38th Annual Siouan and Caddoan Languages Conference

June 7-9, 2018

Linguistics Department
Northeastern Illinois University
Chicago, Illinois

Welcome!

The Linguistics Department at NEIU is proud to host the annual meeting of Siouanists. NEIU Linguistics last hosted the conference in 2008. We're happy to have everyone back and appreciate your long travel here to participate. Thanks to all for coming and thanks especially to our ongoing pursuit of things Siouan. And enjoy Chicago while you're here.

The conference is over two and a half days, ending early Saturday so that those who wish will have some time to check out the City of the Big Shoulders (although today it's better known for finance, services and Lollapalooza). Talks during those days are broken up by lunch, breaks and a business meeting Friday. There are also several Open Forum sessions during which anyone can bring up issues of interest to Siouanists and Siouan communities, our activities, our goals and how we can all better communicate and collaborate.

As for food:
- Coffee and snacks are provided during the sessions.
- Lunch Thursday, you're all on your own, but there are a number of restaurants on Bryn Mawr just a few blocks east of campus, as well as the university cafeteria in the Student Union, just north of the Library.
- Dinner Thursday, you're on your own. Within a few miles of NEIU there are Andersonville and Lincoln Square, two areas with lots of eating options.
- Lunch Friday is being hosted by the Linguistics Department, in the Student Union.

The 38th Annual Siouan and Caddoan Languages Conference would not have been possible without the contributions of many volunteers. We especially acknowledge Dr. Shahrzad Mahootian, coordinator of the Linguistics Department, for her guidance and help with funding. We also thank Dr. Katrina Bell-Jordan, Acting Dean of the College of Arts and Sciences, for financial support for the conference. And also thanks for help from:

Dr. John Boyle, Kyle Burke, Crystal D'Andrea, Chaelecia Cooper, Heyli Gomez, Dr. Rick Hallett, Dr.Judy Kaplan-Weinger, Erin Marks, Tommy Montbriand and Toni Scott.

While I am the official NEIU Linguistics Department representative and organizer, from the beginning the organization of this conference has been a collaborative effort between Ryan Kasak and me, and for this collaborative effort, many thanks to Ryan.

Let's have a great conference!

Lewis Gebhardt
Linguistics Department, Northeastern Illinois University

Schedule

THURSDAY
June 7

MORNING

10:00 - 11:00   Registration

11:00 - 11:30   Opening Comments:

11:30 - Noon   Dylan Herrick (University of Oklahoma)
                       A Phonetic Sketch of Osage

Noon - 12:30   Vincent Collette (First Nations University of Canada - Regina)
                       Intensifiers -ȟ and -ȟtįyą in Nakoda

12:30 - 2:30   Lunch

AFTERNOON

2:30 - 3:00   Christina Faw Faw Goodson (University of Oklahoma & Jiwere/Jegiwere)
                       *The Identity Approach to Second Language Acquisition, Success and
                       Achievement, and Jiwere Youth*

3:00 - 3:30   Break

3:30 - 4:00   Jonnia Torres (University of Colorado - Boulder) and
                       Ryan Kasak (Yale University)
                       A Phonetic Analysis of Obstruent Series in Hidatsa

4:00 - 4:30   Jill D. Greer (Missouri Southern State University)
                       *Talking Horses and Hook-Swinging Giants: Fantastic Themes in Jiwere-
                       Baxoje Folktales*

4:30 - 5:00   Open Forum

FRIDAY
June 8

MORNING

10:00 - 10:30   Johannes Helmbrecht (University of Regensburg)
                   Adverbial Clauses in Hoocąk

10:30 - 11:00   Samiron Dutta
                   Positional Verbal Auxiliary Use in Catawba

11:00 - 11:30   Justin McBride (Northeastern State University - Broken Arrow)
                   *The Ralph Pepper Tapes: An Overview of a Lesser-Known Kansa
                   Language Audio Resource*

11:30 - Noon   Open Forum

Noon - 1:30   NEIU Linguistics Department Lunch

AFTERNOON

1:30 - 2:00   Lewis Gebhardt (Northeastern Illinois University)
                   Incorporation in Crow?

2:00 - 2:30   Sid Bad Moccasin III, Bryan James Gordon, Glenna Mitchell Slater,
                   Vida Woodhull Stabler, Dewayne Wabasha
                   Updates from the Nebraska Indian Community College

2:30 - 3:00   Open Forum

3:00 - 3:30   Break

3:30 - 4:00   Saul Schwartz
                   The Cultural Politics of Obscenity in Siouan Languages

4:00 - 4:30   Ryan Kasak (Yale University) and
                   Sarah Lundquist (University of Wisconsin - Madison)
                   Nasal Harmony in Hoocąk and Mandan

4:30 - 5:00   Business Meeting

SATURDAY
June 9

MORNING

9:00 - 9:30   Rory Larson (University of Nebraska - Lincoln)
Glottalized Consonants in Siouan

9:30 - 10:00   Lewis Gebhardt (Northeastern Illinois University)
Crow Nonagentive Prefix Order and Interpretation

10:00 - 10:30 Closing

Presentation Abstracts

VINCENT COLLETTE (First Nations University of Canada)
Intensifiers -ȟ and -ȟtįyą in Nakoda
        The goal of this talk is to describe the distribution and meanings of two multifunctional suffixes -ȟ and -ȟtįyą in Nakoda (aka Assiniboine) known as "intensifiers" in Siouan linguistics. These morphemes have not received any detailed treatment in the literature except for passing comments in various descriptive studies of Nakoda (Schudel 1997, Cumberland 2005). Although both suffixes have cognates in other Siouan languages (Lakota -ȟča, -ȟčiŋ; Dakota -ȟcį, -ȟiŋca; Hoocąk -xjį; Hidatsa -hdi), a preliminary survey — based on a review of published texts as well as fieldwork with the last fluent speakers of the language — shows that the Nakoda intensifiers have a wide distribution, occurring on adverbs (of time, space, and manner), interrogative pronouns, numerals, demonstratives, nouns and verbs. The intensifier -ȟ can function as degree booster (*owáštenaȟ* 'really carefully') and particularizer (*cogą́duȟ* 'right in the center'). It also developed quantitative meanings such as multiplication (*dóbaȟ* 'four times'), and for some speakers pluralization (*mitášųgaȟ* 'my horses'). It can also act as adverbializer (*šiknáȟ* 'angrily'). On the other hand -ȟtįyą can function as intensifier *wóšpibįkteȟtįyą* 'They are anxious to pick berries' and particularizer (*dukéduȟtįyą?* 'where did it happen exactly?'), but is also found on stative verbs to form superlative constructions (*tągáȟtįyą* 's/he/it is the biggest/largest').

SAMIRON DUTTA
Positional Verbal Auxiliary Use in Catawba
        Previous scholarship in Siouan languages determined that positional verbal auxiliaries ('to stand', 'to sit', 'to recline') can be used in the following ways: 1. to classify nouns, 2. as demonstrative pronouns, 3. to show continuation of verbs, 4. to show actual spatial orientation of a noun. This paper demonstrates that Catawba once used positional verbal auxiliaries in a very similar fashion to other Siouan languages, despite its rare occurrence in the language. The auxiliary *kusaa'* 'to stand' is used to show passage of time, as a demonstrative, to classify nouns, to show its subject's spatial orientation, and to show continuation of verbs. The auxiliary *waN* 'to sit' is used to classify nouns and to demonstrate its subject's

spatial orientation. The auxiliary *kapii* 'to recline' is used to show its subject has deceased. And finally the auxiliary *ri* 'to be located' is used as a demonstrative pronoun.

LEWIS GEBHARDT (Northeastern Illinois University)
Crow Nonagentive Prefix Order and Interpretation
      Crow verbal person prefixes come in two sets that appear in an active-stative pattern. Roughly, one set (the so-called A-set) is for agents and the other for nonagents (the B-set) (Gracyzk 2007, Wallace 1993). However, some transitive verbs call for two prefixes of the B-set, as in (1).

(1) dii-wii-chichée-k   /   bii-lii-chichée-k
      2B-1B-resemble-Decl   1B-2B-resemble-Decl
      'I resemble you' / 'You resemble me'   'I resemble you' / 'You resemble me'
      (Gracyzk 2007, 1999)

Note in (1) that either order of the nonagent person prefixes is acceptable and that either order yields subject-object ambiguity.
      Since the order and ambiguity facts of (1) occur in very few Crow simplex verbs (Gracyzk 2007), the pattern could simply be lexicalized for those few verbs. But the fact that a similar phenomenon occurs in causative and certain other constructions suggests that the facts are subject to syntactic analysis. Under the assumption of VoiceP and AgrP-like projections, a verb like *chichée* 'resemble' is lexically specified for two prefixes, which are actually spellouts of the head of VoiceP (the B set instead of the usual agentive A set) and the head of AgrP (the B set). That assures the licit variation in linear order. Since neither prefix is of the A-set, neither can be uniquely interpreted as subject or object, the semantic ambiguity follows. The same syntax accounts for similar order variability and semantic ambiguity in causatives.

LEWIS GEBHARDT (Northeastern Illinois University)
Incorporation in Crow?
      Crow has been described as an incorporating language (Gracyzk 2007, Wallace 1993, Rankin et al. 2003). Golston, Boyle and Gebhardt (2018) argue that what looks like morphosyntactic incorporation is in fact loss of accent and the formation of a new prosodic word and that incorporation per se doesn't exist in Crow. Focusing on noun incorporation, this presentation reviews the facts, explicitly outlining the incorporationlike characteristics and weighing them against the phonological analysis. Focusing on incorporation of nouns, the conclusion is that although incorporation probably encompasses a variety of syntactic, semantic and phonological phenomena Crow does exhibit strong characteristics of commonly understood noun incorporation. However, like many categories and classification schema in linguistics, incorporation is complex and it's an oversimplification to call Crow or any language incorporating.

CHRISTINA FAW FAW GOODSON (Jiwere-Nut'achi/Baxoje) (University of Oklahoma)
The Identity Approach to Second Language Acquisition, Success and Achievement, and Jiwere Youth
      The Jiwere (also known as Chiwere, Otoe) language is considered endangered, sleeping, or "extinct" because there are no first-language speakers left. However, Jiwere *is* being spoken and learned by members of all generations, but those who are speaking and learning are not considered fluent. To date, there have not been any studies conducted with high school students or young people in the Jiwere

community that ask qualitative questions regarding how youth feel about the language, their thoughts about their identities as Jiwere or indigenous people, their motivations for learning the language and culture, their investment in their community, and how they define success and achievement. I hypothesize that the research and data collection will support a connection between stronger Jiwere identity and higher rates of success and achievement in school. This research project involved data collection via participants (young people and high school students at Frontier School in Red Rock, Oklahoma) who completed online surveys about their feelings about Jiwere, school, and their identity, success, achievement, and motivation, as well as a focus group of 5-6 students who have had experience with learning the Jiwere language, and individual interviews with employees of the Otoe-Missouria Language Department and the Frontier Public Schools Indian Education program.

JILL D. GREER (Missouri Southern State University)
Talking Horses and Hook-Swinging Giants: Fantastic Themes in Jiwere-Baxoje Folktales
This paper examines fantastic elements within a corpus of traditional Jiwere-Baxoje narratives collected in the late 19th and 20th centuries, by linguists and folklorists such as James Owen Dorsey, Mary Alicia Owens, Alanson Skinner, Gordon Marsh, and William Whitman. The first step will be developing an inventory of the many different beings, some of whom can be seen as magical in the positive sense, while others are truly terrifying. Next, I will search for similar themes in other Siouan-speaking peoples' narratives, especially in Hochunk and Dhegiha traditions, then, the comparison will briefly consider how the Jiwere-Baxoje elements relate to the North American Motif Index within Stith Thompson's *Tales of the North American Indians* (1966). Finally, I will argue for the importance of folktales as a source of ethnographic information embedded within the narratives, ranging from social sanctions, kinship roles, and lesser-known material culture.

JOHANNES HELMBRECHT (University of Regensburg)
Adverbial Clauses in Hoocąk
Adverbial clauses are subordinate clauses that modify - in a broad sense - the predicate of the main clause and/or the entire main clause. They replace (paradigmatically) adverbials of the main clause and are hence a structural part of the main clause. The state of affairs expressed in adverbial clauses has certain semantic relations to the main clause such as time, location, manner, and many others. These semantic relations between adverbial clause and main clause resemble the ones that adverbials have. This traditional definition of adverbial clauses may serve as a guideline for the exploration of this type of subordinate clause in an individual language. The postulated paradigmatic relationship between adverbials and adverbial clauses usually does not hold for all kinds of adverbial expressions, and the proposed semantic relations between adverbial clause and main clause need not be expressed exclusively by adverbial clauses, or are not expressed by adverbial clauses in a language at all (see Van der Auwera 1998, Van Valin and LaPolla 1997, Thompson et al. 2007). In addition, the morphosyntactic properties of adverbial clauses vary within a language as well as from language to language.
The goal of the proposed paper is to give an overview of the structure and meaning of adverbial clauses in Hoocąk. This topic is interesting for two reasons. First, Hoocąk lacks most of the morphosyntactic features that are usually associated with adverbial clauses in European languages (e.g. infinite verb forms, subjunctive mood, alternative word orders, etc.). And secondly, Hoocąk has a number of sentence-final enclitics that indictate adverbial-like relation between the subordinate clause and main clause. However, these enclitics are not always subordinating conjunctions like the European ones. Some may appear with complement clauses as well, and even with main clauses. The question, for which I will try to find an answer is: are there really adverbial clauses (from a morphosyntactic point of view), and how can they be distinguished from complement clauses. It will be shown that there are indeed very small

morphosyntactic differences between complement clauses and adverbial clauses. This result confirms the idea that subordination is only very weakly grammaticalized in Hoocąk (and probably in other Siouan languages too).

DYLAN HERRICK (University of Oklahoma)
A Phonetic Sketch of Osage
> The aim of this project is to put together a phonetic sketch of Osage based on published materials and supplemented with recordings from The Carolyn Quintero Collection, held at the Native American Languages Collection of the Sam Noble Oklahoma Museum of Natural History. Ultimately, the goal is to build as complete a phonetic description of Osage as possible for a language which no longer has first-language / native speakers. If successful, this may provide a model for carrying out work on the sound systems of other languages where working with speakers is not feasible.
> At present, the project in its preliminary stages, and it consists of a comparison of the descriptions found in Wolff (1952) and Quintero (2004, 2010). I have also looked at Altshuler (2009), but Altshuler seems to follow Quintero closely, so I only list Wolf and Quintero here.
> While there is large agreement on the vowel system (Quintero is explicit in describing vowel length as a feature of Osage), it is clear that the key point of contention is in the stop series where Wolff lists /br/ as a phoneme, but not /r/, while Quintero lists both /b/ and /r/ separately and includes series of pre-aspirated, post-aspirated, and glottalized stops. In addition, Wolf lists /c/ as a stop where Quintero lists a set of affricates, and Quintero lists a set of velar fricatives /x, ɣ/ that Wolff does not include.

> Wolff (1952) suggests the following phonemes.
> > Stops: p, br, t, c, k, ʔ
> > Nasals: m, n
> > Fricatives: ð, s, z, ʃ, ʒ, h
> > Approximants: l, w
> > Oral Vowels: i, e, a, o, u
> > Nasal Vowels: ĩ, õ, ã

> Quintero (2004) suggests the following phonemes.
> > Stops: p, t, k, ʔ, p', t', k', hp, ht, hk, pʰ, tʰ, kʰ, b
> > Nasals: m, n
> > Fricatives: ð, s, z, ʃ, ʒ, x, ɣ, h
> > Affricates: t͡s, t͡ʃ, h͡ts, h͡tʃ
> > Approximants: r, l, w
> > Oral Vowels: i, e, a, o, u
> > Nasal Vowels: ĩ, õ, ã

> My hope is to get feedback from Siouan scholars that will shed light on the sound system of Osage. I have started to collect written examples from Wolff and Quintero's writing to illustrate each of the phonemes they include. In the more distant future, I hope to use those word lists to examine cognates in closely related languages, and I plan to go through Quintero's recordings to find recordings containing examples of each phoneme.

RYAN KASAK AND SARAH LUNDQUIST
Nasal Harmony in Hoocąk and Mandan
> Both Hoocąk and Mandan are noteworthy for nasal harmony. This nasal harmony triggers the

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spread of the [+nasal] feature onto adjacent sonorants. Examples of this phenomenon appear in (1-2).

(1) Nasal harmony in Hoocąk
    (1a) *nąąpąą*   *ųįnera*
         nąąpąą   ųų-ire-ra
         basket   make-PL-REL
         'That they made baskets' (Lipkind 1945:40)

    (1b) *nąąpra*   *toįkeire*
         nąąp-ra   to-hį-ke-ire
         hand-DEF   PV-1S-wet-PL
         'My hands are wet' (Helmbrecht 118)

(2) Nasal harmony in Mandan
    (2a) *ónanapo'sh*
         o-ra-rąp=o'sh
         PV.LOC-2A-find=IND.M
         'you find it' (Hollow 1970:166)

    (2b) *áakanate*
         aaki#rąt=E
         above#middle=SV
         'palate' (Hollow 1970:56)

This paper lays out the conditions in which nasal harmony occurs in both languages. Hoocąk and Mandan share a common set of natural impediments to the spread of nasal harmony: supralaryngeal stops and mid vowels. Nasal harmony spreads unidirectionally until it meets one of these two blocking elements. The major distinction between these two languages is that nasal harmony is progressive in Hoocąk and regressive in Mandan. This phenomenon is exemplified in (1a) and (2a), respectively, where an underlying nasal vowel causes an adjacent apex vowel or sonorant to assimilate the [+nasal] feature, triggering nasality in vowels and turning flaps into nasal stops.

The difference between how Hoocąk and Mandan handle nasal harmony is not restricted to merely in which direction nasal harmony moves, but also onto which kinds of sonorants it may move. This behavior is demonstrated in (3) and (4) below, in which nasality does not spread onto or past /w/ in Hoocąk, but does spread onto /w/ in Mandan, turning /w/ into [m]:

(3) Treatment of /w/ in Hoocąk
*hįwus, *hįwųs*
hį-wuus
1S-dry
'I [my skin] am dry' (Helmbrecht 2006:73)

(4) Treatment of /w/ in Mandan
mamá'ke'sh
wa-wą'kE=o'sh
1A-lie.POS.AUX=IND.M
'I am staying here' (Hollow 1970:269)

Nasal harmony in both languages is a word-level process, and as such, it is sensitive to word boundaries. As evidenced in (5) and (6) below, neither Hoocąk nor Mandan allows nasal spreading in compounds, demonstrating this sensitivity to word boundaries:

(5) Nasal spread for compounds in Hoocąk

*nąą'ap, *nąą'ąp*
nąą#'ap
tree#leaf
'tree leaf' (Lundquist n.d.)

(6) Nasal spread for compounds in Mandan

*Núu'etaamiihs, *Núu'etąąmiihs*
rųų'etaa#wįįh=s
Mandan#woman=DEF
'the Mandan woman' (Hollow 1970b:87)

Previous research on Hoocąk, including Garvin & Hartmann (n.d.), Helmbrecht (2006), and Lipkind (1945) among others, has touched on the boundaries of nasal harmony, but has not detailed the specific morphophonological environments in which it occurs. Likewise, Hollow's (1970) account of regressive nasal harmony in Mandan can't account for the many instances where nasal harmony is expected to occur, but is absent. The present study utilizes instrumentation to examine data from both languages and defines patterns for how nasal harmony is acoustically realized in each. This comparative analysis is one of the first to provide spectrographic support of nasal spreading in either language.

RORY LARSON (University of Nebraska – Lincoln)
Glottalized Consonants in Siouan

Though somewhat rare, glottalized consonants occur in many Siouan languages, and the feature presumably traces back to Proto-Siouan. Generally, these clusters mix a glottal stop with an existing oral stop or fricative. An attempt is made to compare this special set of consonants over Siouan, with attention toward the initial Proto-Siouan set and their descendant reflexes.

JUSTIN T. MCBRIDE (Northeastern State University)
The Ralph Pepper Tapes: An Overview of a Lesser-Known Kansa Language Audio Resource

During his 1970s-era fieldwork, Siouan linguist Robert Rankin had three principal Kansa language consultants. They were, in chronological order, Walter Kekahbah, Maude Rowe, and Ralph Pepper. The vast majority of Rankin's Kansa analysis relies heavily upon his work with Rowe owing to the fact that, unlike her, his two male consultants suffered from grave hearing loss at the time. This reliance can be seen in the fact that he recorded dozens of hours of salvage interviews with Rowe compared to approximately 200 minutes with Pepper and just around 30 minutes with Kekahbah. Additionally, toward the very end of his work with Rowe, he changed his fieldwork methodology from transcribing Kansa material in a series of ordered notebooks to transcribing directly onto photocopies of the original Dorsey slip files, a method he continued in his work with Pepper following the death of Rowe in 1977. In the 1990s, the Kaw Nation worked with Rankin to convert his Kansa language audio files from their original cassette format to compact disc. However, for unknown reasons, the tapes of his interviews with Pepper were not included in this conversion. The Kaw Nation again worked with Rankin and fellow linguist Carolyn Quintero in the 2000s to digitize his Kansa field notebooks. Still, because transcriptions of the Pepper interviews never appeared in Rankin's notebooks, they were not included in this digitization, either. The combined lack of high quality audio recordings and compiled transcriptions have ensured that the information Rankin obtained from Pepper remains among the least accessible of the available Kansa language materials. In this presentation, I will provide an overview of my ongoing work with the Ralph Pepper tapes. In spite of their comparative brevity, they offer an astonishing window into Kansa language. Some of the interesting findings shed new light on Kansa phonology (e.g., vowel length), lexicon (e.g., word choice), and discourse (e.g., evidentials).

SID BAD MOCCASIN III, BRYAN JAMES GORDON, GLENNA MITCHELL SLATER, VIDA WOODHULL STABLER, DEWAYNE WABASHA
Updates from the Nebraska Indian Community College

Santee Campus is implementing a new immersion program, Macy Campus is infusing immersion microteaching methods into Elder-led instruction (including an Omaha City program) and ramping up small-materials outreach efforts, and the College is partnering with the Umoⁿhoⁿ Nation Public School, Omaha Tribe of Nebraska and Ponca Tribe of Nebraska to launch a methodologically innovative 2nd Annual Umoⁿhoⁿ Poⁿka Summer Gathering.

SAUL SCHWARTZ
The Cultural Politics of Obscenity in Siouan Languages
  Linguistic anthropologists have relatively recently begun to examine the widespread notion that there are no "bad words" in indigenous languages (e.g., Muehlmann 2008; Webster 2015). In dialogue with this emerging line of research, I examine ideologies of obscenity in Siouan languages, focusing in particular on legacy materials in Chiwere. Linguists and language activists find some Chiwere texts challenging to present to community-internal or -external audiences because they contain material that is, or could be (mis)construed as, obscene. In this paper, I discuss how academic and community linguists have approached presenting such texts and the strategies they have developed for managing their reception by diverse audiences. The goal is not determine whether or not Chiwere and other Siouan languages have, or ever had, a category that corresponds to the obscene, but to examine what is at stake in debates about obscenity and how ideological positions shape practices of documentation, including transcription, translation, annotation, metadata, and archiving. What is at stake in a number of cases I examine is the distinction between a traditional ancestral worldview and internalized colonial and missionary attitudes. For some, then, debates about obscenity are a way to address anxieties of colonial influence and contrastively constitute distinctive indigenous cultures.

JONNIA TORRES (University of Colorado - Boulder) and **RYAN KASAK** (Yale University)
A Phonetic Analysis of Obstruent Series in Hidatsa
  The earliest attempt to methodically document the Hidatsa language of North Dakota was by Matthews (1877). Since that time, efforts in looking at the sound systems of Siouan languages continue to rely on elicited wordlists. These analyses relied on researchers' capacities to hear distinctive features, with Bowers (1996) being the first published attempt to utilize phonetic instrumentation in his description of Hidatsa. Aside from the Mirzayan's (2010) dissertation on intonation and prosody in Lakota, no other publications have examined the phonetic characteristics of a Siouan language in this level of detail.
  This study continues the work done by Mirzayan in employing scientific precision in our analysis of the sound system of Hidatsa by using Praat (Boersma & Weenick 2016) to investigate the obstruent series in Hidatsa. Both Boyle (2007) and Park (2012) have similar descriptions of the obstruent series in Hidatsa, both noting that certain obstruents have a plain and aspirated counterpart. Boyle (2007) also describes a singleton and geminate distinction for the afficate /ts/. Questions arise in previous descriptions of Hidatsa and Siouan in general with respect to whether so-called "pre-aspirated" segments are truly pre-aspirated or if these segments are simply /hC/ clusters. Quintero (2004:29) raises this very issue in her description of Osage, remarking that this question of pre-aspirated stops being mono- or bisegmental as one that "plagues Siouanists."
  We investigate the properties of these so-called pre-aspirated elements by examining 400 elicited tokens collected during fieldwork from 2014-2017. Using Praat, we first examine /hC/ segments and look at the duration of the vowels preceding these segments, the duration of the fricative element, and the closure duration of the stop. Specifically, we only look at /hb hd hg/, excluding /hc/ due to the status of /c/ as an aspirate and not a full stop. Furthermore, we compare the behavior of the fricative element in the aforementioned segments with /ʃC/ and /xC/ clusters, to evaluate whether the fricative element in /hC/ differs from /ʃC/ and /xC/, whose fricative elements are unambiguously fricatives.
  These tokens come from 7 L1 Hidatsa speakers (5 female, 2 male) above the age of 60. These recordings took place on the Fort Berthold Indian Reservation at Nueta Hidatsa Sahnish College over the course of several summers, using a Blue Shure microphone in constructed sound-proof room.