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"HEY, THERE'S WI-FI AT CAMP!": REMEDIATING MATERIALITY, LANGUAGE LEARNING, AND DIGITAL IDENTITY WITHIN THE APSÁALOOKE LANGUAGE APP

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KILEY ELIZABETH MOLINARI
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“HEY, THERE’S WI-FI AT CAMP!”: REMEDIATING MATERIALITY, LANGUAGE LEARNING, AND DIGITAL IDENTITY WITHIN THE APSÁALOOKE LANGUAGE APP

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF ANTHROPOLOGY

BY

_____
Dr. Lucas Bessire, Chair

_____
Dr. Joshua B. Nelson

_____
Dr. Amanda G. Minks

_____
Dr. Sean P. O’Neill

_____
Dr. Daniel C. Swan

This dissertation is dedicated to the Apsáalooke People, especially everyone who taught me, shared their stories, invited me for meals, opened up their homes, and guided me throughout this project.

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Abstract

In August of 2015, the Apsáalooke (Crow) Tribe of Montana joined a growing new media movement across Indian Country and released its own mobile phone software: the Apsáalooke Language App. Aimed at Crow language revitalization, this multimedia platform integrates quizzes, games, oral histories, ethnographic descriptions, and archival visual imagery in a free downloadable format for Apple and Android software. This project follows this app over its initial design, roll-out and appropriation in order to craft a collaborative ethnographic exploration of how Indigenous new media is reinventing the basic terms of political advocacy, material culture, and language revitalization. Specifically, this research examines the emergent idioms of inclusion, forms of sovereign action, and projects of material culture digital returns being organized through not only the initial Apsáalooke Language App, but also other forms of new digital media. In doing so, it aims to illuminate new developments in Native America: the ways that the unique properties of decentralized, democratic digital interfaces are quickly expanding the stakes and terms of sovereignty, memory, and engaged anthropological research.

Introduction

I was sitting in a group study room on the 3rd floor of the University of Oklahoma's Bizzell Memorial Library with other graduate students working on a class assignment when I realized that I had not turned my phone on silent. Multiple text alerts sounded in a row and I quickly fumbled around to unzip my backpack and take my phone out in order to see who was trying to get in contact with me all of a sudden. It was an afternoon, sometime in November 2015, making it a little over three months since the Apsáalooke Language App was first released for Apple products. My Crow sister Chelsey had texted me multiple times in a row to ask if I had seen it yet saying that she had kept forgetting to text me to tell me about it. Her texts were full of exclamation points that expressed how excited she was to play around on the app, and I quickly got caught up in her excitement. Grinning from ear to ear and telling my friends, "wait until you see this!," I downloaded the app immediately, and within the course of the next hour before my phone died, explored as many of the different sections and categories of the app that I could. I played the language games and participated in the quizzes in the categories of the words I knew best, and then went onto other categories that I was not as familiar with. Jumping from one category to the next I was excited, eager, and impatient to see everything that the app had to offer as fast as I could.

Feeding off of my own enthusiasm, I played with the categories without headphones on so that my friends, willingly or not, could also participate with me until they had to get back to work, and I continued to interact through the interface on my own. I would stop, though, numerous times, to have them listen to a familiar voice and

tell them about the person speaking, or to show them an image and share a story I had been told about the person. I also played some of the song recording out loud for them to listen to, and I remember that was something they were interested in the most because I could hit play and then put my phone down and we could all continue to work with them playing in the background. I immediately texted back and forth with Chelsey and then later in the day I reached out to a few other people in Crow to see if they were using the new app, too. I could tell that everyone was equally as interested and happy about its release to the public as I was.

I realized that I wanted to learn more about the entire process of the Apsáalooke Language App: starting with the initial thoughts that went into its development, through the design and content layout, to how it was being used by tribal members. In doing so, I recognized the importance of, and the potential that, this form of new digital media had in not only the task of language revitalization, but also the way it could be used as a vessel for material culture digital returns and shared memories. Furthermore, I thought about the role that this app would play among different generations of language learners, and how topics such as kinship relations and cultural protocols would have to now be explored with this new digital media technology currently available to be downloaded by thousands of people.

I understood that the Crow Tribe had been working on language revitalization efforts and had a printed dictionary that came out in 1987, which was the second edition from one that was published in 1979. If one did not have it on them at the time they were trying to look up a word, though, they would not be able to find it. The Apsáalooke Language App, then, opened up new doors in the category of language

revitalization efforts acting as a medium for the Crow language to be accessed on a person's phone or tablet whenever it was needed. I was curious to see if this app was the first of its kind, or if there were other apps from different Tribes or First Nations in the Apple App Store that had also produced their own language apps. A quick initial search in the Apple store shows that there are at least 15 language programs that are currently available from Thornton Media Inc., representing Native American Tribes and First Nations across North America. Therefore, this dissertation looks at the Apsáalooke Language App within a greater movement in Indian Country showing the spread of Indigenous new media across North America.

The Apsáalooke Language App

The Crow Language Department chose Thornton Media Inc. because they had first seen their software at an education conference years earlier. The process is a week long, where staff from Thornton Media Inc. traveled to the Crow Reservation and spent four days recording the audio, putting the language onto the software, taking the photographs, and developing initial parts of the Apsáalooke Language App so that the community could see some of it before they left. It was a quick process, but from what I was told it was efficient, in part because the Crow Language Department had to have the majority of their language documents ready to go for when the Thornton Media Inc. team got there.

Of the 15 language apps produced by Thornton Media Inc. that come up in an initial search, each one has its own color scheme, background images, and pictures of people from their communities. Most of the apps all have the same four categories on

the main screen, but some, like the Denesuline Language App, do not have a "Culture Notes" category. From what I learned in interviews, the Crow Language Department felt that it was important to take advantage of the Culture Notes part of the app and acknowledged that it was crucial to be included along with the language learning components because language and culture go hand in hand. All of the apps have an age rating of 4+ years old so they are purposely built in order to engage the youngest of the youth who are just starting to learn their tribe's or First Nation's language.

All of the apps are free and open to whoever wants to download them and learn that specific culture's language, except for two. The Passamaquoddy Tribe at Indian Township and the Passamaquoddy Tribe at Pleasant Point have their app set up specifically for tribal members only to use in order to "learn the language and keep it alive" (Apple App Store Accessed February 18, 2018). Therefore, a code and pin are required in order to open the app and see the content. On the home screen of this app is a message to contact the Passamaquoddy Tribe in order to get the pin to use the app. The other Tribe that has their app set up specifically for tribal members is the Prairie Band Potawatomi Nation, which has a similar set up for an access code and pin in order to use it. This allows the tribe to control who has access to the content of their app and gives them the advantage to protect the information that they put on the software. Therefore, those who chose this option have the ability to assert their control over their own cultural property and privacy through monitoring who has access to the content.

Many of the Tribes and First Nations also note in the preview of their app on the Apple app store that they are there to help the user learn their language and keep it alive, that the words and phrases are recorded by fluent speakers, and that their

community holds the rights to all of the content, with Thornton Media Inc. releasing the app on their behalf. Many of the apps also have ratings, including the Apsáalooke Language App, which has 4.4/5 stars with 7 different ratings.[1] The reviews consist of short phrases such as "awesome," (with the fire emoji), "Great app," and longer reviews, with one that writes, "Love this app. It helps my children learn the language. I wish some of the pronunciations were slowed down to make it easier to understand. If you're not with someone who speaks it fluently it's hard to get the right pronunciation. Otherwise it's great" (Apple App Store Accessed February 18, 2018). Another slightly longer review from a year ago states that,

> This app is a great introduction to the Crow language as well as the culture. It is easy to use and replay is very smooth, which is very useful for practice. You won't get fluent from this alone, I'm not even sure you will become conversational, but because it sticks to the basics, it's not overwhelming or intimidating. (Apple App Store Accessed February 18, 2018)

Even though this last review acknowledges that using the Apsáalooke Language App will most likely not make you fluent in the Crow language, we can see from the four above reviews that the response has been generally very positive for both adult and children interested in learning the language.

Exploring the Apsáalooke Language App: Language

The Apsáalooke Language App can be downloaded from the Apple or Android store free of charge by searching that exact name. It has a light blue background with the Crow tribal seal right in the middle. Opening up the Apsáalooke Language App the

[1] The one person who did not give the app 5/5 stars gave it a 1 star review 3 years ago because they could not download the app.

user will see a light blue background similar to the color of blue seed beads that are used so frequently in Crow beadwork and regalia. The right side of the screen has four categories starting with "Language," then "Culture Notes," a "Search" function, and then a "Credits" section. To the left of the four categories is an image of Joe Medicine Crow taken less than two years before he passed away. He stands proudly with a Plains style war bonnet beaded with the colors and geometric shapes that are so prominent to the Crow Tribe as well as wearing a green Army jacket, possibly his own, donning his World War II medals.

When clicking on the "Language" category the screen takes the user to 17 different topics ranging from animals to numbers, transportation, phrases, kinship, and questions. Once the user picks a topic that image can be clicked on and another screen then opens that looks similar to the home screen. This screen then has three categories: learn, games, and quizzes. The learn section has a range of different words associated with the specific topic where the user can click on them in English, then hear the word spoken in the Crow language, as well as see the word at the top of the screen written in the Crow language. The controls at the top let the user replay the word, record themselves saying the word, and then hear the word that he/she recorded again. This feature helps the user to pronounce the words right after they hear them, and then to play them back and listen to their own voice saying the word.

When clicking back out to the topic page from where the user clicked learn, they can move to games, where they will get another screen of categories including easy,

medium, and hard. Clicking on those will give the user a quiz involving four pictures that drop down with the correct word spoken in the Crow language for each one as it

Figure 1. Screenshot of the Home Screen of the Apsáalooke Language App- By Kiley Molinari

comes onto the screen. Then the speaker will announce the Crow word that the user is suppose to match to one of the pictures in order to participate in the quiz. If he/she chooses right, they get a green thumbs up and 5 points as well as Birdie Real Bird announcing "*Eh, itchik*!" which means, "Yes, good!" If he/she chooses the wrong picture to match the Crow word then they get a red thumbs down and someone announces, "*kalachiichiisshichih*" which means "try again." The user has the chance to play five times, totaling a max score of 25 if they get them all right. After he/she is

finished with the quiz they can even email the score to someone to let them know how they did.

The last of the main language topics are quizzes where the user can take either a listening quiz where the recorded person speaks the word in the Crow language and he/she drags one of the four pictures down into the mouth of a little blue monster. The monster either eats the word and gets mad that they got the word wrong, sounding a buzzer reminiscent to the end of a basketball game, or it eats it and says "Yeah!" in a child's voice and gives them 5 points. The speaking quiz starts with a picture and the user has to say what that picture is in the Crow language, record themselves, and then they can click on the button that looks like a speaker to hear how it should be pronounced to see if they got it right or not. This one is more on the side of the honor system and the user can either give themselves a thumbs up or down. Lastly the final quiz is a reading quiz where the user has a picture and then four options of words written in the Crow language to match it with. This tells them the "yes," or "try again" commands from the games section and he/she can play for 5 guesses in this game as well.

Exploring the Apsáalooke Language App: Culture Notes

Once the user is done exploring the "Language" category, they can back out to the home screen and click on the "Culture Notes" category. Since having a section on Crow culture, as well as language, was important for the Crow Language Department in the development of this app, much can be learned from exploring the "Culture Notes" section as well. From the home screen after clicking on the "Culture Notes" section, it

is then broken down into three more categories: Audio, Video, and Images. The audio section has 18 songs recorded at the time that Thornton Media Inc.'s team traveled to Crow Agency for a few days to get all of the content for this app. There is a lullaby, victory songs, the Crow Flag song, district songs, two Pushdance songs, as well as a

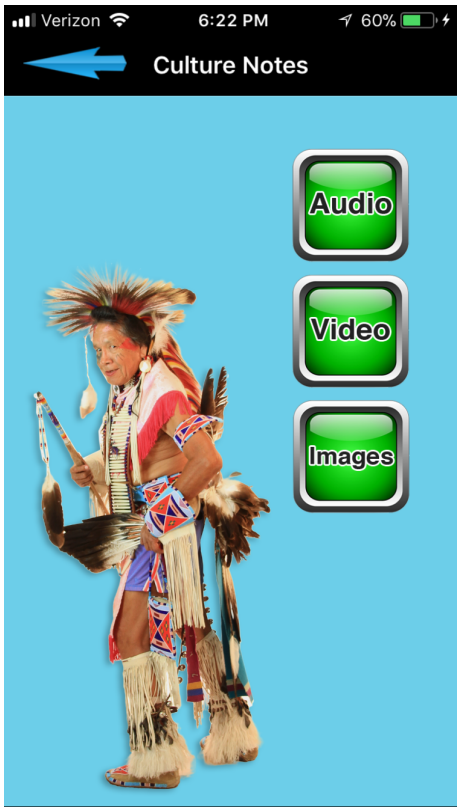


Figure 2. Screenshot of the Culture Notes Section of the Apsáalooke Language App- By Kiley Molinari

recording in English and the Apsáalooke language describing the different pieces of men's regalia. There are 18 different audio recordings and the names of who recorded them in the title. Once the user finds one they want to listen to, they can enter another screen where they can push play and listen along.

The video category has one video from Crow Fair in 1976. While it is not the best quality, it can be enlarged to the entire screen or watched in the app format. As the black and white images go by on the screen the emcee can be heard announcing people as they ride across the view of the camera, stating their names, sometimes their ages, and what they are wearing or what their role is in Crow Fair. This film is just over 10 minutes long. This video arguably draws the attention of people across generations as much as the language-learning portion does. I have heard the emcee announcing the video and have gone into the other room to find that my nieces and nephews, ranging from just under three years old, all the way up to thirteen, were watching this video. I have also sat down and watched the video with people my own age, as well as elders, to hear what they have to say about seeing people that they knew/know ride across the grainy video on their phones.

Lastly, in the "Culture Notes" section is the images category where there are 57 historic and contemporary photographs depicting mostly Crow Tribal members and different landscapes across the Crow Reservation. The most contemporary images are of the Tribal Chairman, Darrin Old Coyote; the Vice Chairman, Dana Wilson; Secretary, Alvin Not Afraid Jr.; and the Vice Secretary, Shawn Backbone Sr., who were all in office at the time the app was developed. The rest of the historic photographs date back to as early as 1871 where an image shows "Crow women gathered at Fort Parker, the first Crow Agency" (Apsáalooke Language App Accessed March 10, 2018). There is also an image of the Crow Tribal flag with a breakdown of the symbolism of each component of the seal and the significance of the design for Crow People. Not only has this personally helped me in the past so that I would not have to continue to ask people

when I forgot what an image represented, but it has also helped children for school projects at Crow Agency Elementary School.

The entire Apsáalooke Language App has a wide range of topics and covers the interests of many people who either want to learn the Crow language, want to refresh their knowledge of it, or want to learn a bit of information on Crow history and culture through audio, video, and image files. The Apsáalooke Language App was a combined effort from not only the Crow Language Department, but also other members of the tribe as well. One individual does not make the society; the collective group and the landscape they live upon all contribute to the society as a whole.

The Crow Language Department made sure that there were sections added to the Apsáalooke Language App specifically for animals and "Surrounding Areas." The animal section alone has close to 90 different words associated with animals, including ten words related with various terms describing horses, such as a parade horse (*iilaanniiluuiichiile*), a child's horse (*baakaatakchiia*), and a wild horse (*iichiililisshite*). The "Surrounding Area" section has 55 words ranging from places on, or near the present day reservation, to places that have a religious significance such as Medicine Wheel (*Annashisee*), and a word for the Crow community as a whole (*ashkootaa*). The importance of just these two categories can be seen in the roughly 150 words combined between them. The interface of the Apsáalooke Language App itself reflects more than just language learning; instead, it is structured to emphasize the importance of cultural protocols as they relate to the appropriate relationships with the landscape, environment, and nonhuman beings (Basso 1996; Bender 2002; Cruikshank 1998; Ingold 1993).

This holistic app, then, combines parts from both the Language and the Culture Notes section in order to craft a well rounded digital platform of what the Crow Language Department saw as the most important words, phrases, songs, and photographs for the public to learn from. In doing so, the Apsáalooke Language App speaks to many people's interests through its language and culture components, integrates different levels of learning for all ages, and most importantly engages Crow Tribal members to become, or continue to be, interested in the Apsáalooke language.

Language Revitalization Efforts

Around the time that the Apsáalooke Language App was released a billboard was put up along the side of Interstate 90 heading west towards Billings. It depicts a little girl with the words, "Kaale (Grandma) speak Crow to me," and a language retention statistic stating that 34% of the Crow Tribe in 2015 were fluent in the Apsáalooke language. This billboard calls to attention the Crow Tribe's acknowledgement that the Crow language was not spoken as much as it used to be and something had to be done to improve this statistic. At first some of the people in the Crow Language Department stressed that they thought technology was actually hurting their language because everything the youth were doing was in the English language instead of the Crow language. At that time there was no technology, or other media forms, aimed at language learning available that focused on, or were programmed in the Apsáalooke language. In time, though, the Crow Language Department decided that they had to try to do something in order to get the youth, in particular, involved in language revitalization. This is where the initial thoughts of new digital media technology, such

as computer software, or an app came into play. In doing so, there was a hope that using new media technology, such as a cell phone or tablet app, would make learning the language more appealing to the youth. An easily accessible form of new digital media would also become more reachable to members of the Crow Tribe that do not live on the reservation anymore, and who cannot practice their language as often as they might like.

I have heard stories from tribal members who have moved away from the Crow Reservation expressing how happy they were hearing their language again. One example was a chance encounter at a store far from the Crow Reservation where the person heard someone speaking Crow and went running down the aisle. Another example was the first time someone found out about the Apsáalooke Language App and then used it to show their children because they had never lived around Crow speakers. Another individual spoke to me about how they used the Apsáalooke Language App to show off their language to other people to promote their tribe's technological progress in language revitalization efforts. I have also seen posts on Facebook and Instagram from tribal members who do not live in Montana any more and who have expressed how happy they were to share the app, and their language, with their children. We can see the importance of the Apsáalooke Language app through the above examples of its use between adults and children across not only the Reservation, but also the United States. Based on the stories that were told to me, or images and text shared on social media, most of the happiness coming from the Apsáalooke Language App was centered on the opportunity for kids to become more engaged with the Crow language.

With the language fluency dropping down to close to a fourth of what it was forty years ago, the language department knew that something had to be done to get the younger people in the community to become involved again with language learning. While children are using the app mainly for the games, many adults are using it to check spelling and pronunciation, and non-tribal members who live in the area, or are working with the Crow Tribe in a variety of ways, are also using the app to learn phrases that would help them interact with people they see everyday. Now the app, which initially cost $30,000[2] for Apple devices and another $15,000 for Android devices, has been downloaded about 3,000 times since its release.

The Crow Language Department understood that by using a digital platform, which they designed themselves to engage the youth, who were already so dependent on technology, they would be taking back control of how their language would be taught to current and future generations. Knowing that they had the final say over the selection of words, phrases, photographs, and songs that would be included in the final Apsáalooke Language App, the Crow Language Department was able to decide which words, phrases, and other content were the most important in the initial steps of language revitalization and retention efforts. I have been told by many different people in Crow that families who have at least one fluent Crow speaker still have a high level of language retention within their families. In the past few years the Crow Tribe has taken major steps towards not only language retention, but also revitalization especially

[2] The first $30,000 was secured through the Montana Indian Language Preservation Pilot Program in 2013 which then supported the initial development and release of the Apsáalooke Language App on Apple software for iPhones and iPads. The $15,000 to develop the Apsáalooke Language App on Android software was raised by the Crow THPO in the Fall of 2015.

among its youth, Crow language classes for students at Little Bighorn College, as well as evening adult language classes.

The term survivance comes from author Gerald Vizenor, when he combined the words "survival" and "resistance." As Indigenous theorist Linda Tuhiwai Smith (Ngati Awa and Ngati Porou) writes, "survivance accentuates the degree to which indigenous peoples and communities have retained cultural and spiritual values and authenticity in resisting colonialism" (Smith 2012:146). The Apsáalooke Language App can be seen as a central form of reworking survivance. It acts as another way to negotiate the constraints of the colonial system by allowing the design and production process of the app to be directed by the Crow Tribe. While there were basic guidelines to the software, the Crow Language Department was able to choose the images, songs, words, questions and phrases that they felt were the most important and wanted to include in the final Apsáalooke Language App.

My Changing Role

The Crow, or *Apsáalooke* people, have lived across the Great Plains of what is now the United States and southern Canada for thousands of years. The word *Apsáalooke* commonly translates to "children of the large beak bird," but European settlers and traders mistook this for translation for "Crow." The present day Crow Reservation is located in the southeastern corner of the state of Montana and extends south all the way to the Wyoming state line, and continues northeast to where the Northern Cheyenne Reservation begins. Of the seven Native American reservations located in Montana, the Crow Reservation is the largest, consisting of roughly 2.2

million acres of beautiful grasslands, rivers, and mountains split into six legislative districts: Wyola, "Mighty Few," or *Iikooshtakaatbaatchaache*, Lodge Grass "Valley of the Chiefs," or *Aashbacheeitche*, Reno, "Center Lodge," or *Ashkualee*, Black Lodge, or *Ashshipite*, Big Horn, or *Isaxpuatahchee Aashe*, and Pryor, "Arrow Creek," or *Baahpuuo*; *Aluutaashe* (Molinari 2013). Currently there are approximately 13,000 enrolled tribal members living on and off the reservation (Crow Tribal Website Accessed 9/22/17).

I conducted most of my field research in Crow Agency, one of the larger towns on the reservation. It is home to Little Big Horn College, the Crow Tribal legislative, executive, and judicial offices, the Cultural Office, Tribal Historic Preservation (THPO) Office, Language Department, Indian Health Services, including a hospital, multiple family run businesses, an elementary school, at least two denominations of religious institutions, and a casino. It is adjacent to Interstate 90, and on the Highway 212 route to not only the Little Big Horn Battlefield National Monument and the Northern Cheyenne Reservation, as well as being considered the shortcut to Devils Tower, and Mount Rushmore. Crow Agency is not only home to hundreds of Crow tribal members, but it is visited each year by thousands of tourists visiting Little Big Horn Battlefield, just passing through, or interested in public events happening on the Crow Reservation, such as Crow Native Days and Crow Fair.

I first came to the Crow Reservation as one of those tourists when I began working as an intern at the Custer Battlefield Museum in Garryowen, Montana, in the summer of 2010. After that summer I continued working with Crow Tribal members when I began my Master's program at the University of Idaho in the fall of 2011 where

I researched the adaption and adoption of Crow beadwork and regalia from pre-reservation life to the 21st century. Having been told stories about the relationships that many researchers had on the Crow Reservation, where they came, conducted their research, and then left, never to be heard from again, I knew that I did not want to be one of those researchers. When I entered the PhD program at the University of Oklahoma I knew that I wanted to still wanted to be involved with the Crow Tribe and as I continued to work with them on this collaborative dissertation project I had a slightly different role now as a researcher, as opposed to when I was first working on my MA thesis research.

During Crow Fair, on August 17, 2012, Frances Knowshisgun adopted me into her family. I was given a Crow name by her aunt, and my kaale (grandmother) Zelda DeCrane: *Baaluupialeedashe*, one who gets along with everyone, has no prejudice, has no hate. With this name I became a member of a clan, Ties the Bundle, and a teasing clan, which made me a child of the Whistling Water; I gained a large adopted family full of nieces, nephews, cousins, sisters, brothers, grandparents, aunts, uncles, as well as another mom and dad. This name also brought different types of responsibilities, a new role to play, and certain things that were then expected of me. I had a lot of things to learn between 2012 when I was adopted, to when I began my dissertation field research in 2015. There were certain cultural protocols I had to make sure I followed now that I was an adopted member of a Crow family. Two of the most important were making sure I was dressed in a certain way, as well as knowing people who I could talk to and those I probably should not talk to out of respect for my familial relationships. It was not easy at first, but in order to continue researching in a respectful and ethical way, I

had to talk to my Crow mom and sisters on many occasions to make sure I was following all of the cultural protocols that they wanted me to.

Throughout the last six years I have been there to celebrate graduations, birthdays, births, baptisms, awards, and new jobs. I have had to mourn the loss of my kaale Zelda when she passed away last year and have attended funerals for other tribal members close to the family. I have had the duty of picking up my niece, nephews, and cousins from school, or from relative's houses, or shared my car so that they could get to school when all of the other cars were stuck in the muddy front yard after days of rain. I have helped to get horses down the road, peeled teepee poles, finished leggings in a hazy rush before Crow Fair, made my first pair of moccasins and gave them to my nephew when he was 4, shoveled rocks into the fire to get them ready for sweat, picked chokecherries for making Indian pudding for a baby's first steps, sat through basketball tournaments, attended Handgames and powwows, and been the brunt of lighthearted jokes about the "white" way that I do things.

In a few months two of my nieces and one of my nephews will be flower girls and a ring bearer at my wedding, and I know long after my graduate school is finished my relationship with my family will not change. I will still be making trips to Montana as often as I can even if it is not for three months every summer because I will always remember the day my Crow mom told me that she had talked to my sisters and they all had agreed that they were going to adopt me into their family. At the time I did not know anything about the process; the only adoptions I had been familiar with were legal adoptions of children, usually babies, into families for various reasons. I remember her telling me that it was something they did not take lightly and she wanted to know if

after I was done with my research if I was going to leave and not come back. I told her no, and I meant it.

Shawn Wilson (Opaskwayak Cree), emphasizes in his book *Research is Ceremony: Indigenous Research Methods* his concerns about researchers working with Indigenous peoples and the bond that they need to establish with them during, as well as after, their research in the community. Wilson explains that, "this is how Indigenous communities work—a key to being included is not only [about] work that you have done in the past but how well you have connected with others in the community during the course of your work. Thus the strength of your bonds or relationships with the community is an equally valued component of your work" (2008:81). As many of us who work within Indigenous communities know, our connection, our bond, with the community is pivotal for us to both gain and earn respect among the people we are working with and this is something I did not take lightly. I have learned from both Indigenous scholars and current anthropologists that the bond that is established with the community one is working with cannot end when that research is done (Absolon 2005; Archibald 2006; B. Medicine 2001; Deloria 1981, 2002; Speed, 2006; Tallbear 2014). These relationships cannot be ignored and forgotten, but rather embraced for life.

In Margaret Kovach's (Nêhiýaw and Saulteaux) book, *Indigenous Methodologies: Characteristics, Conversations, and Contexts,* she writes about the benefits of being reflexive, stating, "Indigenous methodologies prompt Western traditions to engage in reflexive self-study, to consider a research paradigm outside the Western tradition that offers a systematic approach to understanding the world"

(2009:29). During my MA research with the Crow Tribe, practicing reflexivity as a prominent research method was one of the more important things I could have done; learning how to bead taught me so much more than I could have ever imagined or learned from available literature. Sitting down and really listening to what people are saying about beadwork as someone practices a project at the same time gives someone the chance to really experience something that they might only have physically seen being done up until that point as a participant observer. Therefore, looking back at one's own experiences in order to write about the project places a greater emphasis on the collaborative work that can be done through anthropological research (Fluehr-Lobban 2008). Reflecting back on my time spent with the Apsáalooke Language App, from being taught by some of the developers, all the way down to playing the language games with kids gave me a behind the scenes look at how it was being received and experienced by the Crow Tribe. Seeing the Apsáalooke Language App through their point of view allowed me to understand it in a new way. As Mazzarella writes, "a medium is also a reflexive and reifying technology" (2004:346). Different forms of technology can be constructed or used in many different ways, allowing the developers to take something that they wish to see on the platform of new digital media and make it happen with the right tools. The Apsáalooke Language App serves as a good example of a form of Indigenous new media that begins to introduce language learning through a cell phone or tablet app and stands as a tool for practicing reflexive techniques throughout my fieldwork.

Methods

The importance of this reflexive and collaborative aspect of research stayed in the back of my mind as I was starting my dissertation research and followed me into the field once again. During two years of working on this dissertation project, I spent 11 months living on the Crow Reservation. Those months were spent conducting dozens of semi-structured interviews, sitting in on cultural office and cultural committee meetings, helping out with language documents in relation to the Apsáalooke Language App, aiding the head of the Language Department with outreach activities, and observing the Apsáalooke Language App in use among numerous members of the community, including a range of generations of people interacting with the technology. In what follows I will go into further detail on the different research methods I had for this dissertation.

To give an example of a meeting that I attended was of a 107 group meeting on August 9, 2016, where I was able, maybe for the first time, to understand just how large the age gap of fluent Crow speakers were on the reservation. There were roughly 100 elders there who were all fluent in the Crow language, while most of the children and grandchildren that were there with them were not fluent. The 107 meeting is for elders in the Crow Tribe to get together monthly, or weekly, in order to discuss issues that are happening on the reservation. Generally it is a time for elder men and women to get together, have breakfast, and talk among friends about whatever the topic for the day is. The meeting that I attended was about the Apsáalooke Language App, as well as a new language curriculum that the Crow Language Department was trying to develop for that upcoming school year.

While the majority of the meeting was in the Crow language, and I did not know nearly enough to understand exactly what everyone was saying, a few of the elders who I knew, and with whom I was sitting, took the opportunity to translate anything someone said they thought was particularly important for me to know. This was about 50% of the time, usually following a room full of laughter, and the humorous thing that someone said was explained to me.

I was able to also find out, though, that some of the main points that were discussed ranged from how some of their grandchildren who do not live on the reservation are still using the app, how Hardin High School, which is the first town off the reservation, may be establishing a pilot program for Crow language using the app this year, and that practice makes perfect. Since the recordings on the app can be played over and over again, you can continue to click on the words or phrases and practice saying them repetitively in order to learn the correct pronunciation as well as spelling. The elders also talked about how they noticed that songs could also be learned this way because kids are playing them on repeat in order to learn some that are on the app.

One of the common thoughts that many of the elders in the meeting were talking about was the fact that when kids, or adults, were learning the language mistakes were okay to make. A few people talked about instances where they saw someone trying to pronounce words in Crow and people were laughing at them because they sounded different. There should be "no laughing at the learner." If someone was trying to learn their language they should be able to without feeling embarrassed. An elder mentioned that they thought the app was beneficial in this way because they could put headphones in and listen to the words or songs as many times as they wanted and continue to

practice without anyone really knowing what they were doing so they would not have to be embarrassed.

As part of my methodology I also conducted semi-structured interviews where I let the person review the transcription if they wished to do so so that they could change anything, or give me their approval. In some instances some of my interviewees wanted certain things taken out, or names omitted. Sometimes this happened when side conversations took place while I was still recording, other times I was asked to stop recording if someone came in and the conversation naturally fluctuated to the Crow language. While I was not able to understand much of what was being said, nor had the ability to transcribe it, there were conversations happening in the cultural office on sensitive topics and they did not feel comfortable with them being recorded. A few times I was told the reasoning behind this, generally families protecting places they would go to pick berries, wild vegetables, or hunting spots, while other times I just sat patiently until the visitor had left and we continued with our interview. Still, though, my recordings are filled with un-transcribed Crow conversations about topics such as food, Hardin basketball, Native Day's rodeo, swatting flies, meeting at the casino, and yelling at kids, or dogs to get out of the building.

Along with sitting in on meetings, I helped organize two public talks, as well as numerous discussions, to share archival and museum collections information with people on the Crow Reservation. This dissemination of our research stemmed from our Recovering Voices community visit to Washington D.C. in March 2016, where I and four Crow Tribal members traveled to examine Apsáalooke material culture objects, language archives, and photographs in the Smithsonian Collections. One way to open

up access to museum collections is by bringing components of collections back to the communities (Bell 2008) or bringing individuals from communities to the collections to see their objects (Fienup-Riordan 2005, Krmpotich & Peers 2013, Matthews 2016, Philips 2011). Within a month of being back on the Crow Reservation, myself and one of the Recovering Voices group members, Dana Old Coyote, presented at Little Big Horn College Library as part of their lecture series for both the public as well as students, and on other occasions we presented for the cultural committee and cultural office to share information. We also set up a booth at Crow Fair in 2016 in order to hand out print copies of the archival material, collection objects, and photographs that were printed when we got back from our Recovering Voices trip. We felt that taking the step to hand out print copies of our digital content allowed us to disseminate what we found as soon as possible while we worked on a digital platform for the material.

Along with participant observation as well as conducting interviews while living on the Crow reservation, I spent time researching in archival and museum collections around the country including the following: National Anthropological Archives (NAA), the National Museum of the American Indian's (NMAI) Cultural Resource Center, and the National Museum of Natural History's Museum (NMNH) Support Center, all in Suitland, Maryland, the National Archives and Records Administration and State Department's Diplomatic Reception Rooms both located in Washington D.C.; the Little Big Horn College Library Archives in Crow Agency, Montana; and the Sam Noble Museum of Natural History in Norman, Oklahoma. All of the research in the museum collections helped add to the overall collection of historic photographs as well as digital copies of material culture objects that were brought back to the Crow Tribe.

Some of my research in the above museums was conducted together with Crow tribal members, which helped to add even more information to the initial documents before they were brought back for the larger collective to view. In the National Anthropological Archives, our Recovering Voices group sat together and went through different language documents, with the three who were fluent in Crow offering their insights into the almost 160-year-old material, sharing a few laughs at the phonetic spelling of many of the words.

While we looked at many things as a group, there were certain objects that the group members were most interested in finding more information about. One group member, Linda Little Owl, while looking through photograph collections of Crow Tribal members from the late 19th century and early 20th century, found an image of her great-grandfather and began sharing stories with us that she had been told about him. She had never seen that specific image before and she immediately took out her phone to take a picture of him in order to text back to family.

One afternoon we also walked through some of the older Crow material culture objects at the NMNH support center in Suitland, Maryland, where Dana taught us about the components and construction of a Big Horn Sheep bow that he hoped to try to make again when he got back to Crow. Karis Jackson also spent time looking at the construction and layout of women's buckskin elk tooth dresses and beaded blanket strips that she thought might help inspire some of her projects when she got home. Pictures were taken of all of the objects in order for everyone to still remember the specifics once we left, thus, starting the contents of our digital "pocket archive" project. Once everyone's images were sent to me via email, Facebook Messenger, and texts, I

was able to start forming a folder to upload onto Dropbox for everyone to have access to. I like to call it a "pocket archive" because I picture it as software on a smartphone, such as an app, that can act as an archive for material culture objects, language documents, and historic photographs. This platform then has the ability to become easily accessible by just taking your phone out and clicking on the app, thus, opening up an archive of information that normally you would have to travel to the institution, collection, or repository to view. This "pocket archive" then gives Indigenous peoples the chance to see collections associated with their communities at any time that they need to reference something.

Going through museum and archival collections in real time with tribal members offered a firsthand insight into Crow material culture and historic photographs that

Figure 3. Dana Old Coyote looking at a women's dress in the NMAI collection. Photograph by Kiley Molinari

could not have been achieved in any other way. Using museums and archives as fieldwork sites has been reconceptualized in recent years, therefore considering the life

of objects before they came into museum collections (Bell 2013; Gosden et al. 2007; Harrison et al. 2013; Isaac 2007; O'Hanlon 1993; Price 2007; Zeitlyn 2012). One way to better understand this, then, is to look through museum collections with tribal members.

Building on the sometimes critical histories of archives and museums we can use this history to consider the changing role of knowledge systems and their ability to shape museum collections (Ames 1992; Bowker & Star 1999; Isaac 2007, Silverman 2015; Stoler 2009; Turner 2016). When a museum collection or archive acts as a field site for tribal members to view historic photographs, language documents, and material culture objects, they get to explore what is most important for them. As part of our Recovering Voices Group, the members were interested in the Smithsonian's collections for a variety of reasons, some of which were: making objects in the "old way" again, finding more information for a children's book, looking at beadwork to inspire their own beadwork projects, and most importantly sharing, through new digital media, the information they found with their families and friends back in Montana.

Contribution to the Literature

This dissertation explores the Crow Tribe's changing dialogue on new digital media technology over three years. In doing so, it tracks the process of the Apsáalooke Language App through the stages of development and use. This starts with the initial thoughts and feelings of some members of the Crow Language Department who were unsure if technology was the right answer for language revitalization efforts (Eisenlohr 2004; Garcia 2014; Hinton 2013; Meek 2010). Joshua Nelson's idea of progressive

traditions can also be understood in relation to language technology, and how the Crow Language Department worked to accept both the progress of technology being used in a new and innovative way alongside one tradition of continuing the use of the Crow language among the youth (Nelson 2014). The Apsáalooke Language App then addresses tribal members' concerns about who controls the content once it is on the app software (Anderson 2005, 2010; Anderson & Christen 2012, 2015; Brown 2003; Cameron 2007; Christen 2005, 2007, 2011, 2013, 2015; Coleman 2010; Fox 2014; Kirshenblatt-Gimblett 1998; Lucas 1996. Philips 2003). Continuing on, this project studies how new digital media technology brings up new, hard to answer questions surrounding kinship relations (Frey 1987; Lowie 1983; Fisher 2009). Finally, this dissertation explores how language and time intersect, as well as the remediation of intergenerational teaching roles using new digital media technology through the Apsáalooke Language App (Bolter & Grusin; Gershon 2010; McCarthy 2007; Novak 2010 O'Neill 2008).

Ultimately this study examines what is at stake in the planning, development, implementation, and adoption of the Apsáalooke Language App. By exploring a smart phone or tablet app in relation to Indigenous new media, this dissertation tracks different aspects of the Apsáalooke Language App as they relate to the Crow people. Therefore, each chapter describes the significance of different components of the Apsáalooke Language App through analysis of its contents, its use in the community, and the different questions, as well as concerns, that came up surrounding Indigenous new media throughout my research. In doing so, I ethnographically examine this new

digital media app on and off the Crow reservation by observing its use and interviewing people who helped develop it.

Community media started as a grassroots effort to give voice to groups of people working with different media across the world by exploring the process in more of a collective manner (Howley 2005, 2013). It followed a similar trajectory as alternative media (Atton 2014), but shifted from the term alternative to a more inclusive one, community. While the notion of community media was being practiced earlier, it became a more widely used concept, and term, around the turn of the 21st century and encouraged scholars in the field of media studies to examine a new aspect of the communities they were working with. The field of citizens' media, a term most commonly associated with Clemencia Rodriguez (2001), is similar to community media in the way of collaboration being a method that many scholars in the field use to gather their research (Pettit, Salazar & Dagron 2009). Citizens' media scholars understand that communities are best looked at through longitudinal studies, meaning that a researcher should know the history of the community they are working with before they begin their work. Analyzing the Apsáalooke Language App for three years, I understood that time needs to be taken when new media is first introduced in order to study its interaction within the community (B. Anderson 1999; Howley 2005; Magallanes-Blanco 2008; Silverstein 1992). How, this dissertation asks, is the Crow Tribe using this new digital media to further various opposed political, economic, and cultural protocols, and what is at stake for people in this process? In doing so, the dissertation makes a larger argument about how Indigenous new digital media technologies offer innovative perspectives on concerns with sovereignty, language revitalization, material culture

digital returns, and subjectivity (Biehl 2001, Biehl et al. 2007; Bourdieu 1977; Das 1996; 2001; Fischer 2003; Geertz 1973; Ortner 1999; Povinelli 2002; Stoler 2005; Tsing 2005). [3]

My dissertation adds to the literature surrounding sovereignty within Indigenous communities by examining the Crow Tribe's use of the Apsáalooke Language App. Scholars have studied Indigenous sovereignty within anthropology through film, resistance to government or change, sexuality, economics, corporations, the land, and material culture among others (Cattelino 2008; Coffey & Tsosie 2001; Dennison 2017; Dowell 2013; Field et al 2008; Gilley 2006; Kramer 2006; Raheja 2007, 2010; Ramirez 2007; Simpson 2007, 2014). The Crow Tribe have been able to assert their own sovereignty through the Apsáalooke Language App by taking control of the content that they wished to have in the software instead of letting an outside agency decide the content for them. This dissertation, then, focuses on sovereignty in its relationship to Indigenous new digital media on the Crow reservation.

The anthropology of media "emerged from a particular historical and theoretical conjuncture: the raptures in anthropological theory and methodology of the 1980s and 1990s, and the development of an 'anthropology of the present' (Fox 1991; Ginsburg, Abu-Lughod, Larkin 2002). Media anthropologists have ethnographically examined multiple forms of media technologies such as a family's, community's, or a region's interaction with the radio (Bessire & Fisher 2012; Aherns 1998; Fisher 2013; Kuptana

[3] Throughout this dissertation I use the phrase digital returns instead of repatriation. In doing so I borrow from Boast & Enote 2013 as well as personal communication with Jim Enote (Zuni) in March 2016. The correct way to speak about content being returned digitally would be "digital returns."

1988; Melkote & Steeves 2001; Power 2000; Prins & Bishop 2007; Tacchi 1998, 2012). While they have also explored television and video within different communities across the world (Alia 2010; Fiske 1987; Ginsburg 1991, 1994, 1995, 2002, 2008; Ginsburg & Myers 2006; Michaels 1986; Miller 1994; Roth 2005; Silverstone 1992; Sinclair et al 1996; Turner 1991, 1992), there has been less research done on other forms of digital new media, such as cellphone apps. Media anthropologists, such as Terence Turner, have realized that the "global expansion of telecommunications, coupled with the availability of new and cheap forms of audiovisual media, above all video recording, has given rise within the past two decades to an unprecedented phenomenon: the appropriation and use of the new technologies by indigenous peoples for their own ends" (1992: 75 in Ginsburg, Abu-Lughod, Larkin 2002). While the Apsáalooke Language App was relatively expensive to develop, it can now be used for free by whoever has a smartphone or tablet and access to Wi-Fi.

As of today, most of the widely available ethnographies and anthropology of the Crow Tribe have not focused on the growing presence of technology on the Reservation. Topics such as religion, chiefs, oral stories, astronomy, archaeology, and medicine on the Crow Reservation have been covered by anthropologists and other scholars (Clatterbuck 2017; Frey 1987, 2017; Linderman 1930, 1932; Lowie 1983; Medicine Crow 1992; McCleary 1996; 2016; Nabokov 1967; Snell & Matthews 2000; Voget 1984, 1995; Yellowtail & Fitzgerald 1991). My dissertation adds to the growing literature surrounding language revitalization and its role with technology while focusing on the present and future of these two topics on the Crow Reservation. This study also contributes to the ways in which ethnographic research can be used as a

method to further explore the social life of different forms of digital technologies in a collaborative way. Working together with the people and departments that were involved in the initial thoughts and beginning stages of the Apsáalooke Language App allowed me to see the entire process of the app from start to finish. By focusing much of my ethnographic work on the Crow Tribe's relationship with the technology itself I was able to gain new insights into the role of Indigenous new media in one community. We can begin to study the Apsaalooke Language App in Crow Country, by asking questions such as, how is new media refashioned from older media (Bolter & Grusin 2000), and how are people constructing relationships around media, specifically the dialogue between new media and older forms of media (Acland 2006, Fisher 2016, Moskowitz 2015, Vokes & Pype 2016).

Throughout Indian Country there has been a wider movement in Indigenous new media relating to collaborative networks where Tribal communities, First Nations peoples, and different institutions work on opening up access to museum and archival collections (Christie 2008; Cohen & Salazar 2005). Mukurtu, for example, is an open source database geared to Indigenous communities using this form of new media to create their own sites following their own cultural protocols (Christian 2007, 2011). The Reciprocal Research Network (RNN) also acts as a collaborative platform between First Nations communities and the University of British Columbia's Museum of Anthropology. It specifically opened up access to the museums collections of Northwest Coast collections and allows a different exchange of information about the material (Bell 2017; Phillips 2011; Rowley 2013). Another form of Indigenous new media is the Great Lakes Research Alliance for the Study of Aboriginal Arts and

Cultures (GRASAC). Started in 2004, this database combines collections from the tribes living around the Great Lakes region in order for their vast collections to be found in one place online (Phillips 2011; Silverman 2015). This dissertation adds to this literature as a glimpse into Indigenous new media in relation to a smartphone or tablet app geared at both language and cultural revitalization. Furthermore, Indigenous new media creates new dialogue around media and meaning making, putting the Indigenous Community in control of what they want to be expressed, viewed, or organized through the new media. Through Indigenous new media, the Crow Tribe are reobjectifying themselves and what it means to be Crow by focusing on this app being about, and by, the Crow people.

Other forms of Indigenous new media that are being used outside the museum field act as a platform to entertain, advocate, and teach about different topics and perspectives by Indigenous peoples in North America. Some different Indigenous new media platforms that are being used include blogs, such as the *Native Appropriations* blog authored by Adrienne Keene, which is a "forum for discussing representations of Native peoples, including stereotypes, cultural appropriation, news, activism, and more" (www.nativeappropriations.com Accessed on March 13, 2018). Another Indigenous new media platform that released to the public in 2015 is the Never Alone video game, which was made with the help of Alaskan Native "storytellers and elders to create a game which delves deeply into the traditional lore of the Iñupiat people to present an experience like no other" (www.nativealonegame.com Accessed March 13, 2018). This game, which can be accessed on numerous gaming systems, including iPhones, allows

the user to become immersed in Iñupiat stories and the language through a way that is most convenient for them.

Besides blogs and video games, other forms of Indigenous new media have become increasingly popular such as music and videos. In November 2014, MTV released a roughly 30 minute video following Native American Hip-Hop artists using music as a way to up lift and stand as a form of activism for Native American youths on topics such as the environment, women, and educating non-natives about their lives. Other artists such as Supaman and A Tribe Called Red mix regalia, powwow drums, and flute music with different styles of electronic music. As a Tribe Called Red's Facebook page states,

> If you're an indigenous person living in a country that has been forcefully colonized, it's all too common to find yourself underrepresented and misrepresented if not blatantly and systematically devalued and attacked. Positive role models and a positive self-identity are hard to come by, yet the Canadian collective DJ A Tribe Called Red is a modern gateway to urban and contemporary indigenous culture and experience, celebrating all its layers and complexity. (Accessed March 13, 2018)

These artists are using media to express their views through music, words, and messages for their audiences to relate to and learn from. While there are many other Indigenous peoples using new digital media in order to educate, advocate, and entertain both Native and non-native people, the last group I want to reference are the 1491s. Uploading over 100 videos on important topics in Indian Country, their over 45,000 subscribers are entertained with their way to most often use humor to get their views and opinions across on topics such as cultural appropriation, stereotypes, representations, and music. As Freya Schiwy 2003 uses the phrase "Indianizing the medium," or what might be better for this dissertation, "Indigenizing the medium," this

concept acts as a way to decolonize the production process of Indigenous new media. When a community is able to have access to every part of the production process, from filming, to editing, to producing the storyline, and choosing the actors or participants, this gives them the control over their own stories, language, and culture that is being seen and heard not only within their own communities, but also by the larger public. This dissertation focusing on the Apsáalooke Language App as another form of Indigenous new media relates to the above examples through the Crow Tribe's ability to use this platform to educate, entertain, and advocate for Crow language and revitalization efforts.

This study contributes to widening the understanding of Indigenous new digital media as more than TV, film, and radio by being the first ethnographic study of a new digital media app in Native North America. Up until this point the larger literature surrounding Indigenous new media has been focused mainly on the analysis of Indigenous films and television, but nothing has been written on Indigenous new digital media in the form of an app. With roughly 15 Indigenous language apps just available through Thornton Media Inc. online in the Apple App Store, there has come the need to further explore this innovative form of Indigenous new media that is available to anyone in the world with access to a smart phone or tablet (Castells et al. 2006; Couldry 2011; Gershon 2008, 2010; Hutchy 2001; Horst & Miller 2012; Madianou & Miller 2012). Therefore, "Once users have obtained either a computer or a smartphone, and once the hardware and connection costs are met, then the cost of each individual act of communication itself becomes largely inconsequential" (Madianou & Miller 2012:170). Since the Crow Language Department made sure the initial costs of the Apsáalooke

Language App were covered, the rest of the Crow Tribe could then use the app for free with the cellphones and tablets that they already owned. The potential for new digital media platforms that are built in app form for different needs and purposes allows an Indigenous community in North America the chance to expand their digital presence, and to use a device that a large portion of the population already has. Not needing any new equipment or a building space to run the operation allows Indigenous communities to have more freedom in relation to developing and using new digital media through smart phone or tablet apps.

Lastly, this dissertation project contributes to the growing literature surrounding material culture digital returns and opening up access to museum collections. Some museums across the world have begun to open up dialogue with Indigenous communities (Coombes & Phillips 2015; Karp et al. 2006; Lonetree 2012; Peer & Brown 2003; Philips 2011; Swan & Jordan 2015; Tapsell 1997). Collaborating with Indigenous communities in order to open up access to museum collections has lead to a new development in digital platforms to aid in this process (Bell et al. 2013, Christen 2007, 2011, Coombes & Phillips 2015, Geismar 2013, Peers & Brown 2003b, Phillips 2011, Srinivasan et al. 2010). While much of the literature published in the last few years has focused on digital and cultural heritage, intellectual and cultural protocols, and ethics, my research was able to acknowledge all of the existing work done by scholars in those areas and then focus on what a digital return project might look like through a widely available software app, Mukurtu, or possibly a new app. Making use of additional technology that is available today, I began to explore what 3D imagining and Augmented Reality (AR) could do to further enhance digital returns through

Indigenous new media. This has been done throughout cultural anthropology, as well as archaeology, within recent years involving mapping landscapes (Sqigwts.org), but very few articles have been written about its use with material culture objects and digital returns (Younan 2015).

Overview of Chapters

This dissertation is structured with each individual chapter focusing on a different topic that relates to the initial design and development of the Apsáalooke Language App. Exploring the entire production timeline of the Apsáalooke Language App: beginning with the release of the app, through the different language revitalization projects that have started since its release, and finally the questions that arise with this form of new digital media technology having worldwide availability through smart phone and tablet apps, each chapter, then, describes a specific area in relation to the development and complexities of Indigenous new media on the Crow Reservation through the Apsáalooke Language App.

In Chapter One I discuss the political economy of Indigenous new media, specifically through the Apsáalooke Language App. I address the involvement from Crow Tribal members through the process of design, implementation, and usage of the app, as well as how the app is downloaded through the intricacies of finding reliable, very valuable, Wi-Fi within the reservation boundaries (Graeber 2001, 2005). In doing so, this chapter engages disciplinary debates surrounding the political economy of digital media and the current thoughts of the Crow Language Department surrounding

new digital media technology through the Apsáalooke Language App (Lucas 1996, Madianou & Miller 2012).

In Chapter Two I present the language that makes up the Apsáalooke Language App. The Crow Tribe sought to end language loss within the younger generations and in doing so reimagined techniques through the use of new media in order to appeal to as many youth as possible. I explore the importance of this app being used for learning within different environments, whether it is at home, in elementary or college classrooms, or within adult language classes. The Apsáalooke Language App has opened up further dialogue looking at intergenerational language learning between youth and elders as well as inspiring the Crow Language Department to explore more ways of getting the community involved in language revitalization and retention (Amery 2010; Garcia 2014; Hinton 2013; Lee 2007; McCarty, Romero & Zepeda 2006; Meek 2010).

In Chapter Three I discuss our Recovering Voices trip to Washington D.C. in the spring of 2016 where we spent a week looking through the National Museum of the American Indian and National Museum of Natural History's Crow material culture collections, as well as the National Anthropological Archives' collection of Crow historic photographs, video footage, and language documentation. The significance of the narrative between the tribal members viewing the objects and photographs then becomes an important part of the discussion (Johnstone 2007, Kress & Leeuwen 1996; Phillips 2011). With access to digital copies from the Smithsonian's collection of Apsáalooke material culture and historic photographs, Crow tribal members were able to use the digital images for their own needs and purposes. Therefore, this opens up

dialogue about the importance of museum collections to everyone, not just those who can travel to see them.

Chapter Four explores kinship ties, relationships, and questions having to do with technology in the 21st century. This chapter focuses on information from interviews about people's opinions on structuring certain kinship rules within such readily available technology. The question of how "in-law avoidances," (Frey 1987, Lowie 1983) such as a son-in-law avoidance, can be respected in a digital form is not only important for the Crow community to have answered, but for all Indigenous communities who are increasingly using technology for their own needs and purposes. The concern surrounding "in-law avoidances" and the use of new media calls to attention certain cultural protocols relating to kinship in the Crow community, and forces us to reconsider current anthropological debates involving the safeguarding of Indigenous knowledge, and how digital technology can maintain, as well as produce, cultural practices.

In Chapter Five I discuss the remediation of media technology within Indigenous communities, specifically among the Apsáalooke people, and how "old" or "traditional" paper and sound archives can be incorporated onto the multimedia platform of a cell phone app. Therefore, remediating "traditional" archives onto a digital new media platform makes it possible for people within Indigenous communities to view their material in a digital form right at their phone screens. Attention to the intertextuality between old and new media reveals that we can analyze smart phones as an important platform to reappropriate traditional knowledge and culture through a unique aspect of

Indigenous media, and thus establishes remediation as a successful method for understanding the Apsáalooke Language App.

Chapter Six explores the overall theories and methodologies of digital heritage within museum collections, digital returns, and language revitalization in relation to new technology. With the openness of new technology comes increasing questions on ownership, access, and protocols (Anderson 2005, 2010; Christen 2007, 2011). While language and cultural heritage are passed on from one generation to another through oral communication, with technology, specifically cell phones, it can now also be passed on from one generation to another through the preservation of digital heritage in an easy to use, easy to access format that can be saved with the click of a button. The ethnography of digital heritage on the Crow Reservation brings together the anthropologies of media, intellectual and cultural protocols, and ownership, arguing that all are crucial in understanding how new media plays a vital role in returning information back to the Apsáalooke people.

In Chapter Seven I examine how the Apsáalooke Language App can be seen as a reobjectification of new media because of the way that it is being used by the Apsáalooke people (Ginsburg 2002, 2008; Ginsburg and Myers 2006; Mazarella 2004). This chapter seeks to examine how the dialogue surrounding the social organization of time, new media, and the future can be understood in reference to one another. Therefore, rethinking the anthropology of time then reveals that the future can be analyzed according to time and new media, as well as how important temporality is when talking about the past, present, and future (Appadurai 1986, 1990, 1996; Rosenberg & Harding 2005). I also examine how cell phones act as a way to interpret

collective ideas as well as memories in relation to material culture and language learning (Car 1991; Connerton 1989; Das 2006; Halbwachs 1992; Horst & Miller 2012: Nora 1989; Ricoeur 2004; Sutton 2001; Taylor 2003; Tilly 1994, 2011).

The ideas and topics addressed within this dissertation overlap with the debates within the field of Anthropology through topics such as museum anthropology, visual anthropology, language revitalization, and more specifically with anthropologists who work collaboratively in Native North America. The Conclusion will consolidate and extend the individual topics that I discussed in each chapter throughout this dissertation. I will also explain situations, interests, and circumstances that I found throughout my collaborative research that call for additional consideration and future study. Ultimately this dissertation analyzes a new form of Indigenous new media and follows the Apsáalooke Language App over its initial development, release, and use within the Crow community in order to design a collaborative ethnographic examination of how Indigenous new media is reinventing the basic terms of political advocacy, material culture digital returns, intergenerational learning, and language revitalization.

Chapter 1: The Political Economy of a Digital New Media Form

Introduction

Political economy in the digital age is often overlooked in Indigenous new media, but it is crucial within this form to address Indigenous peoples' history of colonialism, the object of salvage ethnography, and forced assimilation. Just like all things, technology goes in waves of its popularity and what is currently trending on the market. Bringing attention to what the Apsáalooke Language App reveals when it first came out in the summer of 2015, it was being downloaded and used much more frequently than it is today, establishing the need for a further study of how the collective community is using this technology on an everyday basis. Since the app first came out it has been downloaded roughly 3,000 times. With a current enrollment of the Crow Tribe around approximately 14,000 members, this would indicate that only under ¼ of the population has downloaded the app. This number is probably still smaller, though, seeing that people who are not enrolled Crow Tribal members, like myself, have also downloaded the Apsáalooke Language App to use and reference. One of the central concepts of political economy is the mode of production. Not only, then, is it vital for the production and distribution of this app to be analyzed within the context of Crow Tribal members, but the audience, the people using the app, also has to be considered at as well. I argue that the relationship between the Apsáalooke Language App and the audience is important when focusing on how this particular form of technology was adapted to the needs of the Crow Tribe in particular.

Ever since my first summer on the Crow Reservation in 2010 I realized how important retaining the Apsáalooke language was to many elders that I talked to on a

daily or weekly basis. I spent days in the Subway sandwich shop in Garryowen, Montana, a town roughly 6 miles from Crow Agency, listening to older people who lived nearby come in and grab food, coffee, a newspaper, or just to visit, all speaking the Apsáalooke language. For the first few summers after that I used to joke to my friends back at home, or in Crow, that I only knew when people were talking to me because they had switched over to English. I felt as though everyone around me was able and capable of speaking the Crow language fluently. It was not until the last few years, when I was spending more and more time around people my own age, and younger, that I realized most of the fluent speakers I knew were in their 40s and older.

I began to pay more attention and I noticed that everyone in my immediate family understood the Apsáalooke language, but everyone younger than me chose to respond in English rather than Crow. This concept is known as passive bilingualism (De Houwer 1998; Baker 2011; Lee & Hattenburg 2015) where the youth can understand their heritage language, but have trouble, or decide not to speak it. I have noticed that just among the people that I hang out with most when I am living in Crow, many are using the Apsáalooke Language App in order to at least feel more comfortable speaking new Crow words, even if they are not able to become conversational just by using the app. This calls to attention how individual tribal members are actively involved in the political economy of the app on the Crow Reservation, and forces us to reconsider current anthropological debates surrounding Indigenous new digital media and intergenerational language learning.

The political economy of the Apsáalooke Language App can also be analyzed when referencing and discussing the overall value of the app to the Crow Tribe,

especially anyone who is on the forefront of language revitalization and language retention in the youth. In Marcel Mauss' 1967 book, *The Gift*, he urges anyone studying economic relations in communities to go beyond looking at values as purely economic and to look at values in reference to how significant an object is to a society, in this case, how significant the Apsáalooke Language App is to the Crow people. In order to slightly answer this question, I took a few hours one day about two years after the app came out to ask people who I knew had used the app frequently how much they were still using it, if it all. My answers were split between people saying that they have still been using it, usually for school, or people saying that they had not been using it very much, but every once in a while they thought about it, or saw it scroll on their phones or tablets and decided to play with it for a little while. By understanding values in this way, we can comprehend what particular objects have the most meaning to a community, therefore, situating it in a certain way to explore how technology is being produced and used in a way that can give both the community, as well as outsiders, the ability to promote the importance of new digital media in certain circumstances. David Graeber also explores the concept of value in a similar way to Mauss stating that, "actions become meaningful to the actors by being placed in some larger social whole (2001:254). Observing the meaningfulness of an object to the community in which it is situated is especially important when determining the economic value of that particular object.

The Apsáalooke Language App is unique in the sense that it is indeed a commodity, an object of value, but now that it has been digitally produced, and marketed on a platform of digital new media, it does not cost any more money for the

audience or actors to use. While looking at money as an important commodity in the value system of most major societies, we can observe in the example of the Apsáalooke Language App, that after the initial exchange of money for the production of this new digital media, the value of money is not held anywhere near as significant as the value of the overall app is to the Crow Tribe's effort for language revitalization and retention among its youth. Keeping the app available in a free downloadable format, rather than charging money, meant that more people would have the means of downloading the software and the only limitation would be not having a smartphone or tablet to download the app onto.

At first, the Apsáalooke Language App was only released on Apple software, so anyone with an iPhone or iPad could download and use the app at the time of Crow Fair in 2015 when it was released. A few months after, in November of 2015, the Crow Tribe paid for it to then be released using Android devices as well. As previously stated, the initial app on Apple software cost roughly $30,000, and the Android software cost $15,000 extra. The last amount of money to provide the app to all Android users was funded by the THPO's office. It was important, though, for it to be released to the Crow Tribe on both software platforms so that as many people could access the app as possible. While it is a large initial cost, one benefit is that the Crow Tribe now owns the app and all of the content within it.

> "But we own everything. It's ours. Thornton Media just put it together for us, with our help. So now if someone wants to do something with it they call us. They call the Tribe or the Language Department and ask for approval….They say they want to do this or that and I can't remember what they were calling about. [Talking about someone who called asking about using the app.] They wanted to put it on some radio or something, I think. But you feel like you own it [when they call]" (Interview with Birdie Real Bird August 2016).

Since the Crow Tribe owns the Apsáalooke Media App, they are still being able to control the audiences that it reaches. The tribe has a continued participation in the development and dissemination of the Apsáalooke Language App long after the Thornton Media team that came out to Crow Agency had left.

As Alopi Latukefu, regional manager of the Outback Digital Network, stated, "The issue that needs to be raised before any question of indigenous usage of the Internet is addressed is whose information infrastructure or 'info-structure' determines what is valued in an economy – whether in the local community, or the greater global economy which they are linked to…" (2006:4, quoted in Ginsburg 2008:288). For the case of the Apsáalooke Language App, members of the Crow Language Department decided what would be the best information to include in the software in order to spread the greatest amount of language learning knowledge that the app software was capable of.

With digital media extending its reach into the everyday lives of people through cell phones, the impact of these handheld devices needs to be examined in the context of Indigenous communities' relationship with new digital media. Smart phones are continuously becoming more and more prevalent to populations all across the world, and taking advantage of a new digital media that focuses on only needing a smart phone in order to take part in the process is a beneficial step that the Crow Tribe took advantage of. The Apsáalooke Language App, because it is available on smart phones and tablets, and not only a computer, extends the Crow Tribe's reach into the network of language and cultural revitalization as well as extending their tribal sovereignty into

a digital world. The Internet, "and more broadly the cross-platformed use of digital technologies—is being taken up in Indigenous communities on their own terms, furthering the development of political networks and the capacity to extend their traditional cultural worlds into new domains" (Ginsburg 2008:294). The USMob Project in Australia, as well as *Igloolik Isuma* and the film *Antanarjuat: The Fast Runner*, both projects in Canada, all highlight projects in Indigenous communities that were organized by Indigenous peoples on digital new media platforms.

Anthropologists were admittedly late to the field of digital media and did not become fully involved until the late 1990s when a few began looking at the cultural and political aspects of new media, as well as how the individual and the collective engage with new media, which was then studied over time. Provincializing, (Coleman 2010) a term coined by postcolonial theorist Dipesh Chakrabarty, became a way for new media to act as a central point to articulating the beliefs, rituals, and traditions of the community using them. Provincializing digital media "allows us to consider the way these media have become central to the articulation of cherished beliefs, ritual practices, and modes of being in the world" (Coleman 2010:489). The Apsáalooke Language App has become a crucial stepping stone in the process of language revitalization and retention on the Crow Reservation, and has allowed the Language Department to organize other means of language learning because of it. One example would be adult language classes that were held nightly for roughly a month in the early spring of 2016, as well as a new language curriculum in the works in the late summer of 2016 to hopefully be implemented in the following school years.

Materiality of Technology

Cell phones, and smart phones in particular, are one of the major ways that people stay in touch with one another across the United States, and it is no different on the Crow Reservation. Many more people have phones than have laptops or other computers, and the cell service is much more dependable than trying to find a reliable Wi-Fi connection when you need it. There are major phone network providers that work in this rural area, which allows people to stay connected with one another through data, and be able to enjoy all of the informational apps and games that their smart phones offer. Companies like Straight Talk, through Walmart, offer customers the chance to have data on their smart phones without having to be financially tied to one of the major networks like Verizon and AT&T if they do not want to, or if they cannot afford to. I realized that between people using their data, and at least having Wi-Fi available Monday through Friday from around 8am-5pm at the tribal buildings in Crow Agency if they had a ride to the building, it was easy for people to initially download the Apsáalooke Language App. Since, after the initial download it could be used without needing Wi-Fi to run it, or wasting data while operating it, more people might be using it as opposed to other apps on the market. This could be one of the key questions when it comes to thinking about the accessibility of apps on smart phones for cultural and language revitalization purposes.

Just recently friends in Crow Agency were excited to join their family's AT&T cell phone plan when she was approved for multiple lines. Now, even though the plan will be slightly more expensive, their data usage will be unlimited per month. This will be a huge benefit from the plan that they were on before where you had to go and buy a

card for your phone for roughly $45.00-$50.00 a month at Walmart, which was located an hour away in Billings, Montana, or a little over an hour away in the opposite direction at the Walmart in Sheridan, Wyoming. While this included unlimited minutes and texts, it only allowed for 5 gigabytes of data for that month.[4] That data could not be rolled-over into the next months data; you had to use it up, while now on the AT&T plan, their data can roll-over to the next month, and whatever they do not use one month can be used the next. Now all being on one AT&T family plan[5], they have the ability to travel to Billings and still have service to talk to people, whereas most of the time, on the reloadable plan, their "Rez" phones as they are so often called, do not work that far away.

5 gigabytes of data might seem like a lot, but when you are almost never connected to any Wi-Fi network, it is easy to use 5 gigs of data in one month if you are constantly on social media, letting your kids play games, and streaming videos or music at home or in the car. In my own experience, during the months that I spend in Crow, I go very close to going over my data every billing cycle, especially when I have to use my phone as a Wi-Fi hotspot in order to use my laptop to teach courses while in the field. I can easily reach 5 gigs of data just keeping on top of emails, using the hotspot, checking my different social media accounts, and also letting the kids use my phone to watch videos and play games they use at school.

[4] This was the plan that my friend's had at the time of writing this chapter. The plan might be different in the future at Walmart, or fluctuate with different deals. Right now, looking at the Straight Talk section of Walmart's site, there is a deal for $45.00 for 10 gigs of date, or $55.00 for unlimited data. https://www.walmart.com/cp/straight-talk-wireless/1045119?search_redirect=true&redirect_query=Straight%20Talk

[5] This is how their family plan works as of 2018, but it may be different in the future.

Many of the plans where you have to buy your minutes and data each month also do not have the coverage that really only large companies like AT&T and Verizon have in most of Montana, especially in places not along I-90. While Straight Talk does state in its "Coverage Section" online that, "Straight Talk buys airtime from all four major networks rather than building its own, so most phones will work just fine. In fact, by using the nation's leading cellular providers, about 99 percent of the country is covered.

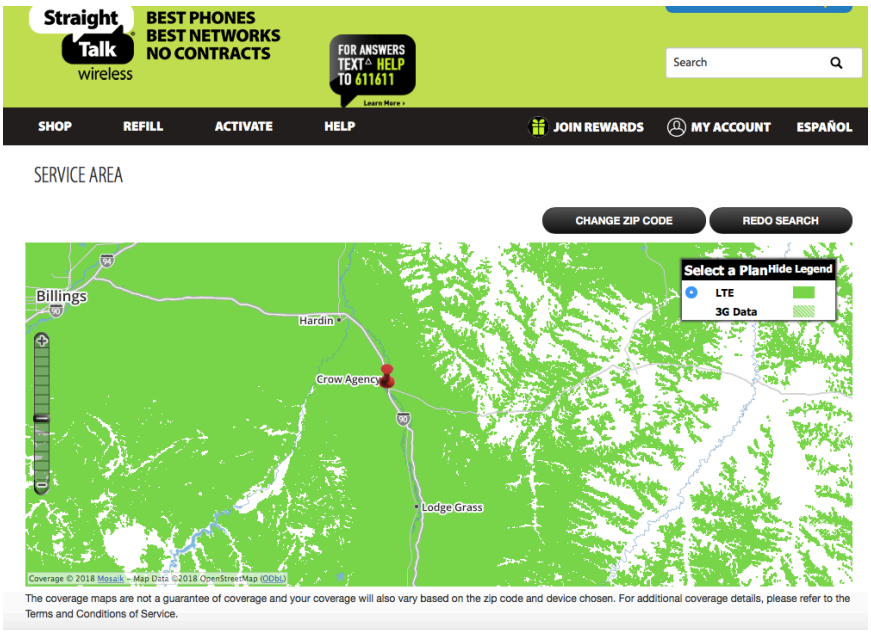
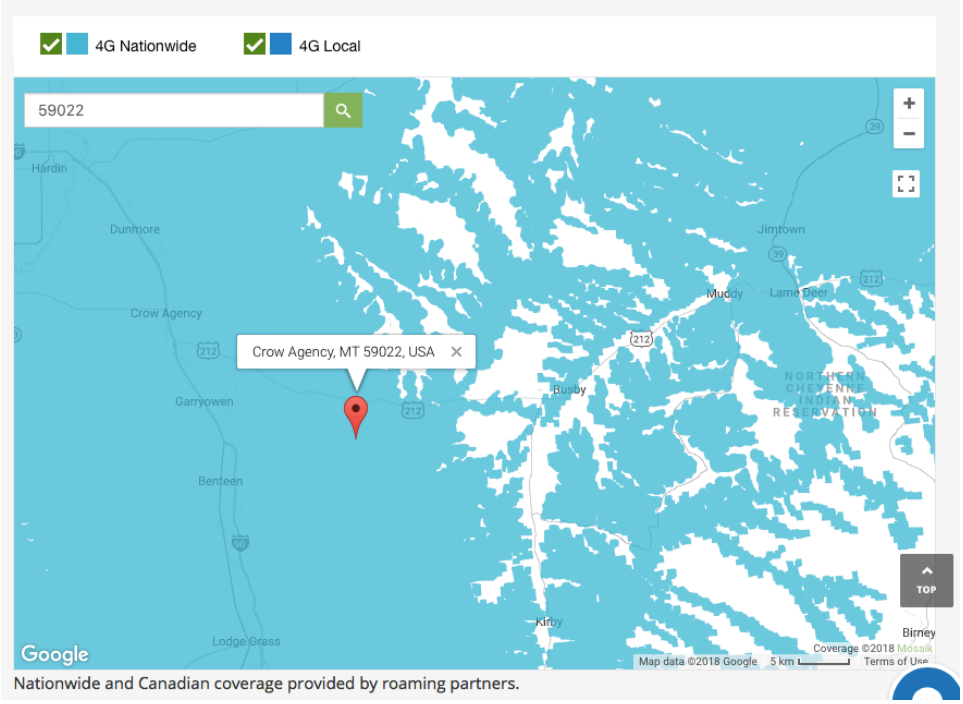


Figure 4. Screenshot of Straight Talk Wireless' Website by Kiley Molinari

This provides a solution for pretty much everywhere cellular service is available" (https://www.walmart.com/cp/straight-talk-wireless/1045119?search_redirect=true&redirect_query=Straight%20Talk Accessed December 1, 2017). The following sentence then says to check your zip code on Straight Talk's website to make sure there is coverage where you live. Crow Agency's zip code, 59022, does show up as having 4G coverage, but a large portion of the Crow Reservation going east onto the Northern Cheyenne Reservation is colored in white,

indicating there is no service. Similar to the same coverage as Straight Talk is Nemont, the service provider that has an office right in Crow Agency where not only many tribal members have their cell phone service through, but it is also where the tribal businesses have their landlines, and from where tribal employees have their cell phone plans from.



(Fig. # - Screenshot of Nemont Wireless by Kiley Molinari)

Politics of Introducing Technology

With any new technology comes the task of introducing it into the general public or the population that it was made for. While there are roughly 8,000 Crow tribal members living on the Crow Reservation, there are thousands of others that do not live within its boundaries anymore. This, then, creates an issue of marketing the Apsáalooke Language App to as many people as possible, whether they live on the reservation, or not. Some Crow tribal members, though, who do not live on the

reservation, might have learned about it later than the people who are living on the Crow Reservation where it was launched. These people, some of whom are popular photographers and artists, shared on their social media pages when they discovered the app, and how they are using it at home, with their children, or in their professional work.

While people living off the Crow Reservation may have learned about the Apsáalooke Language App later than those who live there, there are still some people who live on the reservation who did not know that there was an Apsáalooke Language App for a while after it came out. At Crow Fair in 2015, the same month the app came out, the release was announced at the arbor two or three times, and postcards were distributed on how to download the Apsáalooke Language App. After that, the availability of the app was generally just spread by word of mouth with new people discovering it existed everyday. Off the Reservation, booths were set up at several Education Conferences later that fall to spread the word about what the Crow Tribe had developed to aid in language revitalization and retention even further. Birdie Real Bird even talked about a time that she told a worker at the, now, Crow Tribe owned gas station in Crow Agency. She told me,

> "When we talk about it people get excited and ask 'How do you get it?'… Like the manager of that gas station, [Battlefield Express] didn't know about it and they were having me write their menu in Crow and I said 'Hey you should look on the app a little bit, at the foods, because there are some foods on here' and he said, 'What app?' And I said 'there's an app, come here I'll show you,' and I loaded it for him. So we have people here that don't even know about it" (Interview with Birdie Real Bird August 2016).

This was the first time that I realized that many people, even people who are living on the Crow Reservation, were not aware that the Apsáalooke Language App exists.

She mentioned, though, that usually when someone finds out about the app they get excited and immediately download it because they want to see what it is all about.

The production and overall reception of new digital media has also touched upon the reproduction of the contents of that media, especially when the reproductions are material culture or archival images. Political economy "treats the economy from the point of view of production, rather than distribution, exchange, consumption or the market (Dupre and Rey 1978 cited in Robotham 2012:41). Furthermore, it "does not ignore those things, but analyzes them in relation to the role they play in the production of the material needs of a society, including the need to reproduce and expand the means of production themselves" (Dupre and Rey 1978 cited in Robotham 2012:41). The Crow Language Department understood that having the Apsáalooke Language App only available on Apple software for iPhones and iPads would drastically limit the amount of people who would be able to use the app on Android software since this is the software that most of the "Rez" phones are run off of.

Conceptualizing how spaces and technologies are mediated and remediated by Indigenous communities allows us to better understand the impact that digital new media can have on those communities who are changing media to fit their own cultural and political concerns. Mediation is a foundation for social, cultural, and political life through which it controls the dissemination of knowledge in specific ways (Mazarella 2004). Images, films, and other forms of new media, such as apps, are all ways in which culture and politics can act as a social process of mediation in Indigenous communities. Through mediation, Indigenous peoples' way of life can not only be

revitalized and represented, but participant's can also gain a better understanding of the relationship between their culture and politics through new digital media.

Globalization also plays a role in revitalizing Indigenous peoples' representations of themselves and their communities through new digital media (Mazarella 2004). Referencing Appadurai's concept of different "scapes" in which material culture and other objects move across boundaries, but are also in disjuncture with one another when moving across those scapes, such as mediascapes, ideoscapes, and ethnoscapes (Appadurai 1990) we can see how different cultural objects, in reference to new digital media are observed in specific populations. One example are diasporic populations that are no longer living in their home countries and are using new digital media in order to stay attached to their family and friends still living there (Appadurai 1990, 1996). It is crucial to explore how new digital media helps these diasporic groups stay connected with not only people, but also certain aspect of their language and culture as well; this could mean using new digital media to watch films and listen to music from their homes.

A similar circumstance can be seen when studying the Apsáalooke Language App and who is using software outside of the reservation boundaries. While the majority of people who are enrolled in the Crow Tribe live on the reservation, there are still many people who do not. Whether that location is just outside the reservation, or whether it is in another state, this app is so significant because it can be accessed by anyone, anywhere. While talking to a school teacher in the Crow Public school system, she told me that her stepdaughter who lives on another reservation is using the Apsáalooke Language App a lot because she is not surrounded by as many Crow speakers as she

would be if she were living back on the Crow Reservation. While this is one example of using the Apsáalooke Language App outside of the reservation boundaries, we can also explore Terrence Turner's work with the Kayapo as an example of how Indigenous peoples are using new media to represent how they want to be portrayed by non-Indigenous peoples.

In relation to Turner's work with the Kayapo, this group began seeing their preservation or loss of cultural identity as a matter of political and cultural consciousness in the mid 20th century. Looking at themselves for the first time as another ethnic group in relation to the majority of the Brazilian population, the Kayapo realized that their culture had interest and meaning to people outside of their community. Using the idea of representational media, images and later on films were being used to objectify Kayapo way of life in the mid to late 20th century, the Kayapo wanted to take control of the way that their culture was shared with others. While the images on the screen were important for re-objectifying their culture, the filming and production skills learned became even more important to members of the Kayapo community and acted as a form of self-empowerment (Turner 1991). The Kayapo were able to redefine the way their culture would be seen by members outside of the Kayapo community.

Another community that acted in a way to re-objectify media and meaning making for the benefit of their own people are Aboriginal communities in Australia. Ginsburg and Myers (2006) give multiple examples of how Aboriginal peoples in Australia are using media and their creativity to dig into the colonial archive and re-signify the narratives and images in order to share their own perspectives into forced

assimilation, boarding schools, children being taken from their mothers, and traditional land "ownership." Films such as the *Lost Generation*, political protests, and bark paintings sent to parliament all portray different aspects of storytelling, traditional art, and performance in order to give voices back to their communities. These ways of re-signifying the colonial gaze are crucial to the self-production and cultural futures (Michaels 1984) of the Aboriginal communities in Australia, and can be related to other groups around the world.

An additional group of people using new digital media would fall under the category of deterritorialized groups. Their ability to reproduce certain aspects of their language and culture in their new environment, like the diasporic population, is vital to staying connected to their homes (Appadurai 1990, 1996). New digital media is able to play a huge role in how groups, or individuals, who are living away from their homes, are able to retain ties to their communities. These are just a few examples of how Indigenous communities use media and technology to assert their own cultural and political needs and concerns.

Wi-Fi On the Crow Reservation

During a Monday through Friday business day, Wi-Fi can be found at all of the tribal offices. People can go inside, or more often than not sit outside in their cars in order to use the Wi-Fi. I, myself, have taken advantage of this Wi-Fi while working on fieldwork numerous springs and summers. We all got in a car and headed to Crow with our laptops, cell phones, and tablets in order to use the Wi-Fi outside of the administration building. In past years this Wi-Fi could be used 24 hours a day, but in

2015, when I asked by there was not still Wi-Fi all day, I was told that after a break-in to one of the tribal buildings, the administration decided to shut the Wi-Fi off around 5:00PM everyday.

Wi-Fi outside of Crow Agency is accessible, but not very easily for those living out in the country, and it comes with a high cost. There are only a handful of Internet service providers with Nemont, located in Crow Agency, and AT&T, located in Billings, being the most popular. In order for Internet to be accessible at certain houses, a fiber optic cable has to have already been run on that property, or in the very close vicinity of that property. In the early spring of 2016 we were looking into getting Internet at our house in Dunmore again. Internet had been at the house before through AT&T, but this time we were looking into Nemont because their prices were cheaper and their location in Crow Agency employed tribal members.

The process was long, talking to multiple people on the phone, leaving messages, and getting calls back. We determined it would be about $80.00 a month, plus the initial start-up prices, which were over $100.00. Together this was somewhere around, or over $200.00 for the first month of services. This was extremely high for just the price of Internet considering that a large number of the population is unemployed and reliant on the income of one or two family members in the household. The high initial costs of setting up Internet at your own home is one of the reasons why so many people were excited that there was Wi-Fi available for anyone to use at the arbor at Crow Fair.

Another reason that Wi-Fi is important on the Crow Reservation is the chance to be connected again on different social media platforms, such as Facebook and

Instagram. With Wi-Fi comes the ability to not only look at other's pictures and "statuses," but to also post your own. While many people have data plans through cellphone networks, often times their data runs out before the end of the month, or before they can afford to buy more data to put on their phones. This leaves many without that digital connectedness that numerous people around the world are so attached. With access to Wi-Fi the digital disconnect is momentarily fixed and everyone can go back to doing whatever they want once again.

The Internet, for everyone, is a means to stay connected to a world outside of the area in which you live. It allows people to not only stay in touch with family and friends living in different places, but it also allows people to meet others, which is one of the main uses for Facebook in Indian Country. Facebook messenger is one of the most popular ways to talk to people among young adults and teens. It is an easier way to chat with people without having to have everyone's phone numbers, and it can still be used when your data has run out and you are connected to Wi-Fi, which is something that text messages cannot do unless it is iMessages between iPhones.

Facebook messaging is also the primary way that I have seen people in Crow stay connected to their loved ones deployed overseas. Whether it was their cousin, husband, or sister, Facebook messaging allows you to still stay in contact with the people you love who are stationed on a military base in another country. Having the connection to Wi-Fi allows you to remain in touch with them even if your data has run out for the month. One of my sisters went through this a few years ago with her husband when he was deployed in the Middle East. Facebook messaging was the only way that she could still talk to him after her data had run out, and she spent the majority

of time back at camp, and at the powwow arbor taking advantage of the Wi-Fi that was available to talk to him since she could not do so without Internet at home.

The Newness of New Media is not an Electronic Invasion

The newness of new digital media takes into consideration that there are older forms of media that must be looked at briefly first. When print capitalism changed the Old World in the late 19th and early 20th centuries, the printed language marked a change in the way that people communicated, laid the basis for social consciousness, as well as changing for good the way that face-to-face interactions took place (Anderson 1991). Considering that new digital media can also be seen in the same way, apps, for example, are changing the way that Indigenous communities revitalize and retain their languages, look at material culture, and initiate interactive maps of Indigenous territories. Looking at the idea of exchange theory (Appadurai 1991; Mauss 1967) new media can also demonstrate how people watching American soap operas in Trinidad incorporate objects into their own lives and how they convey a shift in meaning for those objects (Miller 1994). Those objects are then being incorporated into their own social lives and value systems in a new way. Apps also perform in this way by taking concepts from different media, such as audio and visual, and adding them into one easy to use, and easily accessible, software or multimedia platform. Exchange theory includes the producers and the distributors, as well as the audience.

Further exploring the relationship of media to cultural and language revitalization, the newness of new digital media, as well as the social organization of time are all ways of looking at new digital media in order to put together a picture of its

relation to Indigenous communities and the concept of time in anthropology in reference to the introduction of technology. By discussing these three concepts, or questions, and their value when looking at the Indigenous appropriation of new digital media, we can better understand how technology plays an important role in an Indigenous community's ability to assert their sovereignty over media projects and production. Each concept deserves its own attention in order to not only gather a clear picture of how they relate to my own project focusing on the Apsáalooke Language App, but also to look at how the role of the newness of new digital media plays into expressing and assessing the stakes of Indigenous new media.

Disagreeing with Eric Michaels 1994 concept of an "electronic invasion," I and others look at how new media is used on an individual basis among different Indigenous communities around the world. New media never appears on an empty stage (Gershon 2008). New digital media is adapted from older media and used in an innovative context that works best with the needs and aspirations of the Indigenous community that is using it. New media must also capture the social and cultural experiences of older media as well as the hopes and anxieties that come about with any new form of technology (Silvio 2007). By looking at examples of the introduction of old media, though, we can see that there does not need to be anxieties around the new digital media that is readily available.

Another statement that I argue against would be from Daniel Miller where he states, "these new technologies of objectification [such as film, video, and television]…create new possibilities of understanding at the same moment that they pose new threats of alienation and rupture" (1995:18). While I agree with the first part

of his statement that new digital media does create new possibilities of understanding, I disagree that new media also poses threats of alienation and rupture in the community. Arguably, new digital media brings certain people in Indigenous communities together in order to brainstorm the process of what to include in that media, the production and design, and the distribution and use of the finished product.

With the introduction of film into ethnographic work, this opened up situations for new media to also be used in ethnographic work as well. Websites are able to reach communities who have individuals with computers, smart phones, or tablets, while apps are able to reach even further into communities where individuals have smart phones or tablets. Apps give communities a way to use new digital media, without having to be as connected as they would have to be with only computers to use, and websites to surf. In the sense of this research project, the Apsáalooke Language app is a way to use new digital media in order to incorporate not only the past, but also the present, and future, through their ability to provide a multimedia platform which can include archival documents as well as present day audio recordings. The community is able to assimilate the new media within their own cultural and political concerns and re-objectify the media and meaning making behind it.

Intergenerational Learning Using New Digital Media Technologies

While the distribution and use of smart phones is certainly intergenerational, with the majority of the younger population in Crow having smart phones, and the older members of the Crow Tribe having non-smart phones, this does not mean that members of the older generations do not ever come in contact with smart phones or tablets. It

was interesting to watch many elders who do not have their own smart phones work with their grandchildren in order to not only learn about the technology from them, but in reference to the Apsáalooke Language App, they are also helping to teach the younger children about the Crow language through the technology on the app.

The younger generations are the ones who are using technology the most, and are the ones staying up-to-date on the latest releases. Many of the older people that I spoke with said that their kids and grandkids were using the language app much more than they were, and that it was an especially good way to keep them entertained on car trips. They were also able to help their children and grandchildren with the contents of the app, though, because they were either fluent Crow speakers already, or they knew much more of the Crow language than them. While I will touch much more on language learning in the next chapter, one example of intergeneration language learning through new media technology can be seen from an interview with one of the teachers in the Crow Public School System. They mentioned to me that the students in their preschool class were much more interested in learning the language when they could use the app and play the language games that are incorporated onto it.

With the Apsáalooke Language App, the Crow Tribe is using the accessibility of smart phones and tablets to not only combine elders' knowledge with new technology, but to also use this as another way of getting younger generations involved with their language and history. The concept of the "digital divide" can be referenced here, not in relation to the lack of access a community has, but a digital divide between generations within a community. The digital divide was once used to indicate where the "other" existed in a time and place not in relation to our own selves. Contemporary aspects of

media were not discussed when talking about the "other." In the last few years, digital new media has been able to establish new methods of communication and selfhood, as well as creating collective interests and reorganizing the individual (Ginsburg 2002; 2008). Indigenous new media can now be used to "talk-back" to dominant media through film, apps, and other technology, and while some thought that broadcasting video or radio to remote communities would somehow corrupt their "traditional" lives and destroy their culture, (Ginsburg 2002; 2008) it had the opposite effect by revitalizing language and culture as well as drawing attention to their sovereignty.

The Importance of Audience Theory in Indigenous New Media

While I briefly talked throughout this chapter about where my own research and overall project fits in among theoretical approaches in the fields of community media, citizens' media, and Indigenous media, I want to finish with a few more examples from scholars who look at audience theories in order to situation my own work in the existing literature.

Mentioning in further detail in a later chapter, Claudia Magallanes-Blanco researches audience studies using Bakhtin's theory of dialogism in order to further explore the dialogue between the maker, producer, and the audience. Her book, *The use of Video for Political Consciousness-Raising in Mexico: An Analysis of Independent Videos from the Zapatistas,* explores the nature of media and its relation to different societal changes and transformations (Magallanes-Blanco 2008:ii). Referencing Bakhtin's use of dialogism brings forth dialog as a forefront to the understanding of meaning-making when it comes to the relationship between the people who produce

media, and the people who use or view that media. The dialogue between the two scholars brings into perspective different opinions, views, and perceptions into each new media form.

Media can be thought of as a dialogue between what the makers and producers are trying to say to the audience. A dialogue is made up of specific parts of speech, and utterances are one of these. As Bakhtin argued, "no utterance in general can be attributed to the speaker exclusively, it is the product of the interaction of the interlocutors, and, broadly speaking, the product of the whole complex [of] social situations in which it has occurred" (1984: 31). This can be studied in reference to what is inside an app; everything inside of an app can be thought of as utterances in order to make up the whole language of the app and give it its full meaning and potential to teach. The app, such as the Apsáalooke Language App, carried the utterances of the makers—the people in the Crow Language Department that organized the content, as well as then exploring the utterances of the audience and what they think about the contents of the app. The app is able to evoke conversations about it, about the language, culture notes, images, and songs within it.

Marshall McLuhan's theory of media can be used to analyze the social messages behind media technologies. In his 1967 book, *The Media is Message: An Inventory of Effects*, he states his belief in the power of media to balance the social scales and bring minority groups into the foreground (24). Video is versatile and can be used with different objectives, as well as read, or seen, in different ways (Magallanes-Blanco 2008:96). This can be viewed in the same way as an app can be viewed. Millions of people around the world watch videos each year, and now, millions of people around

the world view the contents of apps on their smart phones or tablets on a daily basis. Apps such as the Apsáalooke Language App and software that Mukurtu puts out of its Indigenous community members to use are based on multiple perspectives and help answer the questions of "what is the meaning behind the technology for the society?"

Jay G. Blumler and Elihu Katz's 1974 edited volume, *The Uses of Mass Communications: Current Perspectives on Gratifications Research*, can be used to explore how Indigenous communities are using new digital media. Their gratification theory argues that media users, rather than producers, play an active role in choosing the form of media that benefits them the best (Blumler and Katz 1974). In this theory, the audience is active and uses the media rather than being used by it; therefore, the control lies with the audience themselves, and not with the producers of the media because they are using it for their own needs. The audience is free to use any aspect of the media that they see beneficial to what they are working on, such as what words, phrases, and songs to include in the initial Apsáalooke Language App. Since the audience has control over this particular form of media, rather than the corporation, Thornton Media Inc., designing it, they can determine what the best way the app can be used for not only information in general, but for learning specifically. With the audience's control over what makes up this form of new media, the Crow Tribe has the ability to represent their social identity and sovereignty over Thornton Media Inc.

While Thornton Media Inc. does provide the general template for each Indigenous community to use, the communities decide what content they want to include in the blank template. For example, when talking to one of the developers of the app, she said to me, "We scheduled them [Thornton Media] to come and they put us

on their schedule and we waited about months, like 6 months, but in the mean time we got 500 words together. Because that's what they wanted, 500 words and 6 songs. That was what they quoted us, but I think we were a little over 500 words and we have 18 songs on that app." (Interview with Birdie Real Bird August 2016). When asked if there was a platform for what songs and words to include, she said "Not really," and began talking about the songs in particular, saying

> "Well we wanted all the district songs so that people would learn the district songs. There are 6 districts. Each one of the 6 districts have a song and when they win something they sing that song, that district song. It is pretty important for victories. They are kind of victory songs. Then on the other hand they are kind of love songs, too. So we picked 6 districts songs, and then we picked the Flag Song [the Crow Flag Song] then we picked Crow Hop, then we had a lullaby, one lullaby, and oh a push dance [song] because the push dance is just Crow. It is not all over Indian country. Push dance is a Crow thing." (Interview with Birdie Real Bird August 2016).

After deciding on the songs, the words, and a love story, as well as a historic Crow Fair Video, they broke down all of the words into different categories. Once a team from Thornton Media Inc. was able to go out to the Crow Reservation, they were there for a week recording all of the speakers on the app and taking the photographs for the displays. A handful of fluent Crow speakers, as well as children were recorded saying varies words and phrases, and singing the songs that would be included on the finished app.

While there is also a section with phrases, this is one area that the Language Department wishes were stronger, or there was more of an emphasis on. While the Apsáalooke Language App does help with some portions of revitalizing the Crow language, it does not necessarily help with conversations because the overall phrase

section was limited on the platform that Thornton Media established.[6] Participating in the development of the new media, as well as finding a voice in new media development gives an Indigenous community the ability to include and express what is most important to them in a certain project. Through, "directly examining voice in development activities we are able to understand whether and how voice is valued in a range of contexts; we can explore the role of traditional and digital media and communication technologies and uncover the implications for development" (Tacchi 2012:229). Voice gave the Crow Language Department the authority to represent themselves as they wished as they worked with Thornton Media to develop the software unique to their tribe.

The Apsáalooke Language App and its development also cross between a public and private sphere of its use. From the initial stages of a national corporation working to put together the Crow Tribe's unique words, songs, and photographs, to the finished product being used in a much more intimate setting, in someone's house, on a family member's lap, we can understand the different stages involved in new media production and participation. With the growing access to different forms of technology, cell phones especially, are becoming parts of everyday life for millions of people. Objects "and meanings, technologies and media, which cross the diffuse and shifting boundary between the public sphere where they are produced and distributed, and the private sphere where they are appropriated into a personal economy of meaning (Miller 1987), mark the site of the crucial work of social reproduction" (Silverstone, Hirsh, and Morley 1992).

[6] More on language revitalization and how the actual language portion of the app is being used can be found in Chapter 2: "Language and Technology Through the Apsáalooke Language App"

Conclusion

As Bill Moyers, a United States' journalist, stated in a 2007 speech on the digital revolution,

> "The greatest challenge to … the media giants is the innovation and expression made possible by the digital revolution. I may still prefer the newspaper for its investigative journalism and in-depth analysis, but we now have it in our means to tell a different story from Big Media, our story… This is the great gift of the digital revolution, and you must never, never let them take it away from you. The Internet, cell phones and digital cameras that can transmit images over the Internet makes possible a nation of story tellers…"

People are able to use their own, relatively cheap, technology in order to take control of their own stories in order to share with the world what they wish. Indigenous communities, using whatever form of technology that they choose, are able to then have the chance to express their culture and traditions in a new and innovative way. As Valerie Alia states, "old traditions flow into new technologies; change is organic, not anomalous" (2010:xii). I agree with her statement that the change from one medium to another can be smooth and relatively not unusual with the advancement of technology.

In addition to understanding the political economy of the app, as well as reception and audience studies, my project can further explore how the initial Apsáalooke Language App is being used in a similar way in Crow Country as Adam Lucas' work referencing how technology is being used in Aboriginal education in Australia. The Headstart programs in different towns on the Crow Reservation are using the app now for aiding in the language learning of children 3-5 years old. Linda Little Owl, who is the language and culture teacher at the elementary level in the St. Xavier school mentioned that she thought learning the Crow language was important in the Hardin School District. Out of the "44 students, I would say only about 8 of them

are non-Crow" (Interview in August 2016). She continued by telling me that it would be hard to focus on Crow language in other schools in the district, though, because she is one of the few teachers that actually have a classroom that students go to for language learning. Other language teachers have a cart that they have to travel from classroom to classroom with and therefore they cannot have as much material (Interview in August 2016). Moreover, talking to a teacher from the elementary school in Crow Agency, she

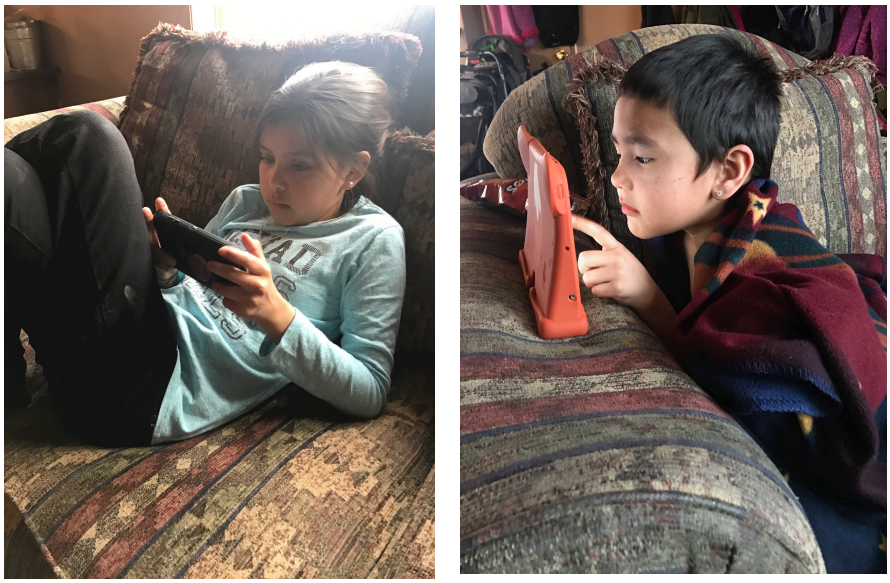


Figure 5. Elementary School Children Interacting with the Apsáalooke Language App -- Photographs by Chelsey Pickett

told me that they try to use the app as much as they can in her grade because the kids react well to the language because of their interaction with technology.

Other people throughout the community are also using the language portion for reference when they need to remember how to say or spell something and may be embarrassed to ask someone else because they might feel societal pressure that they should already know what a word is in Crow or how to spell it. In an interview with Chelsey Pickett, she described some of the ways she used the app either on her own or

when people were talking to her. Besides using it to look up how to spell or say words that she forgot, she also noticed that her niece and nephews were coming home and talking about using it at school, and then would ask to use her phone to play on the app at home. Also, after talking to a school teacher that I interviewed, she mentioned how she has noticed that more people are using Crow words on social media sites, such as Facebook, and she knows that some people are using the Apsáalooke Language App in order to look up and spell these words right.

Viewing how social media as well as web 2.0 and 3.0 technology is constantly engaging with new media in the expanding world of digital technology using different platforms of new media, Miller confronts how this changing technology is being referenced and understood in different societies. This new digital media technology can expand its influence through language and cultural revitalization as it becomes more and more available to members of Indigenous communities around the world.

Chapter 2: Language and Technology Through the Apsáalooke Language App

Language Revitalization within Indigenous Communities

Language revitalization is unique to each area's situation. Questions need to be asked such as, where are the speakers? Who is speaking the language? What age group is not speaking the language? What is the community's primary goal in learning, teaching, and revitalizing the language? What resources are available, or what strategies has the community already tried? The process of revitalizing an Indigenous language is a unique process compared to the teachings of a major world language. Methods and forms of revitalizing Indigenous, or endangered languages, contribute to a wide range of techniques used across the field of linguistics as a whole. While the field may have started out as a science of documenting languages in the wave of salvage ethnography, the last few decades of linguistic work with endangered languages and Indigenous communities have become much more collaborative in an effort to provide both the data and analysis of the language to the community for them to use for their own needs and purposes.

Indigenous languages can be found spoken in small areas all over the world and are not found anywhere where they are still the majority language. Having faced decades or even centuries of repression from forced assimilation through boarding schools, missionaries, and relocation among other circumstances, where the use of a majority language was then mandatory, Indigenous peoples have been working hard to keep their languages alive. When "an indigenous (sic) group stops speaking its language, the language disappears from the face of the earth" (Hinton 2001:3). A

similar thought was said to me during an interview with an elder in the spring of 2016. He stated, "to preserve a language it has to be spoken, to preserve a culture it has to be practiced. When a culture starts to die, the language goes first, that's where we are at now, but the culture will linger on a little longer" (Interview March 2016). In a 2003 the United Nations Educational, Scientific, and Cultural Organization, UNESCO, document titled *Language Vitality and Endangerment*, also examined the importance of the language and culture connection stating,

> "The extinction of any language results in the irrecoverable loss of unique cultural, historical and ecological knowledge. Each language is a unique expression of the human experience of the world. Thus, the knowledge of any single language may be the key to answering fundamental questions in the future" (UNESCO 2003:2).

This notion of language and culture belong together and how one can influence the other is one of the major reasons why the Crow Tribe has also taken advantage of the "Culture Notes" section in their Apsáalooke Language App.

Teaching endangered languages as a subject in school for a limited time each week is one method that is frequently used in order to either begin, or continue the language revitalization process. With this method, though, comes problems, such as the time frame that the language is actually taught is not enough time for a child to learn all that they need to know (Hinton 2001:7). There is not enough time spent each day, or each week, on that specific language for children to learn actual conversational phrases, and most of the time certain words are only taught. This does, though, get children actually interested in the process of language learning, especially when the language learning comes through a form for digital media such as the Apsáalooke Language App.

Classroom learning has to also incorporate cultural learning in such a way that the language children are focusing on can also be used and incorporated into cultural contexts. Concentrating on songs, storytelling, and names for material culture objects in their own language would help the children to not only learn about the Crow language, but also about different aspects of their culture as well.

One of the first steps in the beginning stages of language revitalization is seeing what documentation is out there on the specific language. For example, the National Anthropological Archives (NAA) has Crow language documents from the mid to late 19th century which shows the language being recorded as early as 1861 with the title "A List of Some Common Words in the Crow, or Apsaraka (sic) Language" at the mouth of the Yellowstone River. As the title suggests, most of the words are animals, numbers, and objects that were probably in a close vicinity at the time the documentation was occurring, such as blanket, knife, moccasin, and hat. While most of the documents that the NAA has are English to Crow translations, they also had a dictionary with a German to Crow translation. Additionally there is also a one page sheet of colors, from 1878 that has translations in each of the languages from three tribes: "Crow," "Sioux (Oglala)," and "Snake." The NAA also had a booklet that was catalogued as "Mountain Crow Vocabulary" from May of 1869, which was published by the Smithsonian in 1803 as a "Comparative Vocabulary" to document different languages across the world. The booklet consisted of approximately 190 typed words in four columns of English, Spanish, French, and Latin, with then the Crow words handwritten in the last column in line with each corresponding word from the other four languages. The Crow, who were historically divided into two groups, the River Crow and Mountain Crow, as far as I

have been able to figure out from asking people in the language department as well as the cultural office, still had the same Crow language. There were not two different dialects as this document might indicate.

Furthermore, while there are programs such as Breath of Life and Recovering Voices which serve as institutions for Indigenous communities to have the chance to increase the accessibility of language documents similar to the ones that I wrote about in the previous paragraph, those communities still have to find, or apply, for funding to get to these meetings to see the documents. New digital media, then, acts as a platform where Indigenous communities can incorporate language documentation from archives, as well as contemporary language learning resources into one easy to access format that can be used without having to travel to these institutions. The Apsáalooke Language App fulfills the part of contemporary language learning, and a new potential pocket archive can act as the other half of the platform that holds the archival language documentation portion.

New digital media can also help with one of the major problems that exist in reference to language documents. The lack of visual imagery and the overall visual aspects of conversation (Hinton 2001:11) are missing from language documentation found in archival institutions. As contemporary researchers and community members, we cannot see how people interacted while they were speaking, what their body language expressed when they were joking, or telling a story. Now, with video technology so readily available this is something that can be documented into not only contemporary language documentation, but also added as supplemental material to historic archival material.

Not only is video technology a way to provide a better-rounded documentation to language archives, it also serves a way to increase community interest in the actual learning of the language. Other technology that garners community interest such as CDs and audiotapes (Hinton 2001:12) are also valuable language learning resources. With the decreasing use, and inclusion of CD players on portable devices, though, this may not be the best resource for language learning compared to other digital technology. Considering that an app, such as the Apsáalooke Language App, which can be used at any second of the day, and in any place, as long as your phone is charged, makes language learning that much easier to use and access, whereas with a CD you would need to be attached to a computer or laptop that still had a CD drive, or sit in your car to listen through your car's CD player.

The Apsáalooke Language App has arguably increased the interests of members of the Crow Tribe in relation to learning and speaking the Crow language, even if it is not being used as frequently as when it first came out. The engaging dynamic of the content on the Apsáalooke Language App, with its bright colors and pictures, has specifically gained children's interests in learning the language, while the incorporation of games and quizzes helps to keep the children on track of their progress by advancing levels ranging from easy, medium, and hard. Among the Crow, many children who live in a home with at least one fluent speaker will understand the language when it is being spoken to them, but will the majority of the time answer in English. I have witnessed, though, a few more outgoing children in those homes who do try to speak the Crow language back occasionally and this bode of confidence could very well be from having access to the pronunciation on the Apsáalooke Language App if they need it.

On a good day, the drive from Crow Agency to the outskirts of Billings is roughly an hour west on Interstate 90. When you add ice, snow, random construction projects, or wanting to see a movie on the far west side of Billings, this drive can be upwards of 15-20 minutes longer. While this does not seem like that long of a drive relative to the distance most things are from one another in Montana, it can seem like a drive that has no end in sight if your car is full of restless kids: kids that normally would not have to be buckled or seated when driving around on the Reservation, but who do have to sit and buckle in on the trip to Billings.

Imagine, or if you are a parent just think back to, a similar scene in your own car, loading up a toddler unhappy about being in a car seat before you even get out of the front yard. Packed in the backseat with them are two other elementary aged kids that are already bored and wanting to be in Billings before you even get off the gravel road that leads to the highway entrance. Normally, in this situation, we would pass back an endless supply of snacks, or so we thought, hoping that this would help speed up the ride for them, and us. Bags of chips, candy, soda, and fruit snacks are all being tossed around and eaten, but soon the only evidence left are wrappers and the inevitable orange crumbs of Cheetos across their faces. Unfortunately for us, the food lasted about a fourth of the overall trip. We try to play music or talk with the older kids about different topics such as school, their friends, and upcoming school vacations, but still there is more than half of the trip left. At this point if no one falls asleep then we are in the position for another 30-40 minutes of still trying to entertain three energetic kids while still driving safely.

After deciding that sacrificing your phone, and therefore your Spotify playlist, for the same handful of songs that play on satellite radio is really for the greater good of the car, this is where the Apsáalooke Language App comes into play. The last part of the trip is covered with language games, learning, and singing along to songs within the app. The kids bounce back and forth between English and Crow, going from one category to the next and giggling, but not stopping, when one of them has trouble pronouncing the words. In what follows I will provide additional information looking at both ethnographic, as well as literature examples in reference to the Apsáalooke Language App and the language learning and revitalization that is taking place since it was released.

Background on the Apsáalooke Language App

The Apsáalooke Language App, which has been downloaded more than 3,000 times since it was released, has allowed Crow tribal members, along with others who are interested in Crow language and culture, the opportunity to learn, or help maintain the Apsáalooke language. This app, because it can be downloaded once, and then used without Wi-Fi or cellphone data, can be easily accessed and used by people all across the rural reservation, therefore opening up the opportunity for anyone with a smartphone or tablet to benefit from its contents. Members of the Crow tribe realized the appeal of technology as a new way to promote language revitalization that might be the answer to engaging the younger generations and they decided to use this to their advantage.

The Crow Language Department began the initial production and planning of the app in 2014. It was first released during the time of the 2015 Crow Fair on Apple software, and then in November of 2015 the Apsáalooke Language App came out for Android software as well.[7] After the release on both of these major cellphone platforms, in the late winter of 2016, the app influenced the Crow Language Department to hold adult language learning classes for a month. The Apsáalooke Language App acted as a basis for the development of the course as well as a platform for the students to use while they were also engaging in other material that the teachers provided. A CD full of Crow hymns as well as a reference booklet that went with it providing Crow/English translations was also another project that came to fruition after the Apsáalooke Language App was released. The CDs and accompanying booklets were handed out to members of the adult language class as well as provided to the schools in Crow Agency for the children to listen to and sing along with. This provided yet another form of language learning through the memorization of the hymns and following along with the Crow/English translation in the booklet.

A year after it was released I talked to Birdie Real Bird who works in the Crow Language Department and who was one of the people who helped to develop and configure the Apsáalooke Language App. After asking Birdie if she has seen an increase in language learning from the use of the app she replied,

> "And the app in a way is okay, but I think we need phrases. Conversational phrases and sentences to learn that whole. So you can converse with each other and start using it. Right now it is all colors, numbers, and animals. So if you say, "I know Crow," and you know all your numbers, eh, colors, and your animals, then you can't go to a Crow person and say "hawate."

[7] For more information on the release of the Apsáalooke Language App, please see Chapter 1: "The Political Economy of a Digital New Media Form"

> That doesn't make sense. Hawate means one. You can't just go up to that person and say hawate, dupe, daawiia. [1, 2, 3 in the Crow language] So the app is good to make awareness of language loss and that, but I think…the next step is to do sentences and phrases. The next step is conversational sentences and phrases. So it is okay. Everyone is doing it, so we did it" (Interview with Birdie Real Bird, August 2016).

She spoke of the Apsáalooke Language App being a first step in the language revitalization process for the larger Apsáalooke collective, but acknowledged that she was aware that this was just a step in the process and that the next steps need to be to create a language curriculum that included more phrases for conversational learning.

There was no formal "launch" announcement, besides announcing it at the arbor during Crow Fair, and handing out fliers during that time. The majority of the publicity surrounding the Apsáalooke Language App was spread by word of mouth, which, in a relatively close-knit community happens fast, but it still does not reach everyone across the entire reservation. I first learned of the Apsáalooke Language App through a text message from one of sisters back in Crow a few months after it had come out. She had just recently found out about the app as well and was really excited about having it to play around with.

Both written and digital materials being available for language learning and revitalization within Indigenous communities provides those populations with a chance to choose what they think works best for their situations as well as allowing them to try out one resource versus another in order to see which method has the best results. The Crow Tribe has been able to use some of the resources that were available to them in order to further their language revitalization efforts across the reservation and beyond.

In the following section I will incorporate a few examples of specific language learning happening on the Crow reservation in reference to the Apsáalooke Language App.

Learning Through the Apsáalooke Language App

When I asked a few of my interviewees if they knew of anyone using the Apsáalooke Language App to learn the songs that are on there as part of the "Culture Notes" section, a few people said that they did know of someone, or multiple people, that were using the app in order to listen to, and learn the songs. One person told me that he had been using the app to learn the Crow Flag song on his own. He mentioned that he should already know it, but that he was not completely confident on all of the words until he listened to the Flag Song over and over on the app to learn it on his own while he was driving around for work. He felt embarrassed talking with older relatives and admitting that he did not remember all of the words to the song, so he expressed to me how happy he was to be able to listen to the recording on the Apsáalooke Language App in order to learn on his own. He now feels confident to sing the song by himself in front of groups of people, and has done so on multiple occasions when asked for it to be sung before a ceremony. The Crow Flag song, which is sung mainly by men, though women can be heard chiming in in the background, is a mix of a song that not only represents the Apsáalooke Nation, but also can be considered a prayer song as well. I have had the good fortune to be able to listen to him sing the song, alone, with just a drum, before a morning cleansing ceremony. The confidence that he exuded was amazing and I would have never known that he did not know the entirety of that song a few months prior.

I have also observed children at the elementary school level play with their phones, or family members phones, in order to listen to songs over and over again and sing along to them. Whether they are playing the songs out loud and singing along with friends, or whether they have headphones in and are singing the songs out loud to themselves, children are using the Apsáalooke Language App as a tool for learning songs that are so important to the Crow people. A teacher that I interviewed recalled on car trips that the entire Apsáalooke Language App was a great source of entertainment for her grandchildren, and that they would sometimes play the songs from the "Culture Notes" section across the car speakers for everyone to listen to together. Another interviewee stated, "I think some of the kids are using it. I know young people are really trying to learn the Flag Song and some of them are learning it to sing [at events]" (Interview with Birdie Real Bird, August 2016). This theme of using the Apsáalooke Language App for not only language learning, but also for learning about the rest of the content on the app as well can be seen across generations, especially in reference to the Crow Flag song.

The Crow Language Department understands that this app is just a stepping-stone for language learning and revitalization and has been working on a language curriculum for Crow Elementary School now that they have learned from many members of the community about what is, and what is not working through the app. Between the launch of the Apsáalooke Language App and connections from the Recovering Voices Trip to Washington, DC, in March of 2016, the Crow Language Department was able to have a graduate student in linguistics from Georgetown University come to work with them for a month during the summer of 2016. The

graduate student helped to build the curriculum for the Crow Elementary School, which they hoped to implement in the fall of 2016 school year. This gave the Crow Language Department yet another resource for language revitalization with their access to a graduate student who was knowledgeable and willing to help create a curriculum for the Crow Tribe to use.

As I sat in the kitchen one Saturday morning, I asked my Crow mom what the word for Saturday was in Crow. She looked at me for a few seconds and then said she could not remember and asked my Crow dad. He just looked back at us thinking, and I watched as he, and three other people around the table that morning took out their cell phones to look up the word for Saturday. Two of those people are fluent Crow speakers, while the other two can understand the Crow language when it is spoken to them, but they usually then reply in English. It was a race to see who could look up Saturday the fastest, and after the first person clicked on the word and it played loudly over their phone speakers, there was a look of recognition, and "oh yeah!" across everyone's faces. After that, the days of the week were recited a few times, my Crow dad translated them literally for me, saying them and allowing the app to play them as well, and even a few of the kids chimed in with what they had learned from school before taking my own phone to go into the other room and play further with the app while it was the topic on everyone's minds. I realized then that this app is more than just for language learning and revitalization, but it is also for remembering and reciting, and allows a person to quickly pull out their phone at any time to figure out a word without having to ask someone else for help.

Using the Apsáalooke Language App in the National Anthropological Archives

During the days that our Recovering Voices group was in the National Anthropological Archives (NAA), we viewed a variety of historic photographs, watched a film made during Crow Fair in the early 20th century, and also had a chance to look at language archives from the mid to late 19th century. The language archives were in multiple different languages including English and German and then translated into the Crow language, and covered a range of words from animals, to colors, to numbers, and items that were probably worn or laying around as the translations were taking place. Many of the men recording the Crow were most likely fur traders and trappers that were in the region at the time. There were even 10 pages of specifically "Mountain Crow" from 1869 written in a "Comparative Vocabulary" handbook that had typed words in English, Spanish, French, and Latin, and then had space for another language, in this case Mountain Crow, to be added to the pages. Historically the Crow belonged to one of either two groups, River Crow and Mountain Crow and this was a unique document to look at to see if there were words that were specific to the Mountain Crow dialect compared to River Crow, or if it had just been labeled at "Mountain Crow" because the person who was being asked the Crow words was part of that group. After talking to Birdie Real Bird about this specific document she told me that there is only one Crow language. There is not a division of the language between the two groups, just a difference in their geographical locations.

While we worked through the language archives, we were split into smaller groups because of how fragile the documents were. Together, I and one of our group members who is also not fluent in the Crow language worked through some of the

words that we knew in order to compare them to how the language is actually documented today. When it got to a point where we did not know any more words we were going to move onto a new document, but then we all of a sudden remembered that we could look up words in the Apsáalooke Language App that we both had available on our different cell phones. We were eager to see if anything in the documents from the 19th century would match up with files on this new 21st century technology. We were able to use a resource that the Crow Language Department had created for language learning in 2015 and apply that new digital media to look at words that their ancestors would have spoken almost 150 years ago. We were both excited to be able to use this language app in such a unique and applied setting for the morning, and while we could not get through everything, the Apsáalooke Language App allowed us to become involved in the language documentation and research part of the trip as not fluent Crow speakers. This was something that we had had doubts about before this morning's language session, and because of this new media, we were able to participate with everyone else.

Through sort of an accident, we realized that the Apsáalooke Language App could be used as a resource to help those of us who were not fluent in the Crow language to still be able to take part in the exercise with the rest of the group. Since we were not needing to know whole sentences to follow along with the archival material, or to participate in a conversation since it was happening in English, the Apsáalooke Language App allowed us to compare words in its digital contents to the words written on the pages of the multiple paper archives that the NAA had on Crow language resources. Words related to numbers, colors, and animals were some of the most

documented and luckily for us, those three categories are also some of the biggest categories on the current language app. We were able to compare what was in the Apsáalooke Language App to what was written in the archival material in order to see what words were similar, what words were really far off, and then what words might be referencing the same thing, but the spelling was phonetic and therefore looked nothing like the Crow alphabet.

Some of the fluent Crow speakers even took out their own phones to use their downloaded Apsáalooke Language Apps after they saw us working through the archival documents with our phones open to the apps. It created an interesting dialogue among all of us using the language app and those who were part of the National Anthropological Archives and Recovering Voices staff, as well as a linguist that was visiting from Georgetown. The linguist from Georgetown had been previously working with a Crow man who now lives in Washington DC on applied language learning and they both joined us for the day we were looking at language documents specifically. It was interesting because, even though the man he was working with was Apsáalooke, he did not know about the Apsáalooke Language App that the tribe had developed until we were all talking about it, and was excited to also download it to use later.

When we got back to Crow, I was eager to bring in the language documentation specifically to people in the Language Department. The morning that I walked into the tribal building and down the hall to where the language offices were, I found that two employees were already in and we made small talk as I got my laptop out to show them the language scans from the NAA. As I pulled up the images of the documents their reactions ranged from happiness, a small amount of shock, and also laughter. While I

anticipated the happiness and possible shock, I had not anticipated the laughter. The laughter, was geared at the phonetic spelling written by the "*baaschiile*" or white people, to which they asked if I would spell some Crow words like that, and I had to embarrassingly admit that, "Yeah I probably would," and actually do, in order to remember how to say them, which then led to more laughter at my expense.

While I mentioned their slight amount of shock to seeing the documents, it was

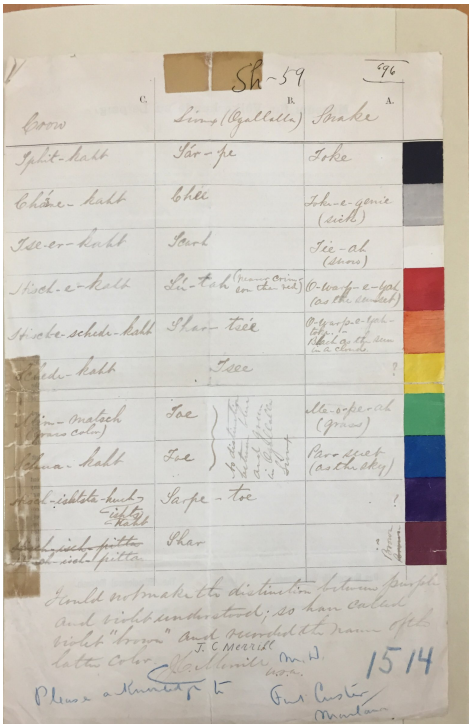


Figure 6. Crow Colors 1878, National Anthropological Archives, Crow 1515, SH-19 --Photograph by Kiley Molinari

not for the reason that I would have initially thought. I thought the shock might come from realizing that the documents were there, but they did not seem to be phased about that from their prior language research. They were shocked, though, to see that some of the words were documented "wrong," and this called to their attention a great amount of concern for communities whose language is not as still well-spoken as Crow, and who

might only have language documentation from archives to use in order to revitalize their words and phrases.

Linguistic Analysis in Reference to Technology and New Digital Media

There are many different aspects of a language that makes up an entire conversation. Spelling, grammar, body language, hand gestures, and different ways of saying things are all different parts of a language that need to be considered in the process of language learning and revitalization. Utterances, heteroglossia (Bakhtin 1983), the mix of utterances, and the concept of speech acts are something that also relate to linguistic or cultural heritage projects because utterances can also be explored in the context of how the audience responds. With projects such as the Apsáalooke Language App, which is so community based, the audience's reaction also has to be taken into consideration in order to see how they are responding to language revitalization through technology in this case.

Speech acts, which can be considered specific parts of a conversation, such as greetings, are also useful to not only people who are members of the Crow Tribe, but those who are non-tribal as well. The current Apsáalooke Language App has greetings for specific genders and how people are related in its context so that if you have the app you would know how to greet, or talk, to someone in the proper way based on their gender and how you were related to them. This is especially important to include in language learning resources because it helps the user, or the audience, to make sure that they are always speaking in a respectful manner when talking to specifically elders.

We can also study apps, and other forms of new technology, in the same context as Coupland investigates conversations about the weather. The weather, used as a way to interact in a form of small talk, is something that everyone can relate to (Coupland 1999). Anyone, when asked about the weather, can relate in one way or another. Apps are similar to this context where they create a conversational topic that can be used for small talk. This specific form of technology is also something that, while not everyone in the world can relate to, anyone that owns a smartphone or tablet can certainly talk about different ones, know how to work them, and can engage with others about not only using them, but also discussing them as well.

Another way that technology can be used is also through Baxter's 2014 use of Bakhtin's concept of "double-voice discourse." While Baxter is using the concept in relation to how women are using "double-voice discourse" at work to be heard by men, this can also apply to a linguistic or cultural heritage project for Native Americans to be heard by society outside of their own communities. Thornton Media Inc. allowed the Crow Tribe to design their own language learning software through the Apsáalooke Language App based on a popular template in order to incorporate the most important aspects of their language, not ones that were picked out for them. All of the words were chosen by members of the Crow Language Department, with Thornton Media Inc. only giving them a price quote on how many words that they should have. The different language categories were specifically picked by the Crow Language Department as some of the most important words and phrases that they thought people should know. Therefore, the app serves as a reference point to language learning from the perspective of an Indigenous community.

As stated earlier in this chapter, language learning and revitalization is shaped by different mediums, and technology is certainly one that fits into this agenda. Communication involves more than just language in the context of words; it can also incorporate photographs, film, music, and other forms of media which can be used to connect language to other modes of meaning-making (Johnstone 2007). While face-to-face interactions are always important to have, they are not always necessary with language revitalization efforts, but they do add to the overall wealth of language documentation. Dialogue can still be looked at through different forms of technology, it just has to be analyzed in distinctive ways. For example, dialogue can be looked at in terms of Bakhtin's intertextuality, which I will continue to discuss briefly.

Bakhtin and Voloshinov's concepts of inner-dialog at one extreme and intertextuality at the other, show that technology can still be considered in relation to these two forms of dialog. This inner-dialog with the app gives the person the chance to try the word out and remember it before they feel comfortable sharing it with others. The Apsáalooke Language App can also be used in this way in order to help with Erving Goffman's concept of face-work, where you might not understand everything that is going on in the conversation, but there is a point where you are able to understand, and you jump in to share your knowledge of that small portion of the conversation. Someone can be sitting on the outskirts of the conversation listening for words that they might know in order to pick up on the topic, and now are able to also use the Apsáalooke Language App to look up something in relation to the dialog that is taking place in order to contribute faster as well.

Intertextuality, seen as the method of production and reception (Bakhtin 1986) can be comprehended in reference to technology as the production of an app and the reception of not only the people in the community that helped to put it together, but also the whole community as well. This concept can be used in order to see how people initially received the app and how they are incorporating it into their lives. Inner-dialog, while a bit more difficult in its relation to technology, can still be used as a way for someone to have an inner-dialog with the contents of the app: such as playing a language quiz by yourself and progressing through the different levels by saying the words and phrases over in your head in which you are hearing, or saying to yourself that you do not remember the way a word is spelled or said and then going onto the Apsáalooke Language App in order to find it for yourself.

As Bakhtin and Voloshinov point out, inner-dialogue is many times something that goes on within your own head before you open up and say it to others. As mentioned above, the current Apsáalooke Language App can be applied in this context because many people are using the app as a tool of reference if they cannot remember how to say or spell a word before they decide to ask someone else. People using the Apsáalooke Language App are having an inner-dialog between themselves and the technology in their hands as they open up the section where they can find the word that they are specifically looking for. When I asked some of my interviewees if they were using the app in order to learn the pronunciation or spelling of various words, there were a few general themes, or feelings, that came out in people's responses. One overall feeling was that they were too shy to ask someone to properly pronounce or spell a word. Another idea coming from a few of my interviewees was that they felt

embarrassed to ask someone about spelling or speaking a word because they thought they should already know how to say or spell it, and did not want to admit to others that they actually did not know, or remember.

I have personally seen many people in their 20s and 30s who can completely understand the Crow language when it is being spoken to them, but they do not feel comfortable enough speaking back in Crow, so they answer in English. The Apsáalooke Language App, then acts as sort of a comforting tool when a person is unsure of a word, or one of the few phrases that are part of the language content, they can easily take their phones out, open the app, and look up anything that they need to without having to ask a fluent Crow speaker. When discussing this topic of people using the app to remember words, Birdie mentions, "I think they can learn some things. There's a little part on there with phrases and I think they can learn things from that, too" (Interview, August 2016). The "Phrases" section, while relatively small, consists of 27 one to six word phrases. These range from simple phrases such as "Yes" (*eh*) and "No" (*baaleetaa*), to phrases about food, "I'm hungry" (*balishiik*), "Have some coffee" (Biliishpiteem Iishih), and "Wash dishes!" (*Baateiishawih*!), to even phrases one might use to impress someone they are interested in such as, "I love you" (*Diiawachisshik*), "You look pretty!" (*Diiitaachik*), and "You are handsome" (*Diibacheexusshik*). While you cannot become fluent in the Crow language off these phrases, they are things that you might hear on an everyday basis and start to remember.

Another general theme that came some of my interviewees on the topic of uses for the Apsáalooke Language App was the overall "easiness" and "accessibility" that came with having the app on their cell phones. Even fluent Crow speakers admitted

that sometimes they just could not remember what the Crow translation for a specific word was and they just opened up the app in order to find it out quickly if the information was in there before they resorted to contacting someone that they thought would know the answer. Checking for the information in the Apsáalooke Language App first was overall more convenient than having to track someone down or call someone for the same material.

Exploring a few more key theoretical concepts of linguistics that can still work with the use of technology, we can see that some notions used in the past for language study and research can easily be translated and thought about interconnected with new digital media. For example, the concept of opening and closing a conversation (Schegloff & Sacks 1995) can still be referenced and analyzed in the context of technology, because of the frequency that new digital media and other forms of technology are used every day, even if it is not as definitive as when conversations are occurring face-to-face. For example, using technology for texting, video games, and even learning on an app can all have an opening and closing for the person who is using the different forms of media technology. Texting can also relate to Malinowski's (1923) concept of phatic communion, or small talk, and conversation analysis (Hutchby & Wooffitt 2008) where texting consists of short forms of small talk between two people, or a group of people. Further proving that linguistic analysis can still be used in reference to the use of new digital media and other forms of technology.

Video games generally start with a story about what you are going to be doing, and most apps have a home screen, which consists of a menu to delve further in. In the context of the Apsáalooke Language App, the opening is a photograph of Joe Medicine

Crow who was the last Crow War Chief, completing all of the deeds needed to become a Crow War Chief during World War II. He was very knowledgeable about the history, culture, and traditions of the Crow people and was not only a tribal historian, but was also considered a grandfather to all. Joe Medicine Crow passed away in March of 2016, but he will always stand proud on the home page of the Apsáalooke Language App for everyone to see as they continue with their language learning.

Discourse and Narrative Analysis in Relation to Archives

The study of discourse analysis, which is the process of studying language through different contexts, includes a wide variety of aspects of human social life. Languages, music, gestures, speech patterns, and even technology are all different mediums, which can be studied using discourse analysis in order to learn more about their interactions in relation to both individuals and collectives. If we were to only investigate one aspect of these five examples above we would not be able to gather a well-rounded picture of an individual's social life, let alone an entire community's. In relation to discourse analysis, we need to explore multiple aspects of human social life in order to understand how everything fits together; this can be done by studying small aspects of language such as utterances (Bakhtin 1983), which can be used as a basic unit of study for actual speech, all the way up to how forms of technology, such as apps, can be understood as a compilation of utterances in order to create a whole picture of what the community wants to share.

Focusing on one aspect of social life can be just as narrow as focusing on one portion of the community in order for information on language revitalization, retention,

and learning to be looked at and analyzed. The literature that focuses on youth as agents of language revitalization and community engagement is under-studied in language revitalization, rather most of the literature is looking at how elders, or middle-aged adults are speaking the language and in some cases teaching it. Hinton proposes that certain youth in communities across North America are using aspects of traditional and contemporary learning styles in order to engage with their languages. The idea of not only focusing on "last" speakers, but also on "first" speakers shows that the Indigenous youth are just as actively trying to retain and revitalize their languages as the older generations.

Linguistic analysis has, in the past, been used as a science of linguistic information, but in the last few decades the methods have switched in many parts of the world, and the projects have become much more applied. Subjects became participants in research endeavors and collaboration turns into a key to language revitalization and retention in not only the community (Amery 2010), but also the family (Hinton 2013), and the individual as well. This resulted in the communities being able to access the linguistic research and analysis for their own needs. In doing so, this relation to collaborative language learning efforts showed more of a community-based view on how the larger social collective viewed language revitalization within their own context.

While considering this aspect of social consciousness of language shift and language reclamation (Meek 2010) we can also study the importance of technology in different facets of youth language learning. Not only can technology help aid in opening up archives and creating more access for community members of all ages to access linguistic archival material, but we can also analyze technology in relation to

recursive bilingualism (Garcia 2014) to show how youths are taking older aspects of languages and using them in a new way and in a new format that best fits their techniques of learning and teaching the language.

An "obvious use of digital technology is that it provides comparatively inexpensive and effective ways of recording linguistic practice in lesser-used languages, especially in situations where language shift is almost complete and the last remaining persons competent in the relevant language are old…" (in Eisenlohr 2004:24; Bennett 2003; Hinton 2001; Kroskrity 2002; Kroskrity & Reynolds 2001; Parks et al. 1999). Not only can this be applied to an app like the current Apsáalooke Language App that is out now, but it can also be applied to music, such as Jay, a Navajo hip-hop artist who uses Navajo language and ideologies in his music in order to engage the youth and hopefully pique their interests in learning about their Navajo history, culture, and language (O'Connor & Brown 2014). These are just a few examples of youth adapting older forms of language learning into newer forms for not only their own benefits, but also in order to allow language learning to be considered in a new way, and therefore hopefully be used to engage more people their age.

If a bilingual or multilingual speaker were to spend the day in a Native American community, they would not only need to know the language, but they would most likely need to know gestures, utterances, and other language connotations to get them through the day in a respectful manner. For instance, the concept of politeness (Baker & Ellece 2011) in discourse analysis has to be looked at in terms of knowing the social behavior of the community that you are working in. You would need to know how to pick up on certain cues so as not to offend anyone that you are speaking with.

There are also many gestures, body language (Bourdieu 1991), and other performative acts (Austin 1962) that one might have to know to get through the day, such as referencing, or speaking with their hands instead of words. Another specific gesture, making eye contact, is something that people working in the community should understand soon after getting there. For example, in the Crow culture, if a woman looks a man in the eye when they are talking it is seen as a form of flirting. As a female in the community, it was something that I was taught very early on not to do, which is a concept that is far different from the society in which I grew up in.

Narrative analysis is crucial for looking at both linguistic and cultural heritage projects because narratives are a way for humans to organize the experiences and events of their lives. They can be seen played out in songs, stories, film, and even photographs. Images involve two kinds of participants, who together, make up a narrative: the people represented (in the photographs) and the interactive (people who communicate through the photographs (Kress & Leeuwen 1996). Combining together and showing pictures, songs, and film not only allow an app to be more engaging, but it also then portrays a more well-rounded narrative of certain events. Narratives are also ways of capturing past experiences (Labov 2006) which can be seen in a cultural heritage project like a new Apsáalooke Language App which acts as a form of a digital pocket archive for the Crow community, and gives new voices to narratives through their interactions with the community and the audience (Edwards 1997). Narrative analysis is a concept that is very important to look at in my own research.

Along with narrative analysis, framing, or the use of frames (Baker & Ellece 2011), is a concept where one person sets up the context, or frame, of a conversation

with someone else so that they know what is going on in the dialog. It is also a way of providing background knowledge to produce discourse (Baker & Ellece 2011). These frames can also be seen as "frames of interpretation" (Tannen 1986), where frames become interactive and can be used to allow the listener to understand how the speaker is interpreting the topic of conversation. The Apsáalooke Language App can also be studied as a "frame of interpretation" seen from the point of view of not only a few individuals, but also the larger social collective. The handful of people in the Crow Language Department that were in charge of establishing the Apsáalooke Language App and setting up the process with Thornton Media Inc. understood the essential information to be included in the app. Their "frame of interpretation" established the basic language material that one would need in order to either begin to learn the Crow language, or to use it as a tool to refresh the Crow language knowledge that one already had.

Current and Future Language Learning Stemming from the Apsáalooke Language App

At the time that this was written, the Apsáalooke Language App was, is, or proposed to being used in a variety of places on the reservation and in the surrounding area. Currently, and since it was launched, the Apsáalooke Language App is being used in elementary schools throughout the reservation in varying degrees of participation and engagement. Then, in February of 2016, it was also used as part of adult language learning classes that took place nightly in Crow Agency, and had about a dozen or so participants who used the app as an aid for their language materials. Speaking to a few

of the participants, the general consensus of the perks of using the Apsáalooke Language App in their class was that they could then go home and practice while still having the ability to listen to how the words were said on the app. Furthermore, the participants were then making sure that while they were practicing at home, they were still pronouncing the words and phrases correctly without needing the aid of a language teacher. Some even said they felt more confident being able to practice at home trying to "perfect" the way words were said before they went back to the next class.

It was also being considered to be added to the language curriculum in Hardin Middle School for the 2016/2017 school year. Hardin, which is the first town off the Crow Reservation on I-90 going west, has a large population of enrolled Crow tribal members who are students in this district. According to one interviewee who works as a language and culture teacher in the Hardin School district, the demographic might be close to 75% Crow students going to school there (Interview with Linda Little Owl, July 2016). Linda stated, "We are not that advanced in the Hardin School district with the Crow language. They are just kind of introducing the app and hopefully the students can start using it in the middle school this year and if they do that then I think they will really learn to start to speak Crow" (Interview July 2016). She also emphasized that the students could then use the app at home as well. She explained "If they can get the app on their cell phones, which a lot of them have, then they can learn at home too. It would be a good way for them to speak Crow at home with their parents because the majority of parents will speak English to their children" (Interview with Linda Little Owl July 2016). It was the hope that the Apsáalooke Language App would

be used during their Crow language classes, but I have yet to determine if it was implemented, or not.

Another way that the Apsáalooke Language App is being used is by Crow tribal members who are living off the reservation and who do not have many fluent speakers around them to converse in Crow with. These people, then, can keep on using the app as a resource to help maintain at least as much of the language as they already knew, if any, and are then able to help teach their children with it. Even though they might have learned Crow as a child living on the reservation, or with more fluent Crow speakers, their children might not have grown up in a Crow speaking household, or have anyone to practice with.

The Apsáalooke Language App also helps with people who are married to non-Crows and who therefore might not have the chance to speak Crow as much as they used to because their spouse does not know the language. One person who I spoke with mentioned that since her husband of almost 25 years did not speak Crow, she began to speak it less and less and this also lead to the decision to not teach it to their children. She recalled that she would still speak the language with older relatives and friends, but not nearly as much as she had growing up. She mentioned that now that she can use the app on her phone she has been interacting with her grandchildren in Crow much more often than she was before the Apsáalooke Language App was available. She told me that she enjoys being able to watch her grandchildren interact with the Crow language on their phones because they already use them so much anyways, and "at least this is something good they can be doing on them" (Interview in April 2016). She also joked

that they are much more interested with learning the language on their phones rather than when she tries to teach it to them.

Lastly, the Apsáalooke Language App has increased the amount of Crow language that is now present on social media sites such as Facebook and Instagram. When someone is posting on Facebook or other social media sites and wants to use the Crow language, the app acts as an aid for an easy and quick way to look up words in order to get the spelling right. The new trend of using Indigenous languages on social media can also be seen in New Zealand with the Maori language. In an article written by Dean Mahuta, Facebook and Twitter have become popular social media platforms where friends are using the te reo Maori language in posts and hashtags. Both of these social media sites act as popular areas where an Indigenous language can be written, read, and translated by not only speakers of the language, but also by others that are interested. Mahuta states when talking about the use of bilingual language postings on social media sites, "They subscribe to the idea that we should not just post in one language because we can speak the language – we should post in the language and translate it too because we want others to learn the language. Language learning should be inclusive, not exclusive" (2015:1). Social media platforms act as an exciting way for language learning and revitalization in Indigenous communities to continue to increase.

Chapter 3: Recovering Voices

Recovering Voices Trip

The Recovering Voices Program, through the Smithsonian's National Museum of Natural History, is a community collaboration program that has grants each year for Indigenous peoples around the world to apply for. Communities have traveled to research in the Smithsonian collections through this program to work on language and cultural revitalization projects. In March 2016 I, and four members of the Crow Tribe (Karis Jackson, Linda Little Owl, Dana Old Coyote, and Nina Sanders) began our research through the Recovering Voices Program in DC where we spent a week going through collections at the National Anthropological Archives (NAA), the National Museum of Natural History (NMNH) , and the National Museum of the American Indian (NMAI). Upon returning to the Crow Reservation, we realized even more the importance of making museum collections accessible to everyone, not just those who can travel to our nation's capital to view them, and it posed the question "What happens when Indigenous community members do have the chance to travel to look at their own collections in museums and archives," as well as, "What are the benefits that the entire community gets to share in and be a part of when digital content is brought back?" This chapter, based on preliminary fieldwork in the summer of 2016, gives a surface description of some of the projects that have started with the opening of digital access to the Smithsonian's object and photographic collections.

In August of 2015, the Apsáalooke (Crow) Tribe of Montana joined a growing new media movement across Indian Country and released its own proprietary mobile phone software: the Apsáalooke app through Thornton Media Inc. Aimed at Crow language

revitalization, this multimedia platform integrates quizzes, games, oral histories, ethnographic descriptions and archival visual imagery in a free downloadable format for Apple, and just recently Android software. While this app is closed and cannot be added to, it gave us the idea to create a new app, possibly using Mukurtu software, in order to craft a collaborative ethnographic exploration of how Indigenous new media is reinventing the basic terms of political advocacy through cultural heritage and intellectual property rights, and specifically material culture digital returns through an app.

Mukurtu was started with the Warumungu Aboriginal community in Australia and was built specifically for what they were looking for in a digital archival platform. Once it was seen to be a success with this particular group, the Mukurtu CMS software was established in order to provide a platform that could be available to Indigenous communities across the world, not just Australia.[8] This software makes it possible to curate digital heritage content into a collection and allows culturally sensitive objects to be protected by passwords if needed. In doing so, it aims to illuminate new developments in Native America: the ways that the unique properties of digital new media interfaces are continuously expanding the terms of sovereignty, memory, and engaged collaborative anthropological research.

[8] "The CMS software developed by the team at Mukurtu is free and open source and principally engineered for use by indigenous communities. Some of these communities, without doubt, are vulnerable and prone to isolation in an increasingly globalized world. The project allows people around the planet to share in and preserve their heritage using modern technology. The archive platform provides standards-based tools which can be molded and adapted to suit the local cultural norms and needs of communities, but also libraries, museums and other institutions." (www.mukurtuarchive.org) This software, because it is built with each unique Indigenous community around the world in mind, helps create a step in the right direction for the safe keeping and preservation of cultural heritage in today's digital world.

While not everyone on the Crow Reservation has access to Wi-Fi, many people of all ages have smart phones. This makes the Apsáalooke app accessible and hugely popular to many members of the tribe living both on and off the reservation, as well as people who are just interested in Crow culture. The Crow Tribe has no tribal museum or cultural center; and therefore an app of digitally repatriated objects is crucial for members of the community to access their history and culture. The app then becomes a digital "pocket archive" of material culture and historic images, as well as song and video recordings that community members can access literally at their fingertips; it will all be in one place, and can be referenced whenever they would like, and does not limit access to only those who can travel. Mukurtu also has software that can be accessed on a computer, which could be accessible through the Little Big Horn College archives.

This research helps form a digital archive of material culture for the Apsáalooke community to have access to. Focusing on this app, then, promises to illuminate the social life of Indigenous mobile new media and the digital remediation of material culture – digitally returned or otherwise – among an internally colonized people. Members of the Crow Tribe were involved in the making and completion of the app and have practiced their tribal sovereignty by choosing what to add to this app and how to make it work for their community's needs. The reason for the Mukurtu software is because the Apsáalooke community will retain all the rights to the cultural and intellectual property put into the app. This was one of the most important incentives of this software to the Crow Tribe. When I was initially presenting my dissertation research to the Crow Cultural Committee, the 2014-2016 Vice Chairman, Dana Wilson, asked me if they would retain the cultural and intellectual property rights once objects

were digitized. I told how, with a program like Mukurtu, they would be able to protect their culturally sensitive materials through passwords, which they would then establish their sovereignty over the digital media and who was allowed to see the content. As Adam Lucas states, "The problem is not therefore one of recording knowledge that was not meant to be recorded, but of the custodians of oral lore being given the opportunity to develop protocols, customs and conventions for recording and disseminating oral knowledge in a way that is consistent with local traditions and community desires" (Lucas 1996:103). Allowing the community to determine what needs to be protected by a password and what does not gives them the chance to assert their sovereignty over new digital media.

These digital pictures of the objects and photographs, as well as video recordings can then be used to evoke a conversation with community members about what they might know about them, and the chance of reconnecting these items to descendants of the people who made them increases drastically. Not only will this information help to strengthen a museum's accession records, but giving tribal members the opportunity to be reconnected to these objects will also benefit the Apsáalooke community.

Ultimately it is our hope that this research will help in forming a digital archive of material culture for the Apsáalooke community to have access to. Focusing on this app, then, promises to illuminate the social life of Indigenous mobile new media and the digital remediation of material culture into an easy to access format. There are many museums across the United States that have Apsáalooke material culture in their collections and often times tribal members are not aware of these objects.

By taking data from museums and archives, and making it available in one place for community members to use allows this form of a "pocket archive" to incorporate "traditional" archives in its software, thus, making them more accessible, and possibly more appealing to younger generations who are already so reliant on, and interested in technology. The youths in the community now have an important role of working with elders to teach them about the technology and the content within it, while the elders are not only learning from the youth, but also teaching them about the content on the new media.

Finally, this project is important because it is a new way to look at how tribal members can access their material culture, images, and any historic media/song recordings without having to leave their communities. This ethnographic and archival study seeks to understand how new media such as apps work in tribal communities, how the communities are using it, and what the community would want in a new app focused on archival and collections research. This research will help bridge gaps in archival and digital media access for the Apsáalooke people, it puts an emphasis on collaborative work between museums and Indigenous communities, and it acts as another way of getting museums involved in community cultural heritage.

During the summer of 2014, I was a part of the Summer in Museum Anthropology (SIMA) at the National Museum of Natural History. This four week fellowship allowed me to conduct research in not only the NMNH's collections, but I also spent time in the National Anthropological Archives looking for records to go along with the Crow material culture objects I was looking at. Going to SIMA I was hoping to use this opportunity to look at the National Museum of Natural History

(NMNH) collection of Apsáalooke objects in order to attempt to trace back the history through the documentation in order to link the objects back to the families, or people who might have owned, or made them so that the Crow Tribe could have that information to use how they wished. My first step was to look at the list of collectors associated with Apsáalooke objects who were military officials, military wives, and doctors because I thought that they would have the most amount of documentation about themselves as individuals that could be found in archival records. After focusing on these men and women for a few days, going through the accession records, Bureau of Indian Affairs finding aid, and searching their name in the NAA archives, I was having a hard time finding more information about where the actual objects came from.

Next, I decided to look more closely at the list of collectors who had collected items that had names associated with them in the catalogue record. Some of the names were similar from the first search, while some were different. I then went through the accession records of each of these collectors in order to see if I could find out any more information that might not have been on the catalogue card or in the NMNH online public data base, and then I went through the NAA archives looking for paperwork that might explain more about where the objects were specifically collected.

After about two weeks of researching in the NAA, scanning through the Smithsonian online databases, and talking to people who have more familiarity than I with the collections, I unfortunately realized that many of the collectors relating to the Apsáalooke collection did not take meticulous notes. When I found object lists, the items catalogued as Crow were not talked about more than saying "Crow" next to the object description.

I then turned to photographs of people who had names associated with the objects who could be found in the Smithsonian's online databases. I began to realize that if there was just some way that I could get copies of the objects back to the Crow Tribe, that maybe people there would have the information that was missing from the object collection records. I decided to take photographs back to Crow with me for 2014's Crow Fair in order to show as many people as I could some of the photographs of objects that had names associated with them. It made me think about how I could reach as many people as possible, and walking around with photographs was not how I was going to accomplish that. I realized just how important pictures of this man's war shirt became to members of the Apsáalooke community I showed them to, and it reinforced the idea that a digital return of material culture objects from museums was something the tribe would not only benefit from, but that they were interested in. The idea of creating some sort of digital platform for these photographs to be stored on, and the Crow Tribe to have access to, led me to research different methods of how this could be done. At the time, the Apsáalooke Language App was still not out, but Mukurtu was and I was excited to start looking into that platform to be used for a digital return project.

After returning from our Recovering Voices trip we knew that we had a full summer of disseminating what we found in Washington, DC. One of the biggest projects that we began working on as soon as we got back was to disseminate our group's findings from the Smithsonian collections through setting up a booth at Crow Fair in August of 2016. Crow Fair, which takes place the 3rd week of August every year, gives Crow Agency its nickname of "Teepee Capital of the World." Apsáalooke

individuals and families, as well as friends and tourists from all over the world, travel to Crow Fair in order to camp for a week, attend rodeos, powwows, church services, and parades. We knew that many Crow tribal members who no longer live on the reservation still try to make it back for Crow Fair every year, and these were the people we wanted to specifically make sure we connected with at that time since they most likely would not be able to attend our public talks that we would be giving earlier that summer. While Crow Fair lasts from Wednesday to Monday afternoon, people begin camping at the Crow Fair grounds days before. On Thursday night, which is considered Crow night, of Crow Fair, Dana, Linda, and I planned to set up a booth at the powwow arbor in order to catch people as they passed by to watch the dancers or to check out the vendors and grab food.

The initial process of even talking to the Crow Fair elected officials about setting up a booth was both easier, and harder than I thought. Being in Crow is similar to being in a really small town where everyone knows everyone, everyone knows where you live, and what car you drive, which a lot of times now includes me in the last two categories. This meant that most everyone I talked to knew how to contact the Crow Fair commissioner; they told me when he was driving through town so I could flag him down (I did not), I knew from having so much time in Crow that I happened to live next door to him and everyone told me to just walk over and talk to him (which I also did not want to do because they have a not so friendly dog in the front yard), and lastly multiple people gave me his phone number and his son's name so I could call him, or Facebook message his son who helped him out.

After a few unanswered missed calls, I decided to reach out to his son on Facebook. While this helped, he still informed me that he would have to check with his dad to make sure we could set up right by the arbor. After a few weeks went by and the 3rd week of August was quickly approaching, I still had not heard anything back so I decided to call again to make sure that everything was going to be good for Crow Fair. His wife picked up this time and I quickly told her about our project and group trip to DC and she passed the phone along to her husband. He immediately said yes, to set up right by the arbor entrance, and said that since we were handing things out for free we would not have to pay the fee that Crow Tribal members have to pay if they are going to be selling anything. I had not expected this, nor budgeted for it, so we were very happy we were still going to be able to set up a booth at that summer's Crow Fair.

Leading up to Crow Fair Dana and I sat down and printed off extra copies of all of the photographs that members of the group had sent to me in order to make sure we had enough for anyone that might want one. We also printed roughly a dozen photographs in 8 x 10 size that people had shown the most interest in from our earlier talks. There were particular photographs of certain individuals as well as material culture objects that had garnered a lot of conversation so we wanted to make sure we especially had enough copies of those. Once we had those organized I bought the brightest pink poster board and wrote that we were going to be giving out free prints of historic photographs as well as Crow objects from the Smithsonian collections.

That Thursday night, my nieces, nephews, and one of my sisters helped me set up the booth right before Grand Entry. The kids loved that they got to hold the poster board of the 8x10 pictures so it would not blow over and took turns helping me

throughout the night in-between running off to ride the rides, go buy toys, and back to the camp to eat.

Figure 7. Photograph of OurRecovering Voices Booth at Crow Fair 2016 -- Photograph by Kiley Molinari

Once Dana joined me at the booth we initially flagged down people walking by that we knew, and then gradually more and more people that we did not know began to stop by once they saw others talking to us and walking away with copies of photographs. Throughout the night dozens of people stopped by our booth and walked away with copies of photographs, as well as the Dropbox link to the entire collection of photographs the group brought back from our trip.

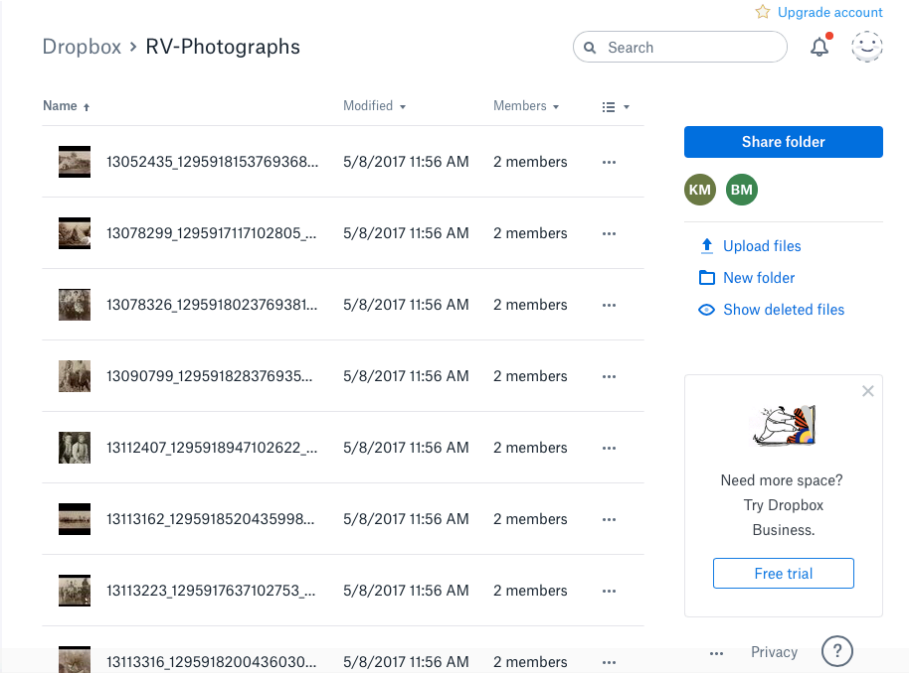


Figure 8. Screenshot of the Dropbox Folder by Kiley Molinari

Since we had the largest mix of age groups stopping by our booth, compared to the presentations that we gave, we realized that many of the older generations enjoyed the information and then having a physical copy of the photographs that they wanted to take with them immediately, while much of the younger generations really wanted the link to Dropbox so that they could access the photographs whenever they wanted. Many also mentioned that they were going to go back to their camps and show people on their phone screens. One of the reasons that the Dropbox link worked so well at this time was because Crow Fair has their own Wi-Fi for the week where people could use it in order to download the Dropbox app initially, or they could type the link right into their browser and look at the photos from there.

Collaboration Between Museums, Anthropologists, and Indigenous Communities

As Indigenous peoples are increasingly becoming more aware of their material culture in museums and have "demanded legitimate access to them, cultural institutions all over the world are now facing the task of how to adequately deal with these collections –both in terms of recognizing the conditions that led to their creation and creating new possibilities for renegotiating their access and control" (Anderson & Christen 2013:106). The accessibility of museum collections has been a topic of interest and concern for many Indigenous communities around the world. Through the Smithsonian's National Museum of Natural History, the Recovering Voices Program allows Indigenous communities to submit proposals to have the opportunity to travel to Washington DC in order to research and utilize the Smithsonian's collections of objects, as well as photographic and language archives for their needs and purposes. Collaboration is one of the keys to the Recovering Voices Program, stating on their website, "In collaboration with communities and partner organizations, Recovering Voices seeks to improve access to the Smithsonian's diverse collections – archival, biological and cultural – and to support interdisciplinary research, documentation and revitalization. In doing so we seek to understand the dynamics of intergenerational knowledge transfer, and to support existing community initiatives focusing on language and knowledge sustainability" (recoveringvoices.si.edu). The importance of collaborating on projects *alongside* the community you are working with rather than keeping them in the background is vital to any project involving museum collections. Scholars such as Jason Baird-Jackson (2000) and Carolyn Fluehr-Lobban (2008) increasingly write about the importance of collaboration becoming a standard part of

not only museum exhibits and research done to create these exhibits, but also anthropological research as well.

There are also social and collective ways that Indigenous communities, museums, and anthropologists can work together in order to mitigate and prevent conflicts when they occur over intellectual and cultural protocols. Collaboration is key as a social means to address problems in relation to these important issues and the transfer of content and knowledge. In Daniel C. Swan and Michael Paul Jordan's 2015 article, "Contingent Collaborations: Patterns of Reciprocity in Museum-Community Partnerships," they stress how important it is to have community dialogue and involvement when working on an exhibit that has to deal with collaboration between a museum and an Indigenous community. In their example of the successful work between the Sam Noble Museum in Norman, Oklahoma, and the Kiowa Black Leggings Warrior Society in Anadarko, Oklahoma, Swan and Jordan write, "these endeavors employed reciprocal systems of authority and power sharing and embraced the increased importance of community heritage agendas in defining museum exhibition and research programs" (2015:39). These reciprocal and collaborative relationships can lead to long-term interactions between anthropologists and museum staff with the Indigenous communities that they work with. The Sam Noble and the Kiowa Tribe already had a successful relationship, but if no one on the staff has any connections with the community, then the next best choice is to find an researcher that does work in that community and have them help you consult (Swan and Jordan 2015). This will help mitigate and prevent any problems that might arise in the research of museum

collections and the building of any actual exhibits inside the museum, which will be open to the general public to view.

Researchers, museums, and other institutions can also share their collaborative research and allow the community to view the research before it gets published, or before the next step of the research goes any further. While people outside of the field of anthropology sometimes de-prioritize anthropologists' method of giving back the information to the community, I, and many in the field of anthropology, often make it a priority. This is a way that also helps slim down the inequalities between Indigenous communities and researchers and starts looking at them as participants instead of "subjects" (Swan and Jordan 2015). If the community gives the approval of the information that is going to be included in a museum exhibit, or digital media archive, this also acts as a social means to address any problems before they arise.

We can also see how far the museum field has come as a whole since Michel Ames' 1990 article, "Cultural Empowerment and Museums: Opening up Anthropology through Collaboration," where he makes the claim the museums should work with First Nations' communities, not just assume that they can use their cultural material objects for display without consulting them on anything. Fortunately many museums are now, 28 years later, working with Indigenous communities and collaboration between museums and Indigenous communities have come a long way, although there is always room for improvement.

Collaboration in museums is an area where anthropologists can make short, and I want to add, long-term contributions to not only the public, but also the community that they have been working with (Baird-Jackson 2000:29). I believe long-term

contributions to the community is just as important as short-term because the history of anthropology shows anthropologists in the field gathering their information, then leaving to write their books, and never sending anything back to the community. More than once I have been asked by people in the Crow community what I am going to do once I am done doing fieldwork, or once I am done with the particular project I am working on. They ask if I am just going to leave and never come back, which is a valid question to anyone who understands the history of the relationships between anthropologists and Native American communities.

Research that involves participants and collaborative efforts is, as Fluehr-Lobban states, "ethically conscious research" (2008:175). Since there are multiple insights and perspectives, collaborative research aids in the knowledge that is not only being learned, but also disseminated through the course of the research project. She goes on to write, "Collaborative studies can potentially inform or affect social policy…Community or individual collaboration in research –with partnership incorporated in every phase of the research—becomes a condition for its success, not simply a fortuitous by-product of work with communities (2008:175). Examples of this would be to have jointly authored research papers with community members, or having community members have the chance to sit down and exchange ideas along the way, and/or critique drafts of the final papers.

Scholars in the field view "collaborative research through the lens of the same history of anthropological research and would argue that the approach reflects an increasing decolonization of the discipline" (Fluehr-Lobban 2008:176). Collaborative research decolonizes older models of Boasian anthropology that uses "informants" and

"subjects," and this is something that maintains a strong focus throughout our Recovering Voices project.

Using Media Technologies as a Method of Returning Knowledge

In one of the group meetings we had before we traveled to DC for our Recovering Voices grant, we discussed options to help aid in community outreach while we work on the logistics of the Mukurtu software. We thought that Dropbox would be a good idea since it was a free app, but also could be used on a computer as well, just like Mukurtu. We decided to create a Dropbox account that would be jointly administered. This way, everyone would be able to upload their pictures from the National Museum of the American Indian and the National Anthropological Archives onto this platform so that, shortly after we returned home, we could disseminate information from our trip to the Crow community. Anthropologist Terrance Turner talks about this availability of media and the role it plays in Indigenous communities when they are reappropriating the media technology for their own needs.

> "Visual and electronic media, available in cheap and technologically accessible forms, in conjunction with the development of world-wide networks for the dissemination of visual and audial information, have played an important role in the scope and effectiveness of these activities of self-objectification and representation. Many indigenous … groups have recognized the potential political advantages of representing themselves and/or getting themselves represented in this manner and has been one of the main motivations for the development of indigenous media and collaborative media projects" (Turner 1995:104).

Digitally returning historic photographs and material culture objects back to the Apsáalooke community gives them the control and the ability to talk about these items in a way that they see best fits the needs of the community's cultural heritage. There is

also the hope that some of these photographs of both people and objects will help spark a discussion of ancestral ties to the people and objects in the photographs and add to the overall knowledge of not only individual families, but to the entire Apsáalooke community as well. This is just one way that digital media can be used by Indigenous communities to gain greater access to their pasts, and to bring information back that had been taken away in the first place.

Currently, the Little Big Horn College archives staff are working on a Mukurtu grant that they recently received. It is a two and a half year grant to help the archives staff to digitize what is in their own collection at the college library. The materials in this collection consist of community photographs and videos of parades, Crow Fair, Native Days, and many other events that have taken place on the Crow Reservation, books specifically on the Crow people, as well as photographic copies of some museum collections, such as the Buffalo Bill Center of the West in Cody, Wyoming. While talking to a staff member in charge of helping to digitize as much of the archives as they can in the next two and a half years, she spoke about how she was hired just to help get this process done. She said the majority of what she has already digitized has been videos depicting Crow Fairs over the years, videos of Senior Handgames from past years, as well as tribal members talking about NAGPRA protocols and objects, and recordings of tribal members telling stories.

Once the grant is complete then the digitized archival material will be opened up to the public, and while she was not sure if they would be able to access them outside of the Little Big Horn College Library, she said that they would at least be available there for whoever wanted to come in to view them on one of their computers. So far, after a

meeting with the community, the videos that they want to see available first were a lot of the Senior Handgames videos. Handgames, which are in important part of the Crow Tribe's daily life, both past and present, are played by two age groups, Juniors, everyone under 30 years old, and Seniors, everyone 30 years old and above. The idea of the game is to guess which person hiding the bones has the ones that are marked. If you guess right using the correct had signals then your team either gets a point, or gets the bones back to hide. There is a large Handgames event in the multipurpose building in Crow Agency every April and May and all of the districts across the Crow Reservation come to play, as well as often times groups from the Northern Cheyenne Reservation, or different tribes from Oklahoma. Hundreds of people come out to not only play, but to also watch these games and having them digitized would mean that even more people could watch them, and the footage of particularly good teams or years will now be protected better from the older footage deteriorating.

Since the Little Big Horn College Archives now has a digitization grant from Mukurtu, it might be beneficial for our Recovering Voices group to work with the archival staff in order to find a way that we could have our portion of images from the National Museum of the American Indian, National Anthropological Archives, as well as the National Museum of Natural History incorporated into something that can be linked to their digitization process so that anyone viewing the Little Big Horn College archives can also know that there is a place to view photographs of outside collections as well. The more easily accessible everything is, the greater the possibility that people will be interested in, and likely to view the content.

Normally if someone wanted to go into the archives to view or listen to a recording, they would have to go to the Little Big Horn College Library archives, which is in the same building as the library. Putting the digitized archives on the library's computers will make the process faster and therefore students waiting for a class to start might then be able to search around the archives on the computer. If they did not have to wait for the archivist or employee to pull the record for them, they might be able to find digitized information they are interested in on their own. It might also allow some to become aware of what is actually in their own tribal archives, so there are huge benefits, but the process of actually gaining access to the archives for people who do not live right in Crow Agency, or cannot get to the library is not going to be answered with this current digitization process.

Community Media and Reception Studies on the Crow Reservation

Community media started as a grassroots effort to give voice to groups of people working with different media across the world, by looking at the process in more of a collective way (Howley 2005, 2013). It followed a similar trajectory as alternative media, but branching from the term, alternative, to a more inclusive one, community, for marginalized communities. While the notion of community media was being practiced earlier, it became a more widely used concept, and term, around the turn of the 21st century and encouraged people in the field of media studies to take a new look at the communities with whom they were working. At this point in time, "as a result, community media, including diasporic, ethnic, and indigenous media e.g., Browne 1996; Daley and James 2004; Karim 2003; Molnar and Meadows 2001), has moved

from the periphery toward the center of contemporary media and cultural studies scholarship" (Howley 2013:819).

One aspect of community media that has theorized processes of appropriation by marginalized communities in Frances Berrigan's 1970s two pivotal notions of access and participation that have since helped to guide community media studies. In the 1970s, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) commissioned both studies and took an interest in media as a tool for democratic revival and community development (Howley 2013:820). This allowed community media to stand out from the other theories of media studies at the time because it allowed for not only communities to have more open collaboration, as well as promoting community development and media democratization as forefront frameworks for the study of community media, but also "taken together, these studies provide the intellectual foundation for the field of community media studies" (Howley 2013:820). Therefore, with this collaborative nature, researchers were, then, often times asked to participate in the communities they were working with, promoting a more inclusive framework for media development.

Community media is a concept that cannot be applied to populations living across the world in the exactly the same way because it expands across different cultural and geographic landscapes. For example one community may have print media, while another has radio or television broadcasting, while another might use the Internet for their media purposes. It has to be looked at in a case-by-case basis because each community is unique and, therefore, use the media that is available to them in different ways and contexts.

Eric Michaels' idea of a "cultural future" in his 1987 article, "For a Cultural Future: Francis Jupurrurla Makes TV at Yuendumu," is a theoretical notion that Indigenous and marginalized peoples have reappropriated in their *own* media focusing on their *own* representations, not just among their own communities, but to outsiders as well. Michaels also researched the notion of power in relation to producers in the studios of the Warlpiri Media Association in Australia, and while he did not focus on audience studies specifically, he did look at the content that was being locally produced in the local Warlpiri language.

Expanding on Michaels' notion of a "cultural future," marginalized groups look for themselves in their own community as well as the dominant one in order to envision and strengthen their medium. The literature tends to focus too much on the producers, rather than the community's relationship to the new media (Fiske 2010). This is where my project can add to the literature by looking at how the technology was first noticed by the community to begin with, how the community views the initial Apsáalooke app, and how it is being used by multiple generations of Crow tribal members. I believe that the concept of reception and audience studies is an integral part of my project, and one that my research looking at how the Crow community appropriates their own media can greatly benefit from. Without it there would be a huge piece of information missing.

Along with reception studies, Rosemarie Kuptana talks about the history of adaptation, and argues that if a certain technology, like apps, are here to stay then why not engage members of the community to learn more about their culture and history this way. She discusses how film was here to stay, so why should marginalized communities not adapt to this media in order to use it their own way and for their own

advantage. The notion of the history of adaption in relation to audience studies is where my own project can add to the literature. With technology constantly changing and improving, software like apps should be used for the advantage of the community who is building it, not just seen, as something only the "dominant" society should have. The app can be tailored to what the community wants, the best way to fit its needs, and in relation to community, citizens', and Indigenous media, multiple members of the community as well as a few outside people can collaborate in order to come up with something that fulfills the whole picture.

The distribution of the media to their own communities, as well as to the public through different forms of digital media, is a way to push past the stereotypical images Indigenous people see of themselves in the media today and in the past; it is a reaction against the norm. Looking at broadcasting as a transformative tool in contemporary Canada, Lorna Roth 2005, argues that broadcasting can be seen as a cross-cultural bridge to reinforce language and culture, thus building stronger national identities as well as using media as a tool for mediating social relations and political activism. Faye Ginsburg (1991, 1994, 2003) argues how new media can be used to share traditional knowledge, promote self-expression and cultural revival, and the embedded aesthetics of media production. Indigenous communities are taking back control with different new media and using it for self-determination, self-representation, and for resistance to outside pressures. My project can look at this concept as a way for the app to reproduce and transform cultural identity as well as reconceptualizing museum archives to allow communities to have greater access to their objects. Film was first used in Indigenous communities to show the disappearing "other" to the general public, but now media can

also be used to show outsiders that Indigenous people are still here and are taking control of how their history and culture is shared.

Initial Recovering Voices Dissemination of Our Findings to Crow Tribal Members

The knowledge taken home from the research trip was used to inform the community through a Crow Fair presentation, language education resources, and to help spread the knowledge of Apsáalooke material culture held in the Smithsonians. Projects like a pocket archive will help make language, historic photographs, and material culture more accessible in this digital age that were not feasible in the past.

As eager as we were to start our project at the Smithsonian, we were all equally as eager to get back to Montana so that we could share what we found with everyone. Besides showing our individual friends and families, upon arriving back, we immediately set up a time for us to have a public presentation to show anyone who was interested. Dana and I worked on a presentation to give at Little Big Horn College Library, which is a two-year college located right in Crow Agency.

In the weeks following the return of our Recovering Voices trip, we all compiled a number of images that we gathered individually on the trip and thought had a significant importance to people back on the Crow Reservation. The goal was to not only eventually incorporate them into a digital pocket archive of Crow photographs and material culture, but to also print off copies of these images so that people could walk away with something immediately from our presentations about the trip. We then printed out multiple copies of all of those images we brought back from the archives and collections because we wanted to be able to give these copies to community

members who wished to have them as soon as possible. Along with the prints that we were handing out, we also made a binder so that one copy of all of the images from the trip could be kept in one easy to access format for people in the community to look at whenever they were in Crow Agency. This binder turned into being one of the best things we could have compiled from all of our research on the trip because it acted as a book of photographic memories, and was especially appealing to elders who might not have a smartphone.

Five months later, time for Crow Fair, not only did people come looking for the binder when I had it at our camp, but it was also passed around between individual and family camps throughout the week. At one point it took a number of phone calls, traveling to a few different camps, eating food because it was offered, and visiting with people before I could track down the binder, and then turn around and share it with others who were looking for it. This ended up being an experience that further taught me just how important it was to digitally return images back to the Crow people. Each time I picked up the binder I was fortunate enough to sit with someone who had stories about many of the individuals in the photographs, or who had comments about the colors or designs on the beadwork, and some who even got a renewed sense of passion to make leggings, dresses, or men's shirts again. Often times the people in the photographs were their relatives, or sometimes they were friends of the family and had a funny story about them, but either way, names were being spoken again and memories were being shared with not only me, but with their families and friends sitting around them.

In order to engage the audience as much as possible, we not only had a PowerPoint to show images of both the object collections, as well as the photographs, and language archives, but we also ordered over 300 prints of roughly 40 different images from our research. These images included both objects such as horse trappings, women's elk tooth dresses, men's shirts, and weapons, along with photographs of individual people as well as groups. During our PowerPoint presentation, all information that we had on the objects and photographs were displayed so that everyone in the room knew as much information as we did about the objects that were associated with a particular person, as well as the photographs that were identified.

After our presentation we handed out the prints to anyone who wanted them. The majority of the roughly 50 people in attendance chose to take prints of beadwork, horse trappings, and of family members they saw during the PowerPoint presentation. Since our presentation was in late April, many of the women there were working on finishing up their beadwork for Crow Native Days, which takes place the end of June, and many were also working on projects for Crow Fair. The prints of the women's buckskin elk tooth dresses went first, and this did not surprise us. We knew that many women were interested in trying to bring back this aspect of clothing for Apsáalooke women worn before broadcloth became so prevalent.

Community members at the presentation were also able to tell us even more information about some of the beadwork, makers, and people in photographs, which proved to be extremely helpful for when we would be handing out more prints at Crow Fair later in the summer. Not only did we learn some new things, but then we were able to better explain the photographs to other people that we showed them to after that. It

was amazing to see how much information was shared just by the handful of community members that were present at that time, and once one person was sharing what they knew about something, others chimed in to tell what they also knew, which added an engaging dynamic to these images and started to bring them back to life. We realized that this was only the beginning of these images being brought back to life this summer.

As philosopher and sociologist Maurice Halbwachs writes in his 1992 book, *On Collective Memory*, memory needs continuous feeding from collective sources and is sustained by social interactions through multiple generations. It was also here that I believe people benefited the most from the printed copies of the photographs and objects. One day, as I was sitting with an elder who was going through the binder he came across a photograph of his grandfather and the happiness he exuded was contagious. It was not long before he had called over family members that were at his camp to come look at the photograph with him, and generations sat to hear stories about an ancestor that they might have never seen before that day.

Engagement from Tribal Members

In the section that follows are examples to answer the initial questions of "What happens when Indigenous community members travel to look at their own objects in museum collections and archives? As well as, "What are the benefits that the entire community gets to share in and be a part of when digital content is brought back?"

There were a few initial projects that began this summer based off of the Recovering Voices trip and more people in the community having access to digital

copies of the collections. Linda made a man's shirt and buckskin leggings for her nephew for Crow Fair; not only did she use information from when she was in the physical collections, but she also used digital copies of the objects to continue to understand how the leggings specifically were made. She mentioned that she would have never tried to make buckskin leggings before she got to see them in DC and then had the photographs to continue to look at as she went along. She stated,

> "On that front part [of the man's war shirt] that I showed you, it is my own rendition, but I also stayed close to how it was done from what we saw[at the NMAI]. And I know that they make leggings on trade cloth, so what I want to do is make leggings out of trade cloth like they did at the museum, but they also used buckskin for fridge and stuff. So I am going to do that. I think prior to going to Washington DC, I would have never tried, I would have never attempted to make a war shirt. But I go back on my pictures and look at them. So I learned a lot" (Interview August 2016).

Figure 9. Big Horn Sheep Bow and Case, NMNH 287128 - Photograph taken by Kiley Molinari

Dana and some of his friends were really interested in remaking the old time Big Horn sheep bows and Dana spent a long time while we were in the collections in DC looking

at how they were designed and made. We took measurements and photographs from all angles to help in the process once Dana shared the information back in Crow Country.

Karis has also been working on a blanket strip that she was inspired to start after our time in the National Museum of the American Indian (NMAI) collections. After looking around for vintage beads across the western United States for close to three years, she knew that after seeing the blanket strips at the NMAI that that was what she was waiting to use them for. Karis is using old time vintage beads from the 1800s and early 1900s and said that she was really interested in re-creating the colors that were

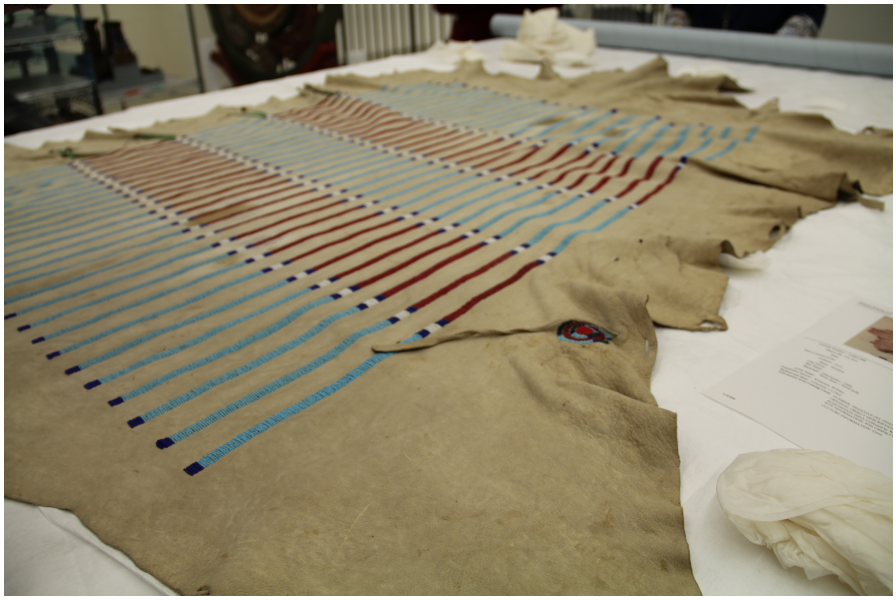


Figure 10. Beaded Robe NMAI 115067.000 – Photograph by Kiley Molinari

used over a hundred years ago. Once she was able to see the blanket strips in person in the collections then she was able to go out and find similar antique colors that she could use to make her own blanket strip in the old style and design. She is beading the strip on buckskin and then incorporating wool in places like she saw from the collections at the NMAI, and later once it is done, her uncle, who is a ledger artist, is going to help her finish it by incorporating buffalo hide and painting it like it would have been done

in the past. Her finished project was shown at the Heard Museum in Phoenix, Arizona, in March 2017.

Leading up to this summer's Crow Fair, many women were also referencing the print photographs and scrolling through the content of the Dropbox link in order to use the copies as reference points for elk tooth dresses in particular. Roughly a dozen people that I know personally looked at photographs for inspiration and/or direction on how to lay out the teeth or how the yoke of the dresses were beaded in the photographs. Many people were also interested in the beaded robe, as well as the cradleboards because they had been wanting to make one or the other "in the old way" and using pictures of ones that were made in the last two centuries was a good place to begin.

Initial Thoughts on 3D Imaging with Museum Collections

While we are still working on the best platform to create a pocket archive for the Crow Tribe, we are making progress in getting the link to the Dropbox out to people. Since Dropbox has a storage limit, we made another link just for the photographs of people, therefore creating two separate archival links to both photographs and material culture objects. This seems to be the best way to keep everything organized at the moment until we are able to create one continuous archival platform to digitally store everything safely.

We also went back and forth on the topic of 3 dimensional (3D) imaging for some of the objects in the National Museum of the American Indian and National Museum of Natural History collections. There are multiple new apps and software dedicated to easy 3D imaging for everyone. I decided to try to work with Agisoft

because it is something that I knew worked well for archaeologists to use on their objects such as lithics and shells. Agisoft also has a 30 day free trial to use, so I considered this to be a good option in case it did not work well for material culture objects that were much more intricate in their design and construction than most objects found in the archaeological record. The hardest part about this process is that it uses photographs to reconstruct a 3D model of an object, which in one way makes it an easy method to be able to use your own camera, or even smartphone to take photographs, but it also limits what you can do in the sense that you have to hope you have all the pictures you need before you leave that object. Since museum collections are generally not as accessible as archaeological objects are in an open lab, you have to make sure that when you are with that object you have every angle possible covered before you leave, especially, like in the example of our Recovering Voices trip, if you are traveling to a collection in another part of the country and then returning home.

Since I had never worked with Agisoft before our Recovering Voices trip, when we got home and I began to analyze our images to try to build a 3D image of one of the objects I realized that I did not have enough photos of any one object for this to be feasible. While we were there I had in mind that we might try to incorporate this method into our pocket archive, and after a discussion with group members we decided we should try on a male dancer's purse, or bag, because for the Crow people, they generally have two different beaded designs on each side. A 3D model of a bag would make it come to life in front of someone and give another dimension to an item that would otherwise be only available to be viewed in a 2D photograph format. We

believed that using 3D models of some objects would further help digitally return their material culture back to the people in Crow Country.

One of the other problems I ran into was the intricateness of the "cropping" I had to do between each strand of fringe in order for this detail of the purse to not be lost in the overall 3D model. This is something that I now know to be aware of if I try to create a 3D model of any object with fringe again. It also would have been beneficial if we had hung the bag up in order to capture it as it would be held by a dancer, rather than lying flat on a table. This would have helped with obtaining the proper number of photographs of each side and a top view of the opening of the purse. The problem with object collections, especially ones from the 19th century is that generally they are not in a condition to just be able to hang up by the handle anymore without risking damage to the actual object itself.

After a few failed attempts to try to create a 3D model from the images we gathered of objects from the National Museum of the American Indian, I decided to try to start over again and used my own moccasins to try now that I was more familiar with the software. I stuffed the moccasins to make them stand up on their own and then I was careful to walk slowly clockwise around the moccasins taking a total of 39 pictures of all angles with my iPhone, including the tops, but not including the bottoms because I needed to move them for that. After uploading all of the images to Agisoft and following all the steps to complete the 3D model, it came out much better than any of my first tries. There were no holes in the actual model, and all of the details seem to come through in the model, including the individual shine on the beads and the imperfections on the hide.

Most recently I have also looked into augmented reality (AR) with a local company in Moore, Oklahoma called Trifecta Communications. I will be making a 3D model for them, and then designing a poster for their team to use in order to turn my 3D model into an augmented reality piece. For lack of time, I will be using a piece from the Ethnology Collection at the Sam Noble Museum of Natural History in Norman, Oklahoma, instead of from the Apsáalooke collections at the Smithsonian. Once this process is complete I will post digital copies of the finished poster on my Facebook account in order to immediately share it with people back on the Crow Reservation whom I am friends with. I can also send hard copies of the poster to the Cultural Office for them to hang up or disperse even further.

One example of a 3D project that has been successful within an Indigenous community, as well as non-tribal members who stumble across or are directed to the site, is stemming from collaborative efforts with the University of Idaho, the Northwest Climate Science Center, the Northwest Knowledge Network, the USGS, as well as the Coeur d'Alene Tribe. Beginning in 2015, the site www.sqigwts.org became live for people to not only browse the site for more information, but to also interact with the 3D landscape that was designed as a form of digital story telling and knowledge learning from the viewpoint of a Coeur d'Alene elder and muskrat. According to the website, this 3D landscape of Coeur d'Alene tribal lands and resources was

> "built upon a platform using "virtual world technology," [where] the structures and dynamics of an interactive 3-D Landscape entails users taking the form of "representatives" (avatars) visible to others. With auditory and visual sensations, the representatives, each with their own profiles, will interact in a computer-simulated world of perceptual stimuli, who in turn, can manipulate elements of the modeled world and thus "*experience* a degree of presence" (www.sqigwts.org Accessed on November 11, 2017).

The question of "can access to and appreciation of *hnkhwelkhwlnet* [translated to "our ways of life in the world"] be facilitated through a virtual world platform," is left with an open-ended answer, "we will see" (www.sqigwts.org Accessed on November 11, 2017). As the anthropologist who worked on this collaborative project, Dr. Rodney Frey wrote in his new book, *Carry Forth the Stories: An Ethnographer's Journey into Native Oral Tradition*, "while the 3-D Landscape can never substitute for the actual encounter with an elder as he or she verbally re-tells a story, with it you can experience a little of the 'heartbeat' of a story…This project sought to 'indigenize the digital, rather than digitize the indigenous'" (2017:208). The concept of "indigenizing the digital" particularly relates to this project and collaborative research efforts as I looked at how the Apsáalooke made the Crow Language App their own, as well as how a new app could focus on their needs and interests as well.

Conclusion

Collaboration in museums is an area where anthropologists can make short, as well as long term, contributions to not only the general public, but also the community as well. Considering Eric Michaels' work in Australian Aboriginal communities, it can be seen that specific forms of media has affected the Indigenous cultural heritage of individual communities in the country. Comparing his research in the Warlpiri Aboriginal community to my own research within Crow Country, I have noticed a few similarities, as well as differences, in protocols when it comes to what is at stake with Indigenous cultural heritage and different types of media technologies. Michaels discusses how knowledge is a form of property in Australian Aborigine communities

and violating the rights to this information by sharing it without permission is considered a theft (1994). One could call this cultural theft and while many Indigenous communities across the world have been victims of this in the past, media technology has the ability to help prevent this from happening in the future with increased password protects, but as I will mention briefly later, it can lead to a lack of control as well. When Indigenous communities are in control of the media technologies that are being used there, their cultural concerns are put first and their political and cultural futures are one step closer to being protected. While control is important, the way that Indigenous communities are using media technology for their own needs and benefits is also something to consider.

In Crow, certain individuals inherit the right to speak in public, share information, and give people their Crow names. With media technology, this aspect of the Apsáalooke culture can continue to be carried on without breaching any of the protocols by having the information on the app only being narrated by certain individuals that have the rights to talk about specific topics, and to not only have one narrator for all of the information that is included in the technology. There are also gender restrictions on some items that having an app focused on material culture will not disrupt; while there are some men's objects that are not allowed to be touched by women, the restriction on viewing them is not as enforced. Women, while they cannot touch some male specific objects, still have the ability in Crow culture to view these items. Having a picture of the objects included in an app, then, does not break any cultural laws, rules, or protocols by including them.

There are also restrictions that Michaels discusses in relation to mortuary protocols once someone in the community passes away. The "death of an Aboriginal individual is considered so upsetting that elaborate precautions are taken to ensure that things associated with or owned by the deceased, including his or her name, are avoided by living relations" (Michaels 1994:10). The Crow have a similar cultural protocol that they are not supposed to say the name of the person who passed away. Media, in this particular case, can still include photographs, voices, or even objects that that person owned or wore, but to respect this aspect of Crow culture, their names should not be spoken in relation to any of these inclusions in the technology. This particular circumstance of not speaking a deceased family member's name, while practiced by many families on the Crow reservation, is not practiced by all people; it just depends how they were taught and raised.

Michaels also brought up early on that the laws and protocols that go along with what is depicted on media associated with Indigenous communities does not always have the same protection as Western media content. Indigenous communities have different cultural protocols that have to be taken into account when using their language or cultural images, especially when they are taken out of context. He writes,

> "…the self-evident but sometimes neglected fact that Aboriginal people did not employ the communications technology with which they must now deal, and traditional law makes no explicit rulings on the use of cameras, tape recorders, or writing. Thus the application of Aboriginal traditional law to modern media must be an interpretative act, built on analogy or extension or even reinterpretation, and so may be open to negotiation" (Michaels 1994:4).

Kim Christen, Jane Anderson, and Gabriella Coleman, as well as others, have worked on issues of intellectual and cultural property rights in the last two decades and have

greatly expanded upon Michaels initial concerns about "traditional law" in communities.

Having the chance to fully explain what is going on in historic photographs by ancestors of the people in them is another way Indigenous peoples are affected by re-objectifying media technology for their own expression. Visual "researchers have suggested that there are two ways that people decide what a visual image means: by guessing what the photographer meant; or by treating the image as 'real' and reacting to it as they would to the actual thing depicted (Worth & Gross 1974, cited in Michaels 1994:14). With the history of Indigenous communities being exploited in photographs throughout history, both of these ways are hard to determine what was culturally accurate in the photographs. Fred E Miller, a photographer that lived among the Crow in the early 20th century used many props in his photographs that were not traditional Crow clothing or material culture. This, though, would serve to be a good learning opportunity for tribal members, as well as non-tribal members if the photographs were added to media technology and then had a place where they could be explained either in written form or orally attached to each photograph.

Considering the information in this chapter, we can see that the relationship between media technology and Indigenous peoples can be analyzed in a variety of ways and the Recovering Voices program allowed our group to get a good start on beginning a project with the whole of the Crow Tribe. As Indigenous communities around the world slowly turn to taking control over how their language, culture, and traditions are portrayed through the use of new digital media, we can see how important the self-

representation and reappropriation of "western" objectifications of Indigenous life are to each individual group.

The switch from being the object of the media to the subject and producer of the media allows Indigenous communities to "flip the script" and as Ginsburg writes "talk back" on their own terms without anyone else speaking for them (1995). This reflexive aspect of the use of new media for Indigenous communities to express their world-views allows for more collaborative projects and makes use of all that technology in the 21st century can offer. Ultimately, as Michaels states, Indigenous communities must be understood in the context of how they understand themselves, taking us full circle looking at the importance of how Indigenous communities interact with new media technology when it comes to discussing the preservation of their own languages and cultures for their own needs and purposes.

The Recovering Voices trip, only a few months since it took place, has already made an impact on Apsáalooke group members that went, as well as their passion to disseminate everything that they explored and learned about while in Washington DC. Three of the group member's experiences can be seen in the following three quotes after we got back from the trip: "I think the importance of preserving the language and culture that we have is still very important. Many people in the community were eager to hear about our trip and it gave me more need to go out and promote what we found," "It is really important that we reported everything we found out back to the people so that they can also see all of the variations in the beadwork, design, and construction. There are a lot of things that can be altered and still be Crow and it was nice to see that," and "I have definitely gained the expected outcomes within the proposal as well

as learning more than what I have ever expected. There was so much valuable information learned while being able to study all of the artifacts. I have always wanted to know how to make certain items in the proper way of my ancestors and I was never able to see so many objects firsthand." These passionate responses show that not only was the trip a good start to our project, it was also a good start to really beginning to open up a digital pocket archive for everyone back in Crow Country to benefit from after it is finished.

Chapter 4: Mediating Relatedness: Kinship Through Technology

Kinship Documentation within Anthropology

The history of the field of Anthropology in the United States has had a strong emphasis on sending out budding or seasoned anthropologists to conduct fieldwork in Indigenous communities. Of all the information that was gathered, the topic of kinship has been a major focal point of interest for anthropologists in the field since the very beginning. One of the main anthropologists to work among the Crow Tribe in the early 20th century was Robert Lowie, an ethnographer who spent his career as a professor in the Anthropology Department at the University of California, Berkley. One of the first cohorts of Franz Boas' students, Lowie continued to practice a cultural relativistic approach to his fieldwork among Native American communities living in the Great Plains. He understood that each tribe he visited could not be compared to another, and that each had a unique social life as well as kinship system. While much of his life's ethnographic work was published in numerous books and articles, his field notes were deposited on the University of California, Berkley, campus for people to access if they wish to do so, including Native American communities that he worked with.

Although anthropologists have looked at kinship systems within a variety of different contexts, recording kinship systems or different social relationships has been a relatively straightforward aspect of conducting fieldwork. Whereas an anthropologist speaks to someone, or multiple people, among Indigenous groups of people in order to document diverse relationships among members within that community in order to hopefully have a better understanding, or at least a grasp, of their entire kinship system.

Learning about any kinship system, even your own, and especially another group's is an exhausting task, especially if you are not fluent in the language of the group you are trying to learn from. This was the case for Lowie, as well as many early anthropologists who conducted fieldwork among a variety of different Indigenous groups as opposed to just one. Lowie, while he learned Crow and understood some of the Crow language, was still working with a translator the majority of the time he was among the Crow people.

While, roughly around 100 years later, you do not need a translator to speak to most members of the Crow Tribe, you will still hear a lot of Crow words being used when talking to someone about relationships that make up their kinship system. In what follows I will discuss the importance of knowing the proper kinship terms when addressing elders, as well as how specific people are related to you in reference to clan aunts, uncles, and cousins. Furthermore, in recent years exploring kinship has become even more complex with the introduction of technology into the lives of anthropologists as well as Indigenous community members. The concept of new digital media is not only relative, but considering how it is being used to address certain in-law avoidances is something that anthropologists need to contemplate when working with technology within Indigenous communities. Questions such as, how does technology affect in-law avoidances, if at all, and what needs to be examined in relation to the topic of kinship within new digital media that is available to the general public need to be contemplated, as well as, how new digital media forces anthropologists to reconsider their study of, and approaches to, kinship systems within Indigenous communities.

Introduction to the Crow Kinship System

The Apsáalooke kinship system is built on a unique and important set of relationships including people being related by blood, marriage, and being adopted into a family. The original clans were thought to have been named by Old Man Coyote, (Old Horn & McCleary 1995) who is acknowledged for creating many aspects of life for the Crow people that are considered vital to sustaining particular practices still held today. The clans separated different groups among the Apsáalooke people, and once clans were established you were not supposed to marry anyone from inside your own clan. According to oral history, Old Man Coyote named ten groups, therefore establishing ten different clans with a variety of distinctive characteristics that correspond with their names. For example, the Ties the Bundle Clan, or *Xúhkaalaxche*, was given this name by Old Man Coyote because he referenced that they always packed up their belongings to move in a hurry so they just threw everything in a messy bundle and tied it up (Old Horn and McCLeary 1995). Of the ten clans that Old Man Coyote initially named, there are six clans that Crow tribal members are still apart of today: Bad War Deeds, Big Lodge, Greasy Mouth, Piegan, Ties the Bundle, and Whistling Water. These six clans spread across the six districts that make up the Crow Reservation: the Pryor District, Big Horn District (which is the largest), Black Lodge District (where Crow Agency is located), Reno District, Lodge Grass District, and the Wyola District.

While the Crow Tribe is matrilineal, meaning that the clan system follows the path of whichever clan your mother belonged to, the patrilineal side is also essential to understanding the interactions and connections that people have with one another. Your father's clan would be your teasing clan, meaning that whoever is in your teasing clan,

you can have a joking relationship with them. Someone who is part of your teasing clan is considered your "teasing cousin" and that person has the ability to tease you, or joke with you, about both public and private situations you might have been a part of.

The language associated with kinship terms is complex for not only non-tribal members, but for some tribal members as well. Today, all students who attend Little Big Horn College, which is a two-year college located in Crow Agency, have to take at least one Crow language course and at least one course from the "Crow Studies" section. These courses consist of Crow History, the History of Crow Chiefs, Horse in Crow Culture, and Crow Socio-Familial Kinship (Little Big Horn College 2015-2017 Course Catalog). Courses in the categories of both Crow language and Crow studies are required courses and must be taken no matter your major before you are able to graduate with your Associates Degree. By specifically indicating that students must take courses on these topics promotes the importance the faculty and staff at Little Big Horn College place on their students learning further about the Crow Tribe's history and language.

Kinship Within the Apsáalooke Language App

The Crow Language Department felt it was important for the Apsáalooke Language App to incorporate a "Kinship" category into its new digital media platform, which can be found within its "Language" section on the main page. The "Kinship" category consists of 37 different words in the Crow language for specific familiar relationships. The relationships listed in the app range from the word for a father's sister, to talking about one's own older sister, to various relationship words for a sister's

husband and a brother's wife depending on the sex of the person who is speaking. For example, if you were a female and speaking of your brother's wife you would say, "*Basbiakalishte*," whereas if you were a male and speaking about your brother's wife you would say, "*Buake*." While not all words are specific to the sex of the speaker, there are many that are, and including both the male and female specific word as part of the Apsáalooke Language App allows for people to learn the correct way to address people right from the start.

Lowie also acknowledged this feminine, or masculine, voice when referencing certain relationships. He writes, "A son does not use the same term as a daughter in speaking to or of his father…In reference, 'my father' is *biru'pxe* for men, *masa'ke* for women. I once evoked a burst of merriment by asking a girl, '*di'rupxe co*?' (Where is your father?) The word chosen implied that I took her for a boy" (Lowie 1983:18). This mix-up can easily happen to someone who is not a native Crow speaker and who does not understand the differences in how to say specific relationship words in reference to your sex.

There is a similar kinship chart located on the Little Big Horn College Library's website which shows the different words for relationships depending on whether you are a female or male and the correct way to address people. While this chart is helpful, having the words all listed out on the Apsáalooke Language App gives people more access to these words and whenever they need them. Sine the app is interactive, in relation to the typed in chart on the college's website, people are able to look up words on the app and therefore have the ability to also listen to the correct pronunciation of the words as they view them.

The app also includes a "Clan" category within the "Language" section. While it is much smaller than the kinship section, it has the words for clan, clan aunt and uncle, as well as the word for a clan cousin, from your teasing clan. Even though this section seems to be less descriptive than the "Kinship" category, it actually has all of the most important Crow words to know, or learn, in reference to the Apsáalooke Clan system. As well as having words for specific important people who are a part of clans, this section also has the Crow word for six of the clans that are still around today: Bad War Deeds (*Ashkapkawaiia*), Big Lodge (*Ashshitchite*), Greasy Mouth (*Uuwatashe*), Piegan (*Ashkaamne*), Ties in a Bundle (*Xúhkaalaxche*), and Whistling Water (Bilikooshe), as well as the colors and symbols that represent each specific clan.

Furthermore, the Apsáalooke Language App also has a "Crow Tribal Districts" category under the "Language" section. This section provides the Crow word for not only the six districts, but also the word used when talking about "Members of … District." For example the word for Black Lodge is Ashshipite, (*shipite* being the word for the color black) while the word for members of Black Lodge District is, *Binneesappeele*. As I mentioned in the previous section, the six clans are spread across the six districts that the Crow Reservation is divided between. These districts are considered more of political boundaries with different tribal elections being held in each one. The districts are also the divisions that the Crow Tribe uses for all of their Handgames that they host throughout the year. Specifically the biggest Handgame competition takes place in the late spring every year, holding two different events, Junior Handgames, which are men, women, and children younger than 30 years old, and then Senior Handgames, which consists of men and women older than 30 years old.

Members of each district travel to compete against each other at the multipurpose building in Crow Agency for this annual event.

The Newness of New Media and What that Entails in Relation to Kinship Relationships

Referencing my interviews, of the half a dozen or so people I talked to about the topic of technology and in-law avoidances, all had a variety of mixed opinions and thoughts on how technology could, or would, deal with this important aspect of their culture. The opinions of both male and female interviewees ranged from one end of the spectrum where technology could certainly not be used as a buffer between certain in-law avoidances, to people who agreed that in-law avoidances could potentially be sidestepped, or overlooked, through a technological form; they thought about it in such a way that that person displayed on the digital media form was not talking or looking directly at them, they were just a part of the technology at that point. They compared this to the same thing as being at a barbeque and just taking their chair and turning it from their in-law to avoid talking and looking at them.

For example, as I sat inside the house at the kitchen table one hot summer evening and watched out the sliding glass door one of my Kaales (the Crow word for Grandmother) walk in circles around the house I wondered what she was doing. I saw her go one way, and then another, and I just assumed that she was passing time before the women went into sweat. It occurred to me, though, that while it was the evening, it was still in the 70s, so it was certainly warm out, and the ground was very uneven, laden with tire tread ruts and other deep holes made by vehicles and trailers getting stuck in

the muddy yard at one time or another. Above all of the obstacles and high temperatures, she was in her 80s. Why was she walking in circles around the house? Why didn't she come inside and sit with us until it was time for her to go into sweat? I got up from the kitchen table and walked the few steps to the front door in order to try to catch her while she was on that side of the house. I opened the door and walked onto the front porch and saw her coming towards be from the side of the house. As I walked down the front steps, I noticed that the men had just gotten out of sweat and were all lingering around and talking by their cars parked between the house and where the sweat was set up.

As my Crow dad neared the steps I said hi and yelled out to my Kaale as she was turning back away from the front steps to wait for me. When I got to her and asked why she had not come inside she explained to me that she was trying not to run into her son-in-law, my Crow dad, returning from the sweat in the backyard. She had gone one way and saw him coming, so she decided to go back around to the front, and by that time, seeing as he is much younger and moves much faster, he had also made it to the front of the house, so she had turned back around. The Crow people have certain in-law avoidances within their kinship system. The two major ones that are usually followed the most often are the son-in-law and daughter-in-law avoidances, meaning that generally men will not talk to their daughter-in-laws and women will not talk to their son-in-laws, or like the term means, avoid them. This situation with my Kaale so blatantly trying to avoid crossing paths with her son-in-law brought me back to the conversation my committee had with me during the oral defense of my comprehensive exams; where we spoke about kinship and media technology, and an app specifically,

being used as a way for information to be passed between kinship relations, such as the aforementioned example, in a culturally respectful way. Could a son-in-law share information in the form of media technology and have his mother-in-law then listen, or read, that information without going against any taboos or cultural traditions? Could new digital media affect the ways that information is passed along from one person to the next? This is something that I think is very interesting and that I hope to further delve into in my future research.

By putting in place the proper precautionary notifications before images of people pop up on your screen and are viewed and their voices heard is just one step in the process of how in-law avoidances can be respected on a digital platform. Since the idea of using technology for cultural revitalization in the Crow community is at the beginning stages, it is something that needs to be examined in further research after my dissertation is complete, but I do touch upon a few important concepts that can be relevant when looking at technology among many Indigenous communities in Chapter 6. Jane Anderson and Kim Christen have a few major articles written by themselves, as well as together, also E. Gabriella Coleman's "Ethnographic Approaches to Digital Media," article. All three authors focus on the cultural protocols that go with new Indigenous media, such as password protections and warnings of upcoming content, which then mean that the community has the ability to put only what they want to be shared with the public on their digital platforms.

Recorded Voices: Their Meaning Inside the Community Versus Outside

When discussing kinship beliefs and the worldviews of different Indigenous peoples, one example that comes to mind has to do with a 1998 article written by Barre Toelken. While this article specifically references the proper protection of recorded stories, it also briefly brings up the question of listening to someone's recorded voice once they have passed away and the influence this might have on family members. Electronic media changed the protocols on recorded stories because they could be played anytime, especially when they were no longer in the hands of who recorded them. This could be abused, or used in a cultural respectful manner, such as when Hugh Yellowman instructed his children to listen to his recordings of Coyote stories when they were living away from home so as not to forget what they had learned growing up surrounded by other Navajo tribal members.

Toelken, who worked with the Yellowman family for decades, and had recorded hundreds of hours of stories, realized that there were certain protocols that he needed to follow out of respect to his adopted family that his colleagues in academia did not always agree with. Having myself been adopted into a family 7 years ago such as Toelken had been in the 1950s, I find myself obligated to making sure that I especially understand certain cultural protocols pertaining to when I can and cannot do certain things, or talk about certain topics out of respect for not only my family, but because, in a small way, my reputation could also influence theirs.

When Hugh Yellowman passed away, Toelken made the conscious decision to send back the tapes to his wife for her to decide what to do with them. Although she trusted Toelken, he brought to her attention that after he passed away too, there was no

guarantee that the tapes with Coyote stories would only be played in the Winter when they were supposed to be listened to according to Navajo beliefs. There was a genuine concern in the community that someone could get hurt with those tapes if they did not know the right cultural protocols that went along with seasonal storytelling. Though, there came to an agreement in the Yellowman family with the advancement of technology and the use of headphones, that Coyote stories were able to be listened to with headphones on since the words were not touching the air, which is when the words would become dangerous. In doing so, the recorded Coyote stories could be listened to safely in any season, but first you had to understand the cultural protocols surrounding Coyote stories and the concern over digitizing them.

This topic became interesting to me because thinking about the idea of kinship relations, especially in-law avoidances, through technology is something so new for people to think about. Almost every person I spoke to about the topic paused for a second before continuing on, all with a similar notion, that they had never really thought about it before I had just asked them. People had mixed opinions on the protocols for in-law avoidances through a phone screen, but I want to share one reaction to my interview questions that really made a real life situation focused on kinship blend with the use of technology. I share this specific example because the woman who I was interviewing was one of the people who I talked to with the most obviously strict outlook on in-law avoidances and I wanted to share her thoughts. One day last spring while we were sitting down to talk she said to me, "I guess you could look at it like this, I'm not gonna crash my car if my brother-in-law is at the intersection on the other side of the road just so I cover my eyes so I'm not looking at him. The same is with my

phone, if his picture pops up on the screen, I'm not gonna drop my phone because I shouldn't be looking at him. As long as he isn't speaking directly to me, then to me it would not be a big deal." Not only did we share a laugh as she was explaining her position on the topic, but it also made me realize that the newness of certain types of technology and in-law avoidances could actually be used together in a culturally respectful way.

Conclusion

With the increasingly everyday use of technology for many different aspects of life, we have to understand the effects that its use might have on different aspects of Indigenous people's lives. How then do questions of kinship ties, in-law avoidances, and other specific rules that go along with kinship systems among different Indigenous peoples around the world start to be addressed with the more frequent use of technology? As Ernest Braun writes, "Technology now permeates all spheres of human life, for better or for worse... I think that much of technology is for the better, but we have to be very careful about many abuses…and many other misuses of our technical prowess" (2010:1). Even just looking at the Crow Tribe as a whole, some families are much more strict with certain kinship rules than others are. From my experience, it seems like the Cultural Office, or the Cultural Committee, or both, would have to agree on the protocols that would go along with any form of technology that would have pictures, voices, or videos of Crow tribal members. Even so, if the people who make up the Cultural Office, as well as the Cultural Committee change every few years with the

new elected Chairman, then the opinions of those involved in the decision making process might also change.

Since the Apsáalooke Language App was released in August of 2015, two people have since passed away that have their image on two of the content screens. When Dr. Joseph Medicine Crow passed away in March of 2016, I asked a handful of people if his image would have to be removed from the app's startup screen now. Everyone from that group was in agreement that, no, it would not have to be removed because the Apsáalooke do not believe that, while saying the name of a person who has passed away is not okay in many families, looking at pictures of people who have passed away is not harmful in anyway. Rather, it would stand as a joyful memory of him posing for the Thornton Media Inc. team that day, and that every time someone opened up the app he would come into their minds, even if just for a few seconds.

After posing this question, which I had never thought to ask before such a widely used app was so accessible to everyone, I thought about how so many people share memories of their loved ones on social media platforms as well. Family members who have passed away are remembered through pictures on social media on the day of their passing, on anniversaries, and just in general when someone may be thinking about them. This also brought me back to when we were in Washington DC at the National Anthropological Archives (NAA) and members of the group were finding pictures of their relatives in the collections. According to Kim Christen, "Part of the inclusion of new technologies in these ventures is about maintaining control, both technological and social, over how knowledge is catalogued, circulated, and cultivated" (Christen 2005:327). Some of the group members were not only taking pictures for

their own documentation, but also to send to family members right then and there for them to share in the discovery as well. The most "iconic" picture from the trip was when Linda Little Owl found a photograph of her great grandfather and proudly held it up with a huge smile for them both to be photographed together by the Recovering Voices intern.

Figure 11. Photograph of Linda Little Owl Holding a Photograph of her Great Grandfather – Photo courtesy of Zach Nelson, Recovering Voices Smithsonian Institution

This photograph has been used, with her permission, in numerous Recovering Voices, and NAA presentations given by respective staff members since then. Jumping then, from a moment in time with a long lost relative, to an image that will live on in multiple platforms.

While there are still many questions that will continue to arise with the advancement of technology and the different ways of life and traditional knowledge that Indigenous peoples have, I hope that this chapter was able to touch upon some of the initial questions, issues, and unique situations that arise with the mass use of technology and spread of information through it. Exploring Crow kinship relations through new digital media is a whole new genre, one in which it is hard to know all of the answers to because of the newness of the situation. The mix of technology and something so important to the Crow people invades certain territories that have yet to really be discussed, and in doing so we realize that some questions are not as easy for people to presume what to do in reference to the correct protocols relating to traditional kinship relationship and new digital media. I hope to be able to expand on this topic and talk about the future of cultural protocols mixing with Indigenous new media with further collaborative research.

Chapter 5: Remediation of New Digital Media Technology in Indigenous Communities

Introduction

One day I pulled up to my kaale's (Crow word for Grandmother) in what is called "back housing" in Crow Agency. I was picking up a few of my nephews to bring them back home and when I got there I saw that they were all running around playing outside. I was in no rush, so I decided to go inside and visit with her while they played. It was my first trip back after the Apsáalooke Language App came out so I was still excited about it and took to asking everyone if they were using it. I knew that she did not have a smart phone, but she was around plenty of people who did, including some of her grandchildren and children that lived with her.

She is not big on technology, one time telling me she did not need Facebook because she could find out everything she needed to know, including all the gossip, at sweat [lodge][9]. I asked her if she had looked at the new app and she laughed and told me that she hit some of the buttons. Partially because I wanted to ask a question about the songs on the app, and partially because I wanted to hear her dialogue trying to figure out how to work the app, I asked her if she would look at it with me for a second. She said yes, pulling out her glasses from her pocket and balancing them on her nose, I handed her my phone and clicked on the "culture notes" section. We sat on the couch clicking on different songs while she hummed or sang the words to them and I sat back and listened. A few minutes later the kids came running in the house and when they looked over at us and saw that we were looking at the app they wanted her to click on

[9] This is a lodge that is built, often times out of willow branches, and then covered today in a layer of thick blankets. It is built in order for people to pray and cleanse themselves. In Crow, first the men go inside, and then when they are done the women go inside.

their favorite songs so that they could sing along to them as well. They began showing off that they knew the words to a lot of the songs and my kaale was visibly proud, laughing and smiling at them as they stood there singing along in the Apsáalooke language.

The elders in the Crow community have an important role of teaching the younger generations about oral stories, the language, beadwork, dancing, and life in general. While watching grandchildren and their grandparents interact with the Apsáalooke Language App on numerous occasions, all of a sudden I realized I was watching the young children take on the role of teacher for a moment, while their grandparents asked them questions about the way the app worked and what to do next. The two, generations apart, were able to work through the language on the app together in order to learn from one another about both the technology and the proper pronunciation and spelling of words. The children were remediating their role as the usual learners in a situation and now becoming teachers to help their grandparents understand the new technology, at the same time grandparents were still able to contribute to their teaching role by walking their grandchildren through the actual language components of the Apsáalooke Language App. Hearing the songs again, for both my kaale who is in her 60s and my nephews who are under 10, proved to be both a unique as well as shared experience. A handful of scholars have looked at what hearing a song does for elders verses what it does for younger generations who are hearing them for the first time (Brady 1999, Fox 2014, Samuels et al 2010, Zeitlyn 2012) and I was able to see first hand a combination of this experience right there in the family room that day.

Remediation in Reference to New Digital Media

Remediation is a key concept for examining new digital media in the context of the Apsáalooke people. In doing so, it explains how Indigenous new media is explored through the framework and use of the Apsáalooke Language App. I interpret remediation as a way for new media such as an app, to reestablish, or remediate, old media, such as archives and museum collections, into a more accessible format for Indigenous communities. These archives and museum collections, which have already proven to be vital pieces of educational knowledge within society, are largely inaccessible to the general public for numerous reasons, one of which is the sheer quantity of the material. Often times the budget does not allow for everything in a collection to be digitized and then decisions have to be made on what is the most important. Other times someone might be searching for a particular object or document on a site and the keyword they chose to search is too generic, therefore making the search come up with nothing even though there is material there.

As David Novak writes, "remediation transfers content from one format to another, thereby making media new, and making new media" (2008:41). With the newly organized availability that new digital media has now, compared to older media, Indigenous communities are able to gain better access to their language and sound archives, photographs, and material culture objects previously found in museums that may be hundreds or thousands of miles away from them. By including photographs and possibly sound recordings, multiple mediums could be added to one unique platform

that is easy for individual members of the community to use without having to travel to those collections.

In the last few years of the twentieth century, we, as a society, and anthropologists more specifically, are in a unique spot to use and analyze remediation in our work with new digital media in reference to the growing response and incorporation with traditional, or old media (Bolter and Grusin 1998:5). I argue this is still true into the Twenty-First century and anthropologists have new opportunities to further delve into the influence that new digital media has in Indigenous communities. New forms of digital media, such as the Apsáalooke Language App, are constantly gaining attention and traditional media is adapting to these new forms of technology. Another example of remediation in this context would be taking digital photographs and putting them inside a form of new media such as archival software; this process of digitization allows greater access to archival material, as well as helping to preserve this newly digitized material for future use.

Remediation, though, did not only begin with the introduction of technology in general, and digital media specifically. Bolter and Grusin state that "these new [forms of] media are doing exactly what their predecessors have done: presenting themselves as refashioned and improved versions of other media" (1998:14-15). Within the almost 20 years since their book was published, remediation still plays a large role when looking at today's new digital technology, where one form takes on the characteristics of older forms of technology in new and innovative ways.

The local responses to the Apsáalooke Language App among Crow tribal members put community building into perspective through a shared interest in language

learning and retention. Joining together on one major issue, members of the Crow Language Department as well as a handful of other tribal members worked together from the beginning of the Apsáalooke Language App through the time its existence was disseminated to the entire Tribe. As Birdie Real Bird was explaining the entire process of the Apsáalooke Language App she recalled that another member of the Crow Language Department,

> "Diana Wilson, the coordinator for the program, met Thornton Media at an Indian Education Conference and she showed it to me. It was for another tribe, I can't remember the tribe, but she downloaded it and showed it to me and I said, 'We have to do this.' So then we started. We contacted them and it took quite a while. They are busy. We started working on it in 2013-2014. I think the app is dated 2014. It came out August 2015 on the iPhones. So it has been out about a year. Then around November, 2015 Android" [the app was released for Android software.] came out (Interview August 2016).

After over a year of working on what would go into the software of the app, it was finally time for it to be developed. Members of the Crow Tribe gathered together the week that Thornton Media Inc. was in town in order to put together all of the pieces of the app for the final production. While employees of Thornton Media Inc. were in town that week I was told that it was really busy, but equally as exciting to see images being taken for the home screens, language categories, and words, as well as recording people for the audio section. Children through elders were involved in this community building activity to get the Apsáalooke Language App ready for release.

Community building, then, in reference to remediation, can also be examined through the Apsáalooke Language App. This new form of digital media has been used as a way to remediate the learning process that usually happens in Indigenous communities: when the elders pass down the knowledge of their culture and way of life

through oral stories, and now these stories can be listened to on forms of new digital media, such as the Apsáalooke Language App. As I mentioned above, by using this new form of digital media as a way of learning, elders and the youth can work together in order for not only the elders to teach the youth about the material on the app, but for the youth to teach the elders about how to work with the new technology. Therefore, by working with new digital media, there is a remediation within the traditional educational knowledge and learning process happening across multiple generations. While the Apsáalooke Language App is often used in the position of interacting between elders and children, it was also used as the focal point for adult language classes in the winter of 2016 as well as among children on a daily basis. Whether members of the Crow Tribe are using the Apsáalooke Language App in adult language learning classes, or whether children are playing the games on the app during car rides to Billings, Montana, members of the larger social collective are working together to interact with the information on the digital platform.

Music and Sound Recordings in Indian Country

Sound and music recordings are both similar to, and different from, paper archives, including both written and photographic documents, which are held in repositories across the world. When most people think about archives the first thing that most likely comes to mind are historical hand written documents, but archives hold so much more. For instance, the National Anthropological Archives holds thousands of historic photographs of just Native Americans and First Nations people alone. Along with photographs, archives also hold sound and music recordings from different times

throughout the American past. According to Erika Brady, there are actually more than 4,000 phonograph recordings created between 1890-1935 stored in Washington DC, and it was not until an interest at the end of the 20th century in the Cylinder Project that tribal communities across the country were aware of them, many for the first time. Thus garnered interest to have those recordings back in their communities.

The dissemination and digital return of the content of this cylinder collection brought to light many questions for archival and museum staff members to think about such as: How can the recording be made available to community members that can't get to DC to listen to them? What are the ethical implications that now exist that may not have at the time of the recordings? How can dissemination occur to community members who wish to have that knowledge back, when the content is sacred or the family does not want it shared? While some of these same questions can also relate to photographic archives, especially if the photographs are depicting certain ceremonies that may have never been photographed, or say they depict a ritual taking place in the winter like it traditionally always did, but someone is viewing that picture in the summer, sound recordings have a special set of circumstances.

There is something about sound, though, and the separation from the community it comes from that makes sound and music recording digital returns slightly different than photographic collections. Examining the notion of schizophonia (R. Shaefer 1993) the splitting of sound from its source, while making it portable and easier for more people to listen to, it takes the sound from its source, as well as from the time and place it was recorded in. Situating this separation of sound from its source in not only the past, but the present as well, challenges us who work in archives and museum

collections to attempt to bring sound recordings back to the community who initially were the ones on the recordings. Using new digital media to aid in the remediation process of connecting of the sound archives back to the community, allows for the sounds and their sources to be reconnected once again and more information to be gathered from the community with their new access to the content.

If we examine Taylor's (2003) definition of the archive as the collection of material traces of culture such as texts, versus the repertoire, which enacts embodied memory in performance, we can see that sound and music have a very different ability to be a more interactive part of an archive compared to only written text. Therefore, when speaking about the archive, we should also explore the concept of the repertoire, and the embodied memory of performance that sound recordings mirror. While an archive is usually considered written material and the repertoire is thought to be embodied memories, new digital media, because of its ability to function as a multimedia platform can incorporate both the archive and the repertoire together. Sound and music archives while they can be considered part of the overall archival material, take on the role more of embodied memory when looking at Taylor's definition.

One characteristic of a sound and/or music recording that is unique is that you can hear the object coming back to life. Both summon different memories in their own ways, and when combined can sustain a larger portrait of a cultural memory from a specific time in the past. Sounds as well as music and images have the ability to transport you back to another place and time. It conjures memories, moments, and allows you to hear voices of people whom you may, or may not, have a connection with. They can remind you of moments, friends, and family, and allow the audience to

have their own interpretations of what they are looking at or hearing. Sound should be used to reclaim Native voices (Tsosie 2002) and be brought back to communities in order to be listened to and shared, not sit on a shelf where no one can access it (Sterne in Novak and Sakakeeny).

Comparing sound to other archival materials, when photographs are digitally returned they can also stimulate similar emotions and historical consciousness as sound recordings. Photographs can act as visual examples of colonization as it was happening by referencing material culture being worn, or objects in the background that might not be made anymore. These images, then can elicit memories and stories from those still alive who knew the people in the photographs (J. Bell 2005). Both sound and paper archives as well as digital media arouse emotion (Samuels et al 2010) and allow a person or community hearing those sounds or looking at those pictures of their relatives, some for maybe the very first time, to feel a sense of happiness, pride, nostalgia, or even sadness, or longing for the past (Samuels 2006).

Digitally returning these recordings back to communities allows for further collaborations and projects among Indigenous peoples as well as museums and archives. The recordings can then have a chance of being reunited with descendants of the people whose voice can be heard (Brady 1999, Fox 2014). A similar thing can be said about images, that once they were taken the people in the photographs never saw the finished product. These photographs being returned and reunited to family members who may have never seen these pictures of their relatives before is something significant, and new digital media is a platform that can be used to aid in this process of digital returns.

When sound recordings are digitally returned, many things can happen. When the Boulton Collection at Columbia University was established, there were decades worth of sound recordings from communities across the world. When Aaron Fox began his work to get a small number of these recordings back to an Alaskan community he realized just how important these song recordings were for the community to hear again. Not only were the songs revived, but also some traditional and contemporary dances were added to go along with them by today's youth. While the songs had been recorded, the dance portion of them had not. These songs and dances were revitalized by multiple generations of the village and with permission, performed for the first time in decades (Fox 2013). Fox also found out that ten years after Boulton left, a man from the village went out and bought a camera to record songs from his own perspective because he liked what she had been doing in the community. The idea for the Apsáalooke Language App was explored in a similar fashion when the Crow Language Department liked the idea seen through another tribal app that Thornton Media had produced. Another way that photographic archives and sound/music archives are similar in terms of digital returns is that both can be used to bring the past into the present. Both recordings of songs and music can be used in the community in contemporary contexts after they are put back into use; the past and the present are interacting because Native Americans are using this technology to not only help preserve their culture, but to also reclaim it as well. The Apsáalooke Language App acts an example of the Crow Tribe reclaiming their language learning.

Giving Voices Agency

Music and sound within new digital media shape subject formation as well as cultural and political consciousness in many different ways. Voice is crucial for the cultural, political, and social aspects of a community (Weidman 2014). Voice gives agency to both individuals as well as groups, and it provides individuals and collectives with an identity. The voices heard across the radio (Bessire & Fischer 2012), film (Ginsburg 1994, 1995, 2002, 2008), and social movements (Weidman 2014) show that sound shapes many aspects of social and political consciousness. The voices heard across both the "Language" and "Culture Notes" sections of the Apsáalooke Language App solidify the Crow Tribe in the language revitalization movement.

Music and sound media also vary in different historical moments, generations, and cultural communities. Historic sound recordings can be used for not only revitalizing culture and language by hearing words spoken and songs sung again for today's generation to learn from, but they can also hold glimpses into certain historical moments. For example, when Frances Densmore was living among the Ute and recording their songs and stories, many people in the community were skeptical of what she was actually doing. Red Cap, a Ute Chief, decided that she could record people in the community, as well as himself, as long as he could also record a message to send back to Washington DC. Densmore believed this message was complaining about the Indian Agent at the time, but she allowed him to record it and brought it back to Washington with her to play for officials. While she did play the recording for Commissioner Cato Sells, as well as others, she did not provide any translation for his speech (Troutman 2012:166). It was not until many years later, when the recording was

actually translated did they realize that Red Cap had used the device for his own political needs and reasons. He stated,

> "Well…Then I will talk and I want you to play the record for the Indian Commissioner in Washington. I want to tell him that we do not like this Agent. WE want him sent somewhere else. We don't like the things he does. What we tell him does not get to the commissioner but I want the commissioner to hear my voice. I want you to play this so he will hear my words, and I want you to give him a good translation of my speech. We want to get rid of this Agent" (Troutman 2012:166).

When examining different types of technologies, there are new ways of examining voice as not only personal, but also collective agencies (Bessire & Fisher 2012; Weidman 2014). As with the individual example of Red Cap, there is also a chance for many members of the community to also exert their political advocacy through new digital media. An example of collective agency would be a community deciding that they are interested in having the song recordings back and collectively deciding what to do with them (Brady 1999; Feld 1996; Fox 2013; Samuels et al 2013). Whether personally or collectively, sound and music can be seen as political voices and resistance to Federal Indian Policy, as well as using song to engage those policies. (Troutman 2012). This is different than other forms of paper archives because there are very few that bear witness to words actually written by a Native American or First Nations person. In a culture where so much was, and still is based on orality, the significance of sound and music recordings in this sense are much more unique than other archival materials.

Another example would be songs and dances that were taught to Native American boys and girls different dances while they were at boarding schools. When the boys and girls would return home back to their communities, they shared some of

these songs and dances (Troutman 2012). The boarding school officials did not like this taking place because the children were remediating the dances learned at boarding schools into their own culture and own communities. When they were home, traditional music and singing were used with these dances instead of instruments used at boarding schools. These dances, for example a round dance, can still be seen during powwows as a break between dance categories in different Native American communities across the Northern and Southern Plains. While the Apsáalooke Language App does not have any round dance songs within its content, they could be added to other tribes' or First Nations' Thornton Media Inc. platforms, therefore, continuing knowledge of this piece of their history onto a digital new media format.

The Duality of Intimacy and Sharing Sounds Through Media Devices

Personal media devices are another form of digital new media technology that can be categorized in a variety of different ways, including watches, mp3 players, cameras, and phones to name a few. Historically, one can look at the phonograph as being one of the very first personal media devices. For the first time people could hear what they sounded like as their voices, songs, and stories were played back to them. Whether this was right away, or after an amount of time had passed, these recordings preserved a moment in time where these voices were being shared in a digital way for the first time. Now, they could also be replayed over and over again, or in a different time and place for people to listen to who might not have been present at the time, much like the content on today's personal media devices. These cylinders of recorded voices acted as a way for not only the people in the community whose voices were recorded to

listen to, but also for one of the first times that these voices were heard by people outside of those communities. Stories are also an aspect of sound recordings that were popularly recorded with the phonograph. The digital return of these stories allows tribal communities to assert their sovereignty over who has control of the stories and who can listen to them (Tsosie 2002).

This also changed the way that music from the past was listened to. Music, usually serving a social function, was listened to in groups or at large gatherings as the singer performed their song and dance and then everyone went home. With the advancement of technology over the last century, people began to have access to previously recorded songs in their own homes through radios and record players. Now, with other personal media devices such as mp3 players and cell phones, people can still listen to music in their own homes with friends and family, as well as by themselves with headphones (Bickford 2009). Headphones can be used not only for yourself, but also sharing with another friend or family member. This way of listening together allows the two people to be immersed in their own world as they play music, watch television or film, or play games. While also being used for fun, headphones can also be used as a tool in the archives for listening to sound recordings of stories that may not be in the right season to hear them. Considering Tolken's writings on Navajo Coyote stories, he had to stop his work on recording them as soon as the lightening struck symbolizing that it was spring. Then, one day a Navajo man told him that if he used headphones he could continue listening to the stories because they were only dangerous to listen to out of season when the words hit the air. This example of how headphones being used with new digital technology can help a person, or community, follow the

correct cultural protocols when sounds are digitally returned. Through the Apsáalooke Language App, music and sound recording are more easily portable and therefore accessible while on the platform of a phone or tablet. Moreover, the audio jack of that phone or tablet then makes it easier to listen to the songs and recordings both in a privatized way using headphones, as well as offering the ability to become more easily shared with an auxiliary cord in the car or hooked up to a speaker at home.

With sound and music being recorded onto new digital media technologies, such as the phonograph, this was also the first time that the voice of the person, their song, story, or speech, was disconnected from them and taken away to be listened to out of context, or out of season (Brady 1999). Therefore, this took the recording out of the original time and place, and presented it in another. It also made listening to sound different because for the first time there was not a performance to go along with it; you could not see the person who was singing, and therefore could not read the emotion on their face (Katz 2004). Sound in general can act as a performance, one that can be thought about in the past, evoke memories about the then and there, as well as exist in the here and now, or the present and the future. As Mark M. Smith writes, an echo is the fading of sound, the past lingering for a little while longer (Novak & Sakakeeny 2015). The early recordings of the phonograph in the 19th century that still exist in archives and private collections can be seen as the echoes of the voices of those in the past. The Apsáalooke Language App, while mainly having contemporary recordings at the moment, will be helping to bring those voices into the forefront of everyone's minds in the future.

"Traditional Media" to New Media

New technology does not interrupt an un-expecting culture; that culture has already seen versions of older technology that they have been using for their own needs and purposes come and go. No new media is completely separate from old media; there are always similarities and obvious differences that come with reforming, remediating, and discussing the older technology in reference to new technology (Gershon 2008). New methods are derived from valuable concepts taken from old media and those are applied to the formation of the new digital media.

Further examining music as another example of where the remediation of old or traditional media can be seen through new digital media, we have to understand that new media has often times been adapted from older media. Chase Iron Eyes, in a 2014 speech at the New School in New York City, spoke about his view of "traditional" verses new media. He argued that Native Americans have always been working with media in different forms, explaining that his view of media is anything that was used as a form of communication between people. Songs, dances, oral storytelling, dreams, as well as nonhuman beings were, and still are, ways that things were communicated (https://youtu.be/dgctvPR01ck Accessed March 31, 2018). These examples of "traditional" media can then be accessed through new digital media today, such as in the songs and stories available in the Apsáalooke Language App.

These songs and stories in the Apsáalooke Language App specifically relates to remediation because of the audio content in the "Culture Notes" section of the app. In this section there are video recordings of present day Crow tribal members singing songs that are both historically and contemporarily important for members to not only

hear, but to also learn. By remediating the context that these songs can be heard in, now any member of the Crow Tribe, or anyone in general who has the Apsáalooke Language App, can practice songs such as the Crow Flag Song in order to learn it for themselves. The Apsáalooke Language App then becomes a tool for not only language revitalization, but also for the cultural transmission and continuance of important songs.

In addition to songs, the "Images" section of the Apsáalooke Language App also serves a unique purpose for learning about the past through new media. Birdie Real Bird also mentioned to me that they included the specific historic photographs that they did because they related to larger events happening in the history of the Crow Tribe. Images such as boarding school pictures, delegations to Washington DC, ceremonies, signing of acts, and chiefs depict the changing lives of tribal members living on the Crow Reservation in the 19th and 20th centuries. These historic images on the Apsáalooke Language App remediated the way that some people might learn about certain aspects of the Crow people.

Anxieties Surrounding New Digital Media

Two forms, or strategies, of remediation that Bolter and Grusin discuss are immediacy (transparent immediacy) and hypermediacy. While, according to Bolter and Grusin, immediacy depends on hypermediacy, I believe that these two strategies can both play off of each other in different ways. While immediacy is considered a style of visual representation where the viewer forgets the medium they are viewing, such as films and photographs, or art and songs, hypermediacy is the exact opposite where this strategy acts as a constant reminder to the person interacting with the media about what

medium they are using, such as a medieval manuscript that is beautifully decorated, but is still understood as a manuscript first and foremost (Bolter and Grusin 1998:5-6). In reference to this particular project focused on the Apsáalooke Language App, both the strategies behind immediacy as well as hypermediacy can be explored, because, while we want the digital copies of the material culture and historic photographs to connect with the viewers as if they were looking at the originals, we also do not want the viewer to not acknowledge the fact that they are indeed accessing these digital copies on a form of digital new media. Cell phones and other personal media devices are a unique tool for not only remediating language revitalization techniques, but also digital returns, and if the viewer understands that, then they may be more inclined to continue to use this platform in the future. By specifically considering the strategy of immediacy in relation to remediation, younger generations might be able to use the Apsáalooke Language App, or a new digital archive app, and forget that they are thumbing through hundreds of years of history because of the way that they are able to learn on a digital platform.

New media "can remediate by trying to absorb the older medium entirely, so that the discontinuities between the two are minimized. The very act of remediation, however, ensures that the older medium cannot be entirely effaced; the new medium remains dependent on the older one in acknowledged or unacknowledged ways" (Bolter and Grusin 1998:47). A new media, such as a pocket archive, could not exist without using characteristics of the older medium, which would be the original archival system where the originals of the digital copies are being held. Remediation can also work both ways, where older media can appropriate new forms of media, such as museums or archives putting some of their information online for people to view without having to

come to their facilities to view them. This method and means of access works when that community then has reliable access to the Internet in order to view the content on the webpages. Scholars such as Harold Bloom and Illana Gershon among others, acknowledge that the key to understanding older media is exploring how it can be remediated. The concept of remediation is versatile and as I stated in the previous examples can be seen in the context of music and dialogue for a local community's needs and community building through the use of new digital media technology. These examples of remediation are crucial to understanding the importance of how I use the context of the term in reference to the Apsáalooke Language App.

Some scholars, though, believe that remediation cannot be used in relation to new technology because the concept was not around when much of the new technology was available. Steven Holtzman (1997) argues that repurposing or borrowing was not thought about with digital media in mind, so it does not have the qualities needed to be referenced in relation to new digital media. I do not agree with his argument. Technology changes so frequently that you could never create something with exact future technology in mind. Concepts such as repurposing, borrowing, and overall remediating can be used in the context of new media without any problems. Technology is constantly changing and advancing; if the concept of remediation can apply to printed documents, then it should be able to apply with all the expansions and technological advances, whether right now, or in the future. The Crow Language Department knew that once Thornton Media Inc. released the Apsáalooke Language App, it would be maintained through their network in the form of "Fixes" or "Updates" through the Apple or Android store.

Intertextuality Between Old Media and New Media

The notion of mimesis (Taussig 1993), the idea of imitation, can be applied to this project when examining the context behind the separation of the subject and the object in reference to different forms of technology. Mimesis can pertain to sound, photographs, and film that were staged, leaving there to be more of an artistic expression rather than the truth. Much of this staging had to do with the newly invented phonograph. Phonographs were an early technology used to record the audible expressions of the people speaking into them. Invented by Thomas Edison in 1878, this device allowed someone speaking into it to have his or her voice recorded by a small needle pressing into a cylinder and preserving it there. The voices, though, were then separated from their source and taken away without many having the chance to hear themselves first. One of the most well known examples would be in the film *Nanook of the North*. There is a scene where Nanook himself hears sound coming from the phonograph and acts astonished, while then trying to bite the record. The filmmaker Robert Flaherty, though, staged this acting, in order to produce an image of the "Other" interacting with technology.

Another example proves how many sound recordings on the phonograph were staged, or not exactly accurate, because one of the main priorities of the person recording was of the quality of sound when played back on the device. For this reason, sometimes only the best vocalists were chosen instead of the men or women who generally sang those songs, and many times the musical instruments were left out of their traditional contexts because they did not sound clear when played back. This can

also be seen in the popular photograph of Frances Densmore supposedly recording Mountain Chief, when in actuality she is listening to him as he interprets Plains Indian Sign Language (Samuels and Porcello 2011).

In reference to this project, the concept of mimesis can be applied to the digital return of many staged photographs back to the Crow people through a form of new digital media. In doing so, they can be connected to the people in the photographs once again, whether they are discovered as relatives, someone from the same clan, or just a familiar face. Instead of looking at how individual Crow tribal members react to the technology through a colonial lens, I decided to look at their interactions with the photographs and new media in a truthful and accurate way. Photographs, sound recordings, and overall technology are not anything new to people on the Crow Reservation. What is new, though, is that the larger Crow collective can explore the photographs and sound recordings as the subject of the discussion, rather than the object of the photograph. They can look at the staged images of their family members and deconstruct what they see in the image, as well as teach those around them about the person in the photograph, or an object that they have in the image with them.

One day while I was sitting in the Cultural Office in Crow one of the employees asked to see what we had brought back from our Recovering Voices trip. I pulled up the first file on my laptop and I handed it to him so that he could go through them on his own at his own pace. I started with these particular photographs since they had been taken by Joseph Dixon during the Wannamaker Expedition to the Plains in 1909-1913, and have been widely used in books and other publications because most of the men in the photographs have names associated with them. A few minutes into him going

through the first set of historic photographs, he called me over to tell me about his great grandfather in one of the photographs. He had seen the photograph before, but he had not looked at it in years, and was excited to see him again. He sat there smiling and asked if he could have a copy so that he could show his daughter when he got home and I gave him a few printed copies to take with him. He also asked if I could email him that picture so that he could get even larger copies printed on his own. He hung one up at his desk and put the others down in a pile as we continued to talk for a few minutes about the stories he had been told about his great grandfather. He took time to look at the rest of the photographs, and about a half hour later he handed back my laptop and started work for the day.

It was not long, though, before someone came into the Cultural Office and he was able to show off the photograph of his great grandfather. That person then wanted to look at the photographs so I handed him my laptop, and my seat at the coffee table that served as my desk as well as a gathering place for every person who visited the office to sit down and chat while they were there. While he was looking at the photographs, I went across the hall to the reception desk to talk to Naomi, an elder whose role was that of a gatekeeper for the Crow Tribal Building. All visitors had to check in with her, and I enjoyed talking to her every morning when I got to the Cultural Office. Since that office is directly across the hall, and she can see into the room from her desk, she asked what he was looking at on my computer. I told her about the photographs and she mentioned to me that she wanted to look at them when he was done, but that she was most interested in the beadwork photographs. Needless to say, that afternoon was spent passing my laptop around to approximately a dozen individuals

who happened to visit the Cultural Office that day and who asked for various copies of the printed photographs, as well as some emailed to those who had addresses. So here I was showing the remnants of older media, through new digital photographs of people from the early 20th century, beadwork from the late 19th century, and language documents from even earlier all found in the collections and archives during our trip to Washington, DC, on my laptop in Crow Agency, Montana.

Interactions Between Archives and New Digital Media

One way that both archives and new digital media can be used together is when language revitalization and language learning are being researched and analyzed. The electronic mediation of using not only archives, but also new technological devices to record contemporary speakers is a way many communities are better understanding language revitalization (Eisenlohr 2004). As (Auld 2002) investigates the role of computers as tutors for younger generations, the Apsáalooke Language App can also act in this role by not only sitting down and exploring its content, but by also playing on the app with friends or family members. Furthermore, archives that are accessible on new digital media can act as an aid for new digital media to be remediated as a tutor of language learning, while also allowing those languages to be used, heard, and spoken in the contemporary digital age (Eisenlohr 2004). Combining the archives into a new form a digital media makes learning the language more fun for younger generations who are already using the technology, so why not use it to a community's advantage for this aspect of revitalization. This is how the Crow Language Department eventually felt about trying out an app for youth language learning within the community.

Another way that the Apsáalooke Language App interacts with archives is through its "Culture Notes" section. Pulling the material from the Little Big Horn College Library Archives, images and video files were incorporated onto the digital interface. Zeitlyn uses Foucault's concept of the "archeology of knowledge" to look at archives in a different way. The search for subjugated voices in text and sound archives, as well as names to go along with sound and photographs is, in a sense, an archaeology of the archives. The more information that can be added to the archival record, the better off the archive is for people who are looking at them in the present, or the future. For a "cultural heritage community at the dawn of a new series of challenges arising from the creation and curation of digital cultural heritage resources, it is more important than ever to recognize the existence of specialist knowledge and to prevent its loss" (McCarthy 2007:249). This information can then be explored as collective memories that need to be shared, and one way to do so is to incorporate these traditional archives into new digital media such as onto a cell phone or tablet app.

Every time that a new technology becomes more mainstream in its use, archives have to think about the most effective way for their material to be transferred to the new equipment. From microfiche and microfilm to tape recorders, to CDs, and DVDs, to flash drives, and now to possibly using apps to store general or sensitive information, archives have to keep up on the current ways that their information can be shifted onto a new platform and used. Another tension between archives and personal new digital media relates to the question, "What happens to the archives when they get digitally returned through personal media devices or other forms of digital new media?" The correct protocols relating to the songs now that they are accessible to anyone on the

Internet, or to anyone who has a smart phone or tablet that can download an app becomes an area of large focus. The issues of intellectual and cultural protocols is a popular topic in Indigenous communities and many people within those communities are eager to make sure that their newly digitally returned items are not going to be misused by people both inside, and outside of the community. Ethics, when referencing sound recordings, need to be thought about in the context of when they were first recorded, and then adapted to today's ethical standards by respecting the community's voice and opinions on what to do with them (Anderson 2005). This means that the community should have the final say of how the sound recordings can, and should, be handled if they are digitally returned. Even if they are not returned, the community should have a say in how the recordings are used.

While I will touch on this topic in more detail in the following chapter, one way that this can be mediated is by having a password that can protect certain songs in order for them to only be heard during the correct times of the year as per the community's request, or allowing them to only be used as part of their specific ceremonies (Christen 2005, 2008). This calls to attention the important protocols that need to be explored in reference to certain religious or sacred songs. Songs that are religious in context or connected to scared ceremonies and events need to be given special attention once they are digitally returned so that they are not used, or played, in the wrong way. While the Apsáalooke Language App is not password protected, there were, as I mentioned in the introduction, other language apps that had password protections to get into the app. This is something that Thornton Media thought of, and put into place as an option for those communities who wished to have a password.

Following Directions

Again, songs and voice recordings need to be studied and protected in a way that is up to the correct standards and protocols of contemporary times because the ethical rules and regulations at the time that many of the songs were recorded in the past are much different than they are today (Anderson 2005). For example, we should not pursue Densmore's technique of "ambushing" her subjects while they sat quietly singing to themselves. In order to avoid the challenge of Native American singers not wanting to sing into the phonograph, she resorted to secretly recording some of her subjects, one of which was Geronimo at the Louisiana Purchase Expedition of 1904 in St. Louis, Missouri (Troutman 2012:164). Instead, today with everyone's interconnectedness to the Internet, if one were to go to a ceremony, fair, or dance that an Indigenous community was hosting and there were signs and announcements that said "no recordings" people should, hopefully, respect this and listen, therefore minimizing the chance that these songs would be put on the Internet or people's social media platforms where they do not belong.

Multiple examples of this that come to mind take place at certain times during a powwow. I was taught early in my fieldwork that there were specific times during a powwow that I should not take pictures or record the songs or the dancers. One of those times is the grand entry. I was told that this was a time to stand up and just observe, to think good thoughts for all of the dancers and drum groups and everyone else associated with the powwow, such as the emcee. The grand entry symbolizes the start of a powwow, the entrance of all of the dancers in all categories starting with the carrying of

the Tribal flag, the United States Flag, usually a POW flag, and often times the flags for each military branch. Members of the local tribal ROTC, as well as veterans from the tribe hosting the powwow, or others who are dancing that day carry these flags into the arbor. In the same way that you would stand up and be quiet for the National Anthem of the United States, you should do the same for the Flag song of that tribe's powwow as it is being sung.

While I have been fortunate enough to have been taught the correct cultural protocols in relation to the grand entry at powwows, there are many people who visit an area to watch the powwows and do not know the correct protocols to follow. At Crow Fair, as you stand in the wood bleachers that surround the arbor, for every one person that is standing quietly watching the dancers and listening to the drummers, there are at least two other tourists that are taking pictures of the dancers, recording them as the dance in, and taking selfies to possibly post to their social media accounts to solidify that they were really there.

Another example I can think of is a time I was taught not to take pictures or record the dancers in the arbor was when an eagle feather fell off of someone's regalia and touched the ground. Again, this is a time I was taught to just be silent and to think good thoughts for the veteran picking up the feather, and for the dancer and their family. I was told that it would be disrespectful to take photographs or to video record this intimate event. If, though, someone did not teach you to not record something like this, then you might go ahead and do so, and then upload it onto one of your social media accounts or the Internet in general. Now this content is out there for anyone to view, and more importantly, probably without the correct background information to go

with the content, whereas, the Apsáalooke Language App's contents have all been chosen by Crow Tribal members as information that they wish to share with the public about their language, history, and culture.

The Remediation of Technology for the Dissemination of Information

As part of the Recovering Voices Program, we were looking at ways to get the majority of the information that we gathered on the trip to be available for the larger Crow collective. While working on an app takes more time than we had at the moment, we decided that using the online database, Dropbox[10], might be a good start to immediately get information out to whoever was interested. Dropbox is a free app that anyone with a smartphone can download. Once they have the Dropbox app, or even access to the Dropbox website on their phone or computer, then all we had to do was email the individual our Dropbox link where we uploaded the picture files and they are then able to view the pictures on their own devices. Many people in the community enjoyed this method because they could sit on their own time and go through the pictures at their own pace. This made it easier for those who could not attend our presentations of the information, as well as those that wanted to look at the pictures again, or share them with family members who were not there. While this is a different form of digital interface than Mukurtu because it is not as organized or built for the purposes of archival collection sharing, it does offer a good opportunity for the time being.

Social media is also remediated as a platform for disseminating images and information from our Recovering Voices trip, allowing bits and pieces of information to

[10] I discuss more information on the use of Dropbox in chapter 3.

be shared at a time. Two of the women who were a part of the group then uploaded images and background information on the historic photographs and material culture to their Facebook accounts so that more people would be aware of what the Smithsonian had in its Crow collection. At first the Smithsonian had to check with their own copyright department about protocols on social media, which shows how new sharing information on this platform is. After going back and fourth between different people within different departments, they came to the conclusion that as long as the Smithsonian was cited along with the photograph that was uploaded, then it was okay to be shared on social media from their end.

This way, Facebook for example, could be used to spread information much faster and to more people than we could have initially reached just by word of mouth. Facebook then became a platform for information to be remediated from its original archival form to a digital stage in order to be shared with the larger social collective of Crow tribal members back in Montana. It became interesting to see just how much people who saw the posts and knew information about the images were sharing their knowledge, even if it was only small pieces of information. For example, the landscape, the clothing or beadwork designs, or the time period, etc.; some images were really recognizable for the imagery in the background, such as the Joseph Dixon photograph below known as Castle Rocks. This large rock formation on the Crow Reservation in Pryor, Montana, is an iconic image for not only photographers in the 19th and 20th centuries, but also a landmark that most tribal members can recognize immediately. Along with the background of the photographs, there were discussions that led to people also recognizing the names of people or the faces of relatives.

Figure 12. Joseph K. Dixon Photograph. National Anthropological Archives SPC 004666.00 #167

Some people chimed in that a certain person was related to them in "X" way and that they loved seeing the image of them whether it was for the first time, or something along the lines of, "Oh I always loved that image." Each individual image became a small forum of information that individuals helped by unconsciously working together in order to provide information to the larger collective.

Conclusion

In 2017**,** the Crow Tribe also released a Crow Nation News App that was available on both Apple and Android devices free of charge. Once downloaded**,** this app allowed people to stay up to date on what is going on within the community, which was especially helpful for the tribal election and per-cap times, as well as who won Handgames if you did not stay until the end, or could not be there for the tournament.

The app, which is no longer functioning, displays a "Sorry…" message that pops up when it is opened reporting that, "This app's content has been disabled. Please contact the app owner for further details. Please check on this app again in a few days." I have checked multiple times in the last few weeks and the message remains the same. I, as well as many others that I know, used this app frequently last spring in order to check the Handgame results, videos, and photographs that had been uploaded since I could not be there for them. I am not sure why the app is no longer functioning, but it was a good example of remediating the local news in a way for people across multiple generations to engage with activities taking place on the Crow Reservation, and acted as a way for information to get out quickly in an interactive way before the news was printed in the local newspaper.

Exploring the evidence provided in this chapter, remediation can be considered a useful tool for examining how Indigenous new media is adapted, or remediated, to fit the needs of the community in the best way possible. Old ways of teaching and learning are observed in a new and innovative way, expanding across multiple generations in order for topics such as language revitalization, material culture, and archival digital returns to be openly accessed and available to everyone who wants to interact with the new digital media.

Chapter 6: Digital Heritage

Introduction

Five years ago when I was finishing my MA thesis research, I drove the ten hours to Crow during Spring Break week in order to meet with people in the Cultural Office so that they could review my writing, voice any concerns, make any changes, and then sign off on the final product so that I would be able to give written approval to my IRB at the University of Idaho. Not only was this written approval required for me to "legally" finish my research through the eyes of the IRB, it was something that I would have done anyway after working and learning from my advisor Dr. Rodney Frey. I wanted the Crow Tribe to have the final approval of my writing and to approve of everything before my thesis was put online through the University of Idaho where anyone would be able to see the information in it.

A few days after getting into Crow, I met with Victoria Bad Bear who had worked in the Cultural Office, and who I had interviewed for my thesis. She went over my thesis with me, shared additional stories that certain topics in my thesis made her think about, and since I was at her house, she even showed me some of her beadwork that I had not had the chance to see during my interview with her because we met in the Cultural Office.

Once I had visited with Victoria for a few hours I went to see a friend who had helped me with initial snowball sampling when I had first started my research because she wanted to see the final thesis. While we were talking I remember her asking me what was going to happen when I was all finished with my research and I graduated. Would I ever come back to Crow? Would I ever talk to people there again? Or would I

just leave and forget, as she put it, like most of the other people who came to do research and then just left without ever sharing what they found? The questions were unexpected and threw me off. I started to say something and then I stopped. At first all I could say was no, but then I realized just how the long history of poor relationships between anthropologists and Indigenous communities had still affected people who lived there today. I did not want to be one of those anthropologists or researchers who went in, got their information, and left, never to share their research and never to return again. That stuck with me, and I made sure from that point forward that I wanted to continue to work with the Crow Tribe in any way that I could. In doing so, I needed to make sure I was able to get all of the permissions that I needed, and my projects approved by the Cultural Office and Cultural Committee before I started.

Intellectual and Cultural Protocols in Digital Cultural Heritage

Digital technology offers a new mobility to creating access to cultural heritage in museum and archival collections and extends the knowledge and information Indigenous communities have on whatever forms of new digital media that were available to them. Behind new media, and the digital heritage that can be accessed from the numerous digital platforms that are available today, intellectual and cultural protocols have to be discussed. In what follows I will examine some of the progress and problems this technologically driven age has produced for Indigenous communities when it comes to maintaining control over their digital heritage.

Exploring, and referencing, intellectual and cultural protocols is a concept that was much more frequently used in Europe and other places around the world than it was

in the United States until the last decade. Indigenous populations across the world have a variety of thoughts and concerns when it comes to the digitization of their primary source materials from public museum and archival collections. A few of the major concerns that are similar across many different Indigenous communities are: how that information will be used by people outside of the community (Baird-Jackson 2000), the lack of control on copyright, or "copyleft" (creative commons) issues (Baird-Jackson 2010), who will then be the guardian/custodian of the knowledge once it is released (Anderson 2010), does the federal government need/not need to be involved in its safe keeping (Anderson 2010), how can intellectual and cultural protocols be changed in order to better protect Indigenous communities (Cameron 2007), how will an Indigenous community's digital heritage and cultural heritage be portrayed outside of that community (Kirshenblatt-Gimblett 2015), and lastly, and most importantly for some communities, what happens if songs or stories are recorded from a person, and that person then passes away (Toelken 1998)? Continuing further, I will address some of these issues with examples form the literature, as well as my own research with members of the Crow Tribe.

On one hand, Australia implemented its own cultural heritage process in the 1990s, which shows that both their government and their Aboriginal peoples were working together in order to protect the cultural heritage and traditional knowledge of the different Aboriginal communities living there. On the other hand, the United States, as a whole, has yet to really establish a process to protect the intellectual and cultural protocols of the Native Americas who are living here in order to become a benefit for these communities. There are people and organizations in the United States and

Canada, though, who are making great, and necessary strides in the right direction for Indigenous communities here in North America. Kim Christen, as well as Jane Anderson, among others, have worked on projects that would help aid Indigenous communities in North America in relation to the lack of laws specifically set in place currently for their intellectual property and traditional knowledge needs.

The Local Context Project grew out of the legal void of intellectual property law in relation to Indigenous communities (Christen 2015). While this is a very good step in the right direction, more action needs to be taken in the United States in order to address intellectual property and traditional knowledge of the Native American communities residing here and who are concerned about the future of their cultural heritage if it becomes digitized. Shortly following, the Plateau People's Web Portal[11] and ultimately, Mukurtu grew out of Christen's initial efforts with digital software in an Australian Aborigine community. Her work examines the landscape of Indigenous communities' archival management as it relates to digital copies. After much fieldwork, she realized that Intellectual protocols and property rights in Indigenous communities need to be examined in depth, and from their own perspective, not just from that of the museum, archive, or library.

Colonial collecting practices throughout the world were highly disruptive because they took objects away from communities and therefore the traditional knowledge (TK) that went along with those objects was most often not recorded by

[11] Here, a handful of tribes from around the Pacific and Inland Northwest, in collaboration with Washington State University in Pullman, Washington, have the ability to design their page on their own terms and control whatever knowledge that want to upload and share on it. One advantage of this is that is brings people in communities together in order to work through what they want to have on their individual portal page.

those who collected the objects, and therefore, they were also not recorded in museum collections or archives. Bringing back digital copies of objects allows for new conversations to be started, and not only can this knowledge be shared with the museum or archive, but it has the potential to decolonize the access that these objects have been, or have not been, receiving in the past. Traditional knowledge systems can be set into place alongside museums, archival collections, and library databases. In doing so, anyone who is conducting research on a non-culturally sensitive object has a chance to understand the information that goes with it from the collection record, as well as the specific community's traditional knowledge on the object.

Traditional knowledge databases began in the 1990s, allowing a community to decide exactly what information they want to share. Therefore, a community acknowledges that whatever information they choose to share with the general public has to be taken into careful consideration (Coombe 2008). This allows the community to have a sense of communal ownership over what is being shared with the general public, rather than just having an outside institution decide what is going to be shared with whomever, whenever. On October 15, 2003, UNESCO added the words "digital heritage" to their document, Charter on the Preservation of Digital Heritage which shows that nationally there is thought about how new technology could affect different communities around the world. This charter states,

> "Considering that the disappearance of heritage in whatever form constitutes an impoverishment of the heritage of all nations, … Recognizing that such resources of information and creative expression are increasingly produced, distributed, accessed and maintained in digital form, creating a new legacy – the digital heritage, Aware that access to this heritage will offer broadened opportunities for creation, communication and sharing of knowledge among all peoples, Understanding that this digital heritage is at risk of being lost and that its preservation for the benefit of present and future generations is an urgent

> issue of worldwide concern…" (Charter on the Preservation of Digital Heritage).

UNESCO is aware that the sooner people have access to their digital heritage, the more opportunities there are for that information to be shared. This charter acknowledges that digital heritage has frequently become common knowledge and that many of today's digital content was in fact, "born digital and there is no other format but the digital object" (Charter on the Preservation of Digital Heritage).

The World Trade Organization (WTO) Trade-Related Aspects of Intellectual Property Rights (TRIPS), established in 1986-1994, placed intellectual property protocols into the international trading system for the first time, but it did not address all concerns from Indigenous populations. Intellectual property laws need to specifically protect Indigenous communities and the time of them being used as a source of raw knowledge has to stop (Anderson 2010). A few examples of concepts taken from Indigenous communities around the world and being used in the wrong context, or used without permission, are Bikram Yoga (Baird-Jackson 2000), Maori words being used on Lego sets (Anderson 2010), and the Sun symbol being used on the New Mexico state flag (M. Brown 1998). These are only three examples, out of many different instances, of words and symbols being taken from Indigenous communities and used out of context for someone else's benefit, usually financial, while the Indigenous community in most cases never sees any financial compensation.

Lastly, as mentioned in a previous chapter, Toelken, who worked with the Yellowman family for decades, and had recorded hundreds of hours of stories, realized that there were certain protocols that he needed to follow out of respect to his adopted

family with which his colleagues in academia did not always agree. When the man died that Toelken had worked with, he made the decision to send back the tapes to Yellowman's wife for her to decide what to do with them. While she trusted Toelken, he brought to her attention that after he (Toelken) passed away too, there was no guarantee that the tapes that held Coyote stories would only be played in the winter when they were culturally specified to do so.

Major Concerns of Indigenous Communities in Reference to Digitizing Cultural Heritage

One of the major concerns of the Apsáalooke community, as well as many Indigenous communities across the world, is the protection of their intellectual and cultural protocols after they are digitized. As I mentioned previously, after presenting my dissertation research in front of the Crow Cultural Committee, as well as the Fish and Game Office who happened to be in the room at the time, the Vice Chairman of the Crow Tribe asked me "What about our intellectual property rights? Who would own our information if it was in an app that could be accessed by people outside our community?" Speaking from what I knew of the current Apsáalooke Language App that had just recently been released, I told him that all of the information on that app was still controlled by the Apsáalooke people because of the platform on which it was built, but since anyone could download the app their intellectual property was not fully protected. They could, as Kim Christen has developed in her 2015 article, "Tribal Archives, Traditional Knowledge, and Local Contexts: Why the "s" Matters," use Traditional Knowledge labels so that people would know to contact them to use the

information, or set up specific labels on who can view the material. The "Traditional Knowledge (TK) License and Label platform [can be used] as one way to navigate the sometimes-confusing arena of Indigenous intellectual property rights in an expanding digital landscape" (2).

Also, once the Apsáalooke Language App was downloaded, all of that information could be used in "Airplane" mode and you no longer needed Wi-Fi or cell data to enjoy it. According to the makers, Thornton Media Inc., this allowed for the information to be more easily protected than if it was constantly being downloaded and updated. The only problem with this format, though, is that it cannot be added to or amended after the initial fixes through an update in the Apple or Android App Store. Since the data has to all be downloaded at once, the app had to be "closed" to all further additions and edits, which was something that the Crow Language Department was not 100 percent on board with initially.

Another concern would be once traditional knowledge or other information is on an app, how do you protect the content from people who either should not be viewing it because of age, gender, clan, or seasonal restrictions, or from people outside the community who might abuse that knowledge and information. Material culture objects that are sacred are one of the concerns when it comes to digital heritage being put on new media. Kim Christen's collaborative work in an Australian Aboriginal community organized a community-focused software named Mukurtu after an Australian word. This software has adapted to meet community needs and concerns, one of which was, how would traditional knowledge be stored in this new software with restrictions? The Indigenous community has the ability to not only add whatever content to the platform

that they want, but to also set in place passwords that could be used to block specific information upon which the community decides.

While the Crow Tribe as a whole generally does not have a problem listening to recordings, watching films, or viewing photographs of deceased family members, they do have gender restrictions on who can and cannot see certain objects, and well as seasonal/time restrictions for some stories and songs. All of these, if they were to be included in the app, could be password protected so that they could only be viewed by certain people who then had access to that password. There is the concern, then, that the passwords could float around and therefore, anyone would be able to have access to the content after all. In this case, if the community was concerned this would happen, passwords could be controlled by the Crow Culture Committee and changed every so often and redistributed when someone wanted access to a certain area of the app.

Examining Digital Heritage Software in the Literature and an Applied Setting

There are ways that communities and researchers can work together in order to provide both technological and social ways to avoid problems when sharing intellectual and cultural property rights as well as traditional Indigenous knowledge. Indigenous communities who either collaborate or develop their own digital technology also are the ones that know their culture and the cultural protocols that go with that knowledge the best. They are then able to make sure what is incorporated into the digital media that they are working to establish will be information that will be acceptable for their community to see and share with others.

Starting first with technological, or digital, ways that allow for potential areas of conflict to be prevented and mitigated if they should arise, I want to talk about Kim Christen's first attempt to digitize traditional knowledge of Aboriginal women she was working with in Australia in the 1990s. Since each community is different, and therefore their cultural protocols cannot all be looked at on a standardized scale, Christen had to adapt a DVD in a way to respectfully disseminate the women's traditional knowledge that was being shared with her. Since Christen had worked in the community for a long time, she understood there were specific rules and protocols about who could view what information. For instance, Christen understood that people were not supposed to search for information from communities outside of their specific country.

For Christen's work, this meant that the platform must have a way where information could be separated by countries and someone starting their search could not accidently click on another country and view their information (Christen 2005). Another part of Australia Aborigines' cultural protocol is the issue of seeing images or films, or hearing the voices of those in the community who have passed on. Christen, as well as many filmmakers working with Australian Aborigine communities must put a warning label at the beginning of anything that might show content with people who have passed away before the film starts, or in Christen's case, before the link is opened. In this way, community members are protected from accidently looking at, or hearing the voices of someone who as passed away if they do not want to, or should not do so.

Another way that digital information can be set up in order to prevent and mitigate conflicts is for Indigenous communities, no matter where they are, to work

with museums in order go through online collections, and for anything that is of a ceremonial or religious significance to have that image taken down and a TK symbol put in its place (Christen 2015). This would allow for the community to share their traditional knowledge about the object with the general public, and for the public to learn about the object through words the Indigenous community chose to share, rather than that object to be taken down and forgotten about; this process serves as not only a way for digital technology to aid in addressing cultural heritage rights, but also proves to be a great learning activity for anyone outside of that particular Indigenous community.

Lastly, Christen gives examples of a few different ways that digital technology and new media can be used in order for Indigenous peoples' intellectual and cultural protocols, as well as traditional knowledge to be shared and accessible for not only the community, but to the general public as well. Throughout history, too many events have been recorded without the Native American, or Indigenous peoples', point of view and perspective of what happened (DeMallie 1998; Dessi 2008; Glassie 1994) and too many times history shows only the voice of one small part of the event, or events that took place (Tilley 2002). Fogelson's (1974) "ethno-ethnohistorical approach" should be taken into consideration here to show the need for people to not only know, but to also really understand the Indigenous point of view by looking at history through their own words and memories.

Christen proposes a separate database than can be used alongside Western libraries and archives in order for Indigenous traditional knowledge to not only be shared, but also to be used. In this way the communities are adding to the overall

metadata of archival knowledge, and not just adding to already existing databases set up by Western libraries, museums, archives, and institutions (Christen 2015). One example of a database of Native American culture, traditions, and knowledge is the above-mentioned Plateau People's Web Portal.

The Authenticity Surrounding Digital Returns

There is a debate among some over the authenticity of digital returns. Some argue that a digital return is not as authentic as the actual object being stored in a museum or archive because it is only a copy of that object. Richard Handler's 1986 article, "Authenticity," states that in today's society, "the temple of authenticity is the museum, where we display the objects or pieces of culture that stand for the cultures of their possessors-creators" (1986:4). He continues, "Contact with authentic pieces of culture in museums or, better, the possession of such objects in private collections, allows us to appropriate their authenticity incorporating that magical proof of existence into what we call our 'personal experience'" (Handler 1986:4). This is not the only "authentic" means to looking at material culture objects or paper archives; this is just one way.

An image, digital copy, or even replica of an object can all be considered authentic versions of the original in their own way. Even though the original is in a museum, unless you are a staff member, a researcher, or a visiting tribal member, that has sent ahead a request to view certain objects, it would be hard to get close to the original objects in collections that are not out on exhibit. Therefore, a digital copy can at least stand in for the original object for that moment until you can get to see the

original, or to use as a method of looking at the object again and again once you have left the collections. Authenticity is a cultural construct of the Western world, where it is tied to the Western notion of an individual (Handler 1986:2-4). Historically, for Indigenous peoples, very few things were done at the individual level, but rather for the overall good of the group. I argue that Handler's idea of authenticity can be related to one's lived experience with objects in collections. I further argue that the same authenticity, or lived experience that Handler talks about in relation to objects in museum collections can still be experienced in a digital copy of an image, as well as the original.

When I first shared pictures from the National Museum of the American Indian's Apsáalooke collection with tribal members who I had interviewed for my MA thesis, I never expected the overwhelming reaction to seeing the photographs of objects. Even though it was not the actual physical object sitting right in front of them, just being able to see a digital copy of a dress, or blanket, or doll resonated an emotional connection from people that I had never experienced before. The same dialogue ensued over the digital copy as it might well have if the original physical object was also in the room; family members and friends in the close vicinity were called over to look at the object in the photograph and a conversation developed bouncing between them discussing what they knew, and then including me in stories about how similar objects had played a role in their lives. Material culture objects are survivors of the past (Cameron 2007). They continue to have the ability to tell a tale of the people who made them, and both digital, as well as physical collections can engage emotions, experiences, and recall memories. So, if an Indigenous group is not ready, or able, to

have physical objects back in their community, then the next best thing is to bring digital copies of objects back so that they can still have the chance to share those emotions, engage in conversations, and recall memories that relate directly, or indirectly, to those objects.

Technology in multiple different forms, is also culturally constructed, where the meanings and uses are based on all values (Hayes 1999). The role of a digital object must be understood in respect to a larger, and closer, look at the individual's cultural heritage. There are certain arguments around digital copies and digital returns being inferior to their original counterparts that are located back in museum and archival collections. Benjamin argues, "the technique of reproduction detaches the reproduced object from the domain of tradition. By making reproductions it substitutes a plurality of copies for a unique existence. And in permitting the reproduction to meet the beholder or listener in his own particular situation, it reactivates the object reproduced" (Benjamin 1955:219). This reactivation, or reproduction, allows objects to be brought back to life once again. For example, choosing an item to copy in a 2 dimensional or 3 dimensional format shows just how important and significant that item is to the community, and it allows the community to not only be reconnected with it, but to also have that item back with them in the community in a digital form.

If an object could never be copied, hundreds of thousands of objects would never be able to be accessed by community members unless they were fortunate enough to travel to museums and archives to view them in person. This also makes me think about how the objects were removed in the first place, and that their aura is, arguably, already gone, or actually back in the community waiting for its return; objects sitting on

a museum shelf, not being used in their culturally and historically appropriate ways have already temporarily lost their aura, and the best way to get it back is to use new media to digitally copy those objects so that the communities can see them again.

Deidre Brown, in her work with Indigenous Maori, argues that the "surrogate has the potential to connect objects with the community, facilitate repatriation, conservation, remote study, and curatorial research reconstruction (2007 in Cameron 2007:68). Now that an object is easily accessible in a copied form, it can be used for teaching, learning, and remembering. Digital new media has the potential to facilitate social interactions and provide Indigenous communities the access to their objects once again. Both "digital and physical collections can function as interactive conduits in engaging emotional experiences, and in extending memory, recall, and identification" (Manovich 2001a:57). I agree with scholars such as George MacDonald and Marshall McLuhan that "new media has the potential to facilitate social interactions and accessibility" (Cameron 2007:51), some examples of which include photographs, sound recordings, videos, and multimedia apps.

As Sean Cubitt discusses that every digital copy, or object is unique, it plays a surrogate role for the physical object. By no means is a digital copy trying to replace a physical object, but it is filling in for it so that a community can still have access to their objects in collections, just in a different form. Objects in a media form still have the ability to teach, to engage the emotions of all who look at them, and to influence how we think about what is in being shown. Digital media might also make some objects more appealing to youth who might be able to then interact with them in a format that they are not only familiar with, but already have knowledge how to use. The option to

open up your phone to look at a digital copy of an object, or listen to a voice recording might be more appealing to all those in the community who either do not like to, or cannot travel anymore.

An Indigenous community's accessibility to their objects in a digital form, for the first time, through the hundredth time evokes a connection to their past and to their ancestors who once created that object, or spoke those words if it is a sound recording. While, as Cameron mentions, digital reproductions lack the visceral thrill of being in the presence of the original (2007:63-64), having access to a digital copy allows a person, or community, the chance to look at, and engage with an object as many times as they would like, and for long after they have left the collections. Therefore, the debate of a museum repository being anymore authentic than a digital collection cannot hold up in the argument that overall, accessibility to the collections, period, is the best resource for a community to have when it comes to material culture objects and archives.

There is also an intimacy surrounding digital access and new digital media when it pertains to smart phones or tablets. Having the ability to hear a sound recording, or watch a video recording whenever you want, or wherever you want. Our smart phones have become an extension of our bodies in a way, where we, most of the time, never go anywhere without them. This then allows us to be able to reference different sound recordings, or videos whenever we feel the need to do so. One example of this would be the intimacy surrounding hearing voices from loved ones that have since passed away. The Apsáalooke Language App, in time, will act as a vessel for many of these loved one's voices to be heard over and over again and to continue on with those

person's memories. Another example would be something as simple as the voicemail on your phone. My Grandpa on my Dad's side passed away much later than the rest of my grandparents and I am able to listen to his voice on my phone through his voicemail messages whenever I feel the need to. New media, such as smart phones and tablets, can offer us many intimate moments with sound recordings that are much more easily accessible than other forms of older media.

Chapter 7: New Media Futures

Introduction

Working with the Apsáalooke for the last seven years has opened up my eyes to how different groups of people view time. Whether it be the past, present, or future, certain things come into play and different ways of referencing points in time are passed along to each generation through their language, gestures, and oral stories. Examples such as time operated in a seasonal round with hunting certain game, gathering specific foods, and telling stories. Two examples of when time is especially pertinent in the Crow community involve Crow Fair, as well as the Crow Language Department.

When Crow Fair started in 1904 it began as an agricultural event in order for the Indian Agents to show the "progress" they had made "civilizing" the Crow People as well as during wartime to encourage the Crow people to grow food to aid their country. Soon, Crow Fair came to represent the beginning of the New Year for the Crow people. Taking place the third week of August every year, it ends with a parade dance that culminates with prayers and songs to bring everyone good luck and fortune in the next year. Death, most of the time, was, and still is, one of the few reasons why someone would not participate in Crow Fair celebrations. Still today when someone passes away to the other side camp, time especially seems to stand still. A period of mourning takes place where offices are shut down, obligations forgotten or moved to a different time, memories are shared, and food is served to all those who were impacted by that person's passing.

Time seemed to also stand still when the Crow Language Department was deciding whether they wanted to use new media as a way to promote language learning

among the tribe's youth. At first many people were tentative to try something that was so new and to use a resource that they had never experienced before in language learning efforts. They realized that the techniques that they had been using did not seem to be working as well as they wanted, though, so they decided that they had to try something. In the end of 2013, 2014 and early 2015 employees from the Crow Language Department reached out to get more information on the language app that Thornton Media Inc. had been producing for other tribal communities across the country. This turned into being a big step in the right direction in regard to getting the youth involved in learning the language once again, but as the Crow Language Department found out, it was not enough on its own to boost the language rates as well as they first hoped. Time, in this case, seems to act as a track for multiple attempts at trial and error for the best ways to provide the Crow Tribe with language revitalization and retention efforts.

The Newness of New Media

Generally, there is an anxiety surrounding something significantly new being used to replace something used in the past. The same goes with new media, but there should not be an anxiety when it comes to new media being used to replace older media. Silvio (2007) argues that new media must capture the social experiences of a particular time and place, as well as include experiences of old media alongside the hopes and anxieties surrounding the introduction of new media into a community. There does not need to be anxiety surrounding new media, though, because most new media has the same bones of what the older media had already been able to establish for

the community. The new media gives Indigenous populations the ability to not only represent themselves both politically and culturally, but to also rewrite a new narrative about themselves that they want the general public to reference and follow in the future. Indigenous peoples have faced a number of obstructions when imagining their futures, but new media takes this into consideration and allows them to reimagine their futures through a digital multimedia platform (Ginsburg and Myers 2006:27).

Phone apps can be considered multimedia because of everything that can be promoted within its software. For example, the Apsáalooke Language App has games, quizzes, audio, video, and recording abilities so that you can try to speak Crow directly into your app while learning the language. Multimedia technology is alluring and it acts as a new form of meta-objectification that circulates in different ways among different groups of people. There is a newness in new media that can integrate across time and across generations. Again, as Eric Michaels (1994) references new media an "electronic invasion," I argue against the use of the word invasion. New media is not forced into any community that does not want, or see a reason for it being there. New media replaces older media, but it still maintains its structure and purpose to collaborate within cultural protocols, be innovated, and to help aid in the preservation of language and cultural practices.

Polymedia, (Madianou and Miller 2012) which is focused on the choice of medium, can show how interpersonal relationships are experienced and managed. Polymedia, then, is "ultimately about a new relationship between the social and the technological, rather than merely a shift in the technology itself" (Madianou & Miller 2012: 169). In the past, the relationship between a society and the technology it used

was primarily due to constraints in both access to certain digital media, as well as the cost of that media for either the community to have, or for individuals to own. Now, with both the Internet, as well as cell phones, the cost of using new digital media is minimal compared to what it once was. New media emerged out of the need for understanding developing technological environments and the opportunities that communities had. The availability and relatively low cost of new digital media allows for Indigenous communities to have greater access to it as well as new media working to help improve their overall media literacy (Madianou and Miller 2012). Media shapes society (Horst et al 2010) and plays into personal connections with all those who are using specific forms of new media, like the Apsáalooke Language App. New digital media, like the app, can work to help improve how people who may usually not take any interest in new technology can get involved in what is being offered.

Technology and media change over time and with it, theoretical assumptions of the past need to adapt to these changes as well. Again, referencing Benjamin's notion of "aura" we can explore how new forms of aura attach to copies or reproductions that are associated with new digital media. While Benjamin writes about how a reproduction of a work of art lacks the original's presence in time and space, it does allow the original to be away from its producer, much the same as photographs and digital copies. The aura acts as a way of being there even though the reproduction detaches the reproduced object from its place in time and tradition (Benjamin 1936). In the early 1900s the technological and mechanical reproduction of objects reached its highest point. Print technology changed the way that people communicated and changed face-to-face interactions. A printed language laid the basis for social

consciousness and the national "print language" changed the Old World from 1820-1920 (Anderson 1991). New media also changes the way that people interact with one another, just as the way that older media once did.

Another slightly different example of how new media is being examined by scholars in the field of media anthropology is using the idea of exchange theory in relation to media studies (Appadurai 2013; Mauss 1967). Examining again how Daniel Miller analyzes that way people watch American soap operas in Trinidad and then incorporate objects into their own social lives and social value systems through this media. These objects, then, are shifting in meaning as they move through different regimes and circuits of exchange (Ginsburg, Abu-Lughod, Larkin 2002). The same can be argued with how new digital media is being used in Indigenous societies in the United States, and specifically among the Crow Tribe, where they are taking advantage of the popularity of smartphone apps in order to get more tribal members interested in their language and cultural revitalization.

The Social Organization of Time in Relation to New Media

The relationship of media to culture, the newness of new media, as well as the social organization of time are all ways of looking at new media in order to put together a picture of its relation to Indigenous communities and the concept of time in relation to new media, specifically, and in the field of anthropology more broadly. Firstly, these three concepts, or questions, and their value when looking at the Indigenous appropriation of new media needs to be examined. Each one deserves its own attention in order to not only gather a clear picture of how they relate to this project exploring the

Apsáalooke Language App, but also to study the role of time and the future play into expressing and assessing the stakes of Indigenous new digital media. While exploring the social organization of time, the concept of new media and the future can be seen in the same context. We can go one step further and determine how the future can be discussed in the terms of time and new media, as well as how important temporality is when talking about the past, present, and future in relation to new digital media.

Starting with the Enlightenment Period's notion of time as an idea of open-endedness, it progressed to a different context in the 18th and 19th centuries when time seemed to be moving very quickly and the "future" seemed to be both coming and going rapidly (Rosenberg & Harding 2005). Thus it could be argued that the inventions of many different types of technology across the world might have had something to do with how fast time seemed to be moving in this particular era. Going from one extreme of time moving exceptionally fast, to moments when it seems to not move at all when something major happens, such as on September 11, 2001, when time seemed to stand still. This example, especially in relation to what was being shown on the media, allowed the past, present, and future, to all merge into one moment. With the Apsáalooke Language App, time is organized into what aspects of the language were most important to be taught to the youth at the time that it was being made in the fall of 2014.

Self-Representation and Accessibility of Digital New Media: Examining Cell Phones

Cell phones are a way that digital new media cannot only develop methods of communication, but also establish collective interests. Through the use of cell phones,

digital media has extended itself into the everyday lives of people across the world, and one population that particularly relies on cell phones are diasporic groups (Coleman 2010; Bernal 2005; Axel 2004; Whitaker 2004) who use this technology to stay in touch with family and friends and to keep up to date on what is going on back in their communities. While cell phones are used so that groups can stay in contact with one another, cell phones can also be used so that groups can "stay in touch" with their material culture objects located in museums far from where they live, as well as how cell phones can aid in both youths and adults "staying in touch" with their language through the Apsáalooke Language App.

To the Apsáalooke, as well as many Indigenous communities around the world, language is highly significant, it is not only part of their past, who they are, and the traditions that they continue to practice with it, but it can also be seen as a continuance of "culture-making" (Myers 1994), and new media technologies can act as an aid in the entire process. While using apps in this context is relatively new, when Indigenous communities have control over their own cultures and language preservation using new media, this plays an important role in how active the community is in really using the platform to fit their own individual needs. New media "forms are seen as a powerful means of (collective) self-expression that can have a culturally revitalizing effect" on the community as a whole (Ginsburg 1994:366). The community, acting as the producer of the app, gives the final approval of all of the content that is going to be viewed on it.

As Turner also states, the "global expansion of telecommunications, coupled with the availability of new and cheap forms of audiovisual media, above all video

recording, have given rise within the past decade to an unprecedented phenomenon: the appropriation and use of the new technologies by indigenous peoples for their own ends" (1992:5). Almost 25 years later, while video is easily accessible and extremely affordable to many people, especially anyone with a smart phone, or any phone with a camera, apps are also accessible to anyone with access to smart phones or tablets; many apps also only need Wi-Fi initially to download them, and then they can be used without it, which helps people in rural areas to still be able to take full advantage of what cell phones have to offer. With the introduction of film into more ethnographic fieldwork in the mid 20th century, this opened up the doors to other forms of new digital media in Indigenous communities and started an era of using technology and media that is more diverse in its social and cultural organization.

While websites can reach any community that has access to Internet and computers, tablets, or smart phones, apps can go one step further and reach any community that has access to smart phones with either a Wi-Fi connection or cellular data. This new media shows not only the advancement in media technology, from the first sound recordings and films, but it also shows how community access to technology is growing in this digital age. Apps on cell phones, like film, allow members of a community to come together and use, or watch the technology together. New media can be a way for cultural memories to be shared across generations, communities, and nations. Having access to media across Indigenous communities is equally as important, if not more so, as that same access and information being shared with people across the world. Through media access, individual subjects can look to the work of the larger social collective in order to share one another's experience with time, memory,

and what the future looks like. These experiences can then be analyzed according to an individual community's cultural protocols, revitalization practices, and appropriation in the form of new media.

The relationship between Indigenous communities around the world and new digital media technology can also be analyzed in the way of returning knowledge through the use of old and new media. Whether this is returning physical copies of photographs, or using technology in the form of an app to digitally return material culture and sound and film recordings back to the Indigenous communities from which they came from. Indigenous groups "all over the world have been reappropriating colonial photography and films for purposes of cultural revival and political reclamation (identifying relatives, land sites, designs, dances, etc.)" (Ginsburg 1991:103). An app focused on the digital return of material culture objects and archival material allows those things to be digitally brought back to the community without members having to travel thousands of miles to view them. This not only benefits the community, but it also allows for individuals interested in the community's culture to have the chance to learn without visiting the museum collections or community as well. One example is from the *Igloolik Isuma* project, which used the Internet to connect the Inuit in the Arctic with people around the world. The project served as a way to "bring people to Igloolik without the extreme expense and inconvenience of traveling here, as well as to allow Inuit to remain in their communities and out on the land without losing touch with the 21st century" (Ginsburg 2008:296). Bringing objects back to the Apsáalooke community allows for more people to get involved in cultural revitalization process, even those who do not have the means of traveling very far for one reason or another.

This project then turns into a community-based collaboration with as many people who are interested in the process having a chance to be involved.

In much of the literature written in the late 20th century, the new form of media at the time were video recording devices that Indigenous communities were using to assert their control over how their culture was communicated and represented through this technology. Today, going beyond video recording and production, new media such as smart phone apps are a new way for Indigenous peoples to take control over another form of new media for the 21st century. In Terence Turner's 1992 paper, "Representation, Politics, and Cultural Imagination in Indigenous Video: General Points and Kayapo Examples," he discusses how the relationship between Indigenous media and culture is empowering:

> "The fundamental ethical and political issue involved in such process is the empowerment of social subjects to use and transform their stock of social and cultural forms in ways that empower them to produce social relations, values, and identities for themselves under presently existing and future conditions. New techniques of representations, such as, in the case in question, video taping and editing, may potentially be among such empowering tools" (10).

Today, while video production is still a crucial and an important media platform for Indigenous communities to use in order to extend their traditional and cultural worldviews through the use of technology, apps also have the ability for communities to come together and organize a platform of learning, where once finished, can be shared just as easily as videos can. Apps, because they are multimedia, can also incorporate older forms of media, such as photographs and paper archives, within their software, combining different technological mediums to be viewed in one unique program.

New Media as a Narrative of Time

The social organization of time is complex and needs to be considered in a variety of different ways according to time as the past, present, and future. We can also study time as a narrative of people's lives in not only the past, but also the future as well. Narratives are a universal way to organize aspects of a person's life and memories, and can even be used to help someone who knows nothing about a certain community to learn through narratives such as storytelling (Mitchell 1981). Agreeing with Mitchell's argument, that narrative is a human universal, we can translate the narrative of storytelling that he uses as an example to my example of new media being a universal narrative of taking what the community feels is most important and preserving that for the present and future generations. Just as Mitchell explains that while you might not know a culture, you can probably understand a story from that particular place, new media, while used differently by communities around the world, still has many of the same parts and overall structure as it does from one place to another.

Narratives, needing a beginning, middle, and an end, are a primary way of organizing our experiences over time (Carr 1991). New media can also stand in this role by including archives from the past, stories from the present, and language learning for the future. Temporality, because of its interconnection between the past, present, and future, can be related to new media's ability to connect across multiple generations and multiple platforms. One of which is a narrative of time; in this way an app can showcase not only what was important in the past, but what is also important at the present, and what is most important to be preserved for future generations. Here, older generations, who are generally better with narration and voice (Gershon 2010) can

narrate to younger generations and work together with them while using the new Apsáalooke Language App. Therefore the app acts as a narrative's way to organize information and experiences over time and throughout people's lives, resulting in a beginning, middle, and end.

This temporality between the past, present, and future is one that is important when not only researching time and the future, but also examining how scholars have used their social relationships and experiences of new media. Notions of "within-timeness" (Mitchell 1981) narrative of time (Ricoeur 2004) time-reckoning (Evans-Pritchard 1969; Malinowski 1926; Munn 1992), and how practical time (lived through), differs from temporality of experience (experienced time) (Carr 1991) show that scholars view the notion of time and narrative as an important part of the past, present, and future. According to Carr a story has three parts, a storyteller, audience, and character. This can be referenced in the same way for new digital media as well. For example, the new Apsáalooke Language App has all of these three components when asking the questions: Who made the app? What is in the app? Who uses the app?

Collective Memory and New Media

This ties in with Mbembe's notion of "time as lived" as something that is neither synchronic nor diachronic, but has multiplicities and simultaneities, and the presence and absence of time. Lived time allows for individuals as well as communities to think about memory in their own way and at their own time. Scholars have looked at different ideas in relation to the past, present, and future: memory versus social memory, (Connerton 1981) collective memory and trauma, (Connerton 1989, Das 2006,

Halbwachs 1992) traditions, (Foucault, Hobsbawm & Ranger 2012) invention of tradition (Hobsbawm & Ranger 2012) memory and forgetting (Nora 1989, Ricoeur 2004), and embodied memory (Taylor 2003). Memories impact generations differently because of each person's experience at an early age. Therefore the collective memory of each generation is largely influenced by different events, but the older generations can transmit memories to younger ones through narratives, oral stories, and photographs (Connerton 1981, Halbwachs 1992).

Images of the past can also be used as a form of narrative and used to remember, or evoke memories, while also offering new techniques for future making (Ricoeur 2004). Whether you are physically looking at photographs, or videos to recall or share memories, or as Ricoeur argues in his 2004 book *Memory, History, Forgetting*, whether you are creating an image in your mind from the new memories made, remembering allows you to receive an image of the past and does something to aid in the process. While remembering, time plays a very important role. You are literally in the present, looking back at the past for information about what was, and how that might impact you now, or in the future. Ricoeur states, the time "in which the representation of the past seems to consist does indeed appear to be that of an image" (2004:5). Right at that moment that you recall what you are looking for, and that image appears in your mind, you are brought back to the present.

Nothing can truly help memory more than looking back into the past either on your own or with others. New media can help engage the practice of accessing, or recalling the past by providing a platform for individuals, as well as the collective to engage with each other and share their experiences. New digital media can be a way for

a community to sit down together and organize photographs, archival footage, and construct language exercises in order to promote the concept of remembering together.

An individual or a collective, while they can help with remembering, they can also help with forgetting (Ricoeur 2004). This can be discussed with Ricoeur's concept of "reckoning with time" or "taking [it] … into account" (Munn 1992:105). The concept of "forgetting" is important to discuss when talking about history and memory, as well as the feeling of vulnerability towards the past, or what the future may have to offer. Depending on the circumstance, forgetting may make us feel afraid, but it also quickly restores our hope when what we were searching for comes back to us (Ricoeur 2004:417). New media can help aid in a community's ability to remember certain things stored within it, not only for the present, but for the future as well. One of the main concerns for the Crow Tribe is the ability to retain their language in not only the population of present day youth, but for all future generations of Crow people as well.

Even a decade earlier, the Crow Tribe had a much higher language retention rate and may not have been thinking about language retention and revitalization as strongly as it is today. As Pierre Nora argues, it is impossible to try to predict what can and should be remembered, thus calling attention to modern archives and museum collections. New media has the ability to allow archives to be created much easier and to be accessed much quicker than before. Nora writes, "Modern memory is, above all, archival. It relies entirely on the materiality of the trace, the immediacy of the recording, the visibility of the image…No society has ever produced archives as deliberately as our own, not only by volume, not only by new technical means of reproduction and preservation, but also by its superstitious esteem, by its veneration of

trace" (1989:13). As a society we are engaged with collecting things that show signs of what was, or what had been, in order to share that with not only the future, but to reassure ourselves in the present as well.

New media can be a way for these memories to be shared not only across generations, but also across communities, and nations. Individual subjects can look to the work of the larger social collective and share one another's experience with time, memory, and what the future looks like in terms of their cultural protocols, revitalization, and appropriation in the form of new media. Apps, readily available on smart phones and tablets can be used to share memories much faster than older technology and media allowed, and therefore can engage individuals across generations to work together in order to produce something that will have the approval of the larger social collective.

While time relates to the individual, it also relates to the collective as well. Different generations will have memories that are different from one another because of the experiences of their pasts. There are, as Maurice Halbwachs writes, "as many memories as there are groups, that memory is by nature multiple and yet specific; collective, plural, and yet individual" (Nora 1989:9). The concept of memory versus social memory (Connerton 1989) shows that the experience of the present depends on the knowledge of the past. It also relates to how individuals remember as opposed to groups and how groups may remember more once things are being shared with one another in a community or intimate setting. This relates to a small part of my project where more than just a few people will be working on looking at a potential new app

and many members of the community will be adding to it, just like the Apsáalooke Language App that is out currently.

The Apsáalooke App as a Reobjectification of the Future

Mbembe's lived time also allows individuals and collectives to see time on their own terms and in their own way, and this would relate to my project because the community will be helping to organize what best fits into the context of material culture and historical images that will be added to its content. We can also see that over time, concepts change and so too does how people view the past, present, and future. Futures are replacing the past as cultural reservoirs and shows how the future can never be a clean break from the past because in doing so, that calls for a great deal of remembering to take place (Shaw 2013).

My project relates to the study of time and futurism because apps can be considered a repatterning of lived time, which allows the creators of the app to do more in reference to time. We can look at the app as a reobjectification of future through the platform of new media because of the way that it is not only seen, but also used by the community. Research is the ability to create new knowledge and without new knowledge there can be no new futures, which is why all people should have access to ways in which they can research and contribute their knowledge (Appadurai 2013). Apps, and other forms of new media can help to expand the access of research related materials in order for communities to add to the knowledge of the future.

Again, taking a look at Benjamin's concept of aura and the idea of how things are copied and detached from their originals they could lose part of their authenticity. I,

personally, hesitate to agree with this, and if we were to implement this concept in relation to Appadurai's notion that knowledge adds to the future and people need to have access to objects in order to research and add to this knowledge, then Benjamin would, in a sense, be trying to stop there from being any new futures if things could not be copied and shared with the general public. As Appadurai writes, the term culture seems to always be viewed in relations to the past; words like heritage and traditions are used, where, the term development is mostly studied in the context of the future. With an app, combining both culture and "development" we can view the term culture as no longer just in the past, but in the present and future, too.

Indigenous Communities Using New Media Technologies

Ginsburg uses the film *Atanarjuat* as an example of media being analyzed as giving new life to the past and showing the youth, as well as all generations that a living past means a living future (2003:828). The same thing can be looked at with the Crow Tribe using new media in order to engage the youth with learning about the past through a technology that they are familiar with, and are using in a variety of ways throughout their day. If the youth are already using apps, why not encourage them to work with one that they can use to learn about their traditions and language in order to help carry them into the future.

The Crow Tribe realized the appeal of technology as a new way to promote language revitalization that might engage younger generations and they decided to use this to their advantage. With the new app, the Crow Tribe is using the accessibility of smart phones and tablets to not only combine elders' knowledge with new technology,

but to also use this as another way of getting younger generations involved with their history and culture. Ginsburg also saw this taking place in Brazil in her essay, "Video Kinship: A Review of *A Arcas dos Zo's* and *Eu Ja Fui Seu Irmao,*" where the tapes were being used to get the youth involved in dances, festivals, and learning their traditional ways because so many of their elders had passed on, taking that information with them.

One of the important relationships between Indigenous communities and media technologies is the way people learn from media that is made and organized by Indigenous peoples. Indigenous communities are not only creating innovative work in their productions of new media, "but also in the social relations they are creating through this practice, that can change *the ways we understand media and its relationship to the circulation of culture* more generally in the twenty-first century" (Ginsburg 2008:303-304).[12] Indigenous media is a way for people across generations to interact through the different platforms of digital technologies in order to collaborate and learn from one another. This is especially true when younger members of the community get involved with any process of new media. One example is the US Mob Project which was Australia's first Aboriginal children's television series created by, and about, Aboriginal youth, Ginsburg states, "digital technologies have been taken up because of the possibilities they offer to bring younger generations into new forms of Indigenous cultural production and to extend Indigenous cultural worlds—on their own terms—into the lives of others in the broader national communities and beyond…"(2008:301). The Apsáalooke Language App has opened up this opportunity

[12] The italics are my own.

among Apsáalooke youths by getting them involved in the development of the software and opening up a new way to learn their language again.

We can also explore the importance of new media, and technology in general, in diverse facets of youth language learning; whether that is an app mainly focused on language readings, speaking, and spelling, or another one focused on viewing digital copies of a museum's or archive's linguistic records that were collected by early anthropologists, missionaries, and others. Technology can help in opening up archives and creating more access for community members of all ages to study linguistic archival material with the touch of a button.

Again, going back to reference the initial impact of the Internet on new media, in Manuel Castell's work on the Internet, he "celebrates the Internet's capacity to liberate, he also cautions us about its ability to marginalize and exclude those who do not have access to it and suggest that we need to take responsibility for the future of this new information age" (Ginsburg 2008:291). The Internet created a new era where information on thousands of topics could be accessed anywhere in the world for people who could connect. As Castell cautions, it could marginalize and exclude some people based on Internet access in rural parts of the globe. Smart phones connecting to cellular data, and also Wi-Fi, allow communities who would normally have limited access to broadband technology to be connected. Apps, especially when they are in the format of the Apsáalooke Language App, where they can be downloaded once and then used in full without the need for cellular data or connection to W-Fi ever again, are a way for many more people in the community to be able to view and use the content. The Apsáalooke App works on iPhone 4s as well as the very first iPad Air, which are

devices that are both at least 3 years old showing that with the right software platform an app can serve a community long after it is made.

Studying the media works produced by Indigenous communities, there are certain themes that run throughout pertaining to important issues of time in relation to both historical and contemporary life and culture. Work "being produced by minorities about themselves…is *also* concerned with mediating across boundaries, but rather than space and cultural difference they are directed more to the mediation of ruptures of time and history…" (Ginsburg 1991:104). This rupture of time and history can relate to events such as historical trauma (Das 2006), social and collective memory between generations (Connerton 1989, Halbwachs 1992), and land loss, or environmental futures (Tsing 2005) to just name a few. With the community in control of the content that is in the media, they have the chance to reclaim past ruptures of time and history from the effects of colonialism. New media is "being taken up in Indigenous communities on their own terms, furthering the development of political networks and the capacity to extend their traditional cultural worlds into new domains (Ginsburg 2008:294). The digitization of objects and archives and their inclusion on forms of new media helps communities to extend their traditional culture to new media, while also expressing their own cultural futures when they are in control of what gets included.

Invented Traditions

Traditions "which appear or claim to be old are often quite recent in origin and sometimes invented" (Hobsbawm 1983:1). Eric Hobsbawm's phrase "invented tradition" is "taken to mean a set of practices, normally governed by overtly or tacitly

accepted rules and of a ritual of symbolic nature, which seek to inculcate certain values and norms of behavior by repetition, which automatically implies continuity with the past" (1983:1). Hobsbawm points out that "traditions" can both be referenced as extensions far into the past that have actually been formally instituted into the community, as well as also being looked at as inventions within the last few years, showing that his focus is not on the chance a "tradition" will survive, but how they were established in the first place. An example of the first for the Crow Tribe would be Crow Fair, established in 1904, and takes place the 3rd week of August every year since then besides war-time years[13], while an example of the second could be the use of technology for language learning in classrooms on the Crow Reservation.

An important point that Hobsbawm and Terence Ranger include is that "invented traditions have significant social and political functions" (1983:307). They argue that invented traditions occurred when there was a rapid social change or gap with the past. The social and political significance of a particular "invented tradition" in reference to the Crow people is understandably something that needs to be analyzed. For example, because of a discontinuity with the past, the exact way the Crow Sun Dance was practiced was lost with its ban by the United States government in the late 19th century. The Crow still practice the Sun Dance today, but because of that interruption for more than five decades of not being able to hold a large Sun Dance on their reservation, the generation that knew the knowledge and use to practice it the "old way" had passed away. Today, the Crow Sun Dance is a mixture of what people

[13] The phrase "war-time years" means that Crow Fair took place every year since 1904, except when the United States was involved in a War since 1904. This year, 2018, will be Crow Fair's 100th year celebration.

remembered and the Shoshone Sun Dance; this did not stop the Crow people from adapting to that change and then continuing in a new way.

Cultural and Political Futures of Media Technologies

Another way to analyze on the same terms how Indigenous peoples' lives intersect with media technologies is to reference opportunities that Indigenous communities have in relation to Western communities when it comes to new digital media. There should be no differences in the techniques, resources, and technology that Indigenous communities have access to in order to help not only preserve, but also revitalize their cultures. Adriana Petryna and Karolina Follis' notion of "fault lines of survival" in relation to citizenship can also apply to media technology. Petryna and Follis write that, "we propose the notion of 'fault lines of survival' to capture such shifting and often endangering experimental terrains and argue that they are distinguishable from formal definitions of citizenship that often draw clear distinctions between those who belong and those who do not" (2015:403). I want to put more emphasis on "shifting" rather than "endangering" when talking about media and believe that this notion can also apply to the "experimental terrains" that new digital media has in Indigenous communities, just like it had in Western society when technology such as the World Wide Web was first introduced. There should be no exclusions when it comes to who does and does not have the right to use media technology; as long as there is access it should be able to be utilized how that community sees it fitting their needs.

Conclusion

"Hey, Did You See There's Wi-Fi at Camp!"

In the spring of 2012, at the University of Idaho powwow in Moscow, Idaho, a powwow emcee jokingly made fun of a male Traditional dancer who had dropped his cell phone out of his mirror purse as he was dancing, saying something along the lines of "oh yeah, real traditional to drop your cellphone out of your purse." Cell phones, though, are part of youth culture around the world, and there is no exception when it comes to the youth in Indian Country. A mirror purse, which once held completely different objects, such as tobacco, now are a perfect spot for young men to, most of the time, safely store their cellphones while they dance.

For the last few Crow Fairs, Wi-Fi has been available to all of those at the arbor and camping in the Crow Fair grounds. Some areas have a stronger signal than others, but right around the arbor has the strongest Wi-Fi strength. Those who also camp around the arbor are lucky enough to have a strong Wi-Fi signal to use back in their camps. For those who do not, most time is spent around the arbor during Crow Fair anyway, so everyone can still be connected on their cell phones and tablets. Whether you are dancing, watching the dancers, or visiting with friends and family as you walk laps around the powwow arbor, the arbor symbolizes a place to meet, gather, and socialize while listening to drummers sing for the men, women, and children dancing in the middle. While everyone is at the arbor watching the dancers, or visiting with friends and family, they can also log-on to the Crow Fair Wi-Fi Network and take advantage of being connected to the Internet in order to further meet up with friends in the area, as well as talk with friends on social media who might not be there at the time.

The first time everyone back in our camp realized that there was Wi-Fi available, the reaction was equivalent to that of someone famous walking into our camp at the same time. The excitement among the young adults realizing there was Wi-Fi was comparable to the enthusiasm expressed by all basketball players and fans when the Shimmel sisters were there during Crow Native Days one year, or among all the females when Adam Beach was a guest during 2015's Crow Fair. I remember sitting at the picnic table under a sea of grey and blue tarps. The was close to dinner time, but people had not started to cook yet, and all of a sudden there was an uproar from my Kaale's tent as my cousin ran out holding up her phone and shouting that there was Wi-Fi. A "nuh-uh!" was yelled by someone from the camp next to ours, and "I swear!" came from my cousin, followed by "I just connected!"

The invisible trickle of that digital connection extended almost immediately to everyone in our camp, and next door, who had a smart phone or tablet and could take advantage of the free Wi-Fi. People began to check their social media accounts, message friends, and some moms used the opportunity to entertain wandering toddlers with a video on their phones. A slight more of a hush than usual fell over the camp as people became immersed looking down at their phone screens instead of using the time to visit with people. Soon, though, after everyone had checked what they needed to and had scrolled through all of the new content on Facebook, Instagram, or Twitter, the quiet lull of conversations and playing children filled camp once again.

Fieldwork on the Crow Reservation

A theme of warmer weather and the fast approaching summer runs through the "Questions" section of the Apsáalooke Language App specifically. Questions such as, "Are you going to play hand game?" (*Baalaaxualeewialaa*?), "Are you going to dance?" (*Daalisshiwialaa*?), "Shall we ride horses?" (*Iichiinawakinneewuu*?), "Shall we go to Okape?" (*Okape kuush beewuu*?), and "Are you going to watch the arrow throwing?" (*Aluutdekua, baa alakaawialaa*?). These five questions about events, activities and places that generally relate most often to the summer, like going boating or swimming at Okape make up almost 1/3 of the "Questions" section. After a long winter, the excitement of summer is welcomed with open arms and the Crow Language Department made sure to include questions that go along with some of the most popular activities on the Apsáalooke Language App.

You have never really experienced summer if you have never spent time in Southeastern Montana from May through August. The breeze blowing across the rolling hills of vast prairie grasslands as far as you can see, and even on a 90 degree day it is never hot, but warm and refreshing as it touches your skin. The grass across those hills has remained knee length, but has gradually changed from green to a golden yellow, calling attention to one of the most used, and sought after, "greasy yellow" seed beads that can be found in so much of Crow beadwork from the past and present. The name of this color comes from the way that the long yellow strands of grass give off an almost greasy appearance as the bright summer sun shines down and the wind blows them all in unison, almost like a sea of endless opportunity as summer unfolds.

As the end of May approaches, and schools start to get out, these same vast grasslands become alive with children riding their horses and Shetland ponies to visit friends, race on the track at the rodeo grounds, or go down to the Little Bighorn River to hang out and swim. Summer brings about those horses and ponies being tied up outside stores in Crow Agency where children are inside grabbing drinks, scoops of ice cream, or lingering outside the tribal building before dismounting in order to use the Wi-Fi on their cellphones. Crow Agency takes on a more lackadaisical atmosphere with people out "cruising" around making traffic in Crow Agency twice as much as normal with horses, cars, and four wheelers yielding to each other, only to be compared to the normal business of lunchtime during the workweek.

Summer on the Crow Reservation means rodeos, fairs, Indian relays, parades, powwows, Sun Dances, sweats, battle reenactments, fun runs, Meth awareness rides, firefighter hotshot training, hunting, fishing, and trips to the mountains to gather wild berries, vegetables, and uuga[14]. There are church tent meetings, visiting with family and friends, a mad rush of people getting together to finish beadwork for giveaways, weddings, Native Days, Ultimate Warrior, Clown Dances, and Crow Fair. For me, summer means graduations and the feeds that come with them, as well as the Peyote meetings that go along with celebrating recent Headstart, middle school, high school, and college graduates. Summer means the start of the Apsáalooke Near Year, which is the Monday after the conclusion of Crow Fair in August. Summer means fieldwork: writing, interviewing, transcribing, observing, listening to stories, fun, laughter, and sometimes tears, catching up with family, reuniting with old friends, meeting new

[14] This is a dried chalk like substance that some people eat when they have an upset stomach. A lot of pregnant women eat it for morning sickness.

people, being taught information by children, elders, and everyone in-between, and learning more in three months than I do most of the year. Summer means a lot of hellos and goodbyes, sometimes you find out later they are final ones, and most importantly summer brings the anticipation, before it is even over, about getting back to Montana for the next one.

Summary

Throughout this dissertation I examined multiple different components of the Apsáalooke Language App and the themes, whether visible at first, or later on in my fieldwork, that encompassed it. Key literature in sovereignty, remediation, language revitalization, and intellectual protocols propelled my research and furthered my discussion on certain topics throughout this dissertation. As Robert Warrior writes, "the process of sovereignty provides a way of envisioning the work we (Indigenous peoples) do" (1992:1). The need for a language revitalization tool made for, and by the Crow Tribe allowed them to assert their sovereignty through the Apsáalooke Language App because they were able to control the content from the words and phrases chosen to the audio and images included.

In Chapter One I ethnographically examined the Apsáalooke Language App on the Crow Reservation while describing the development and widespread adoption of this form of new Indigenous media. I addressed the political economy of the Apsáalooke Language App and in doing so, I pushed against a prevalent dichotomy in media scholarship, which tends to figure the introduction of digital media technology within Indigenous communities as either eroding their cultural integrity or holding an

intrinsic potential to liberate others. Instead I examined the app within the conversations of wider political economic conditions and dilemmas.

In Chapter Two I assessed how men, women, and children contribute to the collective knowledge surrounding language revitalization efforts on the Crow Reservation. Focusing on the Apsáalooke Language App and supplemental language revitalization projects that stemmed from it, I explored the community discourse surrounding adult language classes, intergenerational language learning through Indigenous new media, and the initial planning of language curriculum at Crow Agency Elementary school. Chapter Three described our Recovering Voices trip and the opportunities for opening up collections to Indigenous peoples. I also touched upon how there is hope for the creation of a potential "pocket archive" in the future to act as a tool for further opening up access to museum and archival collections across the country.

In Chapter Four I began examining the understanding of kinship ties and respecting the different relationships one has with people in the community. I explored how the introduction of new forms of digital media, using technology as a platform for viewing Crow material culture and photographs, as well as video and audio recordings, is a technique that is new enough that the people in the community were unsure of the protocols about certain "in-law avoidances" when it came to kinship relationships and technology. In Chapter Five I explained how remediation is a key concept for looking at Indigenous new media in the context of the Apsáalooke Language App. I studied how remediation stands as a concept for recontextualizing, or refashioning, new media such as the Apsáalooke Language App, to remediate the uses of old media, such as

archives and museum collections, into a more accessible format for Indigenous communities.

In Chapter Six I examined how digital heritage technologies from an Apsáalooke perspective focused on how the theories and methodologies surrounding digital heritage became increasingly more important in today's society. Moreover, I explained how new Indigenous media engaged opportunities in creating innovative ways that people in Indigenous communities can use to access their digital heritage. In Chapter Seven then, I examined how the dialogue surrounding the social organization of time, new media, and the future can be understood in reference to one another, and through new Indigenous media, such as the Apsáalooke Language App.

Future Projects and Research

With every research project comes the ups and downs of field research, situations that fluctuate in and out of your control, and politics, always politics. In my case, every four years the Crow Tribe has elections for a new Tribal Chairman, who then, like the United States President, brings in many of his own elected officials to fill roles such as Vice President/Vice Chairman, and Secretary among others. When a new Chairman is elected, many of the tribal employees employed in Crow Agency who were brought on, or hired, under the old Chairman are then let go, so that the new Chairman can bring in his own employees. In reference to my dissertation project, and my overall collaborative work there, this meant that the majority of the Cultural Office, Cultural Committee, and THPO's Office that I had been working with the last three years was let go and replaced with new people in the winter of 2016 and beginning of 2017.

Unfortunately this led to our Recovering Voices group not being able to go much further with the discussion of a potential new pocket archive app. Most of the people who we had collaborated with, even some of the IT people who were very patiently trying to explain the server to me that the Mukurtu team was referencing might not be working there when I returned.

While I was a little discouraged, I could not be upset because I had the same timing finishing up my MA thesis research as well, so I knew the potential for a new Chairman to win the tribal election. I would still like to continue with this idea of creating a pocket archive in the future and look forward to continuing this part of my museum and archival research with the Crow Tribe in the next few years. For now I can touch upon what I hope the pocket archive will achieve from its shared characteristics with new digital media.

Exploring Mukurtu as a basic template helps to not reestablish the wheel when software like this already exists, and I am far from a programmer, and since it is fairly established it allows people to see examples of its potential in the form of a website. Therefore, looking at Mukurtu's app accessibility can be a way that the pocket archive can be laid out for the community in a secure sharing format. The ability for the pocket archive to be mobile, or portable, for it to be able to be referenced whenever someone wants to see an image or hear a song, can reobjectify how archival materials are currently being used. Traditional archives and museum collections stimulate discussions, encourage engagement with the objects and documents, and bring forth shared or new stories, histories, and memories of the particular item, moreover, archives that take on a new media format, such as a smartphone app, expand the opportunities

for those shared experiences and memories surrounding the collections through its accessibility. In doing so, the intimacy in private listening as well as community sharing that this pocket archive has the potential to achieve, expands upon and stimulates the embodied memories of the content within its software.

Another topic that I hope to continue to work on in the future is kinship relationships explored through new digital media. While I was interviewing Crow Tribal members for this dissertation research, the questions of kinship and technology came up days before I was leaving Montana at the end of my fieldwork. This is a topic of my research that I became really interested in, but did not have enough time to explore any further while I was there. Examining the relationship between kinship relationships and expanding technology is something that I hope to research more in the future.

While I was talking to Crow Tribal members for my Master's Degree thesis, I realized just how many people in the community had no idea that there were so many Crow objects at museums across the United States. I had done research at the National Museum of the American Indian (NMAI) for a week in the summer of 2012 looking through the beadwork, horse trapping, and men's, women's and children's regalia in their collection. When I went back in the Spring of 2013 for follow ups, proof reads, and finalized permissions, I showed some of my pictures of the NMAI collections to people and I was not aware of how important seeing those images were to some people. Up until that point I naively had thought that everyone had probably already seen all of the objects that I had taken pictures of, but in the next moment I thought to myself, well how could they have? The emotions and the dialogue that came from seeing objects

that people were unaware even still existed stayed with me, and I would argue was the single most important piece of information I discovered working on my Master's Degree.

From that moment on I thought about how I might be able to help, at least in a small way, with access to collections since the Crow do not have a museum. While I touched upon it briefly in my dissertation project, it is something that I would like to build off of more in my future projects working with the Crow Tribe. A year later, when I had the opportunity to participate in the SIMA (Summer in Museum Anthropology) program, I knew that I wanted to work on a project that would give back to everyone that had taught me so much in Crow. At that point I knew just how important photographs of objects were, but I also wanted to bring back as much information as I could about those objects. I am still continuing to work on this aspect of the project.

Final Thoughts

As technology continues to advance, Native American and First Nations communities are able to take full advantage of what it has to offer in reference to local needs and projects taking place. While some projects involved media technology that can be fairly expensive, such as Thornton Media Inc., or needing a Digital Humanities Grants, there are numerous other multimedia platforms such as Dropbox and Google Docs that are free and available to anyone who has access to the Internet. These free platforms, then, can act as a good starting point for Indigenous communities to use at the beginning of their projects.

As Lukavic 2012 states, “desire alone proves insufficient for the transmission of knowledge. You need opportunities for transmission and receptive studies” (2011:282). The Apsáalooke Language App acts as an example of an opportunity to transmit knowledge of the Crow language as well as certain aspects of the tribe’s history and culture. The Apsáalooke Language App turned out to be so much more than just a language revitalization or retention tool. It opened up dialogue between the Crow Language Department, the Crow Cultural Office, the THPO, as well as community members that that helped in the development, audio recordings, or choosing the images for the new digital media platform. The youth were engaging with this new media on their own in their homes, in their classrooms, and playing together with their friends and families. Adult language classes were established, the Language Department took the initial steps to create a new elementary school curriculum that they could implement in the next few years, and it brought a new life and excitement to everyone who might have needed a little push to get back into learning or practicing their language.

Since the time that the Apsáalooke Language App was released, it has come and gone in waves, just like all new digital media. There are times that people might forget about it until they need it, or times when children spend every day for a week playing with the games and quizzes on the app, and then do not look at it again for another month. The important part of this form of Indigenous new media is that once you have it downloaded it is always just a tap on the phone, or tablet screen away and acts as an easily accessible reference.

I have been told many times that the Crow language has no word or phrase for “Goodbye,” then instead it is better to say “See you later.” This phrase is not included

in the Apsáalooke Language App, but I asked for the spelling and with fair warning that it might not be right I was told, "*Shinnuk diiawakawiik*." As Rotten Belly, an Apsáalooke Chief once said, "The Crow country…is a good country. The Great Spirit has put it exactly in the right place; while you are in it you fare well…The Crow Country is in exactly the right place" (National Park Service, Little Bighorn Cannon, https://www.nps.gov/bica/learn/historyculture/the-crow-nation.htm Accessed on April 3, 2018). I look forward to many more collaborative projects in exactly the right place.

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