THE TOPIC OF LANGUAGE and music has interested scholars of various research fields. Some scholars in musicological literature strive to apply linguistic theory to musical analysis (e.g., Feld 1974; Feld and Fox 1994; Nettl 1958), and cognitive studies show how similarly the human brain processes music and language (Patel 1998, 2003). This interdisciplinary subject, however, has not received significant attention in mainstream linguistics. A few linguists, including Hayes and MacEachern (1996, 1998), Hinton (1984), and Fitzgerald (1998), provide linguistic analysis of folksongs or indigenous songs, but a common aspect of linguistic analyses of folk verses in general is that they are based on songs that are well known, if not already documented. Indigenous songs are not only rarely documented, but they are also documented mostly by ethnomusicologists. Because of this, the music itself is well recognized, but recording and analysis of lyrics tend to be understudied. When lyrics and their linguistically important information such as morphosyntax and phonology are documented, the opportunities for folksong study can be significantly expanded. This paper provides preliminary analysis of five Blackfoot lullabies as the first step toward a full account of Blackfoot lullabies. The organization
of the paper is as follows. In section 1, I briefly outline the background of the Blackfoot language, choice of song type, Blackfoot song collections, Native American folksong study, and the fieldwork process. In section 2, I describe lyrics, utilizing English translation. In section 3, a brief discussion of the characteristics of the songs is provided. In section 4, I discuss the relationship between the metrics of language and songs.

1 Background

1.1 Language

Blackfoot is an Algonquian language spoken in Alberta, Canada, and northwestern Montana, United States. There is one tribal group in the United States, Aamsskáápipikani (Southern Piegan), and there are three in Canada: Siksiká (Blackfoot), Kainai (Blood), and Aapátohsipikani (Northern Piegan). There are dialectal variations among these groups (Frantz and Russell 1995). The present study is based on the dialect spoken by the Southern Piegan tribe, which resides on the Blackfeet Reservation in Montana. As is the case with other indigenous languages, the number of native Blackfoot speakers drastically decreases every year. The United States Census of 2000 shows that the population of Blackfoot speakers in Glacier County, Montana, is approximately 1,450 people. According to a survey conducted by the Piegan Institute, however, the situation is more dire. They estimated the number of proficient speakers at 100, and these speakers are seventy-five years old or older (Darrell Kipp p.c.). In addition, the Piegan Institute’s study found that the proficiency of self-claiming Blackfoot speakers varies significantly. As a clear indication of such language decline, Blackfoot lullabies are no longer sung to infants. I hope that my work here will be used not only by linguists and ethnomusicologists, but also by teachers and parents of the Blackfeet Reservation to enhance native knowledge of Blackfoot language and culture.

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2 When people in the Blackfoot tribal groups refer to themselves in English, Blackfoot is used in Canada and Blackfeet in the United States. It is probably because the reservation in Montana is called the Blackfeet Reservation. They tend to use the same terms to refer to their language: Blackfoot in Canada and Blackfeet in the United States. However, I use Blackfoot to refer to the language because the regional variations used in all four groups are mutually intelligible. My collections are from the United States, but my language consultant is from Canada.

3 The Piegan Institute is a nonprofit organization that strives to preserve and promote Blackfoot language and culture. (Kipp 2000).
1.2 Choice of Song Type

Most American Indian songs I came across in various forms, such as recordings of powwow songs, had abundant *vocables* with few if any meaningful words. Vocables are nonsense words sung along with the melodies. These powwow songs are exchanged and sung by members of different tribes regardless of the similarity in linguistic traditions between the tribes. However, linguistic study is best conducted on songs that have lyrics with recognizable words; for this reason, I looked for songs that were not subject to cross-tribal exchanges. If songs are not exchanged cross-tribally and stay within the same social-linguistic group, lyrics can keep their original, meaningful forms. Such songs may be those that are sung to children. Among children’s songs, lullabies are sung to infants being raised as members of the society, and they are not likely to be shared beyond a linguistic community. Thus, lullabies were selected as the genre of this study. It is dangerous, though, to assume that one can know whether a song has an internal origin in the community or not, because a song that is believed to be a traditional song could easily be the result of borrowing (Densmore 1938). An inter-tribal marriage is one example of a situation in which a traditional song could be brought to one tribe from another. For this research project, however, analysis is possible as long as linguistically recognizable lyrics are found. During the fieldwork, several songs were recorded, five of which were lullabies with meaningful lyrics.

In addition, I chose this genre for its potential to be used in language revitalization efforts. A language is considered as moribund when it is no longer learned by children, and the moribund language is destined to disappear (Krauss 1998). As mentioned earlier, Blackfoot’s speaker population is diminishing, and it is also a moribund language. Children are not acquiring the heritage language because their parents do not speak the language, and these parents did not learn the language because their parents did not use it with them growing up. The Blackfoot language community is very much interested in revitalizing the heritage language (Kipp 2000). In order to pursue revitalization efforts, it is crucial to involve young children in this process since they are biologically tuned to naturally acquire language. Thus, it is important to create an environment in which both adults and children can participate in learning the language simultaneously. Lullabies can involve multigenerational learners; therefore, studying lullabies can serve as a tool to educate learners of various age groups: parents, children, and infants. However, traditional lullabies are no longer sung to the babies in the community. If the lullabies can be brought back to the community, these can be used as a teaching tool. For example, it is difficult
for parental generations to communicate with their children in Blackfoot because they do not speak the language, and learning the language requires time dedication. However, songs can be learned faster than regular speech and can be introduced to infants, so they can receive linguistic input as soon as they are able to process it (Miyashita and Crow Shoe 2009).

1.3 Study in Native American Folksongs

Most published materials on Native American folksongs are found in ethnomusicology, in which scholars analyze the form of the melody and rhythmic composition and organization of the verbal texts or vocables in the melodies (Nettl 1983). Study of lyrics tends to focus mainly on translations. This means that no linguistic analysis can be made from these materials. There are a few studies that refer to original forms. Sands and Sekaquaptewa (1978) introduce four Hopi lullabies referring to the original forms, pointing out the difficulty of making English translations. Bahr et al. (1997) describe Pima songs along with the original lyrics. Bahr (1980, 1983) also documents songs in Tohono O’odham, formerly known as Papago. These materials make linguistic analyses possible. In fact, Tohono O’odham songs collected by Bahr (1980, 1983) led to a metrical analysis of the language by Fitzgerald (1998). As for Blackfoot, Nettl (1989) provides some songs and analyzes the cultural importance of Blackfoot music; however, most of the collections contain vocables only, so they cannot be analyzed linguistically. Only some of the collections contain Blackfoot lyrics that can be used for linguistic analysis. Uhlenbeck (1916) collected twenty songs and transcribed them with an English interpretation; however, the melodic description is missing. Thus, documented Blackfoot songs tend to be recordings of songs that have no lyrics or have lyrics but no melody. Recording both melody and lyrics, therefore, will provide new insights into Blackfoot folksongs; the songs that I report in this article provide both melody and lyrics.

1.4 Blackfoot Song Collections

A number of Blackfoot songs have been recorded. Nettl (1989) lists most of them in his book (see appendix 3). However, relatively few lullabies appear in the collections. In the cassette tape recording published by the Smithsonian and collected by Nettl, only two Blackfoot lullabies are included. Because of the quality of the tape and the way they were sung, it is very difficult to transcribe the lyrics. Moreover, the lullabies included in the collection do not show many recognizable words. In his
book, Nettl (1989) lists the number of songs recorded by fifteen different sources (see appendix 3). All recorded songs are divided into twelve functional categories. Lullabies are counted as a part of the category titled children’s game songs and lullabies. The total number of songs collected in this category is ten, with recordings dating back to the late 1800s and thereafter. According to Nettl (personal contact), he would further categorize three other songs as lullabies. This number is significantly low compared with the total number of songs listed, which is 1,323. My fieldwork adds numerically to this category, although it is still a very small step.

Blackfoot lullabies have also been described in McClintock (1910), a firsthand account of life among the Blackfeet at the end of the nineteenth century. The author briefly describes the scene of a mother singing a cradle song to her baby while rocking her to sleep, but, unfortunately, no title or actual phrase, even in translation, was found in his book. A couple of the interviewees from my fieldwork explained how babies used to be quieted down: an infant was bundled up in a blanket, which was tied to ropes that were secured to lodge poles, resembling a hammock. One of the interviewees, although he did not remember lullabies, was able to describe Blackfoot cradles. Another interviewee who remembered some songs was able to remember the cradles but did not see the practice any more and had not used one with his own children. The cradle scenes described by the interviewees match McClintock’s description, but there is no way to find out whether any song in my collection was the song McClintock heard.

1.5 Fieldwork: Method and Recording Process

In order to collect songs in Blackfoot, fieldwork was conducted in Browning, Montana, in June 2007. During my stay in Browning, I was able to interview six native Blackfoot speakers and record each interview in its entirety—lasting thirty minutes to two hours—with a Marantz PMD 660 digital voice recorder.4 The recording took place either at the Piegan Institute or in a nursing home lobby. During the interviews, the native speakers described the songs they remembered, sang the songs, and talked about anything freely in Blackfoot. Ms. Shirlee Crow Shoe, an English-Blackfoot bilingual researcher at the Piegan Institute, agreed to perform the role of the research associate. She conversed with the invited interviewees in Blackfoot. Among these six

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4Approximately ten native speakers who have worked with the Piegan Institute were invited for the interviews. Their ages ranged from late sixties to early eighties. Most of them learned Blackfoot at home and acquired English in school.
speakers, three seemed to feel uncomfortable speaking Blackfoot and spoke mainly in English for the interviews, while three loved speaking in Blackfoot—two of those three speakers remembered Blackfoot lullabies from their childhood. They welcomed the opportunity to share their knowledge of Blackfoot lullabies. A total of five lullabies were recorded during the interview sessions. I transcribed the lyrics and melodies (appendix 1). Discussion regarding lyrics is provided in the following sections.

2 The Lyrics

Translated lyrics and their description are introduced in this section. The free translation provided here relies on two sources: the interpretation of the native speakers who provided these songs and the language consultant’s commentaries. Further explanation of the lyrics in terms of functions and cultural significance is not presented here because this article focuses on description. Such cultural analysis is beyond its scope.

The English translations may seem odd or ungrammatical. Indeed, it is an extremely difficult task to provide grammatical English phrases that convey all the information found in the original verses. This is due to the significant morphological and syntactic differences between Blackfoot and English (Frantz 1966, 1991). The result may trigger the imagination of readers, as supported by the remark that a good translation of an unfamiliar culture must leave the audience “wanting more” (Bevis 1974). Linguistically speaking, English translation of Native American languages usually results in significant loss of information (Mithun 1990). I remind readers that the purpose of this translation is to provide a general interpretation of what is included in the lyrics and, therefore, some semantic information may not be represented. The free translation of the five lullabies is given below.

Song 1 “A mouse blinks (shuts one of his eyes), just one, just one.”
Song 2 “The coyote is running fast alone behind the rock cliff, westward, westward.”
Song 3 “Elk, what are you eating? Are you eating swamp-grass?”
Song 4 “Coyote, run over here. This one is being persistent and does not sleep. You bite it.”
Song 5 “Crow is flopping westward. It is flying.”

2.1 Lyrics and Functions of Lullabies

All songs include an animal—mouse, coyote, elk, or crow—in the lyrics. All five of them begin with the animals’ names. Because the main character of most Blackfoot folktales is the trickster Napi, “the Old
Man,” it is interesting to find animals in most lullabies. Two of them (Songs 2 and 4) are about a coyote. Four of them (Songs 1, 2, 3, and 5) describe a natural behavior of the animal without referring to sleeping. Only Song 4 refers to “sleeping,” and this will be discussed later in this section. Lullabies not referring to sleeping are also found in other cultures. For example, some Hopi lullabies (Sands and Sekaquaptewa 1978) do not sing about a baby or sleeping; instead, animals tend to appear in the lyrics as in the five Blackfoot songs collected here. Howes (1974) reports that some lullabies used by mothers in America are not about sleeping, and that it is not odd as long as mothers succeed in putting their babies to sleep with the lullaby. The Blackfoot word for lullaby is ih'taopa’mo’ho’kiop, meaning ‘a tool to settle them down.’ Thus the purpose of lullabies in Blackfoot is literally to calm down the babies and put them to sleep. The ways in which mothers interact with their babies by talking or singing vary from culture to culture, but the results are the same across cultures (Hawes 1974), that is, to calm the babies down—the lyrics do not have to include words referring to sleeping.

Among these five songs, only one of them actually refers to sleeping (Song 4). Song 4 provides an indirect interaction between the singer and the infant through the lyrics. It calls a coyote and tells him to bite the child who does not want to go to sleep, almost a threat to the baby who does not go to sleep. Whether babies understand the literal meaning of the song does not seem to be the point, since the babies are at such an early stage of language development. This lullaby could also have been used to indirectly discipline older children who were around, since those older children would have been able to understand the meaning.5

3 Linguistic Deviation and Adjustment

There are some features that are peculiar to songs: use of vocables and alternation of word forms. The use of vocables is common cross-culturally, and many Native American songs are sung with only

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5The lyrics could imply “sleep” metaphorically. The blinking action (Song 1)—the act of closing eyes—is similar to sleeping. In fact, other native speakers whom I informally interviewed about the song interpreted the lyrics as “rubbing his (mouse’s) eyes” instead of “blinking his eyes.” This is also the action one takes when feeling sleepy. Songs 2 and 5 include “westward.” West is where the sun sets and, therefore, it is getting time to sleep. Song 3 gives us an image of an elk eating and the elk’s action when he chews grass is somewhat repetitive. Repetitive motion could lead one to become sleepy. Such metaphorical analysis is possible with these lyrics but is beyond the scope of this paper. More detailed and careful examination must be conducted in this area.
vocables (Powers 1987). I describe two major characteristics of vocables found in the collected songs in the following sections.6

3.1 Vocables

Hinton (1994) defines vocables as nonsense words or syllables sung with the melody. It is common to find syllables such as “hei-ya” in many Native American songs. In the lullabies I collected, nonsense syllables are aho: or ho: appearing at the end of songs and usually repeated (Songs 3 and 4).7

There is another type of nonsense syllables: ya, yo, ki or kə, which appear as part of meaningful words. I will call them clitic vocables. They have the same function, but occur in different environments; ya or yo is used after the first word—usually a noun—and not immediately before a predicate (Songs 1, 3, 4, and 5). Since these appear after a noun, I call them envocables. ki or kə, on the other hand, appear before a predicate and not immediately after a noun (Songs 1, 2, and 5). I call them provocables because they appear before a predicate. Therefore, these vocables are chosen in relation to the syntactic structure of the lyrics. They are not immediately repeated, unlike other vocables. The vocables ki and kə might have been derived from the clitic k, which originates in the lexical item ki ‘and.’ The clitic k is often found in narrative texts (de Jong 1914), usually fused with the following predicate.

Examples of clitic k

a. ketsenayeua > k+etsenayeua ‘and he saw them’
   (de Jong 1914: 5)

b. ketaneu > k+etaneua ‘and he said’
   (de Jong 1914: 5)

c. ketsokaua > k+etsokaua ‘then he slept’
   (de Jong 1914: 6)

The example phrases show ki (meaning ‘and’ or ‘then’) fused with the following clause. I consider that the vocables ki and kə are similar to the clitic k. In addition, the meaning of [ki] ‘and’ is no longer apparent to the native speakers I interviewed. My language consultant felt that ki or kə is used to make a smooth connection in a sung phrase. In sum, there are two distinct types of vocables: vocables and clitic vocables. Vocables are nonsense words appearing repeatedly in songs. Clitic vocables classified into provocables and envocables are nonsense vocables.

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6 The interviewees who provided these songs were elderly speakers and not professional singers. For this reason, I do not know whether or not the melodies were reproduced in the same way as they heard when they were young.

7 The colon [:] after a vowel indicates that the vowel is long.
segments that are a part of meaningful phrases. Provocables appear before their controlling syntactic phrase, and envocables appear after. These are summarized in the chart below.

<table>
<thead>
<tr>
<th>Vocable Types</th>
<th>Category</th>
<th>Form</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Vocables:</td>
<td>ho, aho</td>
<td></td>
<td>Independent</td>
</tr>
<tr>
<td>b. Clitic vocables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Provocables:</td>
<td>ki, kə</td>
<td></td>
<td>Before a syntactic phrase</td>
</tr>
<tr>
<td>ii. Envocables:</td>
<td>ya, yo</td>
<td></td>
<td>After a syntactic phrase</td>
</tr>
</tbody>
</table>

3.2 Phonological Alternation

In order to make the phrases fit the metrics of songs, some phonological forms may be altered, e.g., Tohono O’odham (Fitzgerald 1998). I found some phonological alternation in these songs.

3.2.1 Voicing Devoiced Vowels

One of the strategies of fitting phrases into the metrics of songs is the use of phonological variation. As shown below, the morphemes –wa and –w are variations of the morpheme indicating third person singular (Frantz 1991; Uhlenbeck 1938; Taylor 1969). The function of this alternation is not well understood, but it is usually understood as free variation, with the fully voiced variant used in careful speech. These two forms are effectively used in sung forms.

\[ \text{á} + \text{yimmi} - w(a)^8 \]
\[ \text{dur.} + \text{laugh} - 3\text{sg.} \]
“he is laughing”

When the final vowel is voiced, the first segment is realized as an onset of the syllable containing the vowel [á.yim.mi.wa]. On the other hand, when the vowel is devoiced or not pronounced, the first segment is analyzed as the coda of the preceding syllable [á.yim.mi]. Both types may occur in the same song. For example, in Song 5, fully voiced [á] is used to utter a clear syllable [wa] with a note as shown below. The syllabification is then [aa.mi\text{̀tes.tsi.pi.sii.sii.wa}].

---

^8The durative morpheme [á] here is indicated by an accented single [a]. However, Taylor (1969) describes it as a long vowel. Frantz (1991) also notes that this morpheme is a long vowel, but the duration changes depending on the environments. I am using [á] here following the orthography.
In the same verse, Song 5, the phrase *aipottaw* ‘it is flying’ uses the third person suffix [-w] as a coda consonant. Thus, Blackfoot lyrics use phonological variation strategically to fit their rhythm.

### 3.2.2 Vacuous Reduplication

Other modifications of words may take place to fit the song metrics. For example, reduplication, a linguistic strategy of repeating a word or a part of a word, may be used for that purpose. Insertion or epenthesis may be another strategy in which an extra sound is added in a word. These processes do not indicate linguistically meaningful functions. For example, vacuous reduplication is observed in O’odham songs (Fitzgerald 1998). In the grammar of O’odham, part of a word is repeated to indicate either pluralization or distributivization (Zepeda 1983). However, O’odham songs use this partial reduplication without such a function in order to meet its metrical requirement. In Blackfoot, I found a form that is similar to this vacuous modification of a word observed in Song 5 as shown in (6) below. The last phrase in Song 5 includes a variation of a predicate *aipottaw* [epottaw] ‘it is flying.’ This phrase surfaces as *apipottaw* [apepottaw] in the song. The extra [p] found in the sung form is never found in regular speech. I analyze that the [p] is reduplicated and inserted between the durative morpheme [a] and the root [ipotta].

\[
\begin{align*}
aipottaw & \quad \rightarrow \quad apipottaw \\
\text{á} - \text{ipotta} - w & \quad \rightarrow \quad \text{apipottaw} \\
dur. - \text{fly} - 3\text{sg.}
\end{align*}
\]

This is interesting because no functional reduplication is found in the grammar. That is, vacuous reduplication in songs does not require the language to have reduplication in its grammatical repertoire. However, this song is the only one among the collection that shows this type of sound alternation, so it is too early to make a generalization of vacuous reduplication in Blackfoot.

### 4 Meter

The meter of a language is said to influence the structure of folk verses (Hayes and MacEachern 1996, 1998). However, the way the metric...
system of Blackfoot works is not yet fully investigated. Although a further investigation of Blackfoot meter is required, it is important to point out some facts that may contribute to further research. In this section, I will show one example of the Blackfoot accent system.

4.1 Correspondence between Prosodic Prominence and Melody

I transcribed the melodies of the five lullabies using Western musical notation. By doing so, the original musical scaling may be compromised, as discussed in Bright (1963). Scaling systems may be different depending on their musical culture. For example, while an octave is divided into eight notes in the Western method, it may be divided into seven notes in another system (Bright 1963). This implies that it is hazardous to assume all ethnomusical forms use the same scale. Nevertheless, I use the widely known Western notation system due to my limited knowledge of alternate musical notation methods. The musical notes of all five lullabies are provided in appendix 1.

The literature describing the Blackfoot language suggests that prosodic prominence is indicated by pitch, unlike English stress, which usually represents amplitude or energy in an utterance. Frantz (1991) says that prosodic prominence of Blackfoot is marked by high pitch. I adopt this notion, which is also supported by others (Taylor 1969; Uhlenbeck 1938; Frantz 1991; Kaneko 1999). The prominence is indicated by the acute symbol on the nucleus of a prosodically prominent syllable. For example, ápssiwa ‘it’s an arrow’ and apssíwa ‘it’s a pig’ are distinguished by the pitch assignment (Frantz 1991). The former has the accent on the first vowel and the latter on the second.

Correspondence between the melody of song and melody of speech in tone languages has been studied for several decades (List 1961, 1963; Schneider 1961). Mark and Li (1966) note that “in one genre of Chinese art music arranges to match speech tone and melodic progression according to certain stylized standards. . . .” Some have investigated how listeners understand the sung lyrics in tone languages (Wong and Diehl 2002). Blackfoot is a pitch accented language, which is distinguished
from tone languages in the linguistics literature (Roca and Johnson 1999). In essence, however, the use of fundamental frequency to indicate prominence is the same for both pitch and tone. I attempt to examine to what, if anything, the accented (or high-pitched) syllables in songs correspond.

In Blackfoot, accented syllables tend to have relatively high-pitch notes. The first two accented syllables in Song 1, [kaa] and [kia], are sung with the highest note used in the entire song as shown below. Accented syllables are underlined. This is also found in Song 2 (see appendix 1). This use of pitch is expected in speech. The accented syllables are higher than others within a word.

Song 1

\[
\text{kāa nais kii naa ya kīa waapi noh si}
\]

Next, the note of an accented syllable can be lower than its preceding note. In this case, it must be followed by a note that is lower.

Song 1 (cont.)

\[
\text{kā ni tô’n ni yo kā ni tô’n niyo}
\]

This can be different from speech since the accented syllable must be the highest one in terms of pitch. In song, in order to explore the melodic variation, the correspondence between the accent and the pitch may be minimized to the relation between the accented syllable and its following one. In this way, high-pitched syllables can retain their prosodic identity.

5 Conclusion

In this article, I introduced five Blackfoot lullabies collected from my fieldwork. The lyrics of these songs were transcribed and the free English translation was provided. I have described characteristics of verses in terms of both lyrics and phonology. All of the lullabies included animals as the main theme. The natural behaviors of the animals are simply described in the lullabies except in one, which implies the characteristic image of the animal. The use of vocables is found, and I proposed that there are two types of vocables: vocables and clitic vocables. Vocables are independent syllables used repeatedly at the end of songs. Clitic
Vocables are classified into *provocables* and *envocables*, and they appear to indicate the syntactic function of the phrases. Phonologically, some free variation is strategically used to fit the rhythm of songs; modifications of words are used to fit the melody. Also, a high-pitched syllable is sung with the highest note of the songs; otherwise, if it is not the highest note of the song, it must be followed by a lower note to keep the relative pitch difference. The most significant part of this article is that the original lyrics, English translations, and melodic transcription were provided. Many published Native American songs present only translations, and linguistically relevant information is lost in translation. For example, some Algonquian songs are introduced with an English translation without melody (Swann 2005). When original translations and melodies are provided, song descriptions can be used for linguistic and/or musicological analyses. This article has shown an interdisciplinary way of describing Blackfoot lullabies, and I hope to entertain the possibility of enhancing the multidisciplinary fields in linguistics and ethnomusicology.

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**Recording**


**APPENDIX 1**

**Song 1**

```
káa naiss kii naa ya kiá waapi noh si kőni tőn ni yo kő ni tőn ni yo (REPEAT)
```

**Song 2**

```
aa pí'si ih kina yi kitsik kita a pa yís taksi w yík ka yai kitsi im ma'siyai kitsiim ma'siyai
```

**Song 3**

```
ponoká yo ho áhsa kitáowatoo a kotomakiíssa ki tá owatoo piao a ho ho a ho ho ho
```

**Song 4**

```
aapí'si ya póhsapo mahkata a ma tais ka kso kawa kia kitsi ksi pawa a ho ho a ho ho
```

**Song 5**

```
mai'sto ya kia mi taistsipi sisi wa maisto ya kia mi taistsipisi si wai a pipotta potta peu pottaw
```
Appendix 2: Preliminary Interlinear Analysis

Each song has original lyrics (Lyrics), interlinear analysis (Int.Lin), morpheme-by-morpheme translation (Gloss), and free translation (Trans). Unanalyzable morphemes are marked by “?” in the interlinear analysis line. Repeated parts are given only in the original lyrics line. Lexically long vowels are shown by double symbols (e.g., [aa]), and a lengthened vowel due to long note is indicated by the use of a colon (e.g., [a:]).

\[
\begin{align*}
e.voc. & \quad \text{envocative} & \quad \text{fin.} & \quad \text{final} \\
p.voc. & \quad \text{provocable} & \quad \text{fut.} & \quad \text{future} \\
u.pre. & \quad \text{verbal prefix} & \quad - & \quad \text{inflectional morpheme} \\
voc. & \quad \text{vocal} & \quad - & \quad \text{boundary} \\
nonaf. & \quad \text{non-affirmative} & \quad + & \quad \text{derivational morpheme} \\
vac.red & \quad \text{vacuous reduplication} & \quad - & \quad \text{boundary} \\
pl.inan & \quad \text{inanimate plural marker} & \quad 2 & \quad \text{second person} \\
vit & \quad \text{transitive inanimate verb} & \quad 3sg. & \quad \text{third person singular} \\
vai & \quad \text{intransitive animate verb} & \quad \text{dur.} & \quad \text{durative} \\
vt & \quad \text{transitive animate verb} & \quad \text{im.} & \quad \text{imperative} \\
dir. & \quad \text{directional theme} & \quad \text{neg.} & \quad \text{negative} \\
con. & \quad \text{conjunction} & \quad \text{fin.} & \quad \text{final} \\
\end{align*}
\]

Song 1

**Lyrics**
kaanaisskiinaa ya kiawaapinohsi kə n’i’to’n’ni yo kə n’i’to’n’ni yo

**Int.lin**
kaanaisskiinaa ya káa + waapinohsi kə n’i’tó + ánni\(^{13}\) yo

**Gloss**
mouse \quad e.voc. p.voc. dur. + shut^one^eye\(^{14}\) p.voc. same + just so \quad e.voc.

**Trans**
“A mouse blinks (shuts one of his eyes), just one, just one.”

\(^{13}\)ánni ‘just so’ (Uhlenbeck and Van Gulik 1930).
\(^{14}\)áiaxkanauapánohsiu ‘they all shut one of their eyes’ (Uhlenbeck and Van Gulik 1930).

Song 2

**Lyrics**
aapi’si ihkinayi kitsikitaayapistiksiu yikkaayai kitsimmasii yai kitsimmasii yai

**Int.lin**
aapi’si ihki\(^{15}\)+kinnayi ki itsikiri\(^{16}\)+aapát+miistákss(ko)-u ikkaayi ki it+nimm+a’si\(^{17}\) yai

**Gloss**
coyote u.pre. + end \quad p.voc. alone + behind + rock^cliff-3sg. run-fast p.voc. ext + west + fin. voc.

**Trans**
“The coyote is running fast alone behind the rock cliff, westward, westward.”

\(^{15}\)Verbal prefix (Uhlenbeck and Van Gulik 1930, 72).
\(^{16}\)itsikitaäpiti ‘stay behind alone’ (Frantz and Russell 1995).
\(^{17}\)From okska’si (?) or a’si is a final for motion (Frantz p.c.).

Song 3

**Lyrics**
ponoka yo aahsa kitaowatoohp akoto:maakisá a kitaowatoohp iao aho aho ho

**Int.lin**
ponoka yo aahsa kit-á+owatoohp akotomaki+ists ? kit-á + owatoohp iao aho aho ho

**Gloss**
elk \quad what 2-dur. + eat.vti \quad swamp^grass+pl.inan 2-dur. + eat.vti. \quad voc. voc. voc. voc.

**Trans**
“Elk, what are you eating? Are you eating swamp-grass?”

\(^{13}\)ánni ‘just so’ (Uhlenbeck and Van Gulik 1930).
\(^{14}\)áiaxkanauapánohsiu ‘they all shut one of their eyes’ (Uhlenbeck and Van Gulik 1930).
\(^{15}\)Verbal prefix (Uhlenbeck and Van Gulik 1930, 72).
\(^{16}\)itsikitaäpiti ‘stay behind alone’ (Frantz and Russell 1995).
\(^{17}\)From okska’si (?) or a’si is a final for motion (Frantz p.c.).
Song 4

Lyrics aapi’si ya poohsapomahkaat aam mataisskaakso’kaawa
Int.lin aapi’si ya poohsap+omááhk+ t aamo mat+a+yisski+aak+y’k+ yo’k+ wa
Gloss coyote voc. toward^speaker+run+im. this^one neg.+dur.+persistent.vai+fut.+sleep-3.nonaf
Lyrics kia kitsiksipa voc. aho aho
Int.lin kia kit-siksip-a-wa voc. voc.
Gloss voc. 2-bite.vt.+dir.-3
Trans “Coyote, run over here. This one is being persistent and does not sleep. You bite it.”

Song 5

Lyrics mai’stoo ya ki aamitaistsipsisiiwa: mai’stoo ya ki aamitaistsipsisiwa ai apiottiwa
Int.lin mai’stoo ya ki aamia’t+á+istsipsisii-wa ai a+p+iottiwa-w
Gloss crow voc. con. west+dur.+flopping-3sg. voc. dur.+vac.red fly-3sg.
Trans “Crow is flopping westward. It is flying.”
### Appendix 3: Chart from Nettl (1989)

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