Kanza and Osage: Language Materials, Revival and the Necessity for Phonetic Analysis

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Abstract

In this thesis I explore the possibility, and practicality, of revival of Kanza, a dead Siouan language from Oklahoma. In particular, I examine the pedagogical language materials that have been created via existing documentation of the language by focusing on the three most comprehensive materials created to date: a reader, a board game and a dictionary. This project, inspired by my internship at the Kaw Nation Language Department (KNLD), was conducted by examining these materials, interviewing individuals involved in their creation and referencing existing literature on language revitalization.

In addition to examining pedagogical materials produced by the KNLD I address whether they can appeal to both a community- and academia- focused audience at the same time; to do this I reference Carolyn Quintero’s Osage Grammar (2004) and Osage Dictionary (2009) that tries to tread this line. I then segue into an explanation of how phonetic analysis—which Quintero was never able to conduct—will add to the corpus of Osage documentation, the creation of further pedagogical materials and new modes of classroom instruction. I then conclude with my own preliminary phonetic analysis of the vowels /a i o u e/ that occur in Osage.
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1. **Introduction**

In the last decade the knowledge that many of the world’s languages are threatened and on the brink of death has spurred anthropologists, linguists, policy makers and activists to initiate efforts aimed at preventing their impending death. There are more grants than ever before to fund researchers to document threatened languages. The primary goal of these researchers and activists is both to record and preserve such languages. A language dies when it ceases to have any native, fluent speakers and the goal of endangered language work is to prevent threatened languages from entering this stage. When I arrived as an undergraduate freshman at Bryn Mawr College in the fall of 2009 I wanted to become one of these linguists or anthropologists. I wanted to enter exotic and distant lands with a tape recorder in one hand, a notepad in the other, empowerment to stop injustice in my heart and the knowledge in my head of how to help save these threatened languages from their impending extinction.

I did not end up working with endangered languages from the distant corners of the world, but rather seized the opportunity to work with two dead languages from Oklahoma in my junior year of college. I started working with Siouan languages in January of 2012 while doing an independent study in Osage phonetics with my previous advisor, Daniel Altshuler. In March I received funding in the form of a the Hanna Holborn Gray Research Fellowship for from Bryn Mawr College to continue my phonetic work with Osage and travel to Oklahoma to work with Kanza, the most closely related language to Osage.

1.1 **The Kanza and Osage Languages**

Kanza and Osage both belong to the Dhegiha family of Native American Siouan languages. Kanza has been dead for approximately 30 years and Osage has been dead for about half that long. There are no living speakers of either language and the only record of each
exists solely in documentation that has been conducted over the last hundred and twenty years. The lack of living speakers means that these two languages need to be revived and brought back to life, rather than merely revitalized\(^1\). Since there are no living native speakers of either language, the road to successful revival is less defined and explored than that of living languages. To initiate this revival process each community has established a language department that aims to preserve their language by continuing analysis and research on the existing language documentation, creating pedagogical language materials and hosting language classes.

The Kaw Nation Language Department’s (KNLD) most recent project was constructing the first comprehensive Kanza dictionary to date. I spent the month of July 2012 interning at the KNLD, which is located at the Kaw Nation headquarters in Kaw City, Oklahoma, and working on this dictionary project. Even though my internship consisted of the entry of example sentences and new words into the dictionary software, I was also exposed to, and able to participate in, life at the Kaw Nation headquarters. I ate lunch with Kaw Nation members and employees, attended two powwows, participated in several Kanza language classes and visited Kaw historical sites as well as their museum. I was lucky enough to attend the 2012 Siouan and Caddoan Languages Conferences where I was able to meet many other Siouanists (linguists who work with Siouan languages) and learn about the other work that is being done on, and with, Siouan languages. This independent study, and the summer that followed it, provided both the inspiration and the foundation for this senior thesis in anthropology and linguistics.

\(^1\) Technically, ‘language revitalization’ refers to efforts to repopularize a language that is threatened, but still alive. ‘Language revival’ refers to efforts aimed at repopularizing a language that is dead. Although these terms denote different contexts, some researchers don’t make this distinction in their writings. Later in my proposal I will use both terms, as well as ‘language preservation’ and ‘endangered language’, in the context of the Kaw and Osage languages.
Even though I enjoyed entering data for the dictionary and learned a lot from the 30-plus linguistics presentations I attended at the Siouan conference, the topic that I kept returning to in my field notes and conversations was the ways in which these linguists are able to use the documentation and analysis they have conducted to create language education materials. The Kanza dictionary, which was published in late 2012, is the most comprehensive material that the KNLD has produced. In the last ten years the department has received funding through various agencies, including the Administration for Native Americans and Endangered Language Fund, to create other language materials from the existing documentation of the Kanza language. These materials include, but are not limited to, a Kanza reader, computer software program, board game, camping guide and now a dictionary. People who are formally educated in linguistics have traditionally staffed the KNLD. These linguists take all of the formal linguistic analysis and research they have done on the Kanza language and incorporated it into the creation of materials that are meant for pedagogical use within the Kaw community. These materials are not meant to grace the bookshelves of a professor’s office, but instead to be actively used in Kanza language classes and by Kaw members in order to learn their heritage language.

1.2 Pedagogical Materials

These materials are the heart and sole of the KNLD’s revival efforts and their success rests on their ability to be applicable, accessible, effective and appeal to a community of learners. The purpose of my project is 1) to analyze these materials and determine if they are satisfying all of these objectives, 2) see how they might be improved or changed, 3) explore avenues of further linguistic analysis and 4) determine how this linguistic analysis can add to the corpus of both linguistic knowledge and pedagogical materials.
This thesis is divided into two broad sections. The first of which is an analysis of Kanza pedagogical materials and answers the first two questions I pose; the second consists of a phonetic analysis of Osage vowels and explores the last two questions. In the first section I analyze the three primary materials that the KNLD has produced: the reader, the board game and the dictionary. I interviewed six people that I met last summer who all have different connections in the field of Siouan linguistics and the materials the KNLD has created. Essential biographical information for each of these informants is listed below:

**Ben:** Worked with, and made recordings of, some of the last speakers of both Kaw and Osage in the 1970s. He was one of the first modern linguists to work with many of the Dhegiha languages, and even though he is now retired, he is still the most-cited resource on these languages and worked as an outside consultant on the Kanza dictionary. I asked him about his experience with both the Osage and Kaw language departments, how he helped and approached the Kanza dictionary, and his thoughts on the other materials that have been created.

**Jared:** Was the director of the KNLD when it created the computer program, board game, and workbook. He also translated the book of stories that were used in the workbook. I asked him about his experience working for the Kaw Nation, the choices he faced and decisions he made when creating these materials, as well as a critique of his own work and the other materials the department as produced.

**Sam:** Is an anthropology graduate student who just finished conducting field research on the community of Siouanists. Since I am focusing on how these linguists produce language materials, I asked him about his research and experiences with this community in regards to how they approach the creation of these materials.

**Ken:** Is a Kaw tribal member and the most committed student of the KNLD programs. He is also a member of the cultural committee that facilitated certain choices and concerns involved in the creation of the Kanza dictionary. I asked him about his experiences with the language department and on the committee, as well as whether he thinks their programs and materials are successful and how they can be improved.

**Suzy and Ryan:** A married couple that frequents Kanza language classes, but who are
not Kaw themselves. I asked them similar questions that I asked Ken in terms of their experience with the class and the department, as well as areas for improvement. I wanted to see how the fact that they are not Kaw has, or has not, influenced their decision to come to the class and the experiences they have had.

**Laura**: Is a linguistic anthropologist, worked under Jared while he was language director of the KNLD, and then assumed directorship when he left. She was the primary linguist to work with the Kanza dictionary and my supervisor during my internship at the KNLD. Even though she declined to be interviewed for this thesis, I included her here because she is still referenced by both other informants as well as my field notes.

I created a separate set of research questions for each information that addressed their connection to, the and experience with, the KNLD and the Kanza language, their opinions on these materials, how they thought they could be improved, their views on language revival and whether it is practical attempt to revive Kanza\(^2\). The discussion and responses sparked by these questions, and some that were not, provided the topics I address in this thesis.

In the following sections I summarize each of the three materials (reader, board game, dictionary). I discuss my informants’ opinions of reasons why many Kanza members are not taking advantage of them, whether it is practical to create these kinds of material, and if they straddle a line by trying to appeal to both a community audience and an academic audience. In this last discussion about target audiences I switch gears and address the work of Carolyn Quintero, the last linguist to work with living Osage speakers. I use this discussion to segue into examining the history of the Osages, Osage language documentation and what further linguistic work needs to be done on the language.

\(^2\) The set of interview questions for each informant can be found in Appendix 1 and the informed consent form can be found in Appendix 2.
1.3 Linking Phonetic Analysis

In the last sections of my thesis I discuss how acoustic phonetic analysis is a necessary and practical next step in analyzing Osage. I provide my own preliminary acoustic phonetic analysis of Osage vowels. In January 2012 my previous advisor, Daniel Altshuler, who conducted work on Osage with Carolyn Quintero, provided me with two recordings of Osage that Quintero made shortly before the language died. I used these recordings as the basis for my phonetic analysis. I first start by mapping the vowel space of the five vowels that appear in Osage, /a i o u e/. I then examine the effects of nasalization on these vowels and finish with a preliminary analysis on vowel length. I conclude this thesis with a discussion of why it is important to continue to produce pedagogical language materials in language contexts like Kanza and Osage, and how phonetic analysis can not only help further the formal linguistic knowledge of languages, but also aid in the creation of future language materials.

2. The Kaw Story

The Kaw people, also known as the Kanza and the Kansa, have several versions of their original creation myth. One account from 1819 says that the high spiritual being, ‘The Master of Life’, created man and placed him on earth. Man became lonely and called out to Master to help him. The Master of Life then sent down a woman to accompany the man. And thus man and woman occupied the earth. Another early 19th century account states that men emerged from the earth and soon became boastful of their tails. To punish them the Great Spirit (Wakanda) promptly removed their tails and made them into nagging women, and then sent

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3 All the information here comes from the Cultural History section of the Kaw Nation website. I used their website as my history reference because I wanted to include historical content that they think important and chose to highlight and include.
swarms of mosquitoes to remind man that modesty is a virtue. In the most popular version of the Kaw creation myth, man lived on a small-overpopulated island that was created before the earth. To remedy this overpopulation frustrated Kaw fathers would drown their unwanted Kaw children. The saddened Kaw mothers prayed to the Great Spirit to create more land. Beavers, muskrats and turtles answered their plea by enlarging the island floor and creating what is now our earth (Kaw Nation: Cultural History Part 1). William E. Unrau in *The Kansa Indians: A History of the Wind People, 1673-1873* writes that “since nothing approaching a written Kansa language was extant until the nineteenth century, these accounts were preserved as oral traditions until interested white men in historical times translated some of them into English and recorded them as important facets of Siouan culture” (1971:3). Even though the creation tales and historical accounts of the Kaws have changed over time and through the narrative of oral tradition, they still help orient the Kaw people in both a spiritual and historical context.

2.1 Kaw Territory and Migration

The Kaw people and their language belong to the Dhegiha branch of Siouan tribes that also include the Omaha, Ponca, Quapaw and Osage. Historians believe that all these tribes lived together as one people in the lower Ohio valley before white settlers arrived at the end of the 15th century. From initial contact with settlers until about 1750 pressure from more powerful tribes, and the necessity to hunt, caused these communities to move west toward the mouth of the Ohio River. The Quapaws continued down the Mississippi River and became known as the ‘downstream people’, while the Omaha, Ponca and Osage continued to move north and took the name ‘upstream people.’ The Kaw gained control of the region near present-day Kansas, as well as the Kansas River valley to the west, and became known as the ‘wind people.’
Even though by 1800 cholera, smallpox and other illnesses had reduced the Kaw population by about 50% (leaving approximately 1,500 men, women and children), the Kaw still managed to control a large section of present-day Kansas. After a treaty with the government in 1825, and The Indian Removal Act of 1830, the federal government transplanted more than 1,000 members of other tribes onto Osage and Kaw land. In return for ceding their land to the government, both tribes signed treaties that specified that in return for said land the government would provide them with annual annuities, education services, agricultural and material assistance. These treaties culminated in the reduction of the Kaw’s 20-million acre territory to 2-million acres, $3,500 in annual annuity some agricultural assistance and the promise of schools.

In a response to pressure from the government, private white landowners, railroad tycoons, as well as their increased poverty and illness, the Kaws agreed to another treaty in 1846 that mandated they sell their 2 million-acre reservation to the government for 10 cents an acre. The money from the sales was meant to be divided between annuity, education, agricultural improvement and a gristmill. The Kaws were left with a 256,000-acre reservation at present-day Council Grove, Kansas.

Not long after these first two treaties were struck Kaw members learned that at least 30 white families had made property ownership claims in the heart of their reservation at Council Grove without their permission. In response to Kaw protests, the government initiated yet another treaty in 1859 (ratified in 1860) that allowed the Kaws to keep only 80,000 acres of their poorest land and sub-divide it into 40 acre plots for each family. The remaining 176,000 acres were to be held in trust by the government and sold to the highest bidder. The 40-acre land allotment was not enough to sustain a family, and in 1872 the government passed another
act that would relocate the Kaws to a 1000,137-acre allotment in present-day northern Kay County, Oklahoma. This new territory was partially carved out of land that belonged to the Osage at the time, but the Kaws later paid the Osage back for it with money gained from the sale of their other lands.

On July 1st, 1902 the Kaw Allotment Act was passed with the support of Charles Curtis who was an eighth-blood Kaw member and served as Vice President under Herbert Hoover. This act took a roll call of all Kaw members and divided the remaining territory between them (about 400 acres apiece). This land division further fragmented Kaw interests and dismantled them as a community. After the Kaw left Kansas their culture and traditional ways of life began to erode. They became settled farmers, their children were forced to go to school to learn English and were discouraged from speaking their native language, Kanza. The tribe remained internally politicized and fragmented until 1959 when it was reorganized by federal authority. In the 1960s a portion of Kaw land was inundated by the Kaw Reservoir project on the Arkansas River and was spearheaded by the United States Corps of Engineers. In order for the reservoir to be built, the historical council meeting house and Kaw cemetery had to be transported out of the reservoir basin and brought to Newkirk, Oklahoma (Kaw Nation: Cultural History Part 2).

2.2 Kaw Community Today

In 1990 the Kaws ratified a new constitution and since have been working to rebuild both their community and economic infrastructure. Formally known now as the ‘Kaw Nation’, the organized Kaw community has created a complex of tribal buildings in the center of Kaw City, Oklahoma as well as another complex at their other tribal headquarters twenty miles northwest in Newkirk, Oklahoma. The Kaw Nation offers services such as the Kaw Housing
Project, Kanza Health Clinic, Kanza Wellness Center, Kaw Nation Police Department, Kaw Nation Emergency Management, Kaw Nation Judicial Branch, Kaw Nation Environmental Department, Kanza Language Department, Kanza Museum, Kanza News, Kaw Nation School Age Enrichment Center, Child Support Services, Social Services and Academic Scholarships, Library and Learning Center and the Title VI Lunch Program. Even with incredible strides in community solidarity, organization and advancement, the years of cultural and linguistic oppression have eroded some fundamental aspects of Kaw tradition, heritage and language. The last fluent speaker of Kaw was Walter Kekahbah who died in 1983 and the last full-blood Kaw was William Mehojah who died in 2000. Even though these last vestiges of Kaw culture and heritage are no longer living, the Kaw Nation has put forth efforts to preserve them by sponsoring a Kaw museum and creating a language department (Kaw Nation: Cultural History Part 3).

3. Creating Kanza Language Revival Materials

Beginning in the early 2000s the Kaw Nation Language Department (KNLD) began to create a variety of language education materials and resources. These materials include a board game, a workbook, a dictionary, a computer program, translated texts and a camping companion. Even though in this section I only address the workbook, the board game and the dictionary, the KNLD created all of their language materials to be accessible to an average person (Kaw or not) with no linguistic background who desires to learn the language. During the entire process of analysis, organization and creation of these language materials the KNLD was faced with a variety of methodological choices of how to create materials that accurately
provided instruction in the Kanza language while also being user-friendly, accessible and appealing to Kanza language learners.

I interviewed the three primary linguists who have worked on the creation of these materials. Ben conducted the majority of documentation and audio recordings of Kanza before it died in the late 1970s. He is holds a PhD in linguistics and has worked with Dhegiha languages for over 40 years. Jared was the language director for the KNLD from 2001 to 2010 and spearheaded the inception, grant process, and production of many of the early and recent language resources and projects. He left the department in 2010 to pursue his PhD in linguistics full-time. Laura came to the KNLD in 2006 shortly after receiving her PhD in linguistic anthropology, has been involved with all language projects since her arrival and assumed the position of language director in 2010 when Jared left.

In my interview with Ben he said that when he, Jared and Laura first started making these materials they had serious discussion about whether to relexify the language or not. Some languages, like Hebrew, have been able to go through a rebirth because their more dissimilar forms were relexified to resemble grammatical and verb structures that are more familiar to potential speakers. Even though this form of simplification makes the language more accessible to learners, it also compromises the historical integrity of the language itself. Ultimately, Ben, Jared and Laura chose to keep the language’s historical structures intact and maintain the traditional Kanza structures. Ben outlines their thought process:

*Of course it makes the language very hard to learn because it's totally alien, it's as Miss Rowe used to say, 'you know our Kaw language is backwards from English' and she was right, the syntax was in the reverse order and the nouns and the adjectives were in the reverse order and the verbs and the adverbs were in the reverse order, everything*

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4 Relexification: occurs when the vocabulary, or lexicon, of one language is replaced by that of another (Matthews 2007).
was backwards. And I don't know, but I've talked with Linda and Justin about that and we finally decided that if we did that we wouldn't be faithful to the...we'd feel constrained to explain to the Kaw Nation what we were doing and why we were doing it, and we didn't think they would approve, and certainly the traditionalists, the few that there are among the Kaw, would not approve, and I am sure the Osages would hate the idea even more.

[Ben, interview with author, February 5, 2013]

In particular, the KNLD chose to maintain the historical Kanza structures because they did not feel that they had the right to change a language that was not their own and to which they hold no historical or cultural right. An interesting reason he gives for this choice is that the Osages would give the Kaws a hard time for compromising their language. He later says that “the Poncas would razz them and the Osages would razz them and make fun of them and make them feel small and all of that sort of thing, and it's not worth it” (Ben, interview with author, February 5, 2013). In Ben’s opinion changing some linguistic structures in Kanza would make the whole process of teaching and learning Kanza easier because “it would provide a communication system” (Ben, interview with author, February 5, 2013); but even if this communication system is easier to implement than the unaltered language, “something would be obviously missing and I didn't feel, and if Jared and Laura didn’t feel, that it was our decision to make” (Ben, interview with author, February 5, 2013). Although the experience and education of these linguists mean that they had a certain degree of control in how to format and organize the materials they were creating, they did not feel as though they had the right to change the structure of the language.

In the end, he said that he feels like relexifying Kaw is not worth it, not only because many Kaws would object, but also because other tribes would make the Kaws feel guilty and ‘small’ for compromising the integrity and historical value of their language. One result of this
choice is that all of the language materials they produced rely heavily on direct translation from historical texts, whether in the form of audio recordings or transcriptions. Even though it is a difficult feat to take on, the KNLD has tried to organize each material in a way so that it provides an accessible and accurate way to learn the entirety of Kanza, its difficult grammatical structure, even with its unlexified vocabulary included.

The sections below discuss the three most prominent materials the KNLD has created to date, the Kanza Reader, the Kanza board game and the Kanza dictionary. In each section I describe the particular language material, address opinions and comments from my informants and elicit their perceptions of how the material is successful or could be improved. I then conclude this section by turning the lens to focus on how many Kaw members use these materials and in what ways they choose to implement them.

3.1 Kaá"ze Wéyaje: Kanza Reader

The Kanza reader was created from a two-year $196,025 grant (with a $156,820 grantor share) that the KNLD received from the Administration for Native Americans (ANA) and the printing was paid for by a $19,000 grant ($9,500 grantor share) from the Endangered Language Fund's Native Voices Endowment: A Lewis and Clark Bicentennial Project (McBride 2010:i). According to Jared, the Kaw Nation pursued a grant to create a language reader because “[w]e wanted to have a set of curriculum materials and we wanted to have a text series that people could practice with” (Jared, interview with author, February 4, 2013). The reader was not constructed to be a descriptive linguistic text, but rather a pedagogical resource intended to offer Kaw learners preliminary exposure to the basics of Kanza:

5 An electronic version of the reader can be found here:
We anticipate that the average users of these materials will be Kaw tribal members above the age of 15, with interest in their Kaw heritage but who do not necessarily have previous experience in Kanza or any other language other than English. To this end, Kanza grammar and other technical concepts will be explained in plain English as much as possible. [McBride 2010: ix]

Jared said that he grew up with the notion that for something to be accessible, it should be aimed at an audience of 10th graders, and that they tried to construct the reader with this audience in mind. He remarks that the even though they wrote ‘the average Kaw tribal member’ they meant any person above the age of 15 who desires to learn the language. Many of the KNLD materials were constructed with Kaw members as their target audience, but they are not intended to exclude someone who is not Kaw or not Native American.

After discussing the intended audience, the introduction of the reader outlines the organization and intended goal the resource:

Each unit in this book consists of a background statement providing some sort of context for the text (a story, letter, lyric, etc.), the text itself—both in Kanza and English—a vocabulary list, a sentence-by-sentence analysis of selected elements of grammar found in the text, and exercises designed to allow you to check how well you understand each point and to give you practice to reinforce your understanding. There are also some end notes to provide additional information about the text. [McBride 2010:x].

The description above illustrates how the reader was not only constructed with language study in mind, but also to act as a vehicle to study Kaw history and culture. The pieces that appear in the reader are primarily traditional Kaw stories or historical narratives and are intended to increase “the user’s understanding of tribal history and culture” (McBride 2010:ix). The introduction to each text, and the endnotes mentioned above, add more in-depth historical, language and cultural information on for each text. A CD of a computer program that offers
pronunciation examples and language exercises, as well as an electronic version of Wajípha"yiⁿ (the Kanza board game), is included with the reader.

Jared feels the KNLD approached making these Kanza materials in a backwards order because they chose to make a reader and curriculum materials before making a formal dictionary or grammar. None of my informants explicitly discussed why they chose to this order, but the content of the interviews suggests that they felt as though it was their best option at the time. This choice could reflect the funding opportunities available and time allotments for the feasibility of projects or it could signal the Kaw Language Department has prioritized the construction of Kaw community-accessible materials over those geared primarily to linguists.

3.2 Wajípha"yiⁿ: Kanza Board Game

In 2008 the KNLD received another grant to create Wajípha"yiⁿ, a Kanza vocabulary board game. The word Wajípha"yiⁿ means ‘camp crier’ and the board game is set during the autumn hunt for big game where the players are competing to become the new Wajípha"yiⁿ for the tribe. The game board is divided into regions for 16 clans, and players have game pieces that they navigate between clans via die rolls. The object of the game is to get an answer correct for every clan, which is recorded on a separate sheet of paper labeled with all clan names. To receive a tick for a clan you have to answer a question read by another player from the deck of vocabulary cards. The number on the die corresponds to question number on the card you answer. The clan you land on determines whether the question is Kaw and warrants an English response, or vice versa. If you get a correct answer you get to roll the die again and answer another question. Included with the game is a list of Kanza game terms to use while

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6 An electronic version can be found here: http://www.kawnation.com/WebKanza/LangPages/langlessons.html
playing, as well as two decks of practice vocabulary cards to help get players started learning
Kanza or to further their language skills.

Jared says that whereas the reader was a compilation of lessons the KNLD had been
working on before the grant, Wajîpha"yi" is the lexicographical material they had been working
on previously. The game does not include new or novel information that is not included in the
reader and is essentially is the same information reformatted; in Jared’s words all they did was
“just change our 5 into 2 + 3” (Jared, interview with author, February 4, 2013). The members
of the Kanza language class I interviewed think that the game can be useful. In particular, Ryan
says that it rewards you for getting correct answers by letting you go again. Suzy compares the
repetition of playing to how rereading the Bible helps you become more familiar with it (Ryan

Sam is an anthropologist who studies Siouanists and Siouan linguistics and conducted
his fieldwork with Chiwere. His primary informant, Jake, does language documentation and
preservation work with Chiwere. He and Sam have both observed and participated in the
creation of some Chiwere analysis and language materials. Sam played Wajîpha"yi" several
times with Jake, Jake’s grandson and another unspecified individual. They retrofitted the
vocabulary section of the game to be in Chiwere instead of Kanza.

Even though Sam remarks that the board game looks so impressive that it could easily
be marketed in a store, but he also adds that the format of the game warranted a lot of English.
Part of the reason for the logistical use of English could be that the players did not know the
terms needed such as ‘pass the die’ or the fact that languages like Kanza and Chiwere most
likely did not have these phrases established before they died. Sam said that in part, the
flipping back and forth between English and Kanza questions on the cards built the necessity for the use of English into the board game.

Sam’s primary critique of the game is that given the differing ages and language skill set of each player, it did not work for them to ask a question according to the number and language designated by the die and clan. Even though it is against the rules of the game to pick what question to ask another player, Sam said that they constantly broke this rule to accommodate the language abilities of each participant to make the game fun and run more smoothly. I also found this happened when I played the game with the Kanza language class. Since I was a newcomer, everyone made sure to ask me only the vocabulary questions that they thought I had come across in my work with the dictionary. Even though this behavior went against the official rules of the game and comprised the competitive atmosphere and integrity in some ways, it made the game run more smoothly and be a more enjoyable experience all involved.

Perhaps the purpose of the game is not to promote language acquisition through healthy competition, but rather to create a fun and social environment that helps you learn Kanza (or Chiwere). In Sam’s experience, “we weren't exactly playing the game according to the rules or in the sense of a game where you are trying to necessarily win. We would roll the dice and move and pick the card and have fun guessing the word” (Sam, interview with author, February 9, 2013). This social atmosphere all depends on who is at the table playing the game, their commitment, their language skills and how inclusive or exclusive the players decide to be of everyone’s language abilities.

Jared feels as though the game is just a colorful reinterpretation of the Kanza reader, but the key difference between the two resources is that the game is meant to be used in a
communal setting. Sam thinks that the acts of communication that are involved while playing are actually the heart and soul Wajípha"yi", and not the rules or language skills you acquire along the way:

"That is why I brought in there's all these other communicative events involved in playing a game that aren't in the rules of the game. So, I do feel like that's where the opportunity is to build, so it doesn't just have to be about what is the Kaw word for 'grape', but then it can be about, usually as people sit around playing a game they socialize." [Sam, interview with author, February 9, 2013]

Even though the game may not be completely successful in teaching a solid and broad foundation of Kanza skills or historical information, it does not mean that it does not have the potential to be a success overall. Jake’s grandson loved playing the game and wanted to play it a lot. Sam concludes, “ultimately I think the grandson's love of the game is maybe the greatest testament to its success” (Sam, interview with author, February 9, 2013). Even though many adults might drift toward making hundreds of vocabulary flash cards and grammar lists (like Sam and I both admit to doing), the game packages this information in a fun and accessible way that particularly appeals to children. It seems that fun and social setting of play helps children learn preliminary vocabulary and historical context without realizing that they are learning. The game may have its flaws in terms of English use and logistics, but it also seems to create new social space for children that I will not explore in this paper, but is worthy of exploration and elaboration in the future.

3.3 Kaá"ze Íe Wayáje: An Annotated Dictionary of Kaw (Kanza)⁷

The Kaw Nation Language Department received another two year grant from the ANA to construct the Kaánze Ie Wayáje: An Annotated Dictionary of Kaw (Kanza), which was

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⁷ An electronic version can be found here: http://www.kawnation.com/WebKanza/LangResources/englshknzdctnry2012.pdf
published in December of 2012. Ben did the preliminary work on the dictionary, but Jared also contributed, and when Laura became language director she took over the project. In the very early stages of the project before computers were available for personal use, Ben used the traditional method of constructing dictionaries by writing a slip file of each vocabulary word, and then organizing in a pre-determined alphabetical order. He originally used James Owen Dorsey’s original vocabulary lists made from narrative and historical stories he had collected in the 1880s and 1890s that he xeroxed at the Smithsonian Institute. He also transcribed and made slip files for materials he had elicited from Maude McCauley Clarke Rowe in the 1970s (Ben, interview with author, February 5, 2013).

When I asked how he decided to go about researching, organizing and constructing the dictionary, Ben said that he already had experience using Dakota language dictionaries, as well as other Siouan dictionaries, including the Osage Dictionary published by Francis La Flesche in 1932. Ben says that after working with other Siouan languages, he already had a basic idea of how to construct a dictionary:

I had a pretty good idea what goes into a Siouan dictionary, what you need to include, what you can exclude It's just sort of information that if you're working in Siouan linguistics you just sort of accumulate and pick up along the way, and at some point you begin to feel competent to do you own, and you sit did and as you do it you encounter various problems and you figure out the workarounds for them or how to get answers and you just do it. So, I did by doing rather than by reading about it and planning. [Ben, interview with author, February 5, 2013]

When Jared was appointed language director Ben met with him and they decided to continue putting effort into creating a Kanza dictionary for the KNLD. They first created a ‘practical’ spelling system, which is the same orthography that Laura inherited when she took over the dictionary project in the 2000s. In 2006 when they started to seriously focus on the
dictionary, Ben and Jared visited the National Anthropological Archives in Suitland, Maryland and historical archives of Oklahoma and Kansas (Ben, interview with author, February 5, 2013). Laura writes that this method ensured that virtually every Kanza word every recorded appears in the dictionary (Cumberland and Rankin 2012: v).

The published dictionary incorporates almost 5,200 words in Kaw and 2,000 of those are conjugated verbs. The dictionary starts with an introduction of the sources of Kanza vocabulary and how it was collected, then segues into a short grammar sketch that outlines how to interpret the organization and notation of nouns, verbs and other grammatical concepts that appear in the dictionary (Cumberland and Rankin 2012:v). Like the Kanza reader and board game, the dictionary was constructed to be accessible to the average person who wants to learn Kanza. In verb conjugations you can find the personal pronouns being designated ‘you’ or ‘we’ opposed to the standard linguistic choice of ‘second person singular’, ‘first person plural’ or ‘2S’ or ‘1P’. These designations are less linguistic, but more accessible to a wider audience because they are akin to the standard English variations used in traditional English language education.

The most interesting and unique aspect of the dictionary is that Laura chose to include cultural information in some of the Kanza definitions. Much of the vocabulary in the dictionary was taken from James Owen Dorsey’s original slip files and notes from the 1800s. In his notes he often accompanied definitions or verb conjugations with snippets of cultural and/or historical information that was not imperative in defining the term or concept, but provided a more comprehensive historically and culturally grounded definition. When possible and relevant, Laura chose to include what she refers to as ‘snippets’ in the Kanza dictionary. This is a typical snippet she included for the word gasápe:
Gasápe [ga-sá-pe] 1) vt <A> make a clapping sound Da ni ozhú yeché gasápabe. Then he popped these water-filled ones. MR: CT.31.10 nanbé gasápe clap the hands JOD Nanbé ásasape. (of gasásape) I clapped my hands. MR on JOD • MR: "Gasápe is where you hit the water and it makes a noise. When you clap your hands, that's gasápe." 2) n whip 3) n percussion cap gasápe hinga (roll of) paper caps, an alternative to metal percussion caps, similar to those used in a toy cap gun • AS: Evidently taken from the sound, as this word is the same as whip. ► I-ásape, you- yásape, he/she/it- gasápe, we- angásapabe, you (pl)- yásapabe, they-gasápabe [Cumberland and Rankin 2012: 63]

Even though it would have sufficed to just say that gasápe means ‘1) vt <A> to make a clapping sound 2) n a whip 3) n percussion cap’ the additional information provided by James Owen Dorsey (JOD) gives a more comprehensive meaning with greater depth to the definition of this single word. Entries like this do not appear in standard linguistics dictionaries and shows that, like the reader and the board game, the KNLD is not just trying to create a material that provides reliable linguistic information of the Kanza language, but also the cultural and historical frameworks that surround it.

Before the dictionary was published and became available for public consumption, I asked Ryan and Suzy their opinions of Laura’s choice to include this information. Ryan said that Laura had talked about the dictionary with the class and that they thought it was a good idea to include Dorsey’s notes. Laura told the class that she was including snippets in the dictionary to a limited extent, and that even though Ryan thought she should use more, he said she said responded that she was creating a dictionary and not a storybook (Ryan and Suzy, interview with author, February 10, 2013). Laura’s response to Ryan’s opinion that she should include more material from Dorsey shows that even though she chose to take a somewhat novel approach to constructing the dictionary, she did not want to use this approach to the extent that it became invalidated as a dictionary, albeit a culturally and historically oriented one.
Both Ryan and Suzy feel that the inclusion of this extra information in the dictionary will not only help them learn more about Kaw history and culture, but also makes remembering vocabulary words easier:

*It certainly helps me to remember a word if there is a background story there, even if it's only a couple of sentences. I think that that reinforces it in my memory and helps me to remember it. It's hard to look at a word once and then remember it a week later if you've got even a little story about it, maybe that will help you remember it.* [Ryan, interview with author, February 10, 2013]

Suzy also commented that the dictionary will not only be useful and beneficial on its own, but also in conjunction with the other materials the department has created:

*It kind of helps brings it all together, I know that Laura had put in, and Jared, that put stories together that were Kaw stories, and we read them for a while which was really fun to read and that, but with the dictionary helps us look up to define more different words in there that maybe you're not quite understanding what the meaning is in that sentence* (Suzy, interview with author, February 10, 2013).

Ryan also thinks that a dictionary that encompasses more than just linguistic information about language makes learning a language more interesting and might attract more people to use it in their study of the language. Ryan is not Kaw, and actually has no native blood in his veins, and admits that he likes to learn the language as much for its history as its linguistic components:

*You understand, I am not trying to learn Kaw so that I can understand the language of my people because you know, my people were Swedish, so it's got nothing to do with my ancestry, so my selfish thing is for it to be fun, I like to hear the history and background stories that go along with it, that makes it more interesting to me, I think that if we were Kaw maybe it would be different. But, as a non-Kaw, you know, I don't have any Native American in me, as far as I know, so I am not searching for my people’s past, but if there is an interesting story there, that makes the class more fun* [Ryan, interview with author, February 10, 2013]
Ryan proposes that people who are Kaw may want to learn the language for its linguistic merits and potential, but for him it is a way to learn more about the history and culture of the tribe that lives down the street from him. In this way, materials that include not only linguistic forms, but also relevant and contextualized historical and cultural information can be beneficial to the study of both Kaw language and history.

Laura declined to be interviewed, but Ben offered some critiques of the dictionary. He says that maybe just delving right into making slip files and putting them into an early database program was hurried and suggests that a more organized individual would have gone to a summer linguistics institute and taken courses on lexicography. However, he says that he past exposure to other Siouan dictionaries sufficiently prepared him for the task. In our interview he did say “if I got to do it again I would do it differently” but follows with, “but I've never known a linguist for who that wasn't true” (Ben, interview with author, February 5, 2013). He says that he is creating a more technical Kanza dictionary that will incorporate more scientific notation and exhibit differences from the one he worked to create with the KNLD. All in all, he finished his discussion of the dictionary by saying that he is happy with the way that this the project turned out.

3.4 Accessibility and Use

The Kanza readers are available free of charge to any Kaw tribal member and for a minimal fee to any non-member. Lauren and Jared even built money into their grant for free postage to mail these readers to tribal members living outside of Kaw City or Newkirk. When I arrived, the entirety of the back room was still full of empty boxes of readers and CDs waiting to be assembled and mailed off in one of the dozens of fresh and ready envelopes. There are PDFs of the dictionary and reader online, as well as links to download the computer game for
free. These materials are readily accessible and free to any local tribal members, as well as non-local members and non-members who want to learn the language. Yet, very few people are taking advantage of these resources.

In my interview with Ken I asked him about my perception of the lack of interest in learning Kanza, or even accessing these Kanza resources. He replied:

*I was asking Linda for some of those readers, I want to send them to some of my family, and I asked her if she had any left. She said “We have boxes of the.” She said, “I thought that they would say like hot cakes.” She said nobody wants them.* [Ken, interview with author, February 12, 2013]

I encountered this mentality with Laura when we went to a linguistics conference over the summer. She piled boxes of Wajípha"yi" into her car, saying something along the lines of “Only linguists want these. Nobody who is actually Kaw even cares”(field notes). This lack of interest, except for linguists, was a common trend that I continuously encountered during my time with the KNLD. The people (i.e. linguists) who worked with the language devoted as much of their time and expertise as possible to make materials and resources that were applicable, accessible and could be used by people desiring to learn Kanza. However, the majority of people who all these materials were created for never took an interest in using them or learning the language.

Jared recounts the disproportionate amount of work that went into creating his *Camping with Kanza* guide (not discussed in this paper) and the amount of people who used it, “I don’t think anyone except for me ever read. Maybe Jessica [KNLD language class student] from class, I don’t know. But, I thought it was a lot of fun. But, a lot of hit or misses with those sort of educational ventures” [Jared, interview with author, February 4, 2013]. The large question here is whether the fact that these sorts of projects can be ‘hit or miss’ is due to the manner in
which they are constructed or to the fact that people just do not care about studying the language. This question, and the ambiguities and intricacies it entails, is the reason that I am not in a position to assess whether these materials are successful or even how to define ‘success’ in this context. Even though there are too many variables and the topic is too complex to answer in this short space, in the next section I offer potential reasons why certain Kaw members, by omission and lack of participation in language department programs, choose to not study Kanza.

4. What’s In It For Me?

All of my informants directly involved with the KNLD (5 out of 6 people I interviewed) independently brought up the lack of participation in KNLD language programs and products in their interviews. I also observed a similar disinterest in these products and resources during my internship with the Language Department last summer. The backroom of the departmental office is filled with unopened boxes of board games and workbooks. There are piles of envelopes and bubble wrap so that the reader and board game can be shipped free of charge to any Kaw member that requests them, and for a small fee of $5 or $10 for non-members. There are only about six or seven regular participants in the official Kanza language class that is only held once a week. Not many people come into the Language Department office, and those who do asked where to find the child services offices located down the hall. The visible lack of participation of Kaw members in language programs raises the question of why this is, and what could be changed to create an up swell of interest and participation from the community. In order to answer these questions, we first have to examine what motivates a person to learn any language in the first place. There are several obvious possible answers to this question: the
possibility of travel to new locations, communication with foreign individuals, inclusion into specific social domains, social pressures, external incentive or internal satisfaction.

4.1 Kanza: Internal Satisfaction

The first step is to try to eliminate the possibilities that do not fit in this context. Even though not all Kaw members live in Kaw City, learning Kanza would not allow them to travel to any new regions or communicate with anyone who they cannot already communicate with in English. Since no defined group actively speaks Kanza, it would not open avenues of communication with foreign individuals. The absence of Kanza in tribal ceremonies, meetings and other tribal events shows that social pressure is probably not a motivation either. The KNLD and Kaw Nation offer no external (monetary, physical, prestige) incentives for learning the language. That leaves the possibility that internal satisfaction could motive Kaw tribal members to start learning Kanza. This idea of internal gratification has fueled anthropologists, linguists, and language activists, both within and outside Siouan communities, to work toward and instigate revival efforts. They work toward promoting revival efforts and creating language programs and materials to ensure that community members have the ability, access, resources and programs that will help them explore their history and heritage via study of the Kanza language.

Ryan, who has frequented the Kaw language class for the last few years, is not so optimistic. He says that given the structure and goals of the Kanza language program now, “you don't get anything for doing it except for your own satisfaction. Not a lot of people will do something just for the satisfaction of learning something” (Ryan, interview with author, February 10, 2013). In his opinion, this internal satisfaction is not enough to motivate Kaw members to put in the hours of effort and devotion necessary to learn their heritage language. A
possible reason for their disinterest is that people in general do not embrace and enjoy learning in the ways they used to:

*Well, I think there are just too many things of interest, things to do nowadays that it makes it hard to find value in the things that used to be done, you know learning by yourself used to be kind of an activity back when people lived on a farm and they had little else to do once they had all their farm work done. They would sit around and think of all the things they could do, and learning, and learning a subject, was one of those things. But now there are so many forms of modern entertainment that you don't have to search for something fun, so things like that sort of learning exercise isn't as popular anymore.*  [Ryan, interview with author, February 10, 2013]

Both Ryan and his wife, Suzy, are not Native American and decided to start attending the language class because they are interested not only in the Kanza language, but also their own local history and the culture of their Kaw neighbors. They both agree that they have no idea how to motivate Kaw tribal members to learn their heritage language.

Ken is a Kaw member, a spiritual healer and probably one of the best speakers of Kaw to live in the last 20 years. He started studying Kaw with Ben before the language class at KNLD was even developed. Ken has been a staunch supporter of the Language Department since its formation, is a member on the cultural committee that advised the creation of the Kanza dictionary, and brings both his children to Kanza class regularly. In his opinion, many of his fellow Kaws feel that since their language is dead it is no longer worth learning. He embodies these sentiments by saying that the Kaw members have adopted the motto ‘What’s in it for me?’ He explained that this motto does not refer to an inner satisfaction or reward that can be gained from studying Kanza or other aspects of Kaw history and culture, but instead expresses a desire for external benefits or incentives:

*The community, trust me, they’re not interested. Someone told me once, a tribal member, who said “The only thing the Kaw people are interested in is a job and what*
can I get out of the tribe.” In other words, “Can I get any money from the tribe, can I get education from the tribe, educational grants, can I get supplies for my kids?” That kind of stuff. [Ken, interview with author, February 12th, 2013]

Kaw tribal members use the tribe, not as a way to gain access to cultural and historical resources and information, but rather as an avenue to reap further material and monetary benefits. The tribe offers a wide array of services for members such as cash dispensations, their own child services and welfare division, denture services, discounted senior lunches, job opportunities and even their own court system. The Kaw Nation also has a small historical museum located in the primary building in the municipal complex across the street from the language department. The Language Department and the museum are different than these other services in certain regards.

While the other tribal departments are focused on providing necessary and current social services, the museum and language department provide services that are arguably necessary, but more so in terms of cultural and historical enrichment and not economic or physical survival. Even though what these two types of services provide to tribal members are different, Ken argues that tribal members apply this mentality of ‘what’s in it for me?’ to both of them equally, “they're not interested in the history. They want to know what they can get out of the tribe, what's in it for me?” (Ken, interview with author, February 12th, 2013). He referred to this motto so often in our interview that it became his default way for illustrating examples, stories or opinions about Kaw tribal members when he wanted to demonstrate their disinterest in learning their heritage language and history.

Ken also discussed how many Kaw tribal members do not make the distinction between social services, like childcare and welfare, and cultural services like the museum or language
department. Since they do not differentiate these two types of services, they also do not make a
distinction between the rewards these services are meant to provide for them.

The state of Kansas is named after the Kaw (Kansa) because at one point their territory
stretched across a large portion of the state. Whereas historically the state has denied a
connection the their namesake the Kansa, last year for the first time the state asked the Kaw
Nation to attend historical events in Kansas. Ken said it was important for the Kaw Nation to
attend, not only to represent themselves in a state that has previously denied them their tribal
land, but also to establish relationships with organizations in Kansas and reconnect with sacred
sites. Even though the people in Kansas were impressed with the Kaw Nation’s visit, and good
connections were made, many Kaw members feel like the money the tribe spent on the trip
could have been better spent elsewhere and “they don't want to hear about it, that's going to
take money away from what's going to happen down here [Kaw City]” (Ken, interview with
author, February 12th, 2013). He later said that these Kaw members feel that the funding of
cultural endeavors like this are “not in their interest, their best interest” and they say, “why
should we spend money for that when we could spend that money down here?” (Ken, interview
with author, February 12th, 2013). In this context ‘down here’ refers to the services that the
Kaw Nation Funds on their territory in Oklahoma. His choice of the term ‘best interest’
illustrates how Kaw members do not make a distinction between the social services and cultural
services the tribes offers in terms what they are expected to achieve and how they cater to their
greater interests. Ken ended his story on an equally pessimistic note by saying that if tribal
members had seen (i.e. had some form of proof) of the good work that had been done in
Kansas, he was not sure it would make any difference in how much they cared.
During his time as language director of the KNLD, Jared worked to obtain as many grants as possible to fund Kanza language projects and created the first Kanza materials in order to offer language education to anyone who desired to learn the language. Even though he tried to expand Kanza education in multiple domains (through classes, camps, community activities and even free bus services to language department events) he feels as though his efforts were met with relative disinterest from Kaw members, “I’d like to think, as a person who has been fascinated with languages my entire life, that everybody has the same passions I do. That’s not at all the case, nobody wants to learn a language. It’s hard, and if it’s not done right it’s impossible, so we weren’t doing it right, so it would have been impossible” (Jared, interview with author, February 4, 2013). Whereas Ken feels as though the lack of interest in Language Department resources is the fault of the Kaw community, Jared feels as though he is partly to blame. Even though he expresses that people are not independently motivated to learn a language, he attributes the lack of participation in programs to his naïveté and inexperience as director. The story he recounts below demonstrates that he also acknowledges that the lack of participation is probably a result of members not differentiating that the services the language department as offers are different than the services of other Kaw Nation departments:

You know, we [KNLD] always set up a booth at the powwow and the intent there was for people to have a safe space to come and speak Kaw. Even if the just say hawé ‘female’s hello’ or wiblahà” ‘thank you’, you know, that’s something. And the people who came to that table were like cultural committee people or were like “Have you seen Crystal?” or people who were like “We are looking for some sort of bandage, do you know where any bandages are?” It was never an issue of language speaking or learning, but always something aside that had nothing to do with language. I just don’t know how you would do it in the Kaw world, to be honest. [Jared, interview with author, February 4, 2013]
This story illustrates how members of the Kaw Nation who live and operate within the context and domain of the tribe, and the services its offers, perceive and interpret the purpose and importance of the language department. Instead of going to the booth at the powwow to learn about language, history or culture, they perceived it as a domain that could offer another service, such as a directory to find lost friends or has medical supplies or the knowledge of where to find them. Even though these acts of communication at the booth show that the language department is included within the social networks and knowledge of the tribe, the social domain it occupies is perceived as something auxiliary to language and cultural education and services.

My perception is that the majority of Kaw social services are only available to tribal members living in Oklahoma who are close enough to Kaw City to utilize them on-site. It is necessary to examine whether Kaw members who are removed from the immediate geographical context of the tribe and these services have this same disinterested mentality when it comes to learning Kanza. One important point to reiterate is that even though language classes are only available to members who can drive to Kaw City or Newkirk, the board game and workbook can be shipped to any member free of charge and electronic versions of almost all language materials (including the online Kanza learning software) are available online from the KNLD’s website, Webkanza.

This topic of non-local tribal members only came up once in my interviews. Ken recounted the story of a woman from New York who learned she was Kaw a few years ago. Upon this discovery, she enthusiastically started learning Kaw while remaining in New York. Even though Ken says they cannot really converse in Kaw because she is not good enough yet, and her efforts decreased after she had a child, he is proud that a Kaw member from outside of
Oklahoma can speak some Kanza. He says that, “she as kind of an outsider who never knew she was even Indian, much less Kaw, began to learn the language” (Ken, interview with author, February 12th, 2013). When he says this is voice has inklings of pride and enthusiasm, but the downward intonation at the end also signals a note of sadness. It is almost as though he is asking “if a woman from the east coast wants to learn Kaw, why don’t people right here in Oklahoma want to?”

4.2 Osage: External Incentives

These interactions make it obvious that internal satisfaction will not be enough to motivate Kaw members to learn Kanza and that some other form of motivation is necessary to draw people into Language Department services. Both Jared and Ben compared the Kaw language program to that of the Osage Nation Language Department (ONLD) and lost no time pointing out how the efforts of the ONLD extended into multiple domains of enthusiasm and motivation for a variety reasons.

Traditionally, the KNLD has employed trained and formally educated linguists (either Native or non) to run the department. These linguists receive national grants to use their linguistic expertise to analyze existing Kanza documentation, create formal and professional language resources, and base their community outreach around the production of said resources. The ONLD, to my knowledge, has not necessarily historically employed formally trained linguists in the same way. Instead, tribal members, who focus on teaching the language rather than analyzing it or producing formal materials, conduct the majority of the language department’s internal revival efforts. The differentiating factors between the two tribes that are important to note is that there are significantly more Osage members than Kaw members.
According to both Ben and Jared, the answer to the question of ‘what motivates the Osages to learn their native language?’ extends outside of the issue of personal motivation to encompass the other motivating factors that I discussed at the beginning of this section:

*And the Osages have adopted a set of incentives, I think, for people to come and learn. The Kaws have not adopted incentives. In Osage my recollection is if you want to have a certain status at the powwow or sit under the arbor or something like that, then you have to know some Osage, or only speak Osage when you are there, or something like that. You have to be able to do a little Osage, you know, greet people say, “Hello”, tell them that you’re ok. [Ben, interview with author, February 5, 2013]*

Learning Osage will not allow you to travel to new locations or open avenues of communication with foreign individuals; but it does represent the inclusion into new social domains, demonstrates a reaction to social pressures, as well as offers internal satisfaction. According to Ben, if you do not know enough Osage you are excluded from certain traditional Osage ceremonies and events. This potential exclusion also marks that there are social pressures that spur Osage members to learn the language. Even though I have no evidence of external incentives being given for learning Osage, the tribe could offer some form of reward for studying the language (prizes, respect, etc). Jared worked as an accountant at ONLD before he became language director of the KNLD. In his interview he also discussed how Osage members do not only study the language because of social pressures, but because they actively want to learn the it and might even be motivated by the idea of the internal satisfaction; “they have people who actually want to do it, they have kids who wear shirts with the tribal symbols, *that* I have never understood fully” (Jared, interview with author, February 4, 2013). Whether it is because of the particular approach the ONLD has taken or other contextual factors of the
Osage community, according to Jared the Osage have reached that mysterious jackpot where tribal members actually want to learn the language (Jared, interview with author, February 4, 2013).

Jared thinks that the Osage approach is more affective than the one the KNLD used during his time as language director. Whether it is the social pressures and incentives that Ben mentioned, the sheer number of Osage members, or something inherently different about the Osage community to that of the Kaw community, Jared thinks that “their approach creates something that the Kaw approach could never create—a ground swell of enthusiasm that is internal” (Jared, interview with author, February 4, 2013). This Osage approach operates on the idea that a language department staffed by people who do not necessarily have degrees in linguistics, but instead are Osage and have support from inside the Osage community, allows them to both encourage their fellow Osages to want learn the language and implement external incentives.

4.3 KNLD Ending Reflections

Jared feels that the approach that he, and other linguists, have used at the KNLD will never be able create as much motivation and enthusiasm from that community as that of the Osage. Ben also reflects that “the Kaws haven't done that [incentives Osage created], and of course Laura and Jared complained somewhat bitterly” (Ben, interview with author, February 5, 2013). Ben implies that while Laura and Jared could perhaps be more understanding of their perceived lack of success of the language department, they are also not to blame for it. Even though Jared feels as though he should place blame on himself for the approach and methodology the KNLD has used when instituting revival efforts and making materials, it is also very likely that external factors and mere context of the time, place and position of the
Kaw Nation and its members are what have prevented KNLD programs from being more successful. It might serve the Kaw Nation and the KNLD to explore potential ways that learning Kanza can be further incentivized, but in the end it is up to Kaw members to take agency to use the historical and linguistic resources and programs the Kaw Nation supports and the KNLD offers.

5. Is It Practical to Revive a Dead Language?

The previous sections examines the possibility that no matter how much time, effort and money the KNLD puts into creating language reference materials, Kaw members may not study the language until they either begin to value the internal gratification studying Kanza will bring them or the KNLD or the Kaw Nation starts offering external incentives to study the language. This discussion addresses the question of whether it is practical to invest time, energy and money into creating revival materials for a language that is dead and whether this money could be better spent on preserving languages that are still alive. I asked all my informants this question, and they responded with a variety of answers. Even though they all felt that it is crucial continue efforts aimed at the revival of dead languages, they all gave individual reasons why they think it is crucial. Their responses convey how people who participate in differing aspects of the process view the issue of language revival differently, and how complex this issue has become.

5.1 Equating Practicality and Success

Before diving into this discussion, it is first important to discuss how to define ‘practical’ within this context. All of my informants, in various manners and senses, equated the idea of ‘practical’ with the concept of ‘successful.’ It is only practical to invest in efforts,
projects and programs that will most likely yield successful results that both prove the worth of the product created and justify the money invested. The concept of ‘success’ is context-dependent in a general discussion of language revival practices, and in this discussion each informant defines what ‘successful’ means in the Kanza context in his or her own words.

Sam says that you have to address this issue from either a linguistic/anthropological/documentarian community or from the people of the community where the language is obsolescing

(Sam, interview with author, February 9, 2013). Jared firmly stands on the community of the language side of the debate, despite the fact that he is a linguist. He thinks that the academic community and their definitions and desires should not factor into this conversation:

*I really, as much as I hate to say this, I don’t really care about the linguistics community. I think the linguistics community is fine and they don’t need to worry about documenting endangered languages. Unless the communities who actually speak those languages invite them to do so. That’s a major issue for me because I feel like, among native folks especially, there has been this level of exploitation and I don’t think that that’s worth preserving. I think that that should stop and so I think that linguists have plenty of other communities that they can work with and that shouldn’t be a problem for the linguist.* [Jared, interview with author, February 4, 2013]

Even though this question seems like it should apply to the community of academics working with these languages—people who have more linguistic expertise and perhaps more knowledge of how to receive grants—it actually applies to the community of speakers. In Jared’s opinion, the choice of whether it is practical to invest time and money into revival efforts belongs to the community because it is “a community issue and not a scholarly issue” (Jared, interview with author, February 4, 2013). It is the speaker community, not the academic community, which has the right to decide what it hopes to gain from revival efforts or even to invest in them at all. Sam also touches on the idea of academic community infringement when linguists justify the importance of language revival by highlighting any language is inherently
linked to culture and thus merits preservation, no matter its status. This is a valid argument, or at least one that can be attested at another time, but both Jared who is a linguist and Sam who is an anthropologist—and therefore are part of this academic community they discuss—feel that the community of speakers have the right to decide how imperative and practical it is to invest in efforts to save their dead language.

Ben thinks that it is not just practical, but necessary, to continue to revive dead languages. However, he also explains when you start the process you have to be aware of the limitations. It is not practical to initiate revival efforts of a dead language with the perception that many people will put in the time and effort to learn the language in its entirety, or to even become conversational. According to Ben, you have to be cognizant and accepting of this fact, and appropriately scale your expectations and goals to accommodate it. You should not see the situation in terms of how many people are not studying the language, but rather by doing what you can to support those who are. For example, before the Kaw Nation even had a language department, Ken visited Ben in Kansas and started learning Kaw on his own. To date he has been the most enthusiastic Kaw student as well as a proponent of the language department, and probably will be for years to come. Ben says that every tribe has a few people like Ken, and it is imperative to continue working to revive the language in order to produce materials and resources that accommodates them.

5.2 Language Materials as Material Artifacts

Even though the actual linguistic information in these materials might only be used by these few enthusiastic individuals, like Ken, in each community, Ben says that the materials themselves can still have historical, cultural and sentimental meaning to tribal members outside the realm of linguistic significance. To illustrate this point he made a comparison between how
Kaw members display the materials the KNLD has created to how an American who travels frequently might display a book of scenes from Ireland on their coffee table:

*It doesn't make you a great Irish historian, it doesn't make you Irish, and it doesn't make you full of Irish culture, but maybe that's enough for you, if your main job is farming or blacksmithing or hardware salesman or attorney or doctor or something else. I mean the Kaws all have lives.* [Ben, interview with author, February 5, 2013]

The last sentence of his analogy encompasses Ben’s interpretation and awareness of these limitations involved in language revival. Kaw members are busy living their lives and trying to survive, and even though it feels wrong to write, maybe some Kaw members have more necessary things to spend their time on than learning their heritage language. Then in some ways it does not even seem practical to invest time, money and energy into creating language materials that Kaw members will never have the time or motivation to use. However, if merely having a physical copy of a reader or dictionary to display will give them happiness and empowerment by providing a way in which they can celebrate their history and culture, then language revival efforts should be promoted and continued. I had a conversation with Laura where she said that many of the Kaw members who did procure the reader or board game only wanted them so that they could be displayed in their homes. She finished the discussion by rolling her eyes and groaning that many of them never even opened the reader or took the plastic off the board game.

Even though Laura may feel upset and slightly jaded that Kaw members were not using these materials as the KNLD had intended, and that all her work had gone to waste, she may have failed to see that they are still the resources she helped create in another sense. If you look at the materials from this lens it seems like a shame that so much work went into creating materials that will never be studied, from examining it from another angle reveals that these
materials are still providing a function. By obtaining and displaying them in their homes, Kaw members are still using these materials by appropriating them as visual artifacts, instead of educational materials, as a means to celebrate and showcase their history and culture. You could make the argument that having a book jacket wrapped around a pile of empty pages would cost less money, take less time and provide the same function, but this is not the case. Part of the reason that Kaw members want to own, and sometimes display, these materials is because they value the knowledge and history contained inside the packaging, even though they may not choose to access it. Although these materials may not function for the majority of people who own them as the educational tools they were created to be, they still provide a function within a different context, and therefore are successful in within this domain and definition.

Ryan and Suzy are neither Kaw nor Native American, and have frequented the Kanza language classes for several years. They feel that it is important to try to save languages that are already dead because languages that are alive still act as a ‘driver’ for the language to survive, whereas in Kanza there are no speakers to keep the language going. Suzy says she knows some of languages that have disappeared completely and she does not want this to happen with Kanza. In order to prevent this, she feels as though it is necessary to continue to analyze Kanza and create materials so that one day “maybe then someone will take off with it and go with it” (Suzy, interview with author, February 10, 2013) Even though both Ryan and Suzy expressed that in their opinions in it is necessary to continue revival efforts with Kanza, they say it is not their place to decide. Just like Jared, they feel that the only opinion that matters in this equation is that of the Kaw community.
Like Ben, Ryan uses an analogy to express that Kanza should be preserved as a historical relic, and not as a language that people hope to use in daily conversation:

*It's not like we are saving it to be used by somebody, it's more like saving an old tool that is no longer needed in a museum. You have a newer more modern tool that works better, we think, and so you don't need that old tool from the 1800s anymore, so now it's in a museum. I think that's better than it just laying out in the ground and rusting away to nothing. But I kind of think that that's sort of the way this language is, that we're not saving it to ever bring it back to be people's primary language. But, at least they can have it, the ability to speak it during ceremonies and things like that.* [Ryan, interview with author, February 10, 2013].

In Ryan’s mind the Kanza language is no longer an animate entity that can be revived and reappropriated within Kaw culture and daily life, but instead the fact that it is a dead language denotes it as inanimate in such a way that it can only symbolize the past. He also makes the comparison to a Model-T that you keep in working order, but only drive on special occasions. Ryan thinks that Kanza can only be used in formal occasions, traditional ceremonies and to be displayed in a museum as a cultural artifact. The concept of ‘display’ relates back to Ben’s analogy of the Irish coffee table book that people appropriate as an artifact that makes a comment about them and their history, rather than as a tool than can be used on a daily basis.

5.3 Preserving Prayer

Sam answered this question from the perspective of his own experience in a Chiwere, rather than a Kanza, context. He feels that language revival and revitalization are comparable rather than two distinct efforts, “so there might be sort of extra effort that is required to revive a dead language, but to be honest I don't think it's like a totally different situation than revitalization a declining one” (Sam, interview with author, February 9, 2013). Sam explicitly equates ‘practical’ with of ‘success’ and explains that it is the decision of the community of
speakers to decide what they want out of language revival efforts and whether that the result is successful:

Maybe what's success would look like in that context would be printing off a few prayers for them in Chiwere and sending it to them. I think what's effective and success might ultimately have to be defined in a culturally relative sense depending on the person, the family, the context, what's success is going to mean for them might be radically different and I'm guessing it would be almost certainly radically different from what most linguists mean by success. [Sam, interview with author, February 9, 2013]

Sam mentioned earlier in our conversation that for many Chiwere members simply learning prayers in Chiwere would make them feel more spiritually connected and closer to Wakanda. Perhaps only transcribing books of prayers is not as ambitious as a reader or a dictionary, and not as practical from a linguistic point of view, but if it is a domain in which the Chiwere community will continue to independently use their language, then it is worth the time, energy and effort to produce a book of prayers. Sam also discusses the idea that linguistic success, and ‘success’ as defined by the language community, are different and necessitate two different ways to approach the question of whether trying to revive a dead language is practical and will ultimately be successful.

Ken, like the Chiwere members Sam mentions, feels that learning prayers is the primary reason why it is important to continue efforts to revive Native American languages like Kanza. Ken is a spiritual healer and the most devoted to the traditional ways of any Kaw I met during my time in Oklahoma. The first reason he gave for why it is important to continue revival efforts was that, “for one thing, it makes you feel good when you pray in your own language. When you pray in your own language, that's a language that's been spoken for we don't know how long, thousands of years, here in this country” (Ken, interview with author, February 12,
Kanza connects Kaws to their historical, religious and cultural roots. According to Ken, embracing this tradition has the potential to make Kaws feel good and experience a connection to this heritage. His second reason was inspired from a conversation he once had with a medicine man from Arizona, “he said he thinks that you must learn to pray in your language, he said because the spirits of this country, understand I that language. They understand Indian language. And they like it when Indians speak in Indian language. And so there's that connection” (Ken, interview with author, February 12, 2013). The traditional, and perhaps linguistic, perception of language revival is that it is meant to spur individuals to start using the language in conversation and daily life, however Ken feels that the only necessary domain in which to revive Kaw is for prayer.

5.4 New Definitions of ‘Success’

The difference in perception of intended domains of language revival may account for the discrepancy in opinions between the community of linguists and the community of speakers. The common and popular—and most likely linguistic—perception is that language revival efforts are initiated to help a language ‘live again’ to enter the social domain of everyday life and communication, as well as take up the same communicative space it did before it died. If you define the practicality of language revival in such a way that success is only reached when the language does enter this daily domain, it is easy to see how these efforts can be deemed ‘impractical.’ Any type of language revitalization is difficult, but when the language has been dead for an extended period of time, it is nearly impossible.

The responses from my informants suggests that from the community of speakers point of view, success does not have to be defined in this way. Both Sam and Ken outline how some Chiwere members and Kaw members think that the language is worth preserving so that it
continues to be used in prayer. Continued entry into this smaller and more specific social domain represents success in their opinions. If you look at the question from this perspective, it seems negligent to deny a community the right to be able to pray in their traditional language, especially when there are a variety of funding and grant opportunities outside the tribe to support these endeavors.

On this same vein, Sam says that the question of whether to invest in revival efforts depends on who is paying for the revival projects. Sometimes tribes fund language department projects, but from my experience these are mostly-in part or match grants. The majority of the grants I heard about came from either the National Science Foundation (NSF) or the ANA. Sam questions whether they would or should fund a project like a board game that is non textual and very culturally—vs. linguistically—oriented. However, he thinks that the ANA should fund these sorts of culturally oriented materials:

Not necessarily with the idea that the board game is going to produce fluent speakers, but maybe with the idea that the board game is going to help people feel a connection to their heritage, linguistic, historical, cultural, broadly conceived. If someone has a goal that they want Native communities to have that opportunity, then I think funding a board game or workbook or dictionary is probably a great way to achieve that goal.

[Sam, interview with author, February 9, 2013]

When the goal of language revival is focused around the community of speakers and what they hope to gain from these efforts, the notion of success and practicality shifts to encompass new definitions and expectations. Even though in Section 4 many of my informants bemoaned how Kaw tribal members are not taking advantage of all the Kanza resources and materials the KNLD has created, they all feel that efforts to revive Kanza should continue.

When you understand that the definition of ‘revival’ and the resulting success of those efforts is not dependent upon the language entering the domain of everyday discourse again, but rather
being reappropriated in other specialized social and communicative domains (i.e. prayer), then it becomes apparent that it is practical and necessary to continue to work to revive languages in those domains. 


Whether languages have been dying at an increasing rate over the last several decades, or the advancements in media communication have brought their threatened status to attention, more and more linguists, anthropologists, activists and policymakers and are jumping on endangered language bandwagon and participating in efforts to help preserve, revitalize or revive these language. Many people compare the death of a language to the death of a species—even though the world will continue to function without it, its loss marks a sad and devastating loss to its surrounding environment. The visible absence of a flora or fauna species serves as a reminder of the loss, but the loss of a language is marked by the internal and invisible absence of ideas and knowledge. In When Languages Die: the Extinction of the World’s Languages and the Erosion of Human Knowledge David Harrison ask “what exactly is lost when a language, the most massive, complex constellation of ideas we know, ceases to be spoken?” (2007:vii). Many language advocates feel that essential historical, cultural and personal knowledge is lost for the community of speakers when a language becomes threatened

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8When I asked Sam this question about practicality, showed his positionality as the only anthropologists I interviewed when he said “I feel like there's maybe sort of a linguistic assumption or orientation built into the question” (Sam, interview with author, February 9, 2013). He might be right that the phrasing of the question could elicit some form of linguistic bias, however the fact that the majority of my informants either replied with more anthropological, rather than linguistic, oriented answers could show that they did not did not perceive this bias. Or maybe they did, and the phrasing fueled them to actively distance themselves from traditional linguistic assumptions.
or ceases to be spoken. Daniel Nettle and Suzanne Romaine in *Vanishing Voices: The Extinction of the World’s Languages* write, “the elimination of [language] diversity on a massive scale would do the evolution of the human mind a great disservice” (2000:70). In the same vein, Harrison pens “most ideas live on only in memory, and with the extinction of languages, vanish forever” (2007:vii). In *Language endangerment and the human value of linguistic diversity* Ken Hale compares language not to an animal species, but discusses how it is something intimately human “the destruction of this tradition [language] must be ranked as a disaster, comparable to the destruction of any human treasure” (1992:40). These are only a few ways in which some of the most prominent linguists and anthropologists involved in endangered language efforts express how important it is to attempt to preserve and revitalization these languages in any domain possible and by any means possible.

Once you acknowledge how important endangered language work is, then you have to address how to best go about it. In *Last Words, Final Thoughts: Collateral Extinction in Maliseet Language Death* Bernard C. Perley discusses the difficulty endangered language scholars and advocates face, “the challenge of their task is to make tangible an intangible property in order to garner support for their efforts” (2012:131). Even though it may seem daunting to attempt to save or restore an entire language, as I’ve discussed with Kanza, Leanne Hinton in *Sleeping Languages: Can They Be Awakened?* writes:

But a language revitalization program need not be extremely ambitious. It may not have as its goal the reintroduction of the language as the primary language of interaction, but rather may simply want to give the language a small place in ceremonial life or have a few phrases to use in community interaction. [2001: 415]

Initially, it seems as those advocates and scholars formally trained in linguistics should work to document languages so they can be reintroduced into daily communication and social
domains before they vanish. They have the training, they have the know-how, and the have the determination. However, the question isn’t whether classically trained individuals have the ability to analyze and document languages so that they can be successfully reintroduced, but rather if ‘successful’ programs are synonymous with ‘reintroduction.’ Section 5.4 discusses how perhaps the practicality and success of revival efforts is not defined by language reintroduction, by instead by the community of language speakers.

In *Revitalization of Endangered Languages* the Hinton discusses how it can be hard for linguists to institute these types of language programs “the fit of linguistics and language revitalization is not perfect. The demands of academia are often in conflict with community needs and desires” (2011:307). This statement brings up the question of whether a dichotomy exists between the world of academic linguistics and community-oriented language programs. Is it possible for academics to work both within their own world to produce materials and research of scholarly value while also working on a community level to instigate language programs and create pedagogical materials? Perley addresses the question of how an outside academic who wants to work, and publish, on a language that in many regards is not their own can justify this desire when he writes “as analysts and advocates, we may begin to fetishize language” (2012:134). You cold probably debate all day whether linguists and academics romanticize and reappropriate the languages they document, but instead I would like to turn the discussion of how the material they produce can be used by a language community.

There are components of this debate that I want to address: 1) whether linguists who are not supported by the language community can still produce materials that the community can use and 2) whether language documentation materials and resources can be addressed to both an academic community and a language community at the same time. In *Sleeping Languages:*
Can They Be Awakened? Leanne Hinton writes “a person may find even find that he or she has no community support for revitalization but will nevertheless create valuable learning materials that will someday be much appreciated by another generation” (2001:415). Even though for whatever reason a community may not support a linguist who wants to document and analyze their language, it is possible that months, years or decades later when the language is hanging on by a thread, or even dead completely, the community may begin to value these resources.

This is what Carolyn Quintero did with the Osage language. She did not work with, and to my knowledge was sponsored by, the ONLD. By working with the last speakers of the language she was able to create the most widely used and known texts on Osage to date, Osage Dictionary (2009) and Osage Grammar (2004). I cannot attest to how much the ONLD uses her work, but there were several editions lining their bookshelves when I visited last summer, and her name was referenced at least once during my visit. With both works, but with her grammar in particular, she tried to create a resource that would be seen as both credible by an academic audience and accessible and usable by a community audience. In the next section I address this question in reference to her Grammar.

6.1 The Osage Example

One fundamental question involved in the two-audience debate is whether it is possible to construct language education materials that appeal to both linguists for professional use and language learners for personal use. I am going contextualize this discussion within the framework of both the language education materials of the KNLD and Carolyn’s Quintero’s published work on Osage. I refer to conversations I had with Ben, Jared and Sam where they all talked about the chosen audience of their Siouan language work in terms of both wider
theoretical and methodological frameworks of language revival as well as in direct relationship to Quintero’s work.

All the linguists I interviewed, as well as Laura, have said that Carolyn Quintero tried to consciously construct her *Osage Grammar* and *Osage Dictionary* to be accessible to both an academic community of linguists and a local community of language learners. I first devised this question after I started working with these materials, the grammar in particular, and realized that she used complex linguistic terminology and organizational styles, but also tried to simplify her framework as much as possible. As mentioned in Section 3, Jared created the Kanza reader so that it would be accessible to a non-linguist who wanted to learn the language. When I asked him why he chose to create a reference reader rather than a reference grammar or some other formalized reference material, he responded, “the truth is that a reference grammar, while wonderful for linguists, is utterly, utterly useless to 99.9% of people on the planet” (Jared, interview with author, February 4, 2013). A reference grammar takes years to construct and ideally records the language in its absolute and definitive entirety, but is only accessible to a group of selectively educated and specialized individuals. Whereas another less formalized material, like the reader, takes less time to produce and offers a preliminary sketch of the language to a wider audience, it does not offer a similarly comprehensive sketch of the language. Grammars take years to construct, and Ben says that in a lifetime a celibate linguist can produce complete grammars of three languages. Jared says that Quintero rushed her grammar into publication. He told the story that she hurriedly called to ask him to make a last minute index for her, and when he said he did not have the time she said it just had to be published without an index.

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9 In a side comment Ben jokes that he could only do two grammars because he did not manage the celibate part (Ben, interview with author, February 5, 2013).
6.2 Reviews of Osage Grammar

The fact that Quintero tried to appeal to both a linguistic audience and a community audience is also a common theme in the two published reviews of her grammar. Mark Awakuni-Swetland approaches Osage Grammar from the “vernacular, common person’s perspective” (2008:532) and writes that the most critical issue is that the text should accessible for an Osage student, regardless of their academic background. He feels as though the book is written for a trained linguist, and is therefore is not accessible to the Osage community because it lacks important cultural context. With the goal of community accessibility in mind he writes:

Without a doubt, Quintero’s Osage Grammar is an important addition to the scholarship of Osage language. It is a valuable addition from a linguist’s point of view. This is an academic descriptive grammar and not a cultural content-driven grammar. Its descriptive layout is not immediately beneficial to teachers wishing to organize lesson plans. [Awakuni-Swetland 2008:53]

Even though he does not question the validity of Quintero’s analysis and research, he does surmise that the grammar can only be used by trained linguists and is not accessible for community members and teachers who want to use it to construct pedagogical materials. The review concludes with his suggestion that the book should include an index, as well as a companion grammar that could “serve to unpack the linguistic jargon and make it clearly understandable” (Awakuni-Swetland 2008:533) to community members.

In his review of Osage Grammar Blair A. Rudes takes the opposite stance and expresses that Quintero compromised the linguistic (i.e. academic) integrity of the Grammar by trying to make it accessible to the Osage community:
“In an admirable effort to make her work more accessible and usable by the Osage community, Quintero has adopted the ever-more common practice among linguists of incorporating modifications to the phonological representation and grammatical description of the language that accommodate the intuitions of native speakers” (Rudes 2005:354).

Whereas Mark Awakuni-Swetland suggests the book lacks cultural context that would make it more accessible to community members, Blair A. Rudes remarks that the appendix of kinship terms in the grammar makes it seems out of place and does not need to be included in a technical linguistic grammar. He concludes by suggesting that Quintero should not have tried to construct her grammar to appeal to both audiences; “the practice, which is often motivated by a desire to circumvent the time required to produce separate descriptive and pedagogical grammars, not infrequently results in unsatisfactory compromises” (Rudes 2005:354). These two reviews represent the differing voices of each audience (the community advocate and the trained linguist), but both express the opinion that Quintero compromised the integrity and applicability of Osage Grammar when she tried to construct it to appeal to both audiences.

6.3 Two Grammars, Two Dictionaries

Ben has already constructed a Quapaw dictionary and is an outside consultant on the Kanza dictionary. When I asked him the question of whether a grammar or dictionary could appeal to both an academic linguistic audience as well a community audience, he replied:

*I personally do not think that it is. Although, well, it could I suppose depend to a certain extent on a language structure, but the more the structure of the language differs from English, the more difficult it's going to be to bridge that gap between the community and the community of linguists. If you are trying to teach them Dutch, and it's the next similar language to modern English, then you might be able to get away with one. One grammar, one dictionary. But, unless you are trying to teach them Dutch or German or something, forget it.* [Ben, interview with author, February 5, 2013]
It might be easier to create one grammar or dictionary that is accessible and useful to both a linguist and a language learner for a language that is related to English, but Ben feels as though there is no way that you can create something that will be completely accepted by both audiences. He collaborated with Laura on the Kanza dictionary that was created for language learners and not linguists. The primary difference between this dictionary and a typical linguistics dictionary is that it uses layman’s terms for grammar terms and incorporates cultural information in example sections rather than linguistics notes. Even though Ben is the chief outside consultant for the Kanza dictionary, he is also independently working to create a second dictionary that will be produced specifically for linguists and not of language learners:

Well, they are for completely different audiences, really. The Kaw dictionary that Laura and I edited—that Laura did the vast majority of typing—the audience is for the Kaw Nation and especially those Kaws who wish to learn more about their languages. My dictionary is a technical dictionary; it'll be for linguists, phonologists, morphologists, that sort of thing. Lots of notes for phoneticians and so forth. Notes for and by phoneticians. And it's going to be for professional linguists, really. I concluded a long time ago that it's really not possible to produce a dictionary that's equally valuable to the ethnic communities and to the scholarly communities of linguists. It is just not feasible; you always stall between two stools, as it were. It’s never technical enough for the linguists and it's never cultural and practical enough for the learner. So, I’m afraid that for the world's exotic languages, a linguist really needs to be willing to produce two dictionaries. And two grammars, really. [Ben, interview with author, February 5, 2013]

He admits that the two-dictionary and two-grammar system is more work, but that in the long run he thinks both audiences will be happier and more satisfied with the result. He also plans to work on the grammar with Laura after she retires. This grammar, like his dictionary, will be for linguists.

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10 See Section 3.3
Sam has also had experience navigating the two-audience question with his work with Chiwere. He and Jake worked on the Chiwere dictionary together, which is intended to appeal to a person trying to learn the language instead of a linguist trying to research it. When Jake was working on the dictionary he asked a fellow linguist to write an accessible grammar sketch that would be included in the dictionary. Sam says that her draft included linguistic terms like ‘fricative’ and ‘glottal stop’, but was also extremely accessible for a grammar sketch. Jake had a strong reaction to this because “he didn't feel like it fit with his standards for accessibility for the dictionary” (Sam, interview with author, February 9, 2013). The linguist did not know how she could make the grammar sketch more accessible, and finally to ease the tension, Sam volunteered to write the sketch. To do this he would take the existing grammar sketch and create a new pedagogical grammar sketch that uses only layman’s terms for concepts rather technical linguistic jargon. For example, it will read "here's how these verbs are conjugated” and use traditional grammar terminology and paradigms. Sam then jokes “or I don’t know, maybe ‘conjugated’ would be too much” (Sam, interview with author, February 9, 2013). This comment demonstrates that not only choosing the audience for a grammar sketch is hard, but also defining the domain that is accessible to that audience can prove difficult and challenging.

Sam says that when this dictionary is finished it will ideally contain two grammar sketches, one for linguists and one for community members. Even though there is only one dictionary, the inclusion of two grammar sketches attempts to appeal to both linguists and language learners to some degree; Sam finishes his discussion of the Chiwere grammar sketches by saying that the dictionary is trying to straddle a line, but from what he can tell, with “mixed success” (Sam, interview with author, February 9, 2013).
Creating language reference materials, such as dictionaries and grammars, that appeal to both a linguistic audience and a community audience sounds like an innovative way to bridge the gap between linguistic academia and the language community. Carolyn Quintero attempted to breach both worlds with her *Osage Grammar* by creating a text that was both applicable and usable to linguists, but also accessible to community members with no linguistic background. After reading reviews of the book and talking to my informants, the general consensus is that her actions were well intentioned, but that she was not able to create a text that successfully created this bridge. This example of Osage segues into a larger debate of whether creating such a language material is even possible, or if it is more beneficial, practical and successful in the long run to create separate grammars or dictionaries for each audience. Particularly within the Siouan context, my informants feel that it is easier and safer in the long run to create separate materials for each audience.

7. **Bridging the Gap: Moving from Kaw to Osage**

For the entirety of this paper I have compared multiple aspects of the KNLD programs—language materials, methodologies, internal organization and community involvement—to that of their neighboring ONLD. I chose to focus my discussion on the resources created by the KNLD because I interned in the department over the summer, participated in the dictionary project and made contacts within the Kaw community. The KNLD has also created a wider range of resource materials that are more expansive and were more easily accessible to me for analysis than those created by the ONLD. Even though I visited the ONLD for a day and met many of the employees, I feel as though I am not in a
position at this time to examine, comment on or talk to anyone at the Language Department about the various materials the ONLD has produced.

Although the Osage and Kanza language are very closely related and share many forms, the ways in which they have been documented and analyzed differs in many respects. Virtually all the available materials on Kanza were created by either the KNLD or by linguists who are allied with the department in some capacity. Whereas the KNLD has a history of employing trained linguists, the majority of the employees I met at the ONLD were not formerly trained in linguistics. Since the ONLD has a larger number of members who frequent classes,

creating less-formalized materials that are geared toward a classroom setting (like vocabulary sheets, handouts, etc) instead of toward individual learning and consumption (like the Kanza reader or dictionary).

The two most comprehensive works on Osage—a formal grammar and dictionary—were not made for classroom use and were created by Carolyn Quintero, a PhD linguist who was not directly allied with ONLD. Creating a grammar is a fundamental step in analyzing a language and is usually one of the first major preservation or revitalization efforts financed. The KNLD only recently finished their dictionary in winter of 2012 and have not yet started working to create a grammar. Jared said the KNLD “kind of went about it the backwards direction” (Jared, interview with author, February 4, 2013) by creating reference materials before a dictionary, and a dictionary before the grammar. Since a complete Kanza grammar has not been created yet, I will direct this part of my analysis towards the grammar of the most closely related language to Kanza, Quintero *Osage Grammar*. In this section I steer my discussion away from language education materials and direct it towards the process of the

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1 See Section 4.2
language documentation and analysis that are fundamental for the creation of new language materials, as well as further avenues of future linguistic analysis and its implementation in the process of language revival. In the following sections I briefly summarize the history of the Osage, examine the history of Osage language documentation, illustrate how this information appears in Quintero’s published work on Osage and offer new methods of linguistic analysis that can expand up her existing research. I conclude this paper by demonstrating how acoustic phonetic analysis can build up existing work on Osage and how analyses of this type can be implemented in various aspects of the language revival process.

7.1 Osage History

The Osage are another Siouan tribe that originally occupied areas of what is now Kansas and belongs to the Dhegiha branch of Siouan languages along with Kanza. The Osages were originally known as the Ni-U-Kon-Ska, or "Children of the Middle Waters." Today they use the name Wah-Zha-Zhi, which was translated by French explorers as Ouazhigi and later became anglicized into Osage. They originally lived amongst the other members of the Dhegiha language family, the Kaw, the Ponca, the Omaha and the Quapaw in the Ohio River Valley. By 1673 many of Osage had moved to occupy lands around the Osage River near the Missouri River in Western Missouri. For sustenance the Osage hunted game, cultivated vegetable crops and gathered wild nuts and berries (A Brief History of the Osage Nation).

The Osage first encountered Europeans in the 17th century when the French came to Missouri. Initially, the two communities formed amicable relations and the Osages traded furs with the famous fur trader and founder of Louisiana René Auguste Chouteau from 1794-1802.

12 All the information here comes from the History section of the Osage Nation website. I used their website as my history reference because I wanted to include historical content that they think important and chose to highlight and include.
During their expedition to discover the west, Lewis and Clark encountered the Osage in 1802 and reported that the tribe numbered some 5,500 people (A Brief History of the Osage Nation).

After this initial boom of fur trading and the prosperity it brought, the Osage became entangled in the powerful pattern of treaty making with the federal government. In the Osage Treaty of 1802 the Osage ceded all of their lands east of Fort Clark (now Fort Osage) in Missouri and Arkansas to the government. After the treaty many Osages left their ceded lands and moved to western Missouri to what is now the intersection of Kansas and Oklahoma. They continued to sign treaties, and after the Louisiana Purchase they forfeited much of their western territory and were forced to continue to move east into what is now southeast Kansas. After an act of Congress in 1870 the Osage sold the remainder of their land in Kansas and used the funds to purchase reservation land in the Cherokee Outlet, what is now Osage County, Oklahoma that is located between Tulsa, Oklahoma City and Ponca City in the north-central area of the state (A Brief History of the Osage Nation).

At this time the Osage population had been depleted by nearly 50%. The new territory in Oklahoma was not adequate for farming and the Osage population began to suffer. Luckily, in 1894 vast amounts of oil were discovered all over Osage territory. Even though initially the Osage only received a small amount of the profits from oil drilling, in 1906 Principle Chief James Bigheart negotiated the Osage Allotment Act. The act stipulated that every Osage member had to receive a share of the tribe’s oil, regardless of his or her Osage blood quantum. Business boomed and at the peak of this oil rush each Osage member received $13,000 for his or her personal oil royalties and the Osage became ‘the richest men in the world’ (A Brief History of the Osage Nation). Sadly, this success also had some negative effects on the Osage population as well. The Osage Allotment Act did not stipulate that the surface land above the
oil could not be sold, and financially savvy white men swindled many Osage out of their land. Some white men actually married into Osage families to get a share of the profits. A few of these less fortunate unions culminated in the white men killing their Osage ‘family’ to get a larger share of the profits. These killings became known as the ‘Osage murders’, and soon after words a federal law was passed which stipulated that only those with Osage blood could inherit oil rights, and all non-Osage owners of land had to sell their land back to the tribe (A Brief History of the Osage Nation).

7.2 The Osage Nation Today

Today the Osage still occupy their reservation territory in Oklahoma, and are known as the ‘Osage Nation’. The community is federally recognized and has a multi-building headquarters located in Pawhuska, Oklahoma. Like the Kaw Nation, the Osage Nation has many internal departments that offer social services, healthcare, education, housing and community services to the local Osage population. It also owns several gaming enterprises and is the largest employer in all of Osage County. In 1990 there were 9,527 living Osage descendents. The 2000 census lists that 7,658 living people descended from Osage ancestry alone and 15,897 people were partially descended from Osage ancestry (Osage Nation Departmental Overview).

The Osage Nation established the Osage Nation Language Department (ONLD), which I have already discussed, that focuses on the revival, preservation and education of the Osage language. Whereas many history books recount the war ceremonies of the Osage, their hunting methods, the various treaties they signed or how they were taken advantage of, few mention their language and how pressure caused by colonization, migration and forced assimilation caused many Osages—both willingly and unwillingly—to cease speaking and learning their
native language. In the next section I further discuss how many cultural and ethnographic researchers have historically overlooked the Osage language, examine the history and existing documentation of the Osage language, and propose new methods of linguistic analysis that can add to the existing corpus of work on the language.

8. History of Osage Language Documentation and Analysis

It is not only important to understand Osage history, but also the history of linguistic and anthropological contact and documentation within the Osage community. Although the amount of contact was limited, it is still helpful to understand what data historically exists on Osage and how early research and documentation of the language helped shape the goals and methodological approaches of more recent researchers.

In the last 150 years there have been numerous researchers that incorporate aspects of the Osage language into the documentation of their interactions with the Osage community. In this section I discuss researchers who have significantly contributed to the documentation and/or analysis of the Osage language in some way. I examine these researchers and their work on Osage in chronological order, rather than by the type or quality of data they gathered or analyses they made. This chronological organization shows the historical progression, foundations, and subsequent improvements and advancements made in how and why documenters chose record, analyze and present the language.

8.1 James Owen Dorsey

James Owen Dorsey (1848-1895) was one of the first anthropologists and linguists that worked with the Osages. He started his work with Siouan languages as an Episcopal missionary, but over time his work became shaped by anthropological and linguistic
motivations instead of religion devotion. His early and most comprehensive work was focused on ethnographic and linguistic research on the Omahas and Poncas, he later worked with other southern Siouan languages, Osage and Kaw included. In the late 1870s Dorsey met Francis La Flesche and acted as both a mentor and colleague in the preliminary documentation of Osage and Kaw (Quintero 2004:16). In the early 1880s he conducted the first linguistic fieldwork and documentation with the Osages. His records of this work include texts produced in 1883 and 1888 and a slip file from 1883 (Quintero 2004:3).

Even though Dorsey’s work on Osage was essential for creating early support for documentation of the language, researchers today have to keep in mind that it was conducted at a time before linguistics had been formalized as a field and before there was continuity between the methods and conventions of Siouan language documentation. Carolyn Quintero cites that Dorsey’s work on Osage is “quite difficult to decipher and of unknown (to me) reliability” (2009:xii). Even though Dorsey is lauded as the trailblazer who conducted the majority of the first Dhegiha language documentation, some of his research is considered to be of speculative quality and questionable reliability today; his research should still be acknowledged for creating a solid foundation that all other Osage language documentation rests upon.

8.2 Francis La Flesche

Francis La Flesche was one of the first formally trained Native American anthropologists. He worked for the Bureau of American Ethnology of the Smithsonian Institution and coauthored thousands of pages on Native Americans, most with a focus on the Omahas and the Osages (Bailey and La Flesche 1995:11). In addition to his Omaha heritage, his close working relationship with anthropologists, like Alice Fletcher and James Owen
Dorsey, gave him the training and tools that allowed him to conduct some of the most extensive fieldwork with the Osages to date.

Bailey writes that after relocation and the seizure of their economic independence by government officials, many tribes experience the collapse of their economic, social, political and religious institutions (Bailey and La Flesche 1995:10). One possible result of this collapse is the introduction of the new peyote religion to the Osages at the beginning of the 20th century.

This new religion gained popularity rapidly and stipulated that followers abandon the sacred bundles and practices of the old religion. Within a decade the majority of Osage members adopted this new religion and quietly left their more traditional practices behind (Bailey and La Flesche 1995:5). Although it seems bizarre that such a culturally-rooted religion could become defunct and virtually replaced in a decade, Garrick A. Bailey in his introduction to The Osage and the Invisible World comments that “contrary to popular conceptions about American Indians, the traditional Osages were, and the contemporary Osages continue to be, strongly future oriented” (1995:6). This focus toward advancement and the future may be one of the contributing factors to this rapid religious and cultural shift in the early 20th century.

La Flesche arrived in Pawhuska, the center of Osage territory, in 1910 in order to document as many of the remaining ceremonies of the old Osage religion as possible before they became completely extinct. Bailey writes that “La Flesche had several advantages in his studies of the Osages. His native Omaha language was mutually intelligible with Osage, so he was able to discuss religious concepts with Osage religious leaders with total fluency in their own language” (1995:18). La Flesche’s primary goal was to observe and document these practices as accurately as possible and to representatively and comprehensively convey their importance and meaning to a non-native audience. To accomplish his goal he primarily focused
only on very elaborate and detailed descriptions of these traditional religious rituals. In the bulletin *War Ceremony and Peace Ceremony of the Osage Indians* that he published in The Bureau of American Ethnology in 1939 he offers extremely narrow and detailed accounts of over a dozen ritual ceremonies. Bailey succinctly states “La Flesche’s style of presentation rendered the data almost incomprehensible” (1995:4). In elaboration, anthropologist Alfred Kroeber writes “those Osages are…difficult to place. Thanks to La Flesche, we know several of their rituals in detail, but these give relatively few indications of the type of culture as a whole” (Bailey and La Flesche 1995:4). La Flesche’s narrow focus also applies to how he approached recording and documenting the Osage language.

In 1932 La Flesche published the first Osage dictionary. Similar to his other ethnographic descriptions of the Osage, the dictionary focused narrowly on ritual language and its translation into English. La Flesche’s aim was to provide a vehicle that would allow Osage to be accurately translated into English in a manner that positively reflected the complexities of the Osage language and traditional religious ceremonies. His intention can be seen in the dictionary when he writes “by a careful study of this dictionary the student or casual reader will find the same word has many meanings, which to the white man would be confusing” (La Flesche 1932:1). In *War Ceremony and Peace Ceremony of the Osage Indians* he also writes “as in many of the Osage songs, the meaning of the words and phrases employed are used figuratively and cannot be adequately translated into English” (1939:42). Put simply, La Flesche’s intention was not to create an accurate grammar and dictionary of Osage for the sake of preserving the language, but instead to create a text that could be used by the ‘white man’ to translate Osage into his own native tongue.
In the introduction to the original dictionary he conveys how his attention to language is framed in a ceremonial context, “while it has not been possible to give all the words known to the Osage, those of greatest importance have been given […]. Those taken from rituals are of great importance, as the rites among the Osages are still held sacred” (Bailey and La Flesche 1995:1-2). In many regards, La Flesche’s language documentation is only a vehicle to help document and preserve Osage tradition.

Even though La Flesche’s lasting work and documentation is hard to decipher and includes large gaps, it was still incredibly comprehensive for his time and provided some of the most extensive early work on the Osage language; “La Flesche’s studies of Osage religion constitute a unique, critically important, and irreplaceable record” (Bailey and La Flesche 1995:3). Even though Quintero writes that La Flesche’s work was “faulty in some important ways” (Quintero 2004:xi) she still acknowledges that his documentation and publications added to Dorsey’s first documentation and represents the next step in accurate documentation of the Osage language.

8.3 Hans Wolff

Hans Wolff was the first researcher to approach Osage from a purely linguistic perspective. In the 1950s he published three articles on Osage in *The International Journal of American Linguistics*. In 1952 he published his first article, titled *Osage I: Phonemes and Historical Phonology*, which offered a preliminary examination of certain phonetic and phonological features in Osage. He makes the distinction between how the use of different variations of the language divided the younger and older generation of speakers at this time. New Osage contains some modern words, like *car* or *truck*, and “other items of material culture recently introduced” (Wolff 1952a:63). Whereas, old Osage is defined by the fact that “only
the oldest speakers remember most of the ceremonial texts, and, along with them, a good deal of the more archaic lexicon” (Wolff 1952a:63). Some of these archaic lexical items that were used in ceremonial texts coincides with how La Flesche tried to preserve the important and traditional Osage terms used in religious ceremonies before they ceased to be practiced. In his introduction, Wolff alludes to the fact that these terms are indeed close to being lost, and a New Osage devoid certain traditional terminology, but full of new items, was emerging.

In this article, Wolff also identifies two styles of Osage that he labels Style I and Style II. He claims that Style I is categorized by (1) normal rapid tempo, (2) pauses between utterances and (3) absence of emphatic features. Conversely, Style II is categorized by (1) preaspirated or long stops, (2) long or overlong vowels, (3) slow deliberate temps (4) frequent pausation within utterances and (5) emphatic syllable division. In his schema he claims that Style I “constitutes normal conversational discourse” and that his entire phonetic and phonological analysis is done solely on Style I and excludes the variants that only appear in Style II (Wolff 1952a:63).

In the same year, Wolff published his second article titled Osage II: Morphology in which he focuses on demonstrating the basic morphological mechanisms found in Osage. Wolff published his last essay on Osage, An Osage Graphemic Experiment, in 1958. This essay deviated from his previous two essays because it focused on an (failed) Osage orthography that one of his informants, Robert Bighorse, created during their time together. Wolff writes that Bighorse had not used Osage in everyday conversation in over 30 years, so he had trouble remembering certain words. He found that if he wrote the target word down in English, he would soon remember the Osage equivalent. When he remembered the Osage word, he would write it down in a hybrid, English-based orthography that he had created. Unfortunately,
Bighorse died not long after he started working with Wolff, and left behind a trail of scribbled Osage vocabulary. In this essay Wolff presents and discusses this orthography, and particularly focuses on how Wolff utilized graphemes (the smallest written unit of a word, essentially an orthographic equivalent of a phoneme) in this system. Wolff concludes that this data rendered by Bighorse is flawed and unreliable in some ways because Bighorse was not trained in linguistics proper and relied too heavily on his knowledge of English; “the psychological reality of phonemes notwithstanding, it may be entirely impossible for a linguistically untrained person to render the phonemic system of his language in a systematic fashion, if his orthographic model is unsuitable” (Wolff 1958:35). This essay’s focus on how to properly document and interpret a Native American language is an argument that is still ongoing today, but also one I will not include in this thesis.

Even though Wolff published some of the first purely linguistic work on Osage, he is not often cited in contemporary work on the language. According to Carolyn Quintero, one reason Wolff is rarely cited is because he bases his whole phonological analysis on the assumption that Osage has two distinctive styles, and he only analyses Style I. He claims that geminate stops and long vowels are not phonemic, but instead are stylistic devices used in Style II, and thus does not include them in his analysis. Quintero writes “the truth is that these geminate or preaspirated stops and long vowels are lexically distinctive and certainly not merely a matter of style” and that he “chooses to regard Style I [...] as the norm in his discussion of Osage phonemics, and predicates his entire analysis on this error” (2004:82). Quintero refutes many of Wolff’s phonological claims, writing “the most reliable transcription of Osage from early days comes from Dorsey (1883a, 1883b, 1888), who recorded forms match those I have collected from speakers in the late twentieth century” (Quintero 2004:81). Even
though La Flesche and Wolff may have had more ‘modern’ training or experience, Quintero still claims that Dorsey’s transcriptions (i.e. the first transcriptions of Osage) are the most similar to her own data.

8.4 Robert Rankin

In the 1970s linguist Robert Rankin made some of the first recordings of many of the Dhegiha languages. Many of these languages were either on the brink of extinction or had speaker bases that were diminishing at an alarming and rapid rate. He traveled to most of these communities and did as many recordings as possible with the remaining speakers. Since many of the speakers were either elderly, skeptical or both, he had to create the majority of these recordings in informal locations.

In terms of Osage, he conducted the majority of his recordings with Myrtle Oberly Jones in 1978 and 1979. Even though in his recordings there are sounds in the background of cars starting, doors slamming, grandchildren chatting and neighbors visiting they are some of the best Osage documentation to date. Working in a foreign community with elderly or skeptical informants is extremely difficult, and Rankin documented Osage to the best of his abilities at this time. His notes and recordings are still some of the most comprehensive raw research conducted on the language. He also did consultant work with the tribe about Osage documentation and the possibility of creating a new orthography specifically for the Osage language (email to author, November 3, 2012).

At this time Robert Rankin focused primarily on gathering as much data and making as many recordings of these languages as possible, instead of analyzing all of this data along the way. This methodological choice means that some of his data and recordings have yet to be digitized or analyzed. Since Osage and Kaw are now dead, the data he gathered is invaluable
and of sufficient quality to still be analyzed today. In particular, Rankin’s recordings and notes have aided the last linguist to work with Osage speakers, Carolyn Quintero, with her efforts to document as much of the language as possible before the last speakers passed away (email to author, November 3, 2012).

8.5 Carolyn Quintero

Carolyn Quintero grew up in Osage County, Oklahoma near the remaining speakers of Osage. When she received her PhD from UMass in linguistics her research focused on European languages, but she soon started periodically returning to Osage territory to record Osage before it died. She was the last linguist to elicit the final remaining Osage speakers. She worked with the language for over forty years and, in addition to conducting innumerable elicitation sessions with the last speakers, she published the most comprehensive texts on Osage. In 2004 she published Osage Grammar and in 2009 Osage Dictionary. Unfortunately, she passed away soon after the dictionary was published.

Quintero writes “all examples cited here [in her grammar] were gathered either during the early 1980s in sporadic fieldwork which Robert Bristow[^13] and I carried out, or during the period form 1993 to 1996 and in 1999 when I worked more intensively with native speakers” (Quintero 2004:3). She estimates that in 1996 when she resumed her work on Osage there were approximately between five and ten living native speakers of Osage, but that number had dwindled by half by 1999 when she finished these elicitation sessions (Quintero 2004:3). One issue to keep in mind is what criteria she uses to define a speaker of the language. She writes “without extensive exploration, it is difficult to decide who is a speaker and who is a semispeaker, as the language has lapsed into disuse. Some elders profess to understand Osage,

[^13]: I have not found much information on Robert Bristow or his work on Osage, so I do not include him in this chronology.
but few claim to be able to speak it” (Quintero 2004:2). In her published works Quintero never defines what constitutes an individual as a speaker of Osage.14

The issue of age and misuse is a common trend that Quintero continually returns to in her texts. She mentions that there are inherent issues to working with a dying language that she had to accept and factor into her work. With a language like Osage that is so close to death, the speaker base usually consists of elderly individuals. Working with these speakers is hard because they have trouble remembering words and forms because of both their age and relative disuse of the language in their daily lives; “a study of language at this stage of obsolescence requires a combination of relentless pursuit plus a great deal of delicate handling and patience to sort through data whose form at utterance level can be distorted by misuse, or quite often not available at all in speaker’s memory” (Quintero 2004:4). She also writes that these speakers could not sit through long or rigorous elicitation sessions, and usually preferred environments that were familiar and comfortable, but not ideal for making audio recordings; “because all speakers were in fairly poor health and advanced in age, gathering of the data proceeded at a slow pace, the elders being at the time able or wiling to work only an hour or so per a day in most cases, and not every day of the week” (Quintero 2009:xi). These conditions were not conducive to meticulous data gathering of a complete corpus of Osage lexical items and forms or for making high quality recordings, but it was the only possible way for both Quintero and the Osages to document the last days of the language:

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14 During our interview Jared hints that some linguists think there is a possibility that some of the last speakers Quintero worked with are not complete native speakers of Osage and that the Robert Rankin actually worked with the last true speakers of the language in the 1970s (Jared, interview with author, February 4, 2013). Even though there is no definitive proof of when the last true native speakers of Osage passed away, it is helpful to keep this debate in mind when discussing analyses of Osage derived from recordings made post 1980.
The task of gathering or checking language data for the Osage language was an arduous one for both speaker and researcher, requiring hundreds of hours of to confirm even a relatively moderate corpus. The few remaining speakers during data collection for this volume were elderly, some were in ill health, and none used the language in day-to-day life. When two speakers met, English was used; this had been the case for a number of years […] Of course, depending on the nature of the words or phrases, ease of recall varied widely, from immediate and certain to tentative or impossible […] Work proceeded in a fashion remarkably different from what might be expected by linguists who have worked with a language that is in use by even a few active speakers. The speakers themselves often struggled against frustration and a sense of tragedy that the language was nearly gone. [Quintero 20004:3-4]

Quintero also writes that she did all of her analysis on her data she gathered before she consulted historical sources from Dorsey or La Flesche. She claims that part of the reason she did not focus on older texts was that she did not yet know the language well enough to understand them, and that they were either faulty and inaccurate (La Flesche) or that the data was presented in a way that was hard to decipher (Dorsey) (Quintero 2009:xi). Like Robert Rankin, she realized that it was imperative to gather as much data on Osage before it died, and conduct analysis after, because “the most important reason to delay work with the La Flesche and Dorsey materials was that Osage speakers were growing fewer each year, and their memories fading; thus the task of making as many audio recordings as possible as soon as possible was imperative. It seemed crucial to gather forms from actual speakers before resorting to historical records” (Quintero 20009:xi). Even by focusing solely on her own recorded materials, she also was not able to provide a complete phonetic or phonological sketch of Osage. She openly admits that she never conducted any phonetic analysis and that, because of this fact, her analysis of Osage vowels could be inaccurate in some cases.
8.6 Tying It All Together

An examination of the history of language documentation in chronological order illustrates not only the changing approaches and mentalities of the documenters, but also the progression of how linguistic documentation practices have become more refined and standardized in the last 150 years. In Section 8.5 Quintero discusses that she chose to base most of her Osage analysis on her own recordings because the documentation and data from her predecessors Dorsey, La Flesche and Wolff were inaccurate and unreliable. In a review of her Osage Grammar Blair A. Rudes writes the work of these early documenters are:

Particularly important because they provide information about the language from times when it was still in daily use by numbers of speakers, many of whom were monolingual. Such information is often useful for “explaining” anomalies in grammatical patterning among speakers in the late twentieth century. [Rudes 2005: 354]

Rude’s inclusion of the importance of the work of these early documenters in his review suggests that their research is still valuable today, particularly because the existing recordings of Osage could exhibit anomalies and language changes the last speakers of Osage that Quintero worked with developed for various reasons. These anomalies can be either characteristic of an individual’s speaking style, could represent language attrition, the general erosion of linguistic forms caused by language disuse or memory failure in elderly informants. Whether this is the case or not, it is just as essential to explore new ways in which Osage can be analyzed as it is to examine ways in which it was examined in the past.

8.7 Bridging The Gap Between Anthropology and Linguistics

Even though Quintero’s documentation of Osage created a wonderful foundation that allowed her to create a dictionary and grammar of the language, it is necessary to continue work on the language and build off of her analysis. In her Grammar Quintero discusses how
the fact that she did not conduct phonetic analysis on Osage could account for some inconsistencies and discrepancies in her presentation of the language. Acoustic phonetic analysis allows linguists to visibly discern and analyze characteristics of sounds. In order to do this, researchers upload recordings of words into a program called Praat, which creates a sort of linguistic topographical map of the spoken sounds. This map is called a ‘spectrogram’ and shows basic sound characteristics, such as manner and place of articulation for consonants, and height and backness for vowels, as well as more complex characteristics such as aspiration, dentalization, nasalization, sound duration, etc. Essentially, phonetic analysis allows you to use your second sense of sight to determine what sounds are present in a language, as well as analyze the specific characteristics and variations of these sounds. On the topic of the use of phonetic analysis in endangered language efforts, in their article *Phonetics of Endangered Languages* D.H. Whalen, Christian T. DiCanio and Patricia A. Shaw write:

> Language documentation efforts have been on the upswing in recent years, but phonetic studies have not been as obviously useful as the collection of texts and the making of dictionaries. As more communities try to revive their languages from documentary sources, it is becoming increasingly clear that phonetic documentation can contribute in valuable ways to describing the pronunciation of the ancestral language [2011: 36].

Having the ability to discover what sounds appear in a language is not only important in determining phonological rules and discovering differences and similarities with other languages, but can also be important in an applied setting of language revival and education. Even though there are no living native speakers of Osage, their voices live on in the recordings of Robert Rankin and Carolyn Quintero. These recordings were recorded between 15 and 40 years ago, but some of them are still of sufficient quality to be phonetically analyzed. A phonetic analysis of Osage will not only aid in proving or disproving Quintero’s sketch of the
sounds present in the language, but will also be useful teaching the language in a classroom setting.

Knowing what sounds appear in a language is important because if you plan on teaching (or reviving) a language it is necessary that the person teaching or learning the language be able to replicate these sounds. Teachers of dead languages gain their knowledge of language sounds by listening to the remaining recordings of native speakers. They then try to do their best to replicate these sounds and teach them to their students. Since these teachers are not native speakers themselves, they may think they hear themselves pronouncing a target sound correctly, but in actuality they may not know if they are remaining true to the original pronunciation. Through instruction, they then unknowingly pass an incorrect variation of the sound to the next generation of learners. This is a reason why having the ability to not only know the exact parameters and characteristics of each sound in a language, but being able to test and measure your own perceptions and pronunciations against it, is crucial to passing on and reviving a language in the most genuine way possible.

In the next section I further explore the topic of phonetic analysis by discussing my own preliminary acoustic phonetic analysis of Osage vowels and comparing the results to Quintero’s analysis of vowels in her *Grammar*. When analyzing a language, the first step is to examine vowels, and in particular what space of articulation in the mouth defines each vowel. Vowels are the most sonorant sounds (i.e. require the most voicing and movement through the vocal tract) and carry a high frequency that is easily visible on spectrograms and are also the most common sounds in any language. In an analysis of vowels, it is practical to start by mapping the range of pronunciation, or ‘vowel space’, that each vowel in the language occupies in your mouth, and then test other phenomena such as vowel length and nasalization.
In this analysis I discuss how I acquired the corpus of Osage recordings I use in my analysis, provide a preliminary examination of Osage vowels from this corpus, and compare it to the presentation of vowels in *Osage Grammar*. My hope is that this analysis will not only provide sketch of Osage vowels, but will act as a building block for either myself or other linguists to conduct a) more phonetic work with Osage and b) construct comparative projects with Kaw and other Dhegiha languages. I also hope eventually the ONLD can use this phonetic analysis of vowels in applied settings within their language instruction, classes and programs.

9. Existing Analysis of Osage Vowels

Carolyn Quintero, a linguist who worked on Osage, based her analysis of Osage on the data she personally gathered before she resorted to historical sources from Dorsey or La Flesche. She writes that part of the reason she did not focus on older texts was that she did not yet know the language well enough to understand them, and that they were either faulty and inaccurate (La Flesche) or that the data was presented in a way that was hard to decipher (Dorsey) (Quintero 2009:xi). Like Robert Rankin, she realized that it was imperative to gather as much data on Osage as possible before it died and that spending time analyzing historical texts from Dorsey or La Flesche would use precious time that could be better spent working with the few remaining speakers: “Osage speakers were growing few each year, and their memories fading; thus the task of making as many audio recordings as possible as soon as possible was imperative” (Quintero:xi). She additionally writes that, “the earlier work has been refined for inclusion here, as important phonetic and phonological detail has been overlooked” (Quintero 2004:3). Due to time constraints and other factors, she was not able to provide a complete phonetic or phonological sketch of Osage. She writes that she never conducted any
phonetic analysis on Osage, and therefore her analysis of some phonetic properties of Osage is inconclusive in some cases.

9.1 Siouan Orthography

Carolyn Quintero does not use the standard-IPA notation in her grammar and dictionary, writing that they employ “a version of the International Phonetic Alphabet (IPA) that has been adapted and widely used for Siouan languages” (2004:xv). She also writes that this Siouan system is easier to understand than IPA for non-linguists trying to learn the language. Another reason she chose this system is that it forms a link with other Siouan languages that use a similar notational system, “Osage language learners who accomplish the simple feat of learning the few special symbols in this alphabet will also find that much information from related languages becomes more accessible, and this in the long term can potentially add to the linguistic patrimony of Osage itself” (2004:xv). This system of transcription is not only intended to help Osage language learners transition to a new writing system, but also easily access Siouan languages that use similar notational systems. Even though the Kaw Language Department uses a transcription system similar to that of Osage, it chose to utilize different diacritics. For example, Kaw uses a superscript symbol [a^n] to denote nasalization on a low back vowel, whereas Quintero uses the subscripted [g]. Glottalized stops in Kaw are represented by an apostrophe [k’], while Quintero uses the IPA glottal stop symbol [kʔ].

9.2 Consonants

The Siouan orthography Quintero uses to represent Osage consonants in her Osage Grammar is listed in Table 1 (2004).
In the Osage dictionary Quintero published in 2009 she added an optional glottal stop /ʔ/ and notes that /r/ can only appear in br (xviii).

9.3 Vowels

Quintero also compares the Osage vowel inventory to those of other Siouan languages, and writes that Osage has a system of five oral vowels (a, e, i, o, u) and three nasal vowels (ɨ, ø, and ə) (2004:4). These vowels typically occur in Siouan languages and are shown in Figure 2.

Figure 2. Osage oral vowels organized by vowel height, backness and roundness
Quintero’s research shows that these five oral vowels exist in Osage, but she never conducted a phonetic analysis to prove, or expand upon, these results. She writes that in Osage “phonetically, [u] is routinely rendered [ü] (IPA [y]), with greater or lesser degrees of fronting and unrounding, so that sometimes [ü] is nearer to [i] and sometimes nearer to [u]” (2004:38). The vowel tends to front to IPA [y] when it follows the voiceless velar plosive [k]. In some instances the vowel became so front that Quintero heard it as the high front unrounded vowel [i]. This degree of fronting means that (whether the vowel is long or short) many forms are correct with either the vowel [u] or [i] (2004: xv). Despite this, the fact that minimal pairs between [i] and [u] exist, like xúða ‘eagle’ and xíða ‘stumble’, demonstrates that [u] and [i] are two distinct vowels (2004: 38).

The three nasal vowels in Osage are the high front nasalized [i], the low back nasalized [o], and mid-back rounded [o], shown in Figure 2. Like the oral vowels, these nasal vowels can be both short and long, and occur in both accented and unaccented syllables. Nasal vowels contrast with their oral counterparts, as shown by minimal pairs hápa ‘corn’ vs. hápa ‘day’ and híi ‘tooth’ vs. hií ‘hair’, and the near minimal pair óhoo ‘bark’ vs. óoho ‘cook’ (2004:39). Some minimal pairs exist that illustrate a contrast between long and short nasal vowels such as náye ‘ice’ vs. náaye ‘spirit.’ This contrast between long and short nasal vowels can also occur after a nasal consonant, as demonstrated by the minimal pair mijj ‘sun’ vs. mj ‘blanket; something one wears’ (2004:39-40).

Nasal vowels in Osage can exhibit nasal spreading and nasal transfer. Both nasal spreading and nasal transfer occurs when a nasal vowel causes an adjacent underlyingly oral vowel to become nasalized. When nasal transfer occurs the nasality of the originally nasal vowel transfers to that of an adjacent oral vowel, and the originally nasal vowel becomes oral.
In nasal spreading the nasality of the originally nasal vowel remains, and the adjacent vowel becomes nasal in order to create vowel harmony (2004:39). This nasal spread or transfer can cross morpheme boundaries and move rightward (progressive) or leftward (regressive). Table 1 shows these processes of progressive and regressive nasal transfer and spreading, as well as the loss of nasality.

<table>
<thead>
<tr>
<th>Nasal spread and transfer in Osage</th>
</tr>
</thead>
<tbody>
<tr>
<td>transfer</td>
</tr>
<tr>
<td>progressive wošį → wošį</td>
</tr>
<tr>
<td>regressive wošį → wošį</td>
</tr>
<tr>
<td>spread</td>
</tr>
<tr>
<td>progressive wošį → wošį</td>
</tr>
<tr>
<td>regressive wošį → wošį</td>
</tr>
<tr>
<td>loss</td>
</tr>
<tr>
<td>wošį → wošį</td>
</tr>
</tbody>
</table>

Table 1. Nasal transfer and spreading on made up Osage word

Table 1 also shows that nasal loss can occur in Osage where nasalized vowels lose their nasality and become oral. Robert Rankin writes that only obstruents can sometimes block nasal in Kaw, and Quintero reasons that the same could be true in Osage. (2004:40)

It is difficult to analyze nasality in Osage because the processes that determine nasalization of vowels are irregular and not obligatory. Quintero writes that:

Nasality-affecting processes, though sporadic and optional, are nonetheless quite productive and do not seem at all like slips of the tongue by one or two individuals. This phenomenon complicates considerably the task of the linguist or learner when trying to determine precisely which are the true underlying vowels in certain forms. The best available tool for these cases is comparison with related languages where the data is clearer than it is in Osage at this time (2004:40).

It is extremely hard to predict when nasality will occur in Osage, let alone examine what process is taking place, because the occurrence of nasality is both sporadic and optional.
Another factor that makes predicting nasality more difficult is that speakers tend to exhibit nasality differently on the recordings available. Even though the processes of nasality are not fully understandable in Osage, there exists a phonemic contrast between nasal and oral vowels. It is imperative to examine how this contrast is realized phonetically. In my analysis I examine how nasality surfaces phonetically in Osage and discuss its descriptive characteristics, but I do not address its phonological processes.

9.4 Vowel Length

In reference to the occurrence of long vowels in Osage, Quintero writes, “one fairly intractable issue in the data is long vowels” (2004:37). She has chosen to designate a long vowel by writing the vowel twice in her transcriptions (i.e. ee), which is a common convention. Long vowels are not always differentiated from short vowels orthographically, which is true of many orthographies. Many other Siouan languages—including the other Dhegiha languages, such as Kansa (Kaw), Quapaw, and most likely Omaha-Ponca—may have long vowels (2004:37). Historically, many documenters of Dhegihan languages did not differentiate between long and short vowels in their transcriptions. This oversight makes analyzing vowel length hard with older research that did not rely on recorded elicitation sessions. Robert Rankin is currently revisiting the transcriptions used to create the Kaw dictionary and correcting the discrepancy in vowel length.

Long vowels in Osage can be unstressed or stressed. When long vowels occur in unstressed syllables they can undergo shortening. Spontaneous lengthening of long vowels can also occur at utterance level (Quintero 2004:4). It can also be difficult to differentiate length from stress. An analysis of stress in Osage has not yet been undertaken, and “exact rules for accent are difficult in these languages, whose history has obscured many of the processes that
affect surface accent patterns” (Quintero 2004:68). Researchers of related languages are beginning to find that they may ultimately have pitch accent systems; a future analysis of Osage might prove that it has a similar pitch accent system that makes differentiating vowel length easier (Quintero 2004:68).

One particular reason determining vowel length in Osage is hard is because of external factors such as “alternations in normal patterns brought about by language disuse” (Quintero 2004:38), can influence when informants used long versus short vowels. In an attempt to overcome this difficulty, Quintero consulted the only published work on vowel length distinction in a related language, Miner’s (1992) lexicon of Winnebago, and consulted Siouan colleagues working on similar projects (Quintero 2004:38).

At this time, “no distinctions in distribution or in applicability of phonological rules have been found between long and short vowels” (2004:38) in Osage. In the texts on Osage I reference in this analysis, all statements about the cooccurrence of long and short vowels, or about any phonological rules involving vowels, apply to long and short vowels equally (2004:38). Even though vowel length in Osage is not a determining factor in the occurrence of long or short vowels, and all applicable phonological rules apply to both long and short vowels equally, it is still important to examine what phonetically distinguishes a long vowel from a short vowel in the language.

10. Reexamining Existing Work

My search for more accessible recordings of Osage repeatedly yielded the same result that either Robert Rankin or Carolyn Quintero created the only accessible recordings of Osage. The majority of Quintero’s recordings have been given to the Same Noble Museum at the
University of Oklahoma to be digitized. The museum is currently in the process of digitizing the cassette tapes, but they should theoretically be available in some capacity after this process is complete. The Osage Language Department has been told that no one is able to access the recordings until the entire collection has been digitized. Daniel Altshuler, who worked with Carolyn Quintero on Osage before she passed away, gave me two recordings (Tape 52 and Tape 150) that are publically accessible.

When I visited the Osage language department in July 2012, a member of the department gave me 21 cassette tapes of recordings that Robert Rankin made in the 1970s. He said that a language department employee was in the process of digitizing them, but quit halfway through the process and took the digitized files with him when he left. He digitized these copies directly into MP3 format, and my informant at the language department would rather conduct phonetic analysis on the tapes if they were digitized into WAV formant. Right now the tribe does not have the technology or knowledge to digitize them, so he gave them to me with the stipulation that I digitize them into WAV format. I did this in July 2012 and sent CDs of the digitized files back to the language department along with the original cassettes. Some of these recordings are better quality than Tapes 52 and 150, and in November 2012, I received verbal permission from my informant at the language department to use them in my research.

In this analysis I only analyze tokens from Tape 52 and Tape 150. Margaret Red Iron Eagle is the informant on Tape 52, which consists of long sentences and mostly conversational content, but has a lot of background noise and static. The informant on Tape 150 is Myrtle Oberly Jones, and the recording primarily consists of word lists and simple sentences. Most of Tape 150 is clear and has minimal background noise compared to some of the tapes I digitized.
this summer, but still has lower audio quality in comparison to recordings made today.

Although the majority of the words in both tapes are audible, some of them have too much background noise and are unusable in Praat (Boersma and Weenink 2012) for acoustic phonetic analysis. Some tokens that are usable still have unclear formants and obscured visible characteristics for some sounds, such as liquids and approximants.

Another potential area for error in these recordings is that a large part of Tape 150 is in list format. When an informant is asked to repeat a list of words (as opposed to a complete utterance) they can unconsciously change their articulation and intonation; this phenomenon is referred to as “list intonation.” Although in this case the list format tends to generate clear tokens, it might also alter the pronunciation or intonation pattern of the speakers (Bowern 2008:69). A third potential source of error is an obsolescence effect caused by the fact that both informants were in their 80s during these interviews and did not use Osage in daily life. Sometimes they are unsure of the proper word or how to pronounce a word they can recall. They may say the target word five times, but with a slightly different pronunciation each time, and then realize that they do not actually know how it is pronounced. This variation in pronunciation could be the result of natural variation or be an effect of language attrition.

Daniel Altshuler also gave me Quintero’s transcriptions of Tape 52 and Tape 150. These transcriptions are helpful because they convey the lexical forms and phonemes Quintero heard, and then transcribed, in these elicitation sessions. However, they can be hard to understand and decipher. In a comment about Quintero’s dictionary, Robert Rankin writes (p.c.) that “her [Quintero] original computer file used a non-standard font that contained all the symbols she needed.” It is unclear whether this “non-standard” font was either not Unicode-compliant or whether it cannot be currently downloaded.
Regardless of the reason why the font Quintero used is non-standard, certain symbols did not retain their formatting when she saved her transcriptions into PDF format. In these transcriptions the formatting of some symbols either disappeared or were reformatted into non-linguistic symbols. I have crosschecked her dictionary and grammar, and found the linguistic orthographic counterparts of these symbols, but some still puzzle me. However, the only symbols necessary for my analysis are the nasalized vowels, which were the easiest to crosscheck with Quintero’s dictionary. My proposed equivalents for the reformatted symbols appear in Table 2

<table>
<thead>
<tr>
<th>PDF Symbol</th>
<th>Osage Counterpart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø</td>
<td>?</td>
</tr>
<tr>
<td>!</td>
<td>ð</td>
</tr>
<tr>
<td>ô</td>
<td>Ń</td>
</tr>
<tr>
<td>ê</td>
<td>Ż</td>
</tr>
<tr>
<td>ç</td>
<td>Š</td>
</tr>
<tr>
<td>à</td>
<td>ř</td>
</tr>
<tr>
<td>ô</td>
<td>Ō</td>
</tr>
<tr>
<td>î</td>
<td>Ĩ</td>
</tr>
<tr>
<td>û</td>
<td>Ų</td>
</tr>
<tr>
<td>ä</td>
<td>Ç (?)</td>
</tr>
</tbody>
</table>

Table 2. Quintero’s transcription diacritics

Robert Rankin converted the digital version of the dictionary to RTF format and a Times New Roman Unicode font. This conversion means that it is easy and reliable to search the dictionary, but certain words in the transcriptions incorporate symbols that do not appear in the dictionary.

In Quintero’s transcriptions there can be question marks that appear next to words, several different versions of a word, or comments about the elicitation session. This uncertainty provides information about the elicitation sessions and ambiguities or irregularities in informant
pronunciation, but it also makes deciding what the final transcription is and/or should be (especially for verbal forms) hard. Instances like this necessitated judgment calls on my part. To my knowledge, no transcriptions of the 21 cassette tapes I digitized are accessible. The lack of original transcriptions makes analyzing the tapes, especially those that are not in list format, much harder and extremely time consuming. Even though in this analysis I only incorporate data from Tape 52 and Tape 150, I do intend to use Robert Rankin’s recordings in my future work on Osage.

Although the actual transcriptions do not matter for phonetic analysis in the abstract—all you need is a recording and working-knowledge of Praat to find what vowels occur in a given language—they do impact an analysis that compares existing perceptions of Osage vowels present in published work with how those vowels are actually realized phonetically. In my analysis I not only demonstrate vowel qualities in Osage, but am also comparing my findings to Quintero’s published work on these vowels.

10.1 Acoustic Analysis of Oral Vowels

I started my analysis by referring to Quintero’s transcriptions of Tapes 52 and 150 in order to create spreadsheets that organize each vowel by surrounding environment. I reduced these tapes to smaller sound files for each token and then acoustically analyzed each one in Praat. For each token I assessed whether the audio quality is reliable, and measured the vowel duration and its first four formant values (F1-F4). I labeled a token “unusable” when there was elevated background noise, when formants were not clear or when the speaker muttered.

Once I had finished examining my entire corpus of reliable tokens, and discarding the unreliable ones, I created a scatter plot that illustrates the placement in the vowel space of every reliable token I measured. My results are shown in Figure 3. To map this vowel space I
plotted each token individually, as well as the average measurement for each vowel (indicated by the large black dots).

Figure 3. Vowel space of five oral vowels /a i o u e/

Figure 3 shows that five distinct vowels exist in Osage. The vertical y-axis represents the measurements of the first formant (F1) in Hertz, which corresponds to vowel height. The x-axis represents the measurements of the second formant (F2) in Hertz, which corresponds roughly to vowel backness. For example, the cluster of blue triangles has the highest F2 vowels and lowest F1 values, indicating that /i/ is the highest most front vowel in Osage.

The distinct cluster of points for each of the five vowels indicates the general vowel space that the vowel occupies. The large black dots represent the location of the total average F1 and F2 of each vowel. The general position and relationship of these dots to each other
mimic that of the five known vowels that exist in Osage, shown in Figure 2. The clusters for each vowel are not identically sized or shaped, and in some cases the points of one vowel actually spread into the space that published material on Osage marks as being occupied by another vowel. These outlier points could also represent a disconnect between the vowel that was transcribed and the vowel that was heard, or simply account for normal variation in the pronunciation. There is a certain amount of normal random variation in pronunciation between speakers of every language, and this variation probably accounts for the vowel overlap seen in Figure 3. I remeasured all the outlier data points that fell far away from the general space for each vowel. I incorporated some of these updated measurements into my data, and removed those that I decided were unreliable and unrepresentative. The only outlier points that remain in the scatter plot are the ones that passed my second examination and are of acceptable audio quality.

The question of how these outlier points that fall outside the dense center of a vowel cluster can influence the perception of vowel spaces segues into the question of whether the average (mean) measurements of F1 and F2 of each vowel are accurately representative of the entire data set. Not only the points that I discussed above, but also points that fall outside the general cluster for each value, could cumulatively be far enough away from the central density of the cluster to negatively influence the total average for each vowel. An examination of the standard error of the mean shows whether the average for each vowel is accurately representative of all the points that Quintero transcribes as representing that space. Table 3 demonstrates the average height and backness of each vowel, the standard error of the mean (SE) for both F1 and F2, as well as the number of tokens plotted for each vowel.
Average vowel space, standard error and number of tokens

<table>
<thead>
<tr>
<th></th>
<th>F1 SE</th>
<th>F2 (SE)</th>
<th># of tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>408 ±4</td>
<td>2488 ±27</td>
<td>118</td>
</tr>
<tr>
<td>e</td>
<td>544 ±4</td>
<td>2886 ±24</td>
<td>108</td>
</tr>
<tr>
<td>a</td>
<td>668 ±4</td>
<td>1320 ±11</td>
<td>168</td>
</tr>
<tr>
<td>o</td>
<td>486 ±6</td>
<td>931 ±21</td>
<td>102</td>
</tr>
<tr>
<td>u</td>
<td>414 (±4)</td>
<td>1435 (±34)</td>
<td>47</td>
</tr>
</tbody>
</table>

Table 3. Average vowel space

The SE for each vowel is very small and demonstrates that the total average for all five vowels is reliably representative of how much vowel space each vowel occupies. Figure 4 is the average vowel space seen in Figure 3 translated into a more traditional form:

![Figure 4. Average vowel space](image)

As discussed in Section 9.3, in Osage the vowel /u/ can front to occupy the vowel space of both a rounded back vowel and a rounded mid-vowel. Examining Figure 3 shows that /u/ appears as far back as 1100 Hz and as front as 2200 Hz, with a vowel space that is stretched horizontally. The SE ±34 for the backness of /u/ (F2) is the largest SE of any vowel. The SE of the backness of /i/ is the next largest ±27. The vowel space of /i/ overlaps with that of /u/ between 1700 Hz and 2300 Hz. The possible proximity of these two vowels supports the existing research on Osage which states that /u/ fronts to become a central and front vowel to
the degree that it overlaps with /i/. This finding is further supported when Quintero writes that /i/ and extremely front cases of /u/ are interchangeable in her data (2004: xv). Although other vowels overlap to some degree, these overlaps typically occur in the center of the vowel space together, opposed to the isolated separation of the overlap of /u/ and /i/ that occurs very high in the vowel space. Another possible reason is that the vowel /u/ has the lowest frequency of occurrence of any oral vowel in Osage and some vowels in any inventory will always have a lower frequency.

My phonetic analysis of oral vowels in Osage shows that the proposed five oral vowels /i e a o u/ are present in the language. My spectrogram analysis examines the vowel space that each of these five vowels occupies. Even though the recordings I used were not made recently, I was still able to explore a basic schema to find the general, and average, vowel space of each vowel, as well as prove that these averages are statistically significant. This examination also confirmed that /u/ can be very front in Osage. In order to provide a sounder explanation for this phenomenon, I will need analyze more recordings of Osage and find more tokens of /u/ in particular, but also of all the other oral vowels.

10.2 Phonetic Analysis of Nasalized Vowels

In this section I discuss the phonetic characteristics of nasality in Osage. I address whether the three nasal vowels /ɑ, ñ, ñ/ occur in the language, and how their phonetic characteristics compare to those of their non-nasalized counterparts. I then examine the possible existence of a short semi-nasal consonant that occurs between a nasalized vowel and a following voiceless plosive.
10.2.1 Nasal vs. Oral vowels

Sometimes it is hard to hear nasalization in a language, but nasality can be identified via spectrogram analysis. Ladefoged and Johnson (2011) write that the primary way to distinguish between an oral vowel and its nasalized counterpart on a spectrogram is to examine the first formant and the anti-formants. F1 is less defined and has less amplitude in nasalized vowels. On spectrograms of nasalized vowels, a blurred region appears below F1. Also, when a vowel is nasalized the anti-formants are the more visible white regions that occur between two formants than those that appear with their non-nasalized counterparts (Ladefoged and Johnson 2011:150-151, 157-160). Figures 5-10 are spectrograms of each nasalized vowel and their oral counterparts that illustrate the differences between both types of vowels.

Figure 5 illustrates the low back vowel /a/ in the word *wapáče hta* ‘I’m going to sew’ (Tape 150 5:41 Myrtle Oberly Jones) that Quintero transcribes as an oral vowel. Figure 6 illustrates its nasalized counterpart /ø/ that appears in the word *kaazapi* ‘a bawling out’ (Tape 150 6:40 Myrtle Oberly Jones).

![Figure 5](image1.png)

![Figure 6](image2.png)

In Figure 6 the F1 (lower green arrow on the right) of the nasalized vowel /ø/ is more blurred than that of its oral counterpart in Figure 5 (lower green arrow on the right). The anti-formants (yellow arrow on left) are more pronounced in the spectrogram of the nasalized...
vowel. Ideally, these contrasts would be more apparent, but their subtle characteristics are often obscured on both the spectrogram and the waveform. It was difficult to find acceptable and apparent tokens that visibly demonstrate all nasalized vowels.

Figure 7 shows the spectrogram of the high back oral vowel /o/ that appears in tóoceha ‘glutton’ (Tape 150 8:24 Myrtle Oberly Jones) and Figure 8 shows its nasalized counterpart that appears in hopa ‘day’ (Tape 52 0:36 Margaret Red Iron Eagle).

As seen with /a/ and /o/ above, the F1 of Figure /q/ has less amplitude than its oral counterpart (green arrow on right). In addition, the light anti-formants of nasalized /q/ are more visible and defined between F2 and F3, as well as between F3 and F4 (yellow arrows on left).

Figures 9 and 10 depict the contrast between the third oral vowel /i/ that appears in the word àkîpšè ‘comb my hair’ (Tape 150 6:10 Myrtle Oberly Jones) and its nasal counterpart that occurs in oðjíke ‘take; grasp’ (Tape 150 15:27 Myrtle Oberly Jones). The nasalized vowel also has less amplitude with a blurred F1 (green arrow on right) and visible anti-formants (yellow arrows on left).
The examples above illustrate that the three nasal vowels /ɑ̃, ɨ, ŋ/ occur in Osage and—if not phonologically—are phonetically distinct from their oral counterparts. Even though the distinctions between nasalized and oral vowels in these spectrograms can be difficult to see visually, the nasalization is very audible on the recordings.

10.2.2 Existence of a Semi-Nasal

In the previous section, I examined whether nasalized vowels occur in Osage by doing spectrogram analysis and comparison with their non-nasalized vowel counterparts. In this section, I demonstrate that vowel nasalization in Osage triggers the insertion of a semi-nasal that is half the duration of typical nasal consonant after the nasalized vowel. In this analysis, I examine spectrograms and waveforms of nasalized vowels, measure the length of duration of the following semi-nasal, and compare it to duration of nasal consonants that follow the non-nasalized oral vowels /ɑ̃, ɨ, ŋ/.

10.2.3 Nasal consonant following nasalized vowels

It is best to analyze a vowel when it occurs in between two voiceless plosives. The primary advantage of analyzing a vowel in this environment is that the articulation of a voiceless plosive involves a cessation of voicing. This phenomenon creates distinct visual barriers on either side of the vowel on the spectrogram. Formants can still shift slightly and cause some visual bleeding to occur and be visible on the spectrogram (Ladefoged and Johnson...
2010: 57, 64 and 199-200). However, the best tokens I could find in my corpus involved a vowel that was only followed, and not preceded by, a voiceless plosive and I could not find many tokens where vowels appeared two voiceless plosives. Since my analysis focused on analyzing nasality at the end of vowels, I decided to incorporate these tokens into my measurements. Figures 11-13 demonstrate one example of each nasalized vowel that is followed by a voiceless plosive. I would have also liked to examine vowels that occur before voiced plosives, but the only voiced plosive in Osage is the voiced bilabial /b/, which always followed by the approximant /r/ as seen in ḏābři ‘three’ (Tape 150, 21.16 Myrtle Oberly Jones). I do not include /br/ in my analysis of nasalization because it is a fairly uncommon sound in the language and I do not have sufficient tokens where it follows a nasalized vowel.

Figures 11-13 demonstrate the spectrogram and waveform of a token of each of the three nasalized vowels that is followed by a voiceless plosive.

Figure 11. kaazapi ‘a bawling out’
In each of the spectrograms in Figures 11-13, the nasalized vowel is followed by continued voicing. The yellow circle on each waveform indicates this region of voicing. Ideally, when any type of vowel is followed by a voiceless plosive the voicing will end promptly and abruptly when the speaker transitions from the vowel to the voiceless plosive. This cessation of voicing should appear like a sharp and distinct end of the voicing pattern on the waveform, followed by a flat line to show the lack of voicing before the release of the
plosive (Ladefoged and Johnson 2010:57-64). However, on each waveform in Figures 11-13 the voicing does not end with the transition to the voiceless plosive, but continues in the form of a waveform pattern with a different periodicity. This second stream of voicing is much shorter and has less amplitude than the vowel voicing. When this second period of voicing ends the periodicity of the waveform becomes extremely low between when the vowel voicing ceases and the voiceless plosive begins. This phenomenon is particularly visible in Figure 12 where this period of second voicelessness is distinctly different than that of the preceding nasalized vowel. The nearly flat line after this voicelessness also demonstrates that this apparent continued voicing is not background noise. The background noise for examples of /o/ and /i/ is much higher, but the difference between the period of voicelessness before the articulation of the plosive has significantly less amplitude than that of the second period of voicing that follows the nasalized vowel.

This continuation of voicing after the nasalized vowels is also apparent in the spectrograms of Figures 11-13. These spectrograms have varying audio quality, but all three show that voicing continues after the vowel finishes. The distinct formants of the vowel end at the same time that the voicing pattern on the waveform decreases. However, the formants do not stop when the vowel ends, but rather have less amplitude and become fainter. The higher the formants, the more blurred they become. The anti-formants also become more distinct, and the overall amplitude of the segment decreases. All of the characteristics mentioned above are indicative of a nasal consonant. The continuation of voicing at less amplitude with more visible anti-formants suggests that this continuation of voicing after a nasal vowel could actually be the articulation of some kind of nasal consonant, such as [n] or [m] or even a nasalized glide like...
[\tilde{w}]. However, I do not have sufficient information to determine what the precise nature of this nasal consonant is, and if it is even consistent across examples.

### 10.3.4 Quantifying nasality

After identifying that a nasal consonant can occur after a nasalized vowel in Osage, I examine how this nasal differs from typical nasal consonants in the language. In order to do this, I first took the average duration of the nasal that appeared after a nasalized vowel and before a voiceless plosive. I will refer to this nasal sound as “N”. Table 4 illustrates the results of these measurements.

<table>
<thead>
<tr>
<th>Average length of N</th>
<th>length of nasal (ms)</th>
<th>SE</th>
<th># of tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>after ə only</td>
<td>62</td>
<td>±5</td>
<td>7</td>
</tr>
<tr>
<td>after ɪ only</td>
<td>55</td>
<td>±5</td>
<td>13</td>
</tr>
<tr>
<td>after  öld only</td>
<td>62</td>
<td>±5</td>
<td>11</td>
</tr>
<tr>
<td>after any nasal vowel</td>
<td>59</td>
<td>±5</td>
<td>31</td>
</tr>
</tbody>
</table>

**Table 4.** Length of nasal consonant after nasalized vowels

Table 4 shows that average length in milliseconds of the following nasal for each individual vowel, as well as the SE and number of tokens for each environment in which it occurs. It also shows the average length for all of the nasal consonants, regardless of environment. The low SEs and the relative proximity of each average demonstrate that the total average is representative across all tokens and that all three of these sounds could potentially all be the same nasal consonant.

After finding the average duration of the nasal consonant following nasalized vowels, it is important to compare it to what Quintero transcribes as the nasal consonants /m/ and /n/.
Comparing the averages will show whether the nasal sound following nasalized vowels is comparable to either of these nasal consonants in Osage. Table 5 shows the average duration in milliseconds of the nasal consonants /m/ and /n/ when they are preceded by the oral vowels /o, i, a/.

<table>
<thead>
<tr>
<th>vowel/environment</th>
<th>length (ms)</th>
<th>SEs</th>
<th># of tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>o</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>_m</td>
<td>99</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>_n</td>
<td>110</td>
<td>±6</td>
<td>7</td>
</tr>
<tr>
<td>both</td>
<td>108</td>
<td>±6</td>
<td>8</td>
</tr>
<tr>
<td>i</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>_m</td>
<td>108</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>_n</td>
<td>117</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>both</td>
<td>113</td>
<td>±4</td>
<td>2</td>
</tr>
<tr>
<td>a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>_m</td>
<td>104</td>
<td>±3</td>
<td>2</td>
</tr>
<tr>
<td>_n</td>
<td>108</td>
<td>±5</td>
<td>8</td>
</tr>
<tr>
<td>both</td>
<td>107</td>
<td>±4</td>
<td>10</td>
</tr>
<tr>
<td>all /m/</td>
<td>104</td>
<td>±2</td>
<td>4</td>
</tr>
<tr>
<td>all /n/</td>
<td>109</td>
<td>±2</td>
<td>18</td>
</tr>
<tr>
<td>all nasals</td>
<td>108</td>
<td>±3</td>
<td>22</td>
</tr>
</tbody>
</table>

Table 5. Average length of nasal consonant as dependent upon preceding vowel

Table 5 illustrates that the duration of the bilabial nasal consonant /m/ is only slightly shorter than that of alveolar nasal consonant /n/. This pattern is true for the nasal consonants that follow all three vowels included in the table. The second and third to last rows of Table 5 show the total averages for /m/ and /n/. There are significantly more tokens of /n/ than /m/ (18 to 4), which may not represent the duration of /m/. The last row of the table is the total average of both nasal consonants, and the SE of ±3 ms is larger than the average of each nasal
consonant individually, but not significantly so. The results of these averages suggest that /m/ is slightly shorter than /n/, but this difference may not be significant. However, this minor difference in duration of the two nasal consonants (5 ms) suggests that duration may not statistically significant or a reliable means to determine which nasal consonant is present.

There are relatively few tokens in my corpus of nasal consonants preceded by these three oral vowels; for some environments there are only one or two examples. This small number of tokens can provide an interesting, if not comprehensive, glimpse into nasal duration for these environments. The fact that there is a trend for /m/ to be consistently shorter than /n/, if only by a few milliseconds, signals that further inquiry into the difference in duration of these two nasal consonants is necessary. However, the small SE of the averages of both nasal consonants combined suggests that the total average can be used to analyze nasal consonant duration in Osage as a single unit for both nasal consonants.

Table 4 shows that the average duration of the nasal consonant N is 59 ms, which is slightly more than half the duration of the nasal consonants (108 ms). Ladefoged and Johnson write that semi-nasal sounds typically have a shorter duration than nasal consonants. The analysis above examines how a semi-nasal can appear in Osage when a nasalized vowel precedes a voiceless plosive. It is important to examine whether this semi-nasal consonant occurs when nasalized vowels precede fricatives or occur word-finally. In my corpus there are only four examples where a nasal vowel is followed by a fricative, ąskiké ‘I’m tired’ (Tape 150 24.03 Myrtle Oberly Jones) and three examples of mązeska ‘money’ (Tape 150 5:53, 6:21 and 21.49 Myrtle Oberly Jones). A token of mązeska is shown in Figure 14.
On the waveform in Figure 14 there is a period of continued voicing that appears after the nasalized vowel and before the following voiced fricative /z/ (yellow circle). This period of voicing appears to resemble the semi-nasal period of continued voicing seen earlier. If a semi-nasal were present, spectrographic characteristics of nasality would also appear on the spectrogram. However, no characteristics of nasality appear on the spectrogram after the vowel and under the period of voicing on the waveform (lower green arrow). Even though a period of continued voicing on the waveform suggests that a semi-nasal is present, the lack of nasal characteristics on the spectrogram suggests that a semi-nasal is not present. The fricative that appears after the nasalized vowel is voiced and the period of continued voicing on the waveform might mark background static or the transition from a vowel to the voiced fricative /z/. The darker area of higher frequency (above green arrow on right) is indicative of a voiced fricative and overlaps with the area of continued voicing on the waveform (Ladefoged and Johnson 2010: 108). The area of continued voicing is 33 ms long, which is only about half as long as the average length of N (59 ms). The other three tokens in this corpus either don’t exhibit periods of continued voicing on the waveform after the vowel, or a very short one similar to what is shown in Figure 14. These examples suggest that there is no semi-nasal consonant that appears between nasalized vowels and following fricatives. However, more

Figure 14. ńazeska ‘money’
examples are needed to further test this initial analysis and examine whether it is true for both voiced and voiceless fricatives.

It is also important to examine whether a semi-nasal consonant is present after nasalized vowels that occur word finally. In my corpus I only found three examples of word-final /u/, nine examples of word-final /i/ and no examples of /o/. The amount of background noise in the tokens of /u/ prevented me from being able to tell whether the period of voicing after the vowel was static or a semi-nasal. The examples of word-final /i/ yielded contradicting results. Figure 15 shows the spectrogram and waveform of māđį ‘walk’ (Tape 150 4:06 Myrtle Oberly Jones).

Figure 15. māđį ‘walk’

The word-final nasalized /i/ in Figure 15 is an example of a typical word-final vowel. The intensity of the voicing of the nasalized vowel decreases as the voicing continues and then finally plateaus into an almost straight line as the voicing finishes (yellow arrow). Even though the word-final vowel is nasalized, it exhibits characters of a typical word-final oral vowel. This example suggests that a semi-nasal does not appear when a nasalized vowel occurs word-finally. However, Figure 16 shows that ađį ‘to have’ (Tape 150 10:50 Myrtle Oberly Jones) does not exhibit these characteristics.
Figure 16 shows that the word-final nasalized vowel /i/ appears to be followed by a semi-nasal (yellow circle). The continuous decrease in voicing that appeared in Figure 15 is not present, and the waveform has less amplitude and a different periodicity similar to that seen of the semi-nasal consonants in Figures 11-13. F1 becomes less defined, the higher formants become more blurred, and the anti-formants become more visible. This period of continued voicing measures 67 ms and is longer than the average duration of N (59 ms). The fact that word-final voicing is able to decrease steadily and end naturally—rather than be stopped by the articulation of another sound—might account for this discrepancy in duration. The other tokens of word-final /i/ equally illustrate the presence and absence of a semi-nasal after the articulation of a word-final nasalized vowel. The analysis of more tokens is necessary to examine whether these preliminary tokens accurately demonstrate that semi-nasals can sometimes occur word-finally after /i/, word finally after all nasalized vowels, or not at all, and if there are other rules governing when they can appear.

These measurements further support my hypothesis that a type of semi-nasal consonant that is typically half as long as its normal nasal consonant counterpart occurs in Osage. Due to the small number of tokens, and the comprised quality of some tokens, I cannot phonetically state with conviction what whether this semi-nasal is m or n, but acoustically it typically
sounds like a \textit{n} rather than a \textit{m}. The fact that there are substantially more tokens of /n/ than /m/ (18 compared to 4), suggests that the semi-nasal is actually a shortened counterpart of the alveolar nasal consonant /n/, however it does not have to be either \textit{n} or \textit{m}. My analysis shows that this semi-nasal occurs when a nasalized vowel is followed by a voiceless plosive, but more tokens and further examination is necessary to determine whether this semi-nasal can occur when a nasal vowel is followed by a fricative or appears word-finally.

10.4 Vowel length

In order to examine vowel length in Osage, I compared the duration of short vowels that occur between two plosives with the duration of long vowels that occur in the same position. Even though restricting measurements to this environment reduces the number of usable tokens, it offers the clearest visible distinction between the voicing of the vowel and the decrease of voicing of the surrounding plosives. The results of these measurements are shown in Table 6.
Average length of long and short vowels between voiceless plosives

<table>
<thead>
<tr>
<th>vowel</th>
<th>length(ms)</th>
<th>SE</th>
<th># of tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>short</td>
<td>153 ±11</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>long</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>e</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>short</td>
<td>177 ±24</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>long</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>short</td>
<td>159 ±4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>long</td>
<td>197 ±12</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>o</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>short</td>
<td>171 ±12</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>long</td>
<td>189 ±6</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>u</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>short</td>
<td>152 ±8</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>long</td>
<td>158 ±7</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>all short</td>
<td>163 ±7</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>all short /æ,ø,u/</td>
<td>160 ±5</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>all long</td>
<td>189 ±8</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

Table 6. Length of short and long vowels that occur between two plosives

Table 6 shows that short vowels range from 153 ms to 177 ms, with an average of 163 ms. The SE of the mean is ±7 ms and shows that this average is representative. However, in my corpus there were no tokens where the long vowels /ii/ and /ee/ occur between two voiceless plosives. It is not likely that the lengths of these two mid and high front vowels would be significantly different than that of the other vowels in Osage, but to check I calculated the average and SE of the three vowels /æ,ø,u/. The total average of these short vowels is only 3 ms shorter (160ms) than the total average and shows that the length of the long vowels /ii/ and /ee/ is not significantly different that that of the other three long vowels.
The total length of the long vowels in this environment is 189 ms, the SE is ±8 ms and shows that even though the sample of tokens is small, their lengths are not significantly different.

Although the long vowels in this sample are longer than their short counterparts, they are not markedly longer. The small difference in duration between vowels marked as long and those marked as short in my sample suggest that this distinction between long and short vowels could be minimal, that there could be no significant distinction in the length of vowels transcribed as long or short, that my corpus is not comprehensive enough to produce an accurate representation of vowel length in Osage or that only some vowels in Osage are contrastive. The literature says that vowels have been an intractable issue in Osage, and many Siouanists did not realize that long vowels exist in many Siouan languages until fairly recently. The small contrast in length between long and short vowels in Osage might account for why long vowels in Osage were overlooked for so long. It is also possible that the presence of stress on some vowels measured has affected their lengths, and this issue cannot be addressed under further analysis is done on the accent system that is present in Osage.

Another possibility is that only certain vowels in Osage are contrastive. If you make the vowel /a/ the baselines because it demonstrates the greatest difference in duration between long and short vowels, with is 36 ms. With this baseline, /o/ appears to be contrastive in comparison with a difference of 18 ms, but and /u/ does not seem contrastive with a difference of only 6 ms. Even though these examples offer a preliminary analysis of long vowels in Osage, the sample size is too small and most likely not accurately representative of long vowels in the language, and a larger sample is needed to examine vowel length more thoroughly.
11. Conclusion

Even though brave and dedicated researchers and activists are working to save languages around the world everyday, not all these languages will be preserved and revitalized in time. This thesis discusses how the creation of language materials is one way to work toward the revival languages that have already ceased to be spoken. These materials can range from pedagogical dictionaries, board games and readers to formal linguistic texts like technical grammars and dictionaries. Although it may initially seem practical and beneficial to try to create language materials that will appeal to both an academic audience and a community audience, in application it seems nearly impossible to straddle both worlds and construct materials that appeal to both audiences, at least in a Native American context.

The fact that materials cannot appeal to both audiences, coupled with the reality that not many community members take advantage of these resources, calls into question whether it is practical to invest time and energy into creating such materials. Practicality is equated with ‘success’, and therefore devoting time and energy to revival efforts is only practical if it is expected to yield a successful result. The notion of ‘success’ is highly contextual and ‘success’ of language revival in this context does not equal the typical definition of ‘reintroduction into daily use’, but rather ‘reentry into smaller and more specialized domains of use’ as defined by the language community. When this definition becomes narrowed, it is obvious that these new domains of use—which can range from prayer, to song, to poems to a social board game—are attainable. Therefore, it is practical to invest resources into creating such materials when the language community defines the domains of use and success. Even though it is necessary to continue to create language materials like those created by the KNLD, it does not mean that the community will take advantage of them. In the case of the Kanza, the majority of Kaws do not
use the existing language materials because there is no external benefit to studying Kanza. It is possible that there exists some form of external benefit that would motivate the Kaw community to learn Kanza, but no one knows if it exists, and if it does, what it would be.

These materials are created from the corpus of existing language documentation material. The next step in expanding upon traditional research practices is conducting phonetic analysis on recorded material. This type of analysis does not only verify existing linguistic assumptions, but also opens up new avenues for the instruction and creation of pedagogical materials. Having the ability to know what sounds occur in a language, as well as how they compare them to those of related languages, provides another level of possibility and intimacy with both language history and language learning.

This analysis is situated in a Native American context where these communities already have all the initial tools they need to revive their languages: they are literate with knowledge of modern technology and access to grants that allow them to form language departments that create these materials. In addition, enough existing documentation on the language opens avenues of research and application within both the academy as well as within the community. An examination of materials constructed, and further linguistic research conducted, in this type of context lays a foundation for how language materials and linguistic analysis created in other, perhaps less ideal, contexts can be assessed in the future.
12. Appendices

Appendix 1. Questions For Interviews with Informants

[In all these interviews ‘materials’ will refer to the Kaw language revival materials I am analyzing and ‘language class’ will refer to the class that the Kaw Nation Language Department sponsors]

Ben:
- How long have you been working with Siouan languages?
- What motivated you to start working with Siouan languages?
- Is there a particular reason you chose to work with languages from the Dhegiha family?
- How long have you worked with Osage?
- How long have you worked with Kaw?
- What type of research/documentation have you done with each language?
- In what capacity are you involved in the Kaw Language Department dictionary project?
- Let’s talk about the Kaw Language Department’s choice to include cultural information in the dictionary.
  - What is the ‘typical user’ the department has defined?
  - Does the dictionary appeal to the typical user?
  - Do you think these users will use the dictionary? Why or why not?
  - I know it’s a hard question, but in your opinion what differentiates a language that is alive language from one that is dead?
  - Do you think it’s practical to try to revitalize a dead language?
    - Would efforts be better spent on languages that are still alive?

Jared:
- How long have you been working with the Kaw language?
- Do you work with any other Siouan languages?
- How long did you work with the Kaw Nation Language Department?
- What types of language education materials did the department create while you were there?
- Why did you choose to create these specific materials?
- What were some methodological/ideological/practical choices you faced when creating these materials?
• How successful were the materials? How happy are you with them?
  ▪ If you could change anything about the workbook/board game/etc what would it be?
  ▪ Do you think that people used the materials to their full potential? Are you happy with how many people used them?
• Can you talk about how you taught the language class?
  ▪ How did you use these materials in your language class?
  ▪ I know it’s a hard question, but in your opinion what differentiates a language that is alive language from one that is dead?
• Do you think it’s practical to try to revitalize a dead language?
  ▪ Would efforts be better spent on languages that are still alive?

Sam:
• Can you summarize the topic of your research?
  ▪ What made you decide to study the community of Siouan linguists?
  ▪ What do you feel is unique about this community of researchers/the topics they research?
  ▪ How much contact have you had with linguists who work with Osage and Kaw and the materials they have produced?
    ▪ You mentioned to me earlier that you adapted the Kaw board game to work for Otoe-Missouria—can you expand on that?
  ▪ Are other linguists you met working on projects to produce resources like those that the Kaw Nation has created?
  ▪ Do you think it’s practical to invest time and money into creating materials like this?
  ▪ I know it’s a hard question, but in your opinion what differentiates a language that is alive language from one that is dead?
  ▪ Is it possible or practical to try to revive a dead language?
    ▪ Would efforts be better spent on languages that are still alive?

Ken:
• Are you Kaw?
• How long have you been studying Kaw?
  ▪ How much confidence do you have in Kaw language skills?
  ▪ Do you speak Kaw with anyone else?
How often do you speak Kaw?

How important do you think it is to speak/revive your language?

How long have you been frequenting the language classes?
  - How long have you brought your children?
  - Why do you bring your children to the class?
  - Have you attended the classes when it was both taught by the past language director or the current language director?
    - Did they implement materials that they/the language department created?
      If so, did they utilize different materials?
  - Can you think of anything that would encourage students of Kaw to utilize these materials on their own?
  - Do you have any ideas for improvements on existing materials or new materials that could be made?

Is it possible/practical to try to revive a dead language?
  - Would efforts be better spent on languages that are still alive?

Ryan and Suzy:
  - Are you Kaw?
  - How long have you been studying Kaw?
    - How much confidence do you in Kaw language skills?
    - Do you speak Kaw with anyone else? How often do you speak Kaw?
  - How important do you think it is to speak and revive the language?
  - How long have you been frequenting the language classes?
    - Have you attended the classes when it was both taught by the past language director or the current language director?
      - Did they implement materials that they/the language department created?
        If so, did they utilize different materials?
    - Can you think of anything that would encourage students of Kaw to utilize these materials on their own?
    - Do you have any ideas for improvements on existing materials or new materials that could be made?
  - Do people use existing materials as much as they could?
    - What would encourage people to use them more?
  - Is it possible/practical to try to revive a dead language?
    - Would efforts be better spent on languages that are still alive?
Appendix 2. Interview Consent Form

I appreciate your help in research for my senior thesis research project in anthropology at Bryn Mawr College. Your interview with me is undertaken only with your informed consent such as in your agreement to be interviewed by me at this time. Your participation is entirely voluntary and your privacy will be fully protected. Your name will not be revealed. Please feel free to terminate the interview at any point. With your permission, the interviews will be recorded in note and audio form to facilitate my collection of information. You can contact me at any time after the interview is over to retract some or all the information discussed in your interview. Once again, thank you for helping me to learn more about Osage and Kaw: Materials, Revival and the Necessity for Phonetic Analysis.

My content information is listed below. You may contact me if you want to retract part of the interview or if you have any further questions about this project or your interview.

Vicki Sear
(860) 942-4714
vsear@brynmawr.edu or vickisear@gmail.com
Box C-1175
101 N. Merion Ave
Bryn Mawr, PA
19010

Thank you very much.

Vicki Sear
Appendix 3. Table 4 Raw Measurements

Average length of nasal consonant between nasalized vowel and following plosive

<table>
<thead>
<tr>
<th>preceding vowel</th>
<th>length of nasal (ms)</th>
<th>(SE)</th>
<th># of tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q</td>
<td>62.0727</td>
<td>4.8754</td>
<td>7</td>
</tr>
<tr>
<td>i</td>
<td>55.2036</td>
<td>4.9831</td>
<td>13</td>
</tr>
<tr>
<td>o</td>
<td>61.8893</td>
<td>4.7856</td>
<td>11</td>
</tr>
<tr>
<td>total</td>
<td>59.3976</td>
<td>4.8814</td>
<td>31</td>
</tr>
</tbody>
</table>

Appendix 4. Table 5 Raw Measurements

Average length of nasal consonant as dependent upon preceding vowel

<table>
<thead>
<tr>
<th>vowel/environment</th>
<th>length (ms)</th>
<th>Standard error of the mean</th>
<th># of tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>o</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>_m</td>
<td>98.8740</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>_n</td>
<td>109.7500</td>
<td>6.318525</td>
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</tr>
<tr>
<td>total</td>
<td>108.3905</td>
<td>5.638356</td>
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</tr>
<tr>
<td>i</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>_m</td>
<td>108.4330</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>_n</td>
<td>116.515</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>total</td>
<td>112.4740</td>
<td>4.041</td>
<td>2</td>
</tr>
<tr>
<td>a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>_m</td>
<td>103.7625</td>
<td>2.9975</td>
<td>2</td>
</tr>
<tr>
<td>_n</td>
<td>107.6303</td>
<td>5.266569</td>
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</tr>
<tr>
<td>total</td>
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<td>4.208237</td>
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</tr>
<tr>
<td>total_m average</td>
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<td>2.304068</td>
<td>4</td>
</tr>
<tr>
<td>total_n average</td>
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<td>0.2304068</td>
<td>18</td>
</tr>
<tr>
<td>total [nasal]</td>
<td>108.4290</td>
<td>0.3017748</td>
<td>22</td>
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</table>
Appendix 5. Table 6 Raw Measurements

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<th>standard error of the mean</th>
<th># of tokens</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>short</td>
<td>153.0345</td>
<td>11.431103</td>
<td>6</td>
</tr>
<tr>
<td>long</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>e</td>
<td></td>
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14. Bibliography


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