough control to make it work for their purposes. MyKnet.org took its place among other community media in the region, in some ways acting as a substitute for the telephone, which was, due to a lack of infrastructure, never widely used within the communities. In other ways, MyKnet.org was functioning like community radio, but with a younger audience and user group. Some research partners compared MyKnet.org to community radio, particularly as both are locally-driven and locally-operated initiatives and both allow individual community members to participate and make their voices heard. While access and language issues caused some research partners to be cautious about claiming that MyKnet.org is as broadly accessible in the First Nations as community radio, they made it clear that both media are important to community members specifically because they are considered to be owned, controlled, and shaped by the communities themselves. Another explanation for the popularity of communication media like community radio and online environments in general may also be found in the fact that these media support forms of communication that are either oral (radio) or close to oral (digital services and platforms). Digital media technologies allow for new communicative practices that blend "traditional writing" with visual symbols and material as well as with new language codes, constituting thus what has been termed "modern orality" (Schröder & Voell, 2002, p. 12; see also Miller et al., 2016)

Like community radio, MyKnet.org connected individuals within communities, but it also

enabled connections across communities. I heard stories about the possibilities for communication among MyKnet.org users. I was told of parents who used MyKnet.org to locate their children when they travel abroad, or even within the local communities. In one story, parents asked their older daughter where her sister was going to be that night, and the older daughter went onto the girl's MyKnet.org homepage to locate her. People told me that these were not uncommon patterns of use. Such purposeful searches of MyKnet.org are facilitated by digital practices such as updating and reading, and supported by a KO-KNET's policy that requires MyKnet.org users to register accounts under their real name. Coupled with this policy, the uniqueness of surnames in Northern Ontario First Nations turned MyKnet.org into a dynamic map of kinship ties in the region. I was told that users who understand the correspondences between surnames, territories, and communities used MyKnet.org to follow the movements of their peers and relations across the region. I heard stories about distant family relations becoming reunited through MyKnet.org, including estranged family members scattered across provinces and remote-urban divides. As Arnold and Plymire (2004) argue, indigenous digital activities can be important means for cultural communities to keep in touch and to maintain a sense of community despite changing geographic locations (see also Molyneaux et al., 2014). In its uses by community members, MyKnet.org is playing such a role as homepages are used extensively to keep in touch with friends and family.

MyKnet.org homepages and their content cover the entire community life cycle, announcing births, graduations, marriages, separations, and deaths. MyKnet.org communities post their own homepages to advertise local events and local programs, associations, and sports teams create pages to keep the public informed about their activities. Moreover, individuals use homepages to promote business, arts, spiritual beliefs, and teachings from the land. Unforeseen events also become woven into the fabric of MyKnet.org. One research partner told me of the time she learned of a fire in a neighbouring community by reading a friend's homepage. News of the fire spread across MyKnet.org and within a few days there was a coordinated movement to provide the community with relief. Other disasters such as teen suicide led to memorials and public information bulletins on MyKnet.org. Some community members had been known to monitor their local youths' homepages for signs of depression, and have staged interventions on a number of occasions. In such ways MyKnet.org fulfills an

important role in strengthening not only familial and friendship ties, but also in facilitating inter-community communication, civic action, and other interpersonal connections. These uses of MyKnet.org that focus on connecting communities and community members through advertising events or providing information on local organizations, for example, reflect the digital inreach activities described by Landzelius (2003, 2006b).

Another part of the community-based and community-focused aspect of MyKnet.org is its non-commercial nature. While mainstream social networking sites and platforms, such as Facebook, has seen increasing amounts of marketing and advertising on their pages, MyKnet.org remains non-commercial and locally-focused. There is no fear of marketers seeking users online and the promotion that took place was by local artisans, musicians, or organizations through their respective homepages. In the remote First Nations of Northwestern Ontario, an internet users' first experiences with the web usually consisted of KO-KNET and MyKnet.org. As a community-driven, community-based, and community-focused digital environment, MyKnet.org provided an alternative to mainstream commercial social networking sites. The uniqueness of its users, the kinship and community ties they represented, provided MyKnet.org with an advantage that competing commercial network were not be able to meet at that time. MyKnet.org users were intimately enveloped by the cultural experience of a computerization movement in the Northwestern Ontario First Nations such that there was more to MyKnet.org's appeal than simply communications or online presences. Research partners told me that they identify MyKnet.org as part of their (indigenous) community experience, in contrast to other websites and online environments that they may use.

Social media and particularly Facebook have become part and parcel of everyday life, not only in Northwestern Ontario. During my fieldwork I learned how people, particularly in remote and isolated communities, have been constantly struggling to get connected to the internet. To become part of the so called "network society" or "information society". I realized people's urgent need for being part of a global development process, of being able to network, to communicate, to represent and express oneself, to be able to utilize different online services – from "serious" stuff such as e-health and online education to "mundane" things like online gambling, picture sharing, or music and video streaming. When I started

my research, MyKnet.org was still very popular – particularly among the region's youth – but the times when it was the only service used to create a web presence were over. Other online services and platforms had become increasingly interesting to internet users in the remote communities: Bebo, Piczo, Myspace, and Facebook. Some years after my initial fieldwork, Facebook had become the dominating platform, others were gone or are no longer interesting. It seemed that almost all people were using Facebook. The results of a follow-up online survey confirmed that Facebook has replaced MyKnet.org as dominant online communication tool, particularly for staying in touch with family and friends (Budka, 2012). Yet another study showed that Facebook has indeed become the driving force of online social networking in the huge but thinly populated region of Northwestern Ontario and its indigenous communities (Molyneaux et al., 2014). While writing this, MyKnet.org is only a shadow of its glorious past. It is still made available and supported by KO-KNET and some people still use it, but it has definitely lost its former relevance. I was not only able to witness, but – through my work with KO-KNET – become part of these processes of socio-technical change. Northwestern Ontario's digital infrastructure has been shaped by local organizations and communities, changing thus rapidly people's options of utilizing a diversity of digital services.

CONCLUSION

"It's just our part of the internet."
(MyKnet.org user, personal communication, 2007)

Modernity and globalization, as "flip sides of the same coin", not only create wealth and global connections, they also produce difference, exclusion, and marginalization (Appadurai, 1996, p. 3). Not all people participate, for example, equally in globalizing processes of interconnectedness. There are many people, like the world's indigenous peoples, who are either excluded from these processes or they have to experience them from the margins of society. But, indigenous peoples have started to strategically utilize digital media technologies to create their own version of modernity, an indigenized or indigenous modernity (Sahlins, 1999a). This is a concept with political consequences that can be linked to specific contexts, such as the different sociopolitical or demographic situations of the world's indigenous peoples. Through processes of globalization, such as the distribution of ICT and media, local practices of appropriation and utilization of media technologies have been intensifying (e.g., Appadurai, 1996; Miller & Slater, 2000). And KO-KNET and MyKnet.org contributed to the creation of an indigenized modernity that is related to digital media technologies and their appropriation in the sociocultural and geographical contexts of Northwestern Ontario. There are multiple other forms and versions of indigenous modernity that are created, for instance, through indigenous education and research (e.g., Smith, 2005). I suggest that KO-KNET and MyKnet.org facilitated First Nations' self-determined participation to regional, national, and even global ICT connectivity processes, contributing thus to the "digital de-marginalization" of Northwestern Ontario's remote communities and to what can be termed "digital indigenized modernity" (Budka, 2015).

This does not imply, however, that indigenous people live in a separate reality. It rather means that modernity and related concepts, such as "the digital age", are experienced differently, depending on historical, cultural, and economic contexts and sociopolitical power relationships. Through the local appropriation of media, indigenous people make their voices heard, they network, distribute information, and revitalize their culture and language. They indigenize digital media technologies in a process which includes various digital practices and activities and which is embedded in changing sociocultural, political, and

economic realities (e.g., Ginsburg, 2002a, 2002b). This process is connected to the mediation and (re)construction of indigenous culture and identity through modern media technologies, containing cultural elements of the non-indigenous societies and indigenous elements. And it is within these social fields of otherness and sameness that indigeneity as a process of (collective) identity formation emerges (De la Cadena & Starn, 2007, p. 4). Digital media making has become an important part of the indigenous cultural and sociopolitical project, particularly because this also means to establish social relations to other indigenous people and to non-indigenous agents alike.

When I started my fieldwork, digital media technologies were not new to the people in Northwestern Ontario. Local people were already used to rely on broadband internet, sometimes delivered via satellite connections to remote settlements. They were making heavy use of all kinds of internet-related services and applications, from e-learning to online gambling and video streaming. During fieldwork, I realized that the internet has become an important part of the daily sociocultural, political, and economic life in this region. People talked about it, how fast it was, or why it did not work. They made constant use of it, at home and at the workplace, and increasingly through mobile phones and other mobile devices. And more and more people made a living from a job provided through internet technologies and services. But while travelling to remote First Nation communities, I learned that it has been a constant challenge and struggle to create, develop, and maintain the local telecommunication infrastructure and communication services such as community radio, satellite TV, and broadband internet. I also learned how important organizational partnerships and collaborative projects are and what role social relationships across institutional boundaries play. In short, I learned about the infrastructures which are actually necessary to finance, provide, and maintain internet access and use. Infrastructure, KO-KNET's coordinator told me, “really defines what you can do and what you can't do” (B. Beaton, personal communication, 2007).

Indigenous peoples, networks, and organizations were among the first users of then alternative digital media technologies such as the internet. And as, for instance, Pratt (2010) argues, digital and interactive media technologies hold the potential to contribute to processes of decolonization because they provide people with the possibility to talk-back to

hegemonic discourses. But because of the poor state of telecommunication infrastructure in indigenous territories many groups and communities have had to cooperate with non-indigenous supporters to start, what Landzelius (2006b) labelled “outreach” initiatives. Indigenous “inreach” ICT related practices, on the other hand, are oriented towards an internal public. Such initiatives, which are directed inside the communities, have been made possible only by creating and maintaining local infrastructures to connect to the internet. And in many cases this was only possible with the support of and in collaboration with non-indigenous partners (e.g., Fiser, 2009; Sandvig, 2012). Like, for instance, Ginsburg and Turner, Landzelius (2003, 2006b) emphasizes the activist character of indigenous media projects and initiatives and therefore refers to these “self-authored engagements” as “indigenous cyberactivism”. After discussing the contexts, the infrastructures, and practices related to KO-KNET and its services MyKnet.org, I argue that both can be understood as digital activist projects.

However, digital media technologies, such as the internet, are not the magic bullet. They are rather tools for indigenous communities to contribute to local problem-solving. While KO-KNET can be seen as a collective project that includes the local First Nation communities and non-indigenous partners alike in building and maintaining a digital infrastructure, MyKnet.org can rather be understood as an individual project which allows people to create personal digital presences and content. Both projects are not without conflicts, contradictions, and difficulties. Social inequalities and changing power relations have led to conflicts in the communities and between the project partners. The appropriation of digital technologies is not an isolated process, but embedded in sociocultural, political, and economic realities that are challenging, challenged, and changed. While the utilization of digital media technologies hold the potential to share knowledge, preserve and protect culture and language, it also has its limitations (e.g., Landzelius, 2006b). The commercialization of digital services and applications and the lack of ownership and control of infrastructure can interfere with the protection and sharing of cultural elements. That's why KO-KNET has been applying a self-controlled and self-owned community model for digital technology distribution and services. This means that communities have taken over the local internet infrastructure; they control and maintain it according to their own politics and policies.

KO-KNET has become one of the world's most successful – maybe even the most successful – indigenous internet organizations. In cooperation with local communities and non-indigenous partners, it has been facilitating broadband internet connectivity as well as different online services for remote First Nation communities. This is a particularly remarkable development when looking at the telecommunications history of Northwestern Ontario. While there was only one public phone in some of the communities in the middle of 1990s, KO-KNET managed to implement a broadband internet network within a period of about six years. Thus, the history of KO-KNET and the people in Northwestern Ontario is also a history of rapid socio-technical change. While KO-KNET firstly supported only First Nation communities of the KO tribal council and the Sioux Lookout District, it has started to expand its services to the rest of Northern Ontario and even to neighbouring regions and provinces. The organization and its community-based ICT model has thus become a kind of blueprint for other indigenous ICT initiatives and projects. However, control and ownership of digital infrastructure and technologies are limited in terms of funding. KO-KNET has been dependent on non-indigenous funding bodies such as governmental institutions and organizations. That is why KO-KNET has had to invest, very successfully, a lot of manpower in applying for regional and federal project funds.

MyKnet.org is a not just a simple online service that provides users with the possibility to create their own homepage. Because of its real name policy, MyKnet.org had become a directory of Northern Ontario's First Nation people and their social networks. During my fieldwork it was an online environment in which the social status and the social relationships of the homepage owner were closely tied to the digital content they were producing and sharing. MyKnet.org was therefore a social environment that was structured through digital human and nonhuman networks alike (e.g., Latour, 1993). People also utilized MyKnet.org to practice digital skills. Homepage producers not only learned to create homepages and digital content/artifacts, but also to express and represent themselves, document their social development, give feedback and comments, and reflect on their changing personal situation. Therefore, it can also be considered as a learning environment which allowed users to become digitally literate. And this is a quality that is particularly important in digital times. Moreover, authorship as a “cultural principle” allowed producers to negotiate and challenge

authority, ownership, and control over media technologies and their content (Peterson 2003, p. 193). MyKnet.org can also be understood as an example of relocating lost physical territory in cyberspace; a process that strengthens collective identities (Eriksen, 2007b).

MyKnet.org became widely popular among First Nations people because it allows for establishing and maintaining social connections and different forms of cultural representations. Homepage producers utilized the service to present and represent themselves, their families, and their communities. People put pictures, music, texts, and artwork on their homepages. They communicated by leaving messages in the homepage's asynchronous communication boxes and they linked their homepages to the MyKnet.org pages of family members and friends. The generated content referred to the users daily lives in a world at the margins, where roads come to an end at the settlement's border, and where friends and families are often split up to attend school or to find work in urban centres. First Nation culture was an important factor in creating content for MyKnet.org homepages. Culture was celebrated by sharing information about sociocultural activities. In addition, a considerable share of the produced content was related to families and communities. The creative and innovative works produced in MyKnet.org, such as poems, graphical art, and music, were also creating social relationships by circulating indigenous culture: “It's First Nations, it belongs to us in Northern Ontario” (Budka, 2008). MyKnet.org was taking its place among other community media in Northwestern Ontario. Like community radio, MyKnet.org is a locally-driven and locally-operated initiative and both provide access to individual community members to participate and make their voices heard. MyKnet.org and related practices were present and discussed pretty much everywhere, in school, at home, and at the workplace, making it thus a “total socio-technical phenomenon” (see Pfaffenberger, 1988).

As an epistemological strategy of generating knowledge, ethnographic research is transforming, adapting, and changing with the sociocultural, economic, political, and technological conditions (e.g., Hakken, 1999, Marcus, 1998). This means that in a media-saturated world, ethnography has to deal with new social and cultural phenomena related to different forms of media technology practices and processes. Media and digital ethnography are interdisciplinary projects that draw on different theoretical and methodological sources.

Peterson (2003), for instance, understands the interdisciplinary relations between anthropology and media and communication studies as a field of "cross-fertilization", where one can learn from the other (p. 16). Considering the issues Hastrup and Olwig (1997) identify in relation to contemporary ethnographic projects, it becomes obvious that these issues also need to be integrated in the digital ethnography project. So some of the ethical and methodological challenges for a digital ethnography are not new at all, but rather have been on the radar of ethnography for quite some time. The field of research, for instance, is constructed by social relations, and the ethnographer becomes part of this social web. Following Marcus (1998) as well as Hastrup and Olwig (1997), I state that it is the social relations that define the ethnographic field; not only in digital environments or internet research, but in almost any contemporary ethnographic project. Digital ethnographies have, like other ethnographies, a processual character. To understand the meaning of digital media technologies and related practices, it is crucial to consider the spatial characteristics of an already existing "media ecology" and how it has been developing over time, that are the temporal characteristics. To understand MyKnet.org, for instance, it is necessary to consider the history of First Nation media initiatives and projects in Northwestern Ontario, that is the development of Wawatay.

Within the framework of indigenous media, MyKnet.org stands out in many ways (Budka et. al, 2009). Some research partners suggested that MyKnet.org is a social networking site, not by technical virtue, but by virtue of the practices of its users. No one remembers who created the first "shout out" or the first c-box on MyKnet.org; nor could my research partners say for certain who created the first tribute to a deceased loved one. What they knew was that these digital practices were integral to their MyKnet.org experience and contributed to their community life. It is clear that local experiences of life in the remote First Nation communities contributed to creating, shaping, and connecting the MyKnet.org homepages. Moreover, within the context of global indigenous internet usage, MyKnet.org and its many producers and users demonstrated that "historically marginalized peoples are not only taking roles, but in certain respects taking the lead, as savvy, technoscientific actors themselves 'colonizing' global media channels and converting them into fertile habitats for the exercise of identity and voice across distance" (Landzelius, 2006c, p. 300). The enthusiasm of local leaders and their ability to develop a local computerization movement within a national

movement drove the implementation of computer and internet technology in Northwestern Ontario and helped to shape the uses of the technologies. And these uses continue to facilitate intra- and inter-community communication as well as personal development.

MyKnet.org is a rewarding informal learning environment, where homepage producers learn to express and represent themselves, document personal development, give feedback, and reflect on their situation as young indigenous persons. Music related practices in MyKnet.org, for instance, contributed to the formation and negotiation of social status as well as authorship and subsequently to processes of self-articulation, cultural representation, and identity construction (Budka et al., 2009). Online self-representational practices as "identity experimentations" give people the possibility to play with different forms of identity in relatively protected and self-controlled spaces (Stern, 2008, p. 107). MyKnet.org contains homepages of individuals, groups, collectives, and communities. From traditional drumming and singing groups to hockey and football teams to hip hop artists, expecting mothers, students, and story tellers. They have all in common that they consider themselves as individuals that are, at the same time, part of a First Nation, a community, and a family. Through these digital forms of representation, First Nations, reconquer their fundamental right of representation. On the other hand, these online presences offer the possibility to challenge stereotypical preconceptions and the inherent marginalization.

Identities are socially and historically constructed. Under conditions that are not chosen or controlled by individuals, but with the possibilities to (re)interprete, change, and resist, for example, external attributions and categorizations. Colonization, discrimination, and racism are key in the construction of indigenous identity. The historical dimension, the century-long oppression of indigenous people(s) by other groups and institutions, is of particular importance here. Or, as Hall (1994) puts it, "identities are names we give to the different ways we are positioned by, and position ourselves within, the narratives of the past" (p. 394). But indigenous people(s) do not remain in their attributive role of helpless, subaltern subjects. They actively contribute to their social, ethnic, and cultural identity construction. New media and communication technologies are opening new possibilities and challenges here. Important remains the self-determined control over these mediated spaces, where different discourses and forms of interaction unfold in the context of indigenous peoples'

social life-worlds. Thus, open, flexible, and hybrid forms of identity and representation come into being:

> Now if . . . the Aboriginal People could . . . retain their tradition, take the technology and go that way in the future. That would be good. But as far as teaching traditional customs, I think it is beneficial because there is the talk that Aboriginal People want to keep their identity. That's who they are and just like for every nationality in the world they know who they are. With Aboriginal it is no different, they have their own identity and should be allowed to express it and share it. (Community Development Coordinator, personal communication, 2007)

The reason why MyKnet.org was so popular and important can be found in the fact that it is a locally developed and controlled First Nation service, created and maintained for the First Nations people, provided by the organization that brought broadband internet in their remote communities. First Nations people considered KO-KNET and MyKnet.org as “the internet”. People experienced, on the one hand, a strong sense of loyalty towards KO-KNET, the network and its services. On the other hand, there was also a strong feeling of belonging to the region and the land that are represented by this exclusively First Nations online environment. So despite commercial social networking sites, such as Facebook, people stayed with MyKnet.org, at least for some time. I thought that MyKnet.org as a service provided by a First Nation organization to First Nation communities would always be popular and used by the region's people. I was wrong. Today, and after several technical changes, MyKnet.org is only a shadow of its glorious past because many people migrated to other digital platforms. A process, quite similar to high frequency radio's replacement by telephone services in the remote First Nation communities. MyKnet.org is still made available and supported by KO-KNET and some people still use it, but it has definitely lost its former relevance. However, I was not only able to witness but to become part of this process of socio-technical change. Northwestern Ontario's digital infrastructure was shaped by local organizations and communities and people's options in utilizing different digital services were rapidly changing. As the case of KO-KNET and MyKnet.org demonstrate, indigenous people have been appropriating digital media technologies according to their own specific sociocultural needs, creating this way their own indigenized media technologies.

BIBLIOGRAPHY

Adams, R. McC. (1996). *Paths of fire: An anthropologist's inquiry into western technology*. Princeton: Princeton University Press.

Advisory Group on Suicide Prevention. (2002). *Acting on what we know: Preventing youth suicide in First Nations. The report of the Advisory Group on Suicide Prevention.* Retrieved from https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/fniah-spnia/alt_formats/fnihb-dgspni/pdf/pubs/suicide/prev_youth-jeunes-eng.pdf

Alia, V. (2010). *The new media nation: Indigenous peoples and global communication*. New York: Berghahn.

Amit, V. (Ed.). (2002). *Realizing community: Concepts, social relationships and sentiments*. London: Routledge.

Amit, V. (Ed.). (2015). *Thinking through sociality: An anthropological interrogation of key concepts*. New York: Berghahn.

Amit, V., & Rapport, N. (2002). *The trouble with community: Anthropological reflections on movement, identity and collectivity*. London: Routledge.

Anderson, B. (1983). *Imagined Communities: Reflections on the origin and spread of nationalism.* London: Verso.

Aporta, C., & Higgs, E. (2005). Satellite culture: Global positioning systems, Inuit wayfinding, and the need for a new account of technology. *Current Anthropology, 46(5)*, 729-753.

Appadurai, A. (1986). Introduction: Commodities and the politics of value. In A. Appadurai (Ed.), *The social life of things: Commodities in cultural perspective* (pp. 3-63). Cambridge: Cambridge University Press.

Appadurai, A. (1988). Putting hierarchy in its place. *Cultural Anthropology, 3(1)*, 26-49.

Appadurai, A. (1996). *Modernity at large: Cultural dimensions of globalization*. Minneapolis: University of Minnesota Press.

Appadurai, A., & Breckenridge, C. (1988). Why public culture? *Public Culture, 1(1)*, 5-9.

Arnold, E., & Plymire, D. (2004). Continuity within change: The Cherokee Indians and the internet. In D. Gauntlett & R. Horsley (Eds.), *Web.Studies* (pp. 254-264). London: Arnold.

Askew, K. (2002). Introduction. In K. Askew & R. Wilk (Eds.), *The anthropology of media: A reader* (pp. 1-13). Malden, MA: Blackwell.

Askew, K., & Wilk, R. (Eds.). (2002). *The anthropology of media: A reader*. Malden, MA:

Blackwell.

Avison, S., & Meadows, M. (2000). Speaking and hearing: Aboriginal newspapers and the public sphere in Canada and Australia. *Canadian Journal of Communication, 25(3)*. Retrieved from http://www.cjc-online.ca/index.php/journal/article/view/1163/1082

Axel, B. K. (2006). Anthropology and the new technologies of communication. *Cultural Anthropology, 21(3)*, 354-384.

Baltruschat, D. (2004). Television and Canada's Aboriginal communities: Seeking opportunities through traditional storytelling and digital technologies. *Canadian Journal of Communication, 29(1)*. Retrieved from http://www.cjc-online.ca/index.php/journal/article/view/1403/1495

Banks, M. (1998). Film. In A. Barnard & J. Spencer (Eds.), *Encyclopedia of social and cultural anthropology* (pp. 232-235). London: Routledge.

Banks, M. (2012). Visual anthropology. In *Oxford Bibliographies Online*. Oxford: Oxford University Press. https://doi.org/10.1093/obo/9780199766567-0028

Banks, M., & Morphy, H. (Eds.). (1999). *Rethinking visual anthropology*. New Haven: Yale University Press.

Banks, M., & Ruby, J. (2011). Made to be seen: Historical perspectives on visual anthropology. In M. Banks & J. Ruby (Eds.), *Made to be seen: Perspectives on the history of visual anthropology* (pp. 1-18). Chicago: The University of Chicago Press.

Barnard, A. (2006). Kalahari revisionists, Vienna and the "indigenous peoples" debate. *Social Anthropology*, 14(1), 1-16.

Barnard, A., & Spencer, J. (Eds.). (1998). *Encyclopedia of social and cultural anthropology*. London: Routledge.

Barth, F. (1994). A personal view of present tasks and priorities in cultural and social anthropology. In R. Borofsky (Ed.), *Assessing cultural anthropology* (pp. 349-361). New York: McGraw-Hill.

Barth, F. (1998). Introduction. In: F. Barth (Ed.), *Ethnic groups and boundaries: The social construction of cultural difference* (pp. 9-38). Prospect Heights: Waveland Press.

Bateson, G. (2000). *Steps to an ecology of mind*. Chicago: The University of Chicago Press.

Baumann, G., & Gingrich, A. (Eds.). (2004a). *Grammars of identity/alterity: A structural approach*. New York: Berghahn.

Baumann, G., & Gingrich, A. (2004b). Foreword. In G. Baumann & A. Gingrich (Eds.), *Grammars of identity/alterity: A structural approach*. (pp. ix-xiv). New York: Berghahn.

Baym, N. K. (1998). The emergence of on-line community. In S. Jones (Ed.), *Cybersociety 2.0: Revisiting computer-mediated community and technology* (pp. 35-68). Thousand Oaks, CA: Sage.

Baym, N. K. (2010). *Personal connections in the digital age*. Cambridge: Polity Press.

Beaton, B. (2004). The K-Net story: Community ICT development work. *The Journal of Community Informatics 1(1)*. Retrieved from http://ci-journal.net/index.php/ciej/article/view/185

Beaton, B, & Fiddler, J. (2002, October). *Living smart in two worlds: Maintaining and protecting First Nation culture for future generations*. Paper presented at the Third Global Congress on Community Networking in the Digital Era, Montreal, Canada.

Beaton, B., Fiddler, J., & Rowlandson, J. (2004). Living smart in two worlds: Maintaining and protecting First Nation culture for future generations. In M. Moll & L. Shade (Eds.), *Seeking convergence* (pp. 283–298). Ottawa: Canadian Centre for Policy Alternatives.

Beaton, B., Burnard, T., Linden, A., & O'Donnell, S. (2016). Keewaytinook Mobile: An indigenous community-owned mobile phone service in northern Canada. In L. Dyson, S. Grant, & M. Hendriks (Eds.), *Indigenous people and mobile technologies* (pp. 109-125). New York: Routledge.

Beaton, B., O'Donnell, S., Fiser, A., & Walmark, B. (2009). The K-Net experience: Thematic introduction to the special issue. *The Journal of Community Informatics 5(2)*. Retrieved from http://ci-journal.net/index.php/ciej/article/view/583/452

Belausteguigoitia, M. (2006). On line, off line and in line: The Zapatista rebellion and the use of technology by Indian women. In K. Landzelius (Ed.), *Native on the net: Indigenous and diasporic peoples in the virtual age* (pp. 97-111). London: Routledge.

Bell, B., Budka, P., & Fiser, A. (2012). "We were on the outside looking in" – MyKnet.org: A First Nations online social environment in northern Ontario. In A. Clement, M. Gurstein, G. Longford, M. Moll, & L. R. Shade (Eds.), *Connecting Canadians: Investigations in community informatics* (pp. 237-254). Edmonton: Athabasca University Press. Retrieved from http://www.aupress.ca/index.php/books/120193

Benedikt, M. (Ed.). (1991). *Cyberspace: First steps*. Cambridge, MA: MIT Press.

Bennett, W. L. (2004). Communicating global activism: Strength and vulnerabilities of networked politics. In W. van de Donk, B. D. Loader, P. G. Nixon, & D. Rucht (Eds.), *Cyberprotest: New media, citizens and social movements* (pp. 123-146). London: Routledge.

Bennett, W. L. (2003). New media power: The internet and global activism. In N. Couldry & J. Curran (Eds.), *Contesting media power: Alternative media in a networked world* (pp. 17-37). Lanham, MD: Rowman & Littlefield.

Bijker, W. E., & Law, J. (Eds.). (1992). *Shaping technology / building society: Studies in*

sociotechnical change. Cambridge, MA: MIT Press.

Boellstorff, T. (2008). *Coming of age in Second Life: An anthropologist explores the virtually human*. Princeton: Princeton University Press.

Boellstorff, T., Nardi, B, Pearce, C., & Taylor, T. L. (2012). *Ethnography and virtual worlds: A handbook of method*. Princeton: Princeton University Press.

Bourdieu, P. (1977). *Outline of a theory of practice*. Cambridge: Cambridge University Press.

Bourdieu, P. (1993). *The field of cultural production*. Cambridge: Polity Press.

Boyer, D. (2006). Turner's anthropology of media and its legacies. *Critique of Anthropology, 26(1)*, 47-60.

Boyer, D. (2010). Digital expertise in online journalism (and anthropology). *Anthropological Quarterly, 83(1)*, 73-96.

Boyer, D. (2012). From media anthropology to the anthropology of mediation. In R. Fardon, O. Harris, T. H. J. Marchand, C. Shore, V. Strang, R. Wilson, & M. Nuttall (Eds.), *The Sage Handbook of Social Anthropology* (pp. 383-392). Thousand Oaks, CA: Sage.

Bräuchler, B. (2013). *Cyberidentities at war: The Moluccan conflict in the Internet* (J. Gaines, Trans.). New York: Berghahn.

Bräuchler, B., & Postill, J. (Eds.). (2010). *Theorising media and practice*. New York: Berghahn.

Bredin, M. (1996). Transforming images: Communication technologies and cultural identity in Nishnawbe-Aski. In D. Howes (Ed.), *Cross-cultural consumption: Global markets, local realities* (pp. 161-177). London: Routledge.

Brooten, L. (2008). Media as our mirror: Indigenous media of Burma (Myanmar). In P. Wilson & M. Stewart (Eds.), *Global indigenous media: Cultures, poetics, and politics* (pp. 111-127). Durham: Duke University Press.

Brown, J., & Tidwell Cullen, T. (2005). Indigenous peoples at the World Summit on the Information Society. *Cultural Survival Quarterly, 29(2)*. Retrieved from https://www.culturalsurvival.org/publications/cultural-survival-quarterly/indigenous-peoples-world-summit-information-society

Brubaker, R., & Cooper, F. (2000). Beyond "identity". *Theory and Society, 29*, 1-47.

Budka, P. (2004). Indigene Widerstandsbewegungen im Kontext von Globalisierung und Informations- und Kommunikationstechnologien. Das Fallbeispiel der EZLN in Mexiko. *Journal für Entwicklungspolitik, 20(1)*, 33-44.

Budka, P. (2008). *Report on the MyKnet.org online survey, August-November 2007*. http://meeting.knet.ca/mp19/course/view.php?id=7

Budka, P. (2009). Indigenous media technology production in Northern Ontario, Canada. In K.-D. Ertler & H. Lutz (Eds.), *Canada in Grainau / Le Canada à Grainau: a multidisciplinary survey of Canadian Studies after 30 years* (pp. 63-74). Frankfurt am Main: Peter Lang.

Budka, P. (2012). *Report on the MyKnet.org and Facebook online survey, April-December 2011*. Retrieved from http://meeting.knet.ca/mp19/course/view.php?id=7

Budka, P. (2015). From marginalization to self-determined participation: Indigenous digital infrastructures and technology appropriation in Northwestern Ontario's remote communities. *Journal des Anthropologues, 142-143*, 127-153.

Budka, P., Bell, B., & Fiser, A. (2009). MyKnet.org: How northern Ontario's First Nation communities made themselves at home on the World Wide Web. *The Journal of Community Informatics, 5(2)*. Retrieved from http://ci-journal.net/index.php/ciej/article/view/568/450

Budka, P., & Fiser, A. (2010). Indigenous peoples knowledge society: Transformation and challenges. Report and introduction to the section Indigenous Peoples Knowledge Society. *TRANS – Internet Journal for Cultural Studies, 2010(17)*. Retrieved from http://inst.at/trans/17Nr/8-2/8-2_sektionsbericht.htm

Budka, P., & Kremser, M. (2004). CyberAnthropology – The anthropology of cyberculture. In S. Khittel, B. Plankensteiner, & M. Six-Hohenbalken (Eds.), *Contemporary issues in socio-cultural anthropology: Perspectives and research activities from Austria* (pp. 213-226). Wien: Loecker.

Budka, P., & Mader, E. (2009, July). *New forms of socialities on the web? A critical exploration of anthropological concepts to understand sociocultural online practices*. Paper presented at the Web as Culture Conference, Gießen, Germany.

Budka, P., & Trupp, C. (2009). Indigener Cyberaktivismus und transnationale Bewegungslandschaften im lateinamerikanischen Kontext. In J. Kastner & T. Waibel (Eds.), *"... mit Hilfe der Zeichen / por medio de signos ...". Transnationalismus, soziale Bewegungen und kulturelle Praktiken in Lateinamerika* (pp. 207-226). Wien: LIT.

Cardús i Font, L. (2014). Indigenous media: From transference to appropriation. Indigenous video in Latin America and processes of visual representation of self and ethnicity. *Anthrovision, 2(1)*. Retrieved from http://anthrovision.revues.org/668

Carlson, B. (2013). The "new frontier": Emergent indigenous identities and social media. In M. Harris, M. Nakata, & B. Carlson (Eds.), *The politics of identity: Emerging indigeneity* (pp. 147-168). Sydney: University of Technology Sydney E-Press.

Carlson, B., Farelly, T., Frazer, R., & Borthwick, F. (2015). Mediating tragedy: Facebook, aboriginal people and suicide. *Australasian Journal of Information Systems, 19*. Retrieved

from http://journal.acs.org.au/index.php/ajis/article/view/1174

Carpenter, E. (1972). *Oh, what a blow that phantom gave me*. New York: Holt, Rinehart and Winston.

Carrier, J. G. (1998). Consumption. In A. Barnard & J. Spencer (Eds.), *Encyclopedia of social and cultural anthropology* (pp. 128-129). London: Routledge.

Castells, M. (1997). *The power of identity. Vol. 2. The information age: economy, society and culture*. Oxford: Blackwell.

Castells, M. (2000). *The rise of the network society. Vol. 1. The information age: economy, society and culture* (2nd ed.). Oxford: Blackwell.

Castells, M. (2001). *The Internet galaxy: Reflections on the Internet, business, and society*. Oxford: Oxford University Press.

Chadwick, A. (2006). *Internet politics: States, citizens, and new communication technologies*. Oxford: Oxford University Press.

Chandler, D. (1998). *Personal home pages and the construction of identities on the Web*. Retrieved from http://visual-memory.co.uk/daniel/Documents/short/webident.html

Chandler, M. J., & Lalonde, C. E. (1998). Cultural continuity as a hedge against suicide in Canada's First Nations. *Transcultural Psychiatry, 35(2)*, 191-219.

Chartrand, P. L. A. H. (Ed.). (2003). *Who are Canada's Aboriginal Peoples? Recognition, definition, and jurisdiction*. Saskatoon: Purich Publishing.

Chiefs of Ontario. (2016). *Directory of First Nations*. Retrieved from http://www.chiefs-of-ontario.org/directory

Christensen, N. B. (2003). *Inuit in cyberspace: Embedding offline identities online*. Copenhagen: Museum Tusculanum Press.

Christensen, N. B. (2006). A screen of snow recognition reigned supreme? Journey into the homeland of a Greenlandic webpage. In K. Landzelius (Ed.), *Native on the net: Indigenous and diasporic peoples in the virtual age* (pp. 80-96). London: Routledge.

Christensen, T. H., & Røpke, I. (2010). Can practice theory inspire studies of ICTs in everyday life? In B. Bräuchler & J. Postill (Eds.), *Theorising media and practice* (pp. 233-256). New York: Berghahn.

Churchill, W. (1996). *From a native son: Selected essays on indigenism, 1985-1995*. Boston: South End.

Cisler, S. (1997). The internet and indigenous groups: An introduction. *Cultural Survival Quarterly, 21(4)*, 20-22.

Cleaver, H. (1998a). The Zapatista effect: The Internet and the rise of an alternative political fabric. *Journal of International Affairs, 51(2)*, 621-640.

Cleaver, H. (1998b). The Zapatistas and the electronic fabric of struggle. In J. Holloway & E. Peláez (Eds.), *Zapatista! Reinventing revolution in Mexico* (pp. 1-21). London: Pluto Press.

Clifford, J. (2007). Varieties of indigenous experience: Diasporas, homelands, sovereignties. In M. de la Cadena & O. Starn (Eds.), *Indigenous experience today* (pp. 197-223). Oxford: Berg.

Coleman, E. G. (2010). Ethnographic approaches to digital media. *Annual Review of Anthropology 39*, 1-19.

Coman, M, & Rothenbuhler, E. W. (2005). The promise of media anthropology. In E. W. Rothenbuhler & M. Coman (Eds.), *Media anthropology* (pp. 1-11). Thousand Oaks, CA: Sage.

Comaroff, J. L., & Comaroff, J. (2009). *Ethnicity, INC*. Chicago: The University of Chicago Press.

Couldry, N. (2003a). *Media rituals: A critical approach.* London: Routledge.

Couldry, N. (2003b). Media meta-capital: Extending the range of Bourdieu's field theory. *Theory and Society, 32*, 653-677.

Couldry, N. (2008). Mediatization or mediation? Alternative understandings of the emergent space of digital storytelling. *New Media Society, 11*, 373-391.

Couldry, N. (2010). Theorising media and practice. In B. Bräuchler & J. Postill (Eds.), *Theorising media and practice* (pp. 35-54). New York: Berghahn.

Couldry, N., & Curran, J. (2003). The paradox of media power. In N. Couldry & J. Curran (Eds.), *Contesting media power: Alternative media in a networked world* (pp. 3-15). Lanham, MD: Rowman & Littlefield.

Curran, J., & Park, M. (Eds.). (2000). *De-Westernizing media studies*. New York: Routledge.

Dahlgren, P. (2004). Foreword. In W. van de Donk, B. D. Loader, P. G. Nixon, & D. Rucht (Eds.), *Cyberprotest: New media, citizens and social movements* (pp. xi-xvi). London: Routledge.

de la Cadena, M., & Starn, O. (2007). Introduction. In M. de la Cadena & O. Starn (Eds.), *Indigenous experience today* (pp. 1-30). Oxford: Berg.

Demay, J. (1993). The persistence and creativity of Canadian Aboriginal newspapers. *Canadian Journal of Communication, 18(1)*. Retrieved from http://www.cjc-

online.ca/index.php/journal/article/view/720/626

Deuze, M. (2006). Ethnic media, community media and participatory culture. *Journalism, 7(3)*, 262-280.

Dourish, P., & Bell, G. (2011). *Diving in a digital future: Mess and mythology in ubiquitous computing*. Cambridge, MA: MIT Press.

Downey, G. L., Dumit, J., & Williams, S. (1995). Cyborg anthropology. *Cultural Anthropology, 10(2)*, 264-269.

Dracklé, D. (1999). Medienethnologie: Eine Option auf die Zukunft. In W. Kokot & D. Dracklé (Eds.), *Wozu Ethnologie?* (pp. 261-290). Berlin: Reimer Verlag.

Dunning, R. W. (1959). *Social and economic change among the Northern Ojibwa*. Toronto: Toronto University Press.

Durkheim, E. (2006). *On suicide* (R. Buss, Trans.). London: Penguin.

Dussault, R., & Erasmus, G. (1995). *Choosing life: Special report on suicide among Aboriginal people*. Ottawa: Royal Commission on Aboriginal Peoples. Retrieved from http://www.bac-lac.gc.ca/eng/discover/aboriginal-heritage/royal-commission-aboriginal-peoples/Pages/item.aspx?IdNumber=515

Dyson, L. E.(2011). Indigenous peoples on the Internet. In M. Consalvo & C. Ess (Eds.), *The handbook of Internet studies* (pp. 251-269). Oxford: Wiley-Blackwell.

Dyson, L. E., Hendriks, M., & Grant, S. (Eds.). (2007). *Information technology and indigenous people*. Hershey, PA: Idea Group.

Dyson, L. E., Grant, S., & Hendriks, M. (Eds.). (2016). *Indigenous people and mobile technologies*. New York: Routledge.

Eisenlohr, P. (2011). The anthropology of media and the question of ethnic and religious pluralism. *Social Anthropology, 19(1)*, 40-55.

Eriksen, T. H. (1993). *Ethnicity and nationalism: Anthropological perspectives*. London: Pluto Press.

Eriksen, T. H. (Ed.). (2003). *Globalisation: Studies in anthropology*. London: Pluto Press.

Eriksen, T. H. (2007a). *Globalization: The key concepts*. Oxford: Berg.

Eriksen, T. H. (2007b). Nationalism and the Internet. *Nations and Nationalism 13(1)*, 1-17.

Escobar, A. (1994). Welcome to Cyberia: Notes on the anthropology of cyberculture. *Current Anthropology, 35(3)*, 211-231.

Escobar, A. (1995). Anthropology and the future: New technologies and the reinvention of culture. *Futures, 27(4)*, 409-421.

Everett, A. (Ed.). (2008a). *Learning race and ethnicity: Youth and digital media*. The John D. and Catherine T. MacArthur Foundation series on digital media and learning. Cambridge, MA: MIT Press.

Everett, A. (2008b). Introduction. In A. Everett (Ed.), *Learning race and ethnicity: Youth and digital media* (pp. 1-12). The John D. and Catherine T. MacArthur Foundation series on digital media and learning. Cambridge, MA: MIT Press.

Executive Committee of the European Association of Social Anthropologists. (2015). *Why anthropology matters*. Retrieved from https://easaonline.org/publications/policy/why_en.shtml

Featherstone, M., Lash, S., & Robertson, R. (Eds.). (1995). *Global modernities*. London: Sage.

Ferreira, G., Walmark, B., & Kenny, C. (2004, October). *Experience in participatory video in northern Ontario*. Paper presented at the Celebrating Communication for Social and Environmental Change: An Anniversary Symposium, University of Guelph, Canada.

Fischer, M. J. (1999). Emergent forms of life: Anthropologies of late or postmodernities. *Annual Review of Anthropology, 28*, 455-478.

Fischer, M. J. (2007). Four genealogies for a recombinant anthropology of science and technology. *Cultural Anthropology, 22(4)*, 539-615.

Fish, A. (2011). Indigenous digital media and the history of the Internet on the Columbia Plateau. *Journal of Northwest Anthropology, 45(1)*, 91-114.

Fiser, A., (2009). *The K-Net broadband governance model: How social enterprise integrated public, for-profit, and not-for-profit institutions to enable broadband community networking in Canadian Aboriginal high cost serving areas (circa 1997 to 2007)* (Unpublished doctoral dissertation). University of Toronto, Toronto.

Fiser, A., Clement, A. (2012). A historical account of the Kuh-Ke-Nah Network. In A. Clement, M. Gurstein, G. Longford, M. Moll, & L. R. Shade (Eds.), *Connecting Canadians: Investigations in community informatics* (pp. 255-282). Edmonton: Athabasca University Press. Retrieved from http://www.aupress.ca/index.php/books/120193

Fiser, A., Clement, A., & Walmark, B. (2006). *The K-Net development process: A model for First Nations broadband community networks. CRACIN Working Paper No. 12*. Toronto: Canadian Research Alliance for Community Innovation and Networking. Retrieved from https://tspace.library.utoronto.ca/bitstream/1807/32431/1/CRACIN%20Working%20Paper%20No%2012.pdf

Forte, M. C. (2006). Amerindian@Caribbean: Internet indigeneity in the electronic

generation of Carib and Taino identities. In K. Landzelius (Ed.), *Native on the net: Indigenous and diasporic peoples in the virtual age* (pp. 132-151). London: Routledge.

Frideres, J. S., & Gadacz, R. R. (2001). *Aboriginal Peoples in Canada: Contemporary conflicts* (6th ed.). Toronto: Prentice Hall.

Garsten, C., & Wulff, H. (Eds.). (2003). *New technologies at work: People, screens and social virtuality*. Oxford: Berg.

Gausett, Q., Kenrick, J., & Gibb, R. (2011). Indigeneity and autochthony: A couple of false twins? *Social Anthropology, 19(2)*, 135-142.

Gibson, W. (1982). Burning chrome. *Omni*, 4(10), 72-107.

Gibson, W. (1984). *Neuromancer*. New York: Bantam Books.

Giddens, A. (1990). *The consequences of modernity*. Cambridge: Polity.

Giddens, A. (1991). *Modernity and self-identity: Self and society in the late Modern Age*. Cambridge: Polity.

Ginsburg, F. (1991). Indigenous media: Faustian contract or global village? *Cultural Anthropology, 6(1)*, 92-112.

Ginsburg, F. (1997). "From little things, big things grow": Indigenous media and cultural activism. In R. G. Fox & O. Starn (Eds.), *Between resistance and revolution: Cultural politics and social protest* (pp. 118-144). London: Routledge.

Ginsburg, F. (2000). Resources of hope: Learning from the local in a transnational era. In C. Smith & G. K. Ward (Eds.), *Indigenous cultures in an interconnected world* (pp. 27-47). Vancouver: UBC Press.

Ginsburg, F. (2002a). Screen memories: resignifying the traditional in indigenous media, In F. Ginsburg, L. Abu-Lughod, & B. Larkin (Eds.), *Media worlds: Anthropology on new terrain* (pp. 39-57). Berkeley: University of California Press.

Ginsburg, F. (2002b). Mediating cultures: Indigenous media, ethnographic film, and the production of identity. In K. Askew & R. Wilk (Eds.), *The anthropology of media: A reader* (pp. 210-235). Malden, Blackwell.

Ginsburg, F. (2005). Media anthropology: An introduction. In E. W. Rothenbuhler & M. Coman (Eds.), *Media anthropology* (pp. 17-25). Thousand Oaks, CA: Sage.

Ginsburg, F. (2006). Rethinking documentary in the digital age. *Cinema Journal, 46(1)*, 128-133.

Ginsburg, F. (2008). Rethinking the digital age. In P. Wilson & M. Stewart (Eds.), *Global indigenous media: Cultures, poetics, and politics* (pp. 287-305). Durham: Duke University

Press.

Ginsburg, F., Abu-Lughod, L., & Larkin, B. (Eds.). (2002a). *Media worlds: Anthropology on new terrain*. Berkeley: University of California Press.

Ginsburg, F., Abu-Lughod, L., & Larkin, B. (2002b). Introduction. In F. Ginsburg, L. Abu-Lughod, & B. Larkin (Eds.), *Media worlds: Anthropology on new terrain* (pp. 1-36). Berkeley: University of California Press.

Giokas, J., & Groves, R. K. (2003). Collective and individual recognition in Canada. The Indian Act regime. In P. L. A. H. Chartrand (Ed.), *Who are Canada's Aboriginal Peoples? Recognition, definition, and jurisdiction*. (pp. 41-82) Saskatoon: Purich Publishing.

Glaser, B. (1992). *Basics of grounded theory analysis.* Mill Valley, CA: Sociology Press.

Godelier, M. (1971). 'Salt currency' and the circulation of commodities among the Baruya of New Guinea. In G. Dalton (Ed.), *Studies in economic anthropology* (pp. 376-379). Washington, DC: American Anthropological Association.

Government of Canada. (2016). *Registry of applied titles*. Retrieved from http://www.tbs-sct.gc.ca/hgw-cgf/oversight-surveillance/communications/fip-pcim/reg-eng.asp

Govers, C., & Vermeulen, H. (Eds.). (1997). *The politics of ethnic consciousness*. Houndmills: Macmillan.

Green, S. (2003). Digital ditches: Working in the virtual grass roots. In C. Garsten & H. Wulff (Eds.), *New technologies at work: People, screens and social virtuality* (pp. 45-67). Oxford: Berg.

Green, S., Harvey, P., & Knox, H. (2005). Scales of place and networks: An ethnography of the imperative to connect through information and communications technologies. *Current Anthropology, 46(5)*, 805-826.

Grossberg, L. (1996). Identity and cultural studies – is that all there is? In S. Hall & P. du Gay (Eds.), *Questions of cultural identity* (pp. 87-107). London: Sage.

Guins, R. (2008). Hip-Hop 2.0. In A. Everett (Ed.), *Learning race and ethnicity: Youth and digital media* (pp. 63-80). The John D. and Catherine T. MacArthur Foundation series on digital media and learning. Cambridge, MA: MIT Press.

Gurstein, M. (2015). Why I'm giving up on the digital divide. *The Journal of Community Informatics, 11(1)*. Retrieved from http://ci-journal.net/index.php/ciej/article/view/1210/1139

Hafner, K., Lyon, M. (1998). *Where wizards stay up late: The origins of the Internet*. New York: Touchstone (Simon & Schuster).

Hafsteinsson, S. B. (2013). *Unmasking deep democracy: An anthropology of indigenous media in Canada*. Aarhus: Intervention Press.

Hakken, D. (1993). Computing and social change: New technology and workplace transformation, 1980-1990. *Annual Review of Anthropology, 22*, 107-132.

Hakken, D. (1999). *Cyborgs@Cyberspace: An ethnographer looks to the future*. New York: Routledge.

Hakken, D. (2003). *The knowledge landscapes of cyberspace*. New York: Routledge.

Hall, S. (1992). The west and the rest: Discourse and power. In S. Hall & B. Gieben (Eds.), *Formations of modernity* (pp. 276-320). Cambridge: Polity.

Hall, S. (1994). Cultural identity and diaspora. In P. Williams & L. Chrisman (Eds.), *Colonial discourse and post-colonial theory: A reader* (pp. 392–403). New York: Columbia University Press.

Hall, S. (1996). Introduction: Who needs "identity"? In S. Hall & P. du Gay (Eds.), *Questions of cultural identity* (pp. 1-17). London: Sage.

Hallowell, A. I. (1955). *Culture and experience*. Philadelphia: University of Pennsylvania Press.

Hannerz, U. (1996). *Transnational connections: Culture, people, places*. London: Routledge.

Hannerz, U. (1998). Complex society. In A. Barnard & J. Spencer (Eds.), *Encyclopedia of social and cultural anthropology* (pp. 122-124). London: Routledge.

Haraway, D. J. (1991). *Simians, cyborgs, and women: The reinvention of nature*. London: Free Association Books.

Harrison, R. (2009). Excavating Secon Life: Cyber-archaelogies, heritages and virtual communities. *Journal of Material Culture, 14*, 75-106.

Hastrup, K., & Olwig, K. F. (1997). Introduction. In K. F. Olwig & K. Hastrup (Eds.), *Siting culture: The shifting anthropological object* (pp. 1-14). London: Routledge.

Health Canada. (2013). *National Aboriginal Youth Suicide Prevention Strategy (NAYSPS) Program Framework*. Retrieved from https://www.canada.ca/en/health-canada/services/first-nations-inuit-health/reports-publications/health-promotion/national-aboriginal-youth-suicide-prevention-strategy-program-framework.html

Helm, J. (1981). *Subarctic. Vol. 6. Handbook of North American Indians* (W. C. Sturtevant, Ed.). Washington: Smithsonian Institution.

Hine, C. (2000). *Virtual ethnography*. London: Sage.

Hine, C. (Ed.). (2005). *Virtual methods: Issues in social research on the Internet*. Oxford: Berg.

Hobart, M. (2010). What do we mean by media practices? In B. Bräuchler & J. Postill (Eds.), *Theorising media and practice* (pp. 55-75). New York: Berghahn.

Hobsbawm, E. J. (1983). Introduction: Inventing traditions. In E. J. Hobsbawm & T. Ranger (Eds.), *The invention of tradition* (pp. 1-14). Cambridge: Cambridge University Press.

Hobsbawm, E. J. (1992). Ethnicity and nationalism in Europe today. *Anthropology Today, 8(1)*, 3-8.

Hockings, P. (Ed.). (1995). *Principles of visual anthropology*. Berlin: Mouton de Gruyter.

Horst, H., & Miller, D. (Eds.). (2012). *Digital anthropology.* London: Berg.

Inda, J. X., & Rosaldo, R. (Eds.). (2002a). *The anthropology of globalization: A reader*. Malden, MA: Blackwell.

Inda, J. X., & Rosaldo, R. (2002b). A world in motion. In J. X. Inda & R. Rosaldo (Eds.), *The anthropology of globalization: A reader* (pp. 1-36). Malden, MA: Blackwell.

Indigenize. (2017). In *Merriam-Webster.com. Merriam-Webster*. Retrieved from https://www.merriam-webster.com/dictionary/indigenize

Indigenize. (2017). In *English Oxford Dictionary*. Retrieved from https://en.oxforddictionaries.com/definition/indigenize

Indigenize. (2017). In *Dictionary.com*. Retrieved from http://www.dictionary.com/browse/indigenize

Indigenous and Northern Affairs Canada. (2017). *First Nations profiles*. Retrieved from http://fnp-ppn.aandc-aadnc.gc.ca/fnp/Main/Index.aspx?lasng=eng

Ingold, T. (Ed.). (1997). *Companion encyclopedia of anthropology: Humanity, culture and social life*. London: Routledge.

Ingold, T. (2000). *The perception of the environment: Essays on livelihood, dwelling and skill*. London: Routledge.

Ingold, T. (2014). That's enough about ethnography! *HAU: Journal of Ethnographic Theory, 4(1)*, 383-395. http://dx.doi.org/10.14318/hau4.1.021

Internet Society. (2017). *History of the Internet*. Retrieved from https://www.internetsociety.org/internet/what-internet/history-internet

Internet World Stats. (2016). *Facebook users in the world: Facebook usage and Facebook growth statistics by world geographic regions*. Retrieved from

http://www.internetworldstats.com/facebook.htm

Jenkins, H. (2006). *Convergence culture*. New York: New York University Press.

Jones, Q. (1997). Virtual communities, virtual settlements and cyber-archaeology: A theoretical outline. *Journal of Computer-Mediated Communication, 3(3)*, 1-24. https://doi.org/10.1111/j.1083-6101.1997.tb00075.x

Jones, S. G. (Ed.). (1995). *Cybersociety: Computer-mediated communication and community*. Thousand Oaks, CA: Sage.

Jones, S. G. (Ed.). (1998). *Cybersociety 2.0: Revisiting computer-mediated community and technology*. Thousand Oaks, CA: Sage.

Kampf, C. (2004). Kumeyaay.com: Internet hopes and realities for indigenous language revitalization. In F. Sudweeks & C. Ess (Eds.), *Cultural attitudes towards technology and communication 2004* (pp. 482-496). Proceedings of the Fourth International Conference on Cultural Attitudes towards Technology and Communication; Karlstad, Sweden, June 27 – July 1, 2004. Murdoch, WA: Murdoch University Press.

Karam, R., & Zuckernick, A. (1992). *A study of audiences for Aboriginal community radio: A profile of four northern Ontario communities*. Toronto: Queen's Printer for Ontario.

Keesing, R. M. (1994). Theories of culture revisited. In R. Borofsky (Ed.), *Assessing cultural anthropology* (pp. 301-312). New York: McGraw-Hill.

Keewaytinook Okimakanak. (2004). *Keewaytinook Okimakanak Resolution 04/02/04 #2: Keewaytinook Okimakanak Research Institute*. Retrieved from http://research.knet.ca/?q=system/files/KORI.pdf

Keewaytinook Okimakanak. (2016). *Welcome to Keewaytinook Okimakanak*. Retrieved from http://www.kochiefs.ca/

Keewaytinook Okimakanak Kuhkenah Network. (2004). *Kuh-ke-nah SMART International Gathering Draft Final Report, July 2004*. Retrieved from http://knet.ca/documents/KO-Final-Report-International-Conference-March2004.pdf

Keewaytinook Okimakanak Research Institute. (2005). *C-Band Public Benefit. Keewaytinook Okimakanak: A Case Study*. Retrieved from http://knet.ca/documents/05-03-29-Summative-Overview-C-Band-Public-Benefit-KNet1.pdf

Keewaytinook Okimakanak Research Institute. (2016). *About KORI*. Retrieved from http://research.knet.ca/?q=node/8

Kenrick, J., & Lewis, J. (2004). On the return of the Native. *Current Anthropology, 45(2)*, 261-267.

Kidd, D., & Rodriguez, C. (2009). Introduction. In C. Rodriguez, D. Kidd, & L. Stein (Eds.),

Making our media: Global initiatives toward a democratic public sphere, Volume 1: Creating new communication spaces (pp. 1-22). New York: Hampton Press.

Kling R., & Iacono S. (1988). The mobilization of support for computerization: The role of computerization movements. *Social Problems, 35(3)*, 226-243.

Knorr, A. (2011). *Cyberanthropology.* Wuppertal: Peter Hammer Verlag.

Kollock, P., & Smith, M. A. (Eds.). (1999). *Communities in cyberspace*. London: Routledge.

Kottak, C. P. (2016). *Prime-time society: An anthropological analysis of television and culture* (Updated ed.). London: Routledge.

Kottak, C. P., & Colson, E. (1994). Multilevel linkages: Longitudinal and comparative studies. In R. Borofsky (Ed.), *Assessing cultural anthropology* (pp. 396-412). New York: McGraw-Hill.

Kreff, F. (2003). *Grundkonzepte der Sozial- und Kulturanthropologie in der Globalisierungsdebatte*. Berlin: Reimer Verlag.

Kremser, M. (1998). Von der Feld zur Felder-Forschung. In K. Wernhart & W. Zips (Eds.), *Ethnohistorie. Rekonstruktion und Kulturkritik* (pp. 135-144). Wien: Promedia.

Kuper, A. (2003). The return of the Native. *Current Anthropology, 44(3)*, 389-411.

Landzelius, K. (2003). Paths of indigenous cyber-activism. *Indigenous Affairs 2(2003)*, 6-13.

Landzelius, K. (Ed.). (2006a). *Native on the net: Indigenous and diasporic peoples in the virtual age*. London: Routledge.

Landzelius, K. (2006b). Introduction: Native on the net. In K. Landzelius (Ed.), *Native on the net: Indigenous and diasporic peoples in the virtual age* (pp. 1-42). London: Routledge.

Landzelius, K. (2006c). Postscript: Vox populi for the margins? In K. Landzelius (Ed.), *Native on the net: Indigenous and diasporic peoples in the virtual age* (pp. 292-304). London: Routledge.

Larkin, B. (1997). Indian films and Nigerian lovers: Media and the creation of parallel modernities. *Africa 67(3)*, 406-440.

Larkin, B. (2002). The materiality of cinema theaters in northern Nigeria. In In F. Ginsburg, L. Abu-Lughod, & B. Larkin (Eds.), *Media worlds: Anthropology on new terrain* (pp. 319-336). Berkeley: University of California Press.

Larkin, B. (2013). The politics and poetics of infrastructure. *Annual Review of Anthropology, 42*, 327-343.

Latour, B. (1993). *We have never been modern*. Cambridge, MA: Harvard University Press.

Lee, R. B. (2006). Twenty-first century indigenism. *Anthropological Theory, 6(4)*, 455-479.

Lewellen, T. C. (2002). *The anthropology of globalization: Cultural anthropology enters the 21st century*. Westport: Bergin & Garvey.

Lewins, A., & Silver, C. (2007). *Using software in qualitative research: A step-by-step guide*. London: Sage.

Livingston, S. (2008). Taking risky opportunities in youthful content creation: Teenagers' use of social networking sites for intimacy, privacy and self-expression, *New Media & Society 10(3)*, 393-411.

Lyman, P., & Wakeford, N. (1999). Introduction: Going into the (virtual) field. *American Behavioral Scientist, 43*, 359-376.

Lysloff, R. T. A. (2003). Musical community on the internet: An online-ethnography. *Cultural Anthropology, 18(2)*, 233-263.

Mader, E. (2011). Stars in your eyes: Ritual encounters with Shah Rukh Khan. A. Michaels (Ed.), *Ritual dynamics and the science of rituals. Vol. IV. Reflexivity, media, and visuality*. Wiesbaden: Harrassowitz Verlag.

Mader, E. (2015). Sha Rukh Khan, participatory audience, and the Internet. In R. Dudrah, E. Mader, & B. Fuchs (Eds.), *SRK and global Bollywood* (pp. 200-220). Oxford: Oxford University Press.

Mader, E., & Budka, P. (2009). Shah Rukh Khan @ Berlinale. Bollywood Fans im Kontext medienanthropologischer Forschung. In C. Tieber (Ed.), *Fokus Bollywood. Das indische Kino in wissenschaftlichen Diskursen* (pp. 117-131). Wien: LIT.

Marcus, G. E. (Ed.). (1996a). *Connected: Engagements with media*. Chicago: The University of Chicago Press.

Marcus, G. E. (1996b). Introduction to the volume and reintroduction to the series. In G. E. Marcus (Ed.), *Connected: Engagements with media* (pp. 1-18). Chicago: The University of Chicago Press.

Marcus, G. E. (1998). *Ethnography through thick and thin*. Princeton: Princeton University Press.

Marcus, G. E., & Okely, J. (2007). "How short can fieldwork be?". *Social Anthropology, 17(3)*, 353-367.

Markham, A. (2005). The methods, politics, and ethics of representation in online ethnography. In N. Denzin, & Y. Lincoln (Eds.), *Handbook of qualitative research* (pp. 793-820). (3rd ed.). Thousand Oaks, CA: Sage.

Martínez Cobo, J. R. (1983). *Study of the problem of the discrimination against indigenous populations*. UN doc E/CN.4/Sub.2/1983/21/Add.8. Retrieved from https://www.un.org/development/desa/indigenouspeoples/publications/martinez-cobo-study.html

Matsaganis, M. D., Katz, V. S., & Ball-Rokeach, S. J. (2011). *Understanding ethnic media: Producers, consumers, and societies*. Thousand Oaks: Sage.

Maybury-Lewis, D. (1997). The internet and indigenous groups. *Cultural Survival Quarterly, 21(4)*. Retrieved from https://www.culturalsurvival.org/publications/cultural-survival-quarterly/internet-and-indigenous-groups

Mazzarella, W. (2004). Culture, globalization, mediation. *Annual Review of Anthropology, 33*, 345-367.

McCaughey, M., & Ayers, M. D. (Eds.). (2003a). *Cyberactivism: Online activism in theory and practice*. New York: Routledge.

McCaughey, M., & Ayers, M. D. (2003b). Introduction. In M. McCaughey & M. D. Ayers (Eds.), *Cyberactivism: Online activism in theory and practice* (pp. 1-21). New York: Routledge.

McMahon, R. (2011). The institutional development of indigenous broadband infrastructure in Canada and the United States: Two paths to "digital self-determination". *Canadian Journal of Communication, 36(1)*, 115-140.

McMillan, A., & Yellowhorn, E. (2004). *First Peoples in Canada. Third updated and revised edition of Native Peoples and cultures of Canada*. Vancouver: Douglas & McIntyre.

Mead, M. (1968). Cybernetics of cybernetics. In H. von Foerster, J. D. White, L. J. Peterson, & J. K. Russell (Eds.), *Purposive systems: Proceedings of the First Annual Symposium of the American Society for Cybernetics* (pp. 1–11). New York: Spartan Books. Retrieved from http://www.univie.ac.at/constructivism/archive/fulltexts/2634.html

Meyer, B. (2011). Mediation and immediacy: Sensational forms, semiotic ideologies and the question of the medium. *Social Anthropology, 19(1)*, 23-39.

Michaels, E. (1985). Constraints on knowledge in an economy of oral information, *Current Anthropology, 26(4)*, 505-510.

Michaels, E. (1994). *Bad Aboriginal art: Tradition, media, and technological horizons*. Minneapolis: University of Minnesota Press.

Miller, D. (1987). *Material culture and mass consumption*. London: Blackwell.

Miller, D. (2003). Living with new (ideals of) technology. In C. Garsten & H. Wulff (Eds.), *New technologies at work: People, screens and social virtuality* (pp. 7-23). Oxford: Berg.

Miller, D., (2005). Materiality: An introduction. In D. Miller (Ed.), *Materiality* (pp. 1-50). Durham: Duke University Press.

Miller, D. (2010). *An extreme reading of Facebook*. Open Anthropology Cooperative Press, Working Paper Series No. 5. Retrieved from http://openanthcoop.net/press/2010/10/22/an-extreme-reading-of-facebook/

Miller, D. (2011). *Tales from Facebook*. Cambridge: Polity Press.

Miller, D., & Horst, H. (2012). The digital and the human: A prospectus for digital anthropology. In H. Horst & D. Miller (Eds.), *Digital anthropology* (pp. 3-35). London: Berg.

Miller, D., & Slater, D. (2000). *The Internet: An ethnographic approach*. Oxford: Berg.

Miller, D., & Slater, D. (2003). Ethnography and the extreme Internet. In T. H. Eriksen (Ed.), *Globalisation: Studies in anthropology* (pp. 39-57). London: Pluto Press.

Miller, D., et al. (2016). *How the world changed social media*. London: UCL Press. Retrieved from http://discovery.ucl.ac.uk/1474805/1/How-the-World-Changed-Social-Media.pdf

Minh-ha, T. T. (1989). Outside in inside out. In J. Pines & P. Willemen (Eds.), *Questions of third cinema* (pp. 133-149). London: BFI Publishing.

Molyneaux, H., O'Donnell, S., Kakekaspan, C., Walmark, B., Budka, P., & Gibson, K. (2014). Social media in remote First Nation communities. *Canadian Journal of Communication, 39(2)*, 275-288. Retrieved from http://www.cjc-online.ca/index.php/journal/article/view/2619/2647

Morin, F., & Saladin d'Anglure, B. (1997). Ethnicity as political tool for indigenous peoples. In C. Govers & H. Vermeulen (Eds.), *The politics of ethnic consciousness* (pp. 157-193). Houndmills: Macmillan.

Morley, D. (1986). *Family television: Cultural power and domestic leisure*. London: Comedia.

Morrison, R. B., & Wilson, C. R. (Eds.). (2004). *Native peoples: The Canadian experience*. Oxford: Oxford University Press.

Moseley, C. (Ed.). (2010). *Atlas of the World's languages in danger* (3rd ed.). Paris: UNESCO Publishing. Retrieved from http://www.unesco.org/culture/en/endangeredlanguages/atlas

Murdoch, G., & Pink, S. (2005). Picturing practices: Visual anthropology and media ethnography. In E. W. Rothenbuhler & M. Coman (Eds.), *Media anthropology* (pp. 149-161). Thousand Oaks, CA: Sage.

Murphy, J., Hashim, N. H., & O'Connor, P. (2007). Take me back: Validating the Wayback Machine. *Journal of Computer-Mediated Communication, 13, 60–75*. https://doi.org/10.1111/j.1083-6101.2007.00386.x

MyKnet.org. (2006). *MyKnet.org*. Retrieved from http://myknet.org/

Nader, L. (2011). Ethnography as theory. *HAU: Journal of Ethnographic Theory, 1(1)*, 211-219. http://dx.doi.org/10.14318/hau1.1.008

Nakamura, L, & Chow-White, P. A. (Eds.). (2012a). *Race after the Internet*. New York: Routledge.

Nakamura, L, & Chow-White, P. A. (2012b). Introduction – race and digital technology: Code, the color line, and the information society. In L. Nakamura & P. A. Chow-White (Eds.), *Race after the Internet* (pp. 1-18). New York: Routledge.

Newman, M. Z. (2014). *Video revolutions: On the history of a medium*. New York: Comlubia University Press.

Niezen, R. (2003). *The origins of indigenism: Human rights and the politics of identity*. Berkeley: University of California Press.

Niezen, R. (2005). Digital identity: The construction of virtual selfhood in the indigenous peoples' movement. *Comparative Studies in Society and History, 47(3)*, 532-551.

Niezen, R. (2013). *Truth and indignation: Canada's Truth and Reconciliation Commission on Indian Residential Schools*. Toronto: University of Toronto Press.

Nishnawbe Aski Nation. (2016). *About us*. Retrieved from http://www.nan.on.ca/article/about-us-3.asp

O'Donnell, S., & Delgado, G. (1995). Using the Internet to strengthen the indigenous nations of the Americas. *Media Development, 3*, 36-38.

O'Donnell, S., Kakekaspan, G., Beaton, B., Walmark, B., Mason, R., & Mak, M. (2011). A new remote community-wwned wireless communication service: Fort Severn First Nation builds their local cellular system with Keewaytinook Mobile. *Canadian Journal of Communication, 36(4)*, Retrieved from http://www.cjc-online.ca/index.php/journal/article/view/2488/2847

Olwig, K. F., & Hastrup, K. (Eds.). (1997). *Siting culture: The shifting anthropological object*. London: Routledge.

Omura, K. (2003). Comments on "The return of the Native". *Current Anthropology, 44(3)*, 395-396.

Ong, W. J. (1991). The shifting sensorium. In D. Howes (Ed.), *The varieties of sensory experience* (pp. 25-30). Toronto: University of Toronto Press.

Ortner, S. (2006). *Anthropology and social theory: Culture, power, and the acting subject.* Durham: Duke University Press.

Overing, J., & Passes, A. (2000). Introduction: Conviviality and the opening up of Amazonian anthropology. In J. Overing & A. Passes (Eds.), *The anthropology of love and anger: The aesthetics of conviviality in Native Amazonia* (pp. 1-30). London: Routledge.

Peterson, M. A. (2003). *Anthropology and mass communication: Media and myth in the new millennium*. New York: Berghahn.

Pfaffenberger, B. (1988). Fetishised objects and humanised nature: Towards an anthropology of technology. *Man, 23(2)*, 236-252.

Pfaffenberger, B. (1992). Social anthropology of technology. *Annual Review of Anthropology, 21*, 491-516.

Pietikäinen, S. (2008). "To breathe two airs": Empowering indigenous Sámi media. In P. Wilson & M. Stewart (Eds.), *Global indigenous media: Cultures, poetics, and politics* (pp. 197-213). Durham: Duke University Press.

Pinch, T., (2009). The social construction of technology (SCOT): The old, the new, and the nonhuman. In P. Vannini (Ed.), *Material culture and technology in everyday life* (pp. 45-58). New York: Peter Lang.

Pink, S. (2005). *The future of visual anthropology: Engaging the senses*. London: Routledge.

Pink, S. (2011). Digital visual anthropology: Potentials and challenges. In M. Banks & J. Ruby (Eds.), Made to be seen: Perspectives on the history of visual anthropology. Chicago: The University of Chicago Press.

Pink, S., Horst, H., Postill, J., Hjorth, L., Lewis, T., & Tacchi, J. (2016). *Digital ethnography: Principles and practice*. Thousand Oaks, CA: Sage.

Plaice, E. (2003). Comments on "The return of the Native". *Current Anthropology, 44(3)*, 396-397.

Polly, J. A., (1997). Standing stones in cyberspace: The Oneida Indian Nation's territory on the web. *Cultural Survival Quarterly, 21(4)*, 37-41. Retrieved from http://www.culturalsurvival.org/ourpublications/csq/article/standing-stones-cyberspace-the-oneida-indian-nations-territory-web

Postill, J. (2008). Localizing the internet beyond communities and networks. *New Media & Society* 10(3), 413-431.

Postill, J. (2010). Introduction: Theorising media and practice. In B. Bräuchler & J. Postill (Eds.), *Theorising media and practice* (pp. 1-32). New York: Berghahn.

Postill, J. (2011). *Localizing the Internet: An anthropological account*. Oxford: Berghahn.

Postill, J. (2012). Digital politics and political engagement. In H. A. Horst & D. Miller (Eds.), *Digital anthropology* (pp. 165-184). London: Berg.

Postill, J. (2014). Democracy in an age of viral reality: A media epidemiography of Spain's indignados movement. *Ethnography, 15(1)*, 50-68.

Postill, J., & Peterson, M. A. (2009). What is the point of media anthropology? *Social Anthropology, 17(3)*, 334-344.

Postill, J., & Pink, S. (2012). Social media ethnography: The digital researcher in a messy web. *Media International Australia, 145(1)*, 123-134.

Powdermaker, H. (2013). *Hollywood: The dream factory.* Mansfield Centre, CT: Martino Publishing.

Pratt, Y. P. (2010). Taking a stance: Aboriginal media research as an act of empowerment. In S. B. Hafsteinsson & M. Bredin (Eds.), *Indigenous screen cultures in Canada* (pp. 163-182). Winnipeg: University of Manitoba Press.

Prins, H. E. L. (2002). Visual media and primitivist perplex: Colonial fantasies, indigenous imagination, and advocacy in North America. In F. Ginsburg, L. Abu-Lughod, & B. Larkin (Eds.), *Media worlds: Anthropology on new terrain* (pp. 58-74). Berkeley: University of California.

Prins, H. E. L., & Bishop, J. (2001). Edmund Carpenter: Explorations in media & anthropology. *Visual Anthropology Review, 17(2)*, 110-140.

Rabinow, P. (2008). *Marking time: On the anthropology of the contemporary.* Princeton: Princeton University Press.

Rabinow, P., & Marcus, G. E. (with Faubion, J. D., & Rees, T.) (2008). *Designs for an anthropology of the contemporary*. Durham: Duke University Press.

Rainie, L., & Wellman, B. (2012). *Networked: The new social operating system*. Cambridge, MA: MIT Press.

Ramirez, R., Aitkin, H., Jamieson, R., & Richardson, D. (2003). *Harnessing ICTs: A Canadian First Nations experience – Introduction to K-Net*. Ottawa: Institute for Connectivity in the Americas. Retrieved from https://idl-bnc-idrc.dspacedirect.org/handle/10625/31438

Ramos, A. R. (2003). Comments on "The return of the Native". *Current Anthropology, 44(3)*, 397-398.

Rapport, N. (1998). Community. In A. Barnard & J. Spencer (Eds.), *Encyclopedia of social and cultural anthropology* (pp. 114-117). London: Routledge.

Rapport, N., & Overing, J. (2000). *Social and cultural anthropology: The key concepts*. London: Routledge.

Reckwitz, A. (2002). Toward a theory of social practices: A development in culturalist theorizing. *European Journal of Social Theory 5*, 243-263.

Rheingold, H. (2000). *The virtual community: Homesteading on the electronic frontier* (Rev. ed.). Cambridge, MA: MIT Press.

Robertson, R. (1992). *Globalization: Social theory and global culture*. London: Sage Publications.

Robertson, R. (1995). Glocalization: Time-space and homogeneity-heterogeneity. In M. Featherstone, S. Lash, & R. Robertson (Eds.), *Global modernities* (pp. 25-44). London: Sage.

Robins, S. (2003). Comments on "The return of the Native". *Current Anthropology, 44(3)*, 398-399.

Rodriguez, C., Kidd, D., Stein, L. (Eds.) (2009). *Making our media: Global initiatives toward a democratic public sphere, Volume 1: Creating new communication spaces*. New York: Hampton Press.

Rogers, E. S. (1962). *The Round Lake Ojibwa. Art and Archaeology Occasional Paper 5.* Toronto: The Royal Ontario Museum.

Rogers, R. (2015). Digital methods for web research. In R. A. Scott & S. M. Kosslyn (Eds.), *Emerging trends in the behavioral and social sciences* (pp. 1-22). Hoboken, NJ: Wiley.

Rojek, C. (2003). *Stuart Hall.* Cambridge: Wiley.

Roth, L. (2005). *Something new in the air: The story of First Peoples television broadcasting in Canada*. Montreal: McGill-Queen's University Press.

Roth, L. (2010). First Peoples' television in Canada: Origins of the Aboriginal Peoples Television Network. In S. B. Hafsteinsson & M. Bredin (Eds.), *Indigenous screen cultures in Canada* (pp. 17-34). Winnipeg: University of Manitoba Press.

Rothenbuhler, E. W., & Coman, M. (Eds.). (2005). *Media anthropology*. Thousand Oaks, CA: Sage.

Ruby, J. (1990). In the belly of the beast: Eric Michaels and the anthropology of visual communication. *The Australian Journal of Media & Culture, 3(2)*, 32-52. Retrieved from http://wwwmcc.murdoch.edu.au/ReadingRoom/3.2/Ruby.html

Ruby, J. (2005). The last 20 years of visual anthropology: A critical review. *Visual Studies, 20(2)*, 159-170.

Sahlins, M. (1999a). What is anthropological Enlightenment? Some lessons of the Twentieth Century. *Annual Review of Anthropology*, 28, i-xxiii.

Sahlins, M. (1999b). Two or three things that I know about culture. *The Journal of the Royal Anthropological Institute, 5(3)*, 399-421.

Salazar, J. F. (2007). Indigenous peoples and the cultural construction of information and communication technology (ICT) in Latin America. In L. E. Dyson, M. Hendriks, & S. Grant (Eds.), *Information technology and indigenous people* (pp. 14-26). Hershey, PA: Idea Group.

Salazar, J. F., & Córdova, A. (2008). Imperfect media and the poetics of indigenous video in Latin America. In P. Wilson & M. Stewart (Eds.), *Global indigenous media: Culture, poetics, and politics* (pp. 39-57). Durham: Duke University Press.

Salzman, P. C. (1998). Mass media. In A. Barnard & J. Spencer (Eds.), *Encyclopedia of social and cultural anthropology* (pp. 355-358). London: Routledge.

Sandvig, C. (2012). Connection at Ewiiaapaayp Mountain: Indigenous internet infrastructure. In L. Nakamura & P. A. Chow-White (Eds.), *Race after the Internet* (pp. 168-200). New York: Routledge.

Sanjek, R. (1998). Ethnography. In A. Barnard & J. Spencer (Eds.), *Encyclopedia of social and cultural anthropology* (pp. 193-198). London: Routledge.

Schatzki, T. (2001). Introduction: Practice theory. In T. Schatzki, K. Knorr Cetina, & E. von Savigny (Eds.), *The practice turn in contemporary theory* (pp. 1-14). London: Routledge.

Schlecker, M., & Hirsch, E. (2001). Incomplete knowledge: Ethnography and the crisis of context in studies of media, science and technology. *History of the Human Sciences, 14(1)*, 69-87.

Schröder, I. W., & Voell, S. (2002). Einleitung: Moderne Oralität. Kommunikationsverhältnisse an der Jahrtausendwende. In I. W. Schröder & S. Voell (Eds.), *Moderne Oralität. Ethnologische Perspektiven auf die plurimediale Gegenwart* (pp. 11-49). Marburg: Curupira.

Secretariat of the United Nations Permanent Forum on Indigenous Issues. (2009). Introduction. In The Department of Economic and Social Affairs of the United Nations Secretariat (Ed.). *State of the world's indigenous peoples. Volume 1* (pp. 1-11). New York: United Nations. Retrieved from https://www.un.org/esa/socdev/unpfii/documents/SOWIP/en/SOWIP_web.pdf

Sharp, L. (1952). Steel axes for stone–age Australians. *Human Organization, 11*, 17-22.

Shields, R. (Ed.). (1996). Cultures of the Internet: Virtual spaces, real histories, living bodies. Thousand Oaks, CA: Sage Publications.

Sigaut, F. (1997). Technology. In T. Ingold (Ed.), *Companion encyclopedia of anthropology: Humanity, culture and social life*. London: Routledge.

Silver, D. (2003). Epilogue: Current directions and future questions. In M. McCaughey & M. D. Ayers (Eds.), *Cyberactivism: Online activism in theory and practice* (pp. 279-292). New York: Routledge.

Silver, D. (2004). Internet/cyberculture/digital culture/new media/fill-in-the-blank studies. *New Media & Society,* 6(1), 55-64.

Smith, L. C. (2010). Locating post-colonial technoscience: Through the lens of indigenous video. *History and Technology: An International Journal, 26(3)*, 251-280.

Smith, L. T. (2005). *Decolonizing methodologies: Research and indigenous peoples*. London: Zed Books.

Smith, C., Burke, H., & Ward, G. K. (2000). Globalisation and Indigenous peoples: Threat or empowerment? In C. Smith & G. K. Ward (Eds.), *Indigenous cultures in an interconnected world* (pp. 1-24). Vancouver: University of British Columbia Press.

Sokolovskii, S., & Tishkov, V. (1998). Ethnicity. In A. Barnard & J. Spencer (Eds.), *Encyclopedia of social and cultural anthropology* (pp. 190-193). London: Routledge.

Spencer, J. (1998). Modernism, modernity and modernization. In A. Barnard & J. Spencer (Eds.), *Encyclopedia of social and cultural anthropology* (pp. 376-379). London: Routledge.

Spitulnik, D. (1993). Anthropology and mass media. *Annual Review of Anthropology, 22*, 293-315.

Spitulnik, D. (2000). Media. *Journal of Linguistic Anthropology, 9(1-2)*, 148-151.

Spivak, G. C. (1988). Can the subaltern speak? In C. Nelson & L. Grossberg (Eds.), *Marxism and the interpretation of culture* (pp. 24-28). London: Macmillan.

Srinivasan, R. (2006). Indigenous, ethnic and cultural articulations of new media. *International Journal of Cultural Studies, 9(4)*, 497-518.

Star, S. L. (1999). The ethnography of infrastructure. *American Behavioral Scientist, 443*, 377-391.

Star, S. L., & Ruhleder, K. (1996). Steps towards an ecology of infrastructure: Design and access for large information spaces. *Information Systems Research, 7(1)*, 111-134.

Statistics Canada. (2007). *How Statistics Canada identifies Aboriginal peoples*. Catalogue No. 12-592-XWE Retrieved from http://www.statcan.gc.ca/pub/12-592-x/12-592-x2007001-eng.htm?contentType=application%2Fpdf

Statistics Canada. (2008). *Aboriginal Peoples in Canada in 2006: Inuit, Métis and First Nations, 2006 Census*. Catalogue No. 97-558-XWE2006001. Retrieved from http://www12.statcan.ca/census-recensement/2006/as-sa/97-558/pdf/97-558-XIE2006001.pdf

Statistics Canada. (2013). *Aboriginal peoples in Canada: First Nations people, Métis and Inuit. National Household Survey, 2011*. Catalogue No. 99-011-X2011001. Retrieved from https://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-011-x/99-011-x2011001-eng.cfm

Statistics Canada. (2017). *Census program*. Retrieved from http://www12.statcan.gc.ca/census-recensement/index-eng.cfm

Stern, S. (2008). Producing sites, exploring identities: Youth online authorship. In D. Buckingham (Ed.), *Youth, identity, and digital media* (pp. 95-117). Cambridge, MA: MIT Press.

Stone, A. R. (1991). Will the real body please stand up? In M. Benedikt (Ed.), Cyberspace: First steps (pp. 81-118). Cambridge: MIT Press.

Strathern, M. (2002). Abstraction and decontextualization: An anthropological comment. In S. Woolgar (Ed.), *Virtual society? Technology, cyberbole, reality* (pp. 302-313). Oxford: Oxford University Press.

Strauss, A. (1987). *Qualitative analysis for social scientists*. Cambridge: Cambridge University Press.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Grounded theory procedures and techniques*. London: Sage.

Stymeist, D. H. (1975). *Ethnics and Indians: Social relations in a Northwestern Ontario town*. Toronto: Peter Martin Associates Limited.

Tomas, D. (1991). Old rituals for new spaces: Rites de passage and William Gibson's cultural model of cyberspace. In M. Benedikt (Ed.), *Cyberspace: First steps* (pp. 31-48). Cambridge, MA: MIT Press.

Tsing, A. (2007). Indigenous voice. In M. de la Cadena & O. Starn (Eds.), *Indigenous experience today* (pp. 33-67). Oxford: Berg.

Tufekci, Z. (2013). "Not this one": Social movements, the attention economy, and microcelebrity networked activism. *American Behavioral Scientist, 57(7)*, 848-870.

Turkle, S. (2011). *Alone together: Why we expect more from technology and less from each other*. Basic Books.

Turner, F. (2005). Where the counterculture met the new economy: The WELL and the origins of virtual community. *Technology and Culture, 46(3)*, 485-512.

Turner, T. (1992). Defiant images: The Kayapo appropriation of video. *Anthropology Today, 8(6)*, 5-16.

Turner, T. (2002). Representation, politics, and cultural imagination in indigenous video: General points and Kayapo examples. In F. Ginsburg, L. Abu-Lughod, & B. Larkin (Eds.), *Media worlds: Anthropology on new terrain* (pp. 75-89). Berkeley: University of California Press.

Turner, V. (1969). *The ritual process: Structure and anti-structure*. New Brunswick: Aldine Transaction.

United Nations (2007). *United Nations Declaration on the Rights of Indigenous Peoples. Resolution adopted by the General Assembly on 13 September 2007, A/RES/61/295*. New York: United Nations. Retrieved from https://documents-dds-ny.un.org/doc/UNDOC/GEN/N06/512/07/PDF/N0651207.pdf

United Nations Educational, Scientific and Cultural Organization. (2017). *Indigenous peoples: Knowledge societies and ICTs*. Retrieved from http://www.unesco.org/new/en/indigenous-peoples/knowledge-societies-and-icts/

United Nations Human Rights Office of the High Commissioner (2013). *Indigenous peoples and the United Nations human rights system, Fact Sheet No. 9/Rev.2*. New York: United Nations. Retrieved from http://www.ohchr.org/Documents/Publications/fs9Rev.2.pdf

van Aelst, P., & Walgrave, S. (2004). New media, new movements? The role of the Internet in shaping the "anti-globalization" movement. In W. van de Donk, B. D. Loader, P. G. Nixon, & D. Rucht (Eds.), *Cyberprotest: New media, citizens and social movements* (pp. 97-122). London: Routledge.

van de Donk, W., Loader, B. D., Nixon, P. G., & Rucht, D. (2004). Introduction: Social movements and ICTs. In W. van de Donk, B. D. Loader, P. G. Nixon, & D. Rucht (Eds.), *Cyberprotest: New media, citizens and social movements* (pp. 1-25). London: Routledge.

Vayda, A. P. (1994). Actions, variations, and change: The emerging anti-essentialist view in anthropology. In R. Borofsky (Ed.), *Assessing cultural anthropology* (pp. 320-330). New York: McGraw-Hill.

Vegh, S. (2003). Classifying forms of online activism: The case of cyberprotests against the World Bank. In M. McCaughey & M. D. Ayers (Eds.), *Cyberactivism: Online activism in theory and practice* (pp. 71-95). New York: Routledge.

Vermeulen, H., & Govers, C. (1997). From political mobilization to the politics of consciousness. In C. Govers & H. Vermeulen (Eds.), *The politics of ethnic consciousness* (pp. 1-30). Houndmills: Macmillan.

Virtanen, P. K. (2015). Indigenous social media practices in South-Western Amazonia. *Alternative, 11(4)*, 350-362.

Warde, A. (2005). Consumption and theories of practice. *Journal of Consumer Culture, 5(2)*, 131-153.

Waskul, D. (2005). Exstasis and the Internet: Liminality and computer mediated communication. *New Media and Society, 7(1)*, 47-63.

Wawatay News. (2016). *About us*. Retrieved from http://www.wawataynews.ca/about-us

Weiner, J. F. (1997). Televisualist anthropology: Representation, aesthetics, politics. *Current Anthropology, 38(2)*, 197-235.

Wellman, B. (1997). An electronic group is virtually a social network. In S. Kiesler (Ed.), *Cultures of the Internet* (pp. 179-205). Mahwah, NJ: Lawrence Erlbaum.

Wellman, B. (2001). Computer networks as social networks. *Science, 293*, 2031-2034.

Wellman, B. (2004). The three ages of Internet studies: Ten, five and zero years ago. *New Media & Society, 6(1)*, 123-129.

Wellman, B., & Gulia, M. (1999). Netsurfers don't ride alone: Virtual community as community. In P. Kollock & M. A. Smith (Eds.), *Communities in cyberspace.* (pp. 167-194). London: Routledge.

Wellman, B., & Haythornthwaite, C. (Ed.). (2002). *The Internet in everyday life*. Malden, MA: Blackwell.

Wellman, B., Boase, J., & Chen, W. (2002). The networked nature of community: Online and offline. *IT & Society, 1/1*, 151-165.

Wesley, S. (2015, January 12). Aboriginal hip-hop connection studied. *Wawatay News*. Retrieved from http://www.wawataynews.ca/home/aboriginal-hip-hop-connection-studied

Whitehead, N. L. (2010). Post-human anthropology. *Identities, 16*, 1-32.

Whitehead, N. L., & Wesch, M. (Eds.). (2012). *Human no more: Digital subjectivities, unhuman subjects, and the end of anthropology*. Boulder, CO: University Press of Colorado.

Wiener, N. (1948). *Cybernetics: Or control and communication in the animal and the machine*. Cambridge, MA: Technology Press.

Wiener, N., & Masani, P. (1985). *Collected works with commentaries. Vol. IV: Cybernetics, science and society; ethics, aesthetics, and literary criticism; book reviews and obituaries*. Cambridge, MA: MIT Press.

Wilk, R. R. (2002). Television, time and the national imaginary in Belize. In F. Ginsburg, L. Abu-Lughod, & B. Larkin (Eds.), *Media worlds: Anthropology on new terrain* (pp. 171-188). Berkeley: University of California Press.

Wilson, P., & Stewart, M. (Eds.). (2008a). *Global indigenous media: Cultures, poetics, and politics*. Durham: Duke University Press.

Wilson, P., & Stewart, M. (2008b). Indigeneity and indigenous media on the global stage. In P. Wilson & M. Stewart (Eds.), *Global indigenous media: Cultures, poetics, and politics* (pp. 1-35). Durham: Duke University Press.

Wilson, C. R., & Urion, C. (2004). First Nations prehistory and Canadian history. In R. B. Morrison & C. R. Wilson (Eds.), *Native peoples: The Canadian experience* (pp. 11-42). Oxford: Oxford University Press.

Wilson, P., Hearne, J., Córdova, A., & Thorner, S. (2014). Indigenous media. In *Oxford Bibliographies Online*. Oxford: Oxford University Press. https://doi.org/10.1093/obo/9780199791286-0229

Wolf, E. R. (1997). *Europe and the people without history*. With a new preface. Berkeley: University of California Press.

Wood, H. (2008). *Native features: Indigenous films from around the world*. New York: Continuum.

Woolgar, S. (Ed.). (2002). *Virtual society? Technology, cyberbole, reality*. Oxford: Oxford University Press.

World Summit on the Information Society. (2005a). *Tunis agenda for the information society. WSIS-05/TUNIS/DOC/6(Rev.1)-E*. Retrieved from https://www.itu.int/net/wsis/docs2/tunis/off/6rev1.html

World Summit on the Information Society. (2005b). *Tunis commitment. WSIS-05/TUNIS/DOC/7-E*. Retrieved from https://www.itu.int/net/wsis/docs2/tunis/off/7.html

Worth, S., & Adair, J. (1970). Navajo filmmakers. *American Anthropologist, 72(1)*, 9-34.

Worth, S., & Adair, J. (1972). *Through Navajo eyes: An exploration in film communication and anthropology*. Bloomington: Indiana University Press.

Wortham, E. C. (2004). Between the state and Indigenous autonomy: Unpacking video indígena in Mexico. *American Anthropologist*, 106(2), 363-68.

Wortham, E. C. (2013). *Indigenous media in Mexico: Culture, community, and the state*. Durham: Duke University Press.

Wulff, H. (2002). Yo-Yo fieldwork: Mobility and time in a multi-local study of dance in Ireland. *Anthropological Journal on European Cultures, 11*, 117-136.

Wyatt, S., Thomas, G., & Terranova, T. (2002). They came, they surfed, they went back to the beach: Conceptualizing use and non-use of the internet. In S. Woolgar (Ed.), *Virtual society? Technology, cyberbole, reality* (pp. 23-40). Oxford: Oxford University Press.

Zimmerman, L. J., Zimmerman, K. P., & Bruguier, L. R. (2000). Cyberspace smoke signals: New technologies and Native American ethnicity. In C. Smith & G. K. Ward (Eds.), *Indigenous cultures in an interconnected world* (pp. 69-86). Vancouver: UBC Press.

APPENDIX

Abstract Deutsch

Vorliegende Dissertation untersucht wie Indigene und Indigene Gemeinschaften Breitbandinternetinfrastrukturen, -technologien und -services im Nordwestlichen Ontario, Kanada, konstruierten, nutzten und weiterentwickelten. Die der Arbeit zugrundeliegende Forschung fokussierte auf (1) geographische, historische und soziokulturelle Kontexte, (2) soziotechnische Infrastrukturen und Beziehungen sowie (3) digitale Praktiken und Aktivitäten, im Zusammenhang mit der lokalen und alltäglichen Aneignung von Internettechnologien. Aufbauend auf ethnographischer Feldforschung im Rahmen eines medien- und digital-anthropologischen Forschungsprojektes analysiert die Arbeit den Fall des Keewaytinook Okimakanak Kuhkenah Network (KO-KNET) und seines Services MyKnet.org. KO-KNET ist eine Organisation, die von First Nations Gemeinschaften gegründet wurde und bis heute von diesen kontrolliert wird. Die Arbeit von KO-KNET zielt in erster Linie darauf ab, die Menschen in den abgelegenen Gemeinschaften des Nordwestlichen Ontario sowohl mit dem Internet als auch untereinander zu verbinden. Außerdem werden den Menschen der Region unterschiedliche internetbasierte Services zur Verfügung gestellt, die vor allem helfen die schwierigen Lebensumstände in den abgelegenen Gemeinschaften – etwa in den Bereichen Bildung und Gesundheit – zu verbessern. MyKnet.org ist ein, vor allem für Jugendliche entwickeltes, Homepage Services, das unter anderem den Erhalt sozialer Beziehungen und Netzwerke auch über größere Distanzen hinweg ermöglicht.

Die Dissertation verdeutlicht, wie digitale Infrastrukturen zur Vernetzung und Verbindung von First Nation Gemeinschaften beitragen und darüber hinaus auch sozioökonomische Beziehungen zwischen Lokalgemeinschaften und Nicht-Indigenen Institutionen ermöglichen. Die Analyse digitaler Praktiken, die in engem Zusammenhang mit der Nutzung der sozialen Online-Umgebung MyKnet.org stehen, unterstreicht die kulturelle und historische Besonderheit von Prozessen der Technologieaneignung in einer abgelegenen und isolierten Region. Als Online-Umgebung, die ausschließlich Indigenen der Region zur Verfügung steht, trägt MyKnet.org zu Interaktionsprozessen sowohl innerhalb der

Gemeinschaften als auch zwischen den Gemeinschaften bei. Da diesen Gemeinschaften noch bis Mitte der 1990er Jahre grundlegende Telekommunikationsinfrastruktur fehlte, können KO-KNET und MyKnet.org auch als Beispiele für den soziotechnischen Wandel in der Region verstanden werden. Durch die konsequente Einbindung der Lokalbevölkerung in Prozesse der Infrastruktur- und Technologieentwicklung, gelang es KO-KNET mittels seiner Services – wie MyKnet.org – auch, die Kontrolle über die Konstruktion, Verteilung und Nutzung von digitalen Infrastrukturen, Technologien und Angeboten zu lokalisieren. Ein Prozess, der wiederum zur Ermächtigung der First Nations des Nordwestlichen Ontario beigetragen hat. Wie die Dissertation zeigt, sind lokale Bevölkerungsgruppen so in der Lage an lokalen, regionalen, nationalen und sogar globalen Prozessen digitaler Konnektivität auf selbstbestimmte Art und Weise teilzunehmen.

Abstract English

This dissertation analyzes the creation, development, and utilization of broadband internet infrastructures, technologies, and services by indigenous people and communities in Northwestern Ontario, Canada. Research focused on (a) the geographical, historical, and sociocultural contexts, (b) the socio-technical infrastructures and relationships, and (c) the digital practices and activities, related to the local everyday appropriation of internet technologies. Grounded in ethnographic fieldwork and framed in a media and digital anthropology project, this work introduces and discusses the case of the Keewaytinook Okimakanak Kuhkenah Network (KO-KNET) and its most mundane internet service MyKnet.org. KO-KNET is a First Nations owned and controlled internet organization and network which was established by a regional tribal council. Its main objective has been to connect the remote indigenous communities in Northwestern Ontario to the internet and with each other. Moreover, the network provides indigenous people with digital services, such as online education and e-health, with the aim to improve living conditions in the remote communities. MyKnet.org is a youth-based homepage system that has been built and developed around communities' need to maintain social ties and networks across great distance.

The dissertation demonstrates how digital infrastructures contributed to the connecting and networking of First Nations people and communities, and how this also enabled and strengthened social relationships between local communities and non-indigenous institutions. The analysis of digital practices that are closely related to the online social environment MyKnet.org emphasizes the cultural and historical uniqueness of process of technology appropriation in a remote and isolated area. As a community-based and community-focused service exclusivity for First Nations people, MyKnet.org contributes to inter- and intra-community communication and interaction. Since the communities had no adequate telecommunications infrastructure until the middle of the 1990s, these developments can also be understood as processes of socio-technical change. By consistently including local populations in processes of infrastructure and technology development, KO-KNET also managed to localize the control over the construction, distribution, and use of digital infrastructures, technologies, and services. This, on the other hand, contributed to the socio-technical empowerment of First Nation communities in Northwestern Ontario. Thus, indigenous people and communities are able to participate in a self-determined manner to regional, national, and even global digital connectivity processes.