

A COMPARATIVE ANALYSIS OF THE BANNOCK DIALECT OF THE
NORTHERN PAIUTE LANGUAGE

By: Cleve Davis and Christopher Loether
2011

Key Words	3
Introduction.....	3
Status of the Northern Paiute Language.....	6
Status of the Bannock Dialect	7
Historical Extent of the Northern Paiute Language.....	8
Map 1. historical (19 th century) subsistence territory of the Northern Paiute and Bannock in relation to modern political boundaries (Davis 2010:28).	11
Bannock Orthography	12
Map 2. Map identifying locations of Northern Paiute speech groups (Davis 2010:30).	13
Table 1. Bannock Orthography.	15
Northern Paiute/Bannock Lexical Item Development.....	18
Figure 1. Photograph of Caroline Teton-Racehorse, speaker of the Bannock dialect of Northern Paiute.....	19
Table 2. Orthography key of various writing systems used to document Northern Paiute dialects and the Shoshone language.	22
Lexicon Comparison.....	26
Table 3. Lexical items used in the cognate comparison of the Northern Paiute and Shoshone languages.	27
Table 4. Cognate score results of phonetic correspondence analysis.	34
Figure 2. Cluster tree identifying cognate linkage between dialects of Northern Paiute and the Shoshone language.	43
Loan Words and Borrowings.....	44
Table 5. Bannock loanwords.	46
Bannock Compound Lexical Items	54
Table 6. Bannock compound words.	56
Internal Reconstruction	58
Discussion.....	61
Bibliography	65

ABSTRACT

Northern Paiute is a northern language of the Uto-Aztecan language family that spans four Western states. The language has been reported to exhibit slight differences among the dialects. However, these differences on the whole have not been reported. This study focuses on the differences among the dialects by examining five dialect groups: Bannock, McDermitt, Yerington, Owyhee, and Burns. It also presents and examines some lexical and phonological borrowings from the Shoshone Language. The Bannock dialect is of particular interest because it is the furthest removed from the larger Northern Paiute populations, and Bannocks today, as well as historically, are capable of speaking Shoshone. Bilingualism is known to create high potential for linguistic exchanges and language change. The analysis supports the conclusion of a North and South Superdialect, as well as an East-to-West dialect distinction among the Bannock and the North Superdialect.

KEY WORDS

Bannock, Dialectology, Shoshone, Internal Reconstruction, Northern Paiute

INTRODUCTION

Northern Paiute is a northern language of the Uto-Aztecan language family that spans portions of Nevada, California, Oregon, and Idaho. The language has been reported by Dick et al. (1987) and Fowler and Liljeblad (1986) to have two major dialects that exist between the north and south. The southern

dialect includes: Yerington, Schurz, Lee Vining, Bridgeport, Fallon, Lovelock, and Paradise Valley (Dick et al. 1987). The northern dialect includes: McDermitt, Bannock (Fort Hall), Winnemucca, Owyhee, Burns, Warm Springs and Fort Bidwell (Dick et al. 1987). Reno and Pyramid Lake have speakers of both dialects (Fowler and Liljebblad 1986). Nichols (Fowler and Liljebblad 1986) also makes a similar two-way division of the language and separates it into two superdialects labeled Oregon Northern Paiute and Nevada Northern Paiute.

Fowler and Liljebblad (1986:435) state at the time of major field studies (1940s-1970s) the Northern Paiute language exhibited some internal diversity, but concluded that the diversity was insufficient to affect mutual intelligibility. They also said that lexical items, pronunciation, and occasional grammatical features differ from north to south, most notably between speakers north and south of Pyramid Lake (Fowler and Liljebblad 1986:435). Miller (Miller 1986:98) reported that “throughout the northern region, among the Northern Paiute in Oregon and in Nevada north of Owens Valley and among the Bannock in Idaho, there are only slight differences from dialect to dialect”. In 1957, Liljebblad (1957:61) wrote, “today Bannock is identical with the Northern Paiute spoken at Fort McDermitt and at Miller Creek on the Western Shoshone Reservation.” He later (1966:1) wrote that “the Bannock of southern Idaho are descendants of Northern Paiute immigrants from Oregon and speak the same general dialect as the Oregon Paiutes.” Other linguists have identified the Fort Hall speech group

as being “quite a bit different from other Northern Paiute dialects” (Dick et al. 1987:1) or simply ignore dialectical differences all together.

The Bannock speech group is of interest because it is the furthest removed, north and east of the larger Northern Paiute populations. Although the exact time of their removal from the larger parent group is unknown, some anthropologists believe that the Bannock had come to occupy their current location just prior to the arrival of Euro-Americans (Madsen 1996:17, Liljeblad 1957). Liljeblad (1957:22) states “only relatively late, probably at the end of the eighteenth century, small bands of Northern Paiutes, presumably already in possession of horses, moved from southeast Oregon into Shoshoni territory in southern Idaho in pursuit of the buffalo.” Liljeblad (1957:22) also states that “relative chronology” would favor the Shoshone as being the first to reach the Snake River. The “relative chronology” may be referring to Morris Swadesh’s (1955) *Towards Greater Accuracy in Lexicostatistic Dating 1* method used for estimation of time-depth of language divergence. Although Liljeblad’s (1957) conclusion may be based upon linguistic similarities, an actual comparison between the various dialects, including the Bannock, has not been published. It is also presumed that the Bannock speech group of Fort Hall may have changed since Liljeblad conducted his research from 1940-1970.

Historically, the Bannock have been known to occupy a subsistence use area as a minority group intermixed with the Northern Shoshone (Murphy and Murphy 1986, Stewart 1970, Liljeblad 1957). Today, most Bannock speakers are

capable of speaking Shoshone and English. Historically, the Bannock were also known to speak Shoshone and Northern Paiute. Over time multilingualism or bilingualism is known to have significant impacts upon language change and creates high potential for linguistic exchanges (Campbell 2004:62,67). Based upon similarities and differences among the dialects a comparative analysis may lead to new insights in the dialectology of the Northern Paiute language.

Language change over time is also interesting because it can provide information about the ancestor language (proto-language). Furthermore, as more and more languages become extinct, it is important to gather as much information about them as possible not only for linguistic research, but also to preserve the language for future generations. This is true with the Bannock dialect, as there are very few speakers of Bannock dialect, most of whom are unwilling to share their knowledge of the language with trained linguists.

STATUS OF THE NORTHERN PAIUTE LANGUAGE

Thornes (2003) reported that Northern Paiute is spoken fluently by fewer than 500 people and that a majority of the speakers reside at Fort McDermitt on the Oregon-Nevada border. Thornes (2003) also stated that even there the Northern Paiute language is endangered. Residents of McDermitt have also reported that many children who learned the language at home have begun to abandon it in their teens in favor of English (Thornes 2003). Thornes (2003) also reports that there are several community efforts to revitalize and maintain the Northern Paiute language. However, many communities are having difficulties

maintaining their native language on account of continuing pressures posed by the dominant language and society.

STATUS OF THE BANNOCK DIALECT

In regard to language status, much of what Thornes reports is true for the Bannock dialect of Fort Hall, Idaho. However, the endangerment level at Fort Hall is higher and the tribal community faces both internal and external barriers with language maintenance. In addition to the constant and ongoing pressures posed by the dominant language and society, there are also significant internal barriers at Fort Hall that are affecting language learning efforts. Some of these barriers include: resistance of speakers towards the use of modern technology and standardized writing systems, and issues concerning tribal governmental control over gaining access to language learning materials. The reasons for obsolescence identified by Loether (2009) for the Shoshone language spoken at Fort Hall are also true with the Bannock. These include: (1) lack of written classroom materials either for first language speaker literacy or for second language learners; (2) shrinking domains of use; (3) negative criticisms by some community members directed toward other speakers involved in teaching the language; and (4) speakers who are overly critical rather than supportive of novice learners. Collectively, these factors have reduced the potential for language revitalization efforts at Fort Hall. Today, it is estimated that there are less than 30 tribal members who fluently speak Northern Paiute on the Fort Hall Reservation (Davis 2010). This represents less than one percent of the total

population of 5,445 enrolled members of the Shoshone-Bannock Tribes (Davis 2010).

HISTORICAL EXTENT OF THE NORTHERN PAIUTE LANGUAGE

Although Northern Paiute speaking people once roamed freely over an immense landscape, the language is now spoken on eleven reservations and several colonies spread throughout Idaho, Oregon, Nevada, and California. Historically, Northern Paiute speaking people were not politically integrated nor did they constitute a single tribe or nationality (Fowler and Liljeblad, 1986). This designation is based mostly upon the fact that Northern Paiute people speak a mutually intelligible language. However, the Northern Paiute designation or nationality has not been applied to the Northern Paiute speaking Bannock, who reside on the Fort Hall Reservation in southeast Idaho. The term “Bannock” is a corrupt English form of */panakwati/* which literally means “people from the water”. Nonetheless, both the Northern Paiute and Bannock refer to themselves as */niwi/* or */nimi/* which simply means “The People”.

Fowler and Liljeblad (1986) wrote that the historical extent of the Northern Paiute spanned the western edge and occasionally the crest of the Sierra Nevada and the watershed separating the Pit and Klamath rivers from the interior draining northern sector of the Great Basin. On the north, for roughly 300 miles, it continued through undetermined territory beyond the summits dividing the drainage systems of the Columbia and Snake rivers (Fowler and Liljeblad 1986, Park et al. 1938; Ray et al. 1938; Stewart 1939, Steward 1970). This territorial

delineation coincides well with the oral testimonies presented in 1951 before the Indian Claims Commission by 13 members of the Northern Paiute Nation (Jenks and Dean 1998). These sources were combined and used to identify the approximate area of Northern Paiute territory from the time period between first contact through their subsequent removal onto reservations in the late 1800s.

As for the Bannock, Brigham Madsen (1996:18) wrote that the Bannock maintain “their ancestors migrated from a great distance across the water.” Madsen (1996) also wrote that the Paiute Wada-Eaters of eastern Oregon have the oral tradition that supports this claim that the Bannock migrated east across the Snake River when the buffalo withdrew from Oregon. However, Lizzi Edmo, a deceased informant of Sven Liljeblad, stated the Bannock were always with the Shoshone but were Paiutes. Mrs. Edmo (Liljeblad 1958:15) stated “the Bannock roamed through this country [Fort Hall] and Montana, are an off-shoot of the Paiutes.” Mrs. Edmo (Liljeblad 1958:18,19) also stated the following about the Bannock.

Here is a history I heard of old people in the Comanche country. It had been told to them that long ago our people moved on the prairies up to the Sioux country. They had a severe winter up there. One party got lost up in the northern country. That is we.

The Bannock were known to be a warlike tribe and would often travel long distances to hunt buffalo, gather camas, and fish salmon. Furthermore, they spoke the Northern Paiute language and were known to have ties with the

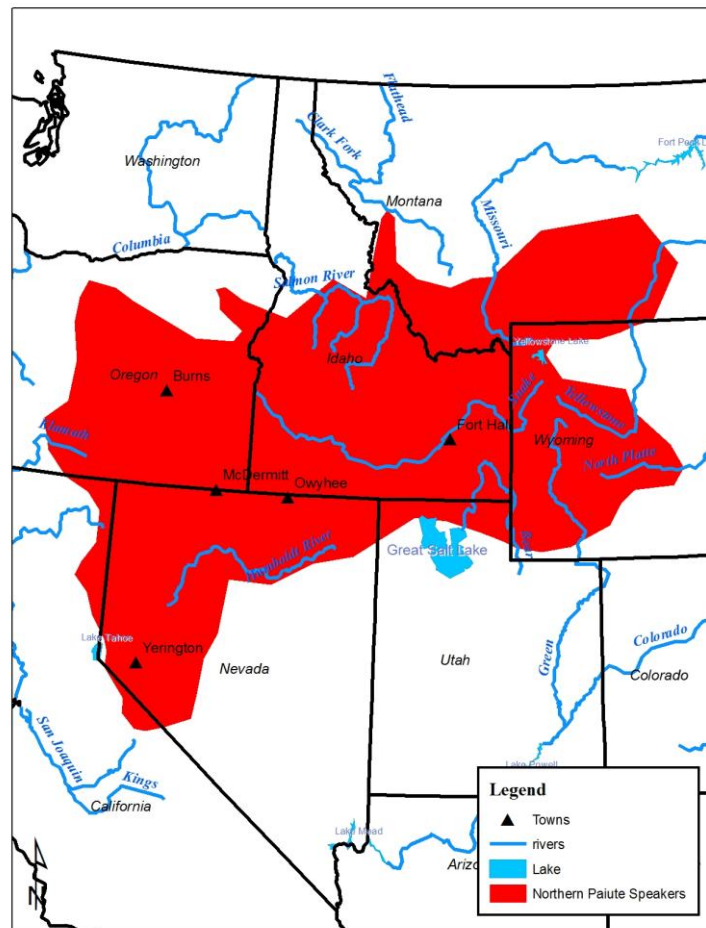
Northern Paiute of Oregon. The confusion of identifying Bannock territory is also heightened by the fact that most early accounts of the Bannock and Shoshone made no distinction between the two tribes, and both groups were often referred to as “Snakes.” As such, territorial delineations between the Northern Paiute, Shoshone, and Bannock overlap. Nonetheless, the distinction has been made by early white travelers, anthropologists, Indian agents, and the Bannock themselves.

Davis (2010) examined some important works to identify the approximate subsistence use territory of the Bannock and concluded several important places stand out in regard to historical territories. These areas include the entire Snake River watershed from the headwaters to its confluence with the Boise, Weiser, and Payette Rivers; the upper Salmon River Basin; southwestern Montana into the Northern Plains; Western Wyoming and Yellowstone National Park; and to some extent the Bear River and Humboldt River watersheds. Davis (2010) also reported that it is unclear if the Bannock made any distinction between themselves and the Northern Paiute Bands to the east and south. The Bannock also lived, hunted, and intermarried with the Northern Shoshone and territorial distinctions among the Shoshone and Bannock should not be made.

Using the information presented Map 1 identifies the approximate historical area where the Northern Paiute language was spoken. It should be noted that prior to contact neither the Bannock nor Northern Paiute recognized strictly demarcated territorial boundaries and would move freely from resource to

resource as the need arose. This often required moving into areas where hostile tribes may have also been present which would have resulted in confrontations.

MAP 1. HISTORICAL (19TH CENTURY) SUBSISTENCE TERRITORY OF THE NORTHERN PAIUTE AND BANNOCK IN RELATION TO MODERN POLITICAL BOUNDARIES (DAVIS 2010:28).

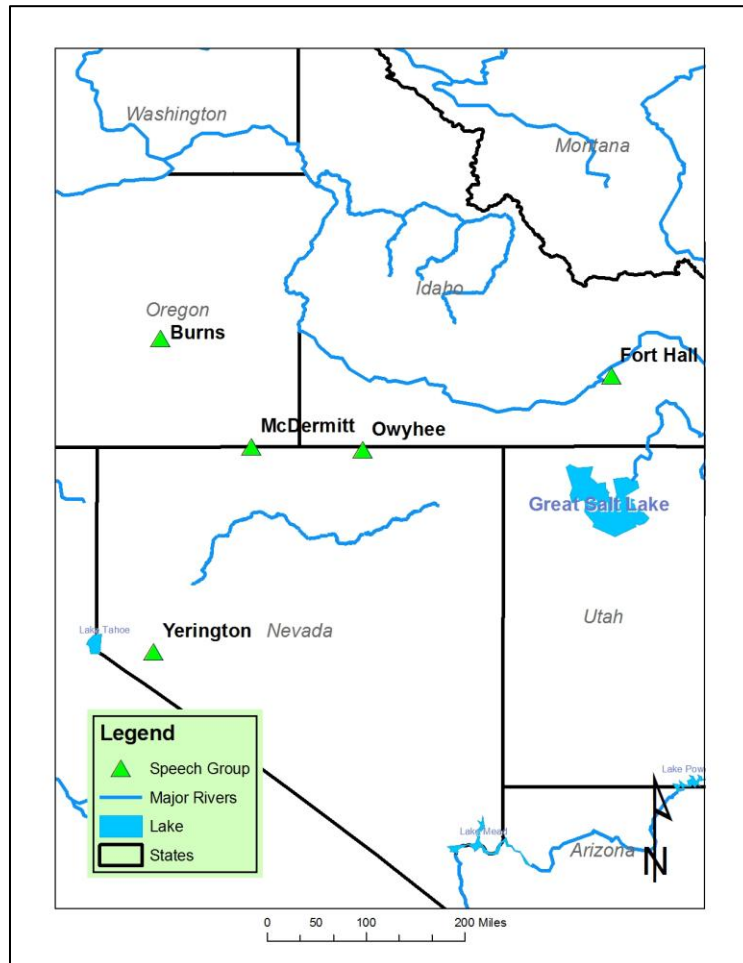


BANNOCK ORTHOGRAPHY

The lexical list developed for the Northern Paiute dialects was compiled from both published sources and elicitations. Elicitations were used only when published materials were not available. Several requests for Bannock or Northern Paiute language materials were made in 2009 and 2010 to the Shoshone-Bannock Tribes and Shoshone-Paiute Tribes. Unfortunately, these requests were unanswered and elicitation was required to obtain a lexicon of the Bannock and Owyhee dialects. The locations of where these dialects are spoken is provided in Map 2.

MAP 2. MAP IDENTIFYING LOCATIONS OF NORTHERN PAIUTE SPEECH GROUPS

(DAVIS 2010:30).



Bannock and Northern Paiute lexical items were transcribed using the Bannock/Northern Paiute Orthography (Table 1) that was specifically developed for this study. This original orthography was developed based upon a phonological inventory of the Bannock and Northern Paiute language. Symbols used in the orthography are similar to those used in the Shoshone orthography developed by Gould and Loether (2002). However, this orthography is easily

distinguishable from Shoshone orthography by the use of the initial consonants: “*k*” for /*k*/, “*kw*” for /*kw*/, “*p*” for /*p*/, and “*t*” for /*t*/. This was done to keep the writing systems for these two mutually unintelligible languages separate, while maintaining some level of continuity between the writing systems. The intended result of using two orthographies is to make a clear distinction between the two languages for literacy purposes. The first and only other known writing system of Bannock was developed by Sven Liljeblad (1950). However, Liljeblad’s orthography did not include the /*ɛ*/ phoneme which is present in the Bannock dialect of Northern Paiute.

TABLE 1. BANNOCK ORTHOGRAPHY.

Consonant	Bannock/Northern Paiute	Translation	IPA
'	<i>Hopodo'o</i>	Backbone	ʔ
b	<i>Kaiba</i>	Mountain	β
ch	<i>Tehicha</i>	Deer	č
d	<i>Huude</i>	Flowing or Creek	d, r
g	<i>Yagwatsa</i>	Frog	ɣ
h	<i>Muhibi</i>	Fly (Insect)	h
k	<i>Puku</i>	Horse	k
kw	<i>Kwo</i>	Head or Hair	k ^w
m	<i>Neema</i>	Feel	m
mm	<i>Tammu</i>	Sinew	m:
n	<i>Nobi</i>	House	n
ng	<i>Yongo-tabino</i>	Afternoon	ŋ
nn	<i>Punipenni</i>	Looking	n:
p	<i>Puku</i>	Horse	p (always used initially)
s	<i>Somaha</i>	Breathe	s
sh	<i>Pisha'yu</i>	Good	ʃ
t	<i>Toishabui</i>	Chokecherry	t (Always used

Consonant	Bannock/Northern	Translation	IPA
Paiute			
			initially)
ts	<i>Totsigape</i>	Flower	<i>c</i>
tz	<i>Tzo'o</i>	Great Grandparent	<i>dz</i>
w	<i>Sawabi</i>	Big Sagebrush	<i>w</i>
y	<i>Noyunna</i>	All	<i>j</i>
z	<i>Pozena</i>	Buffalo	<i>z</i>
zh	<i>Pizhi'i</i>	Breast	<i>ʒ</i>

Vowel/Diphthongs	Bannock/Northern Paiute	Translation	Pronunciation Comment
<i>a</i>	<i>Kapa</i>	Bed	<i>a</i>
<i>ai</i>	<i>Kaiba</i>	Mountain	<i>ai</i>
<u><i>ai</i></u>	<i>Maishugatede</i>	Sit Still	<i>ɛɪ</i>
<i>aa</i>	<i>Saa'</i>	Boil	<i>a:</i>
<i>au</i>	<i>Miau</i>	Leave	<i>aʊ</i>
<i>e</i>	<i>Teka</i>	Eat	<i>i</i>
<i>ee</i>	<i>Ee</i>	You	<i>i:</i>
<i>i</i>	<i>Pakwi</i>	Fish	<i>i</i>
<i>ia</i>	<i>Pia</i>	Mother	<i>ie</i>
<i>ii</i>	<i>Tiipe</i>	Land	<i>i:</i>
<i>o</i>	<i>Noyunna</i>	All	<i>ɔ</i>
<i>oa</i>	<i>Hanoape</i>	Anytime	<i>ɔa</i>
<i>oi</i>	<i>Nakoi</i>	Fight	<i>ɔi</i>
<i>oo</i>	<i>Matoono</i>	Crawling	<i>ɔ:</i>
<i>u</i>	<i>Tabu</i>	Cottontail rabbit	<i>u</i>
<i>ua</i>	<i>Yadua</i>	Talk	<i>ua</i>
<i>ui</i>	<i>Tuika</i>	About	<i>ui</i>
<i>uu</i>	<i>Muuda'</i>	Donkey	<i>u:</i>
<i>ei</i>	<i>Kei</i>	Bite	<i>ii</i>

Vowel stress is very important in the Northern Paiute/Bannock language and deserves a brief mention. In general, vowel stress occurs on the second mora of the phonological word. Long vowels and diphthongs occurring in either the first or the second syllable of the word will draw primary stress (Thornes 2003).

NORTHERN PAIUTE/BANNOCK LEXICAL ITEM DEVELOPMENT

Caroline Teton-Racehorse was relied upon as the Bannock dialect consultant for the analysis. Mrs. Racehorse is currently 82 years old and grew upon along Lincoln Creek of the Fort Hall Reservation. She currently resides in the Fort Hall town site and is multilingual, capable of speaking the Bannock dialect of Northern Paiute, Shoshone, and English. As a child she learned to speak the Bannock dialect from her father, Joseph Teton, and Shoshone from her mother, Lily Cookman-Teton. She learned the English language as a third language when she was sent to Lincoln Creek Day School. Because Mrs. Racehorse was not sent away to boarding school she has retained her knowledge of the Bannock and Shoshone languages. However, she is the first to say that many of her Bannock words remain dormant because of a lack of use. A photograph of Mrs. Racehorse is provided in Figure 1.

FIGURE 1. PHOTOGRAPH OF CAROLINE TETON-RACEHORSE, SPEAKER OF THE BANNOCK DIALECT OF NORTHERN PAIUTE.



Kermit Bacon was the consultant used to document the Owyhee dialect that is currently spoken in Owyhee, Nevada. He has lived in Fort Hall, Idaho, for over 20 years and is a respected member of the community. Mr. Bacon stated his grandmother was most likely from Burns, Oregon, and that she spoke the Burns dialect. He has also mentioned he is not sure where the Kelley side of his family is from and that they probably speak an Owyhee dialect. Therefore, Mr. Bacon feels that the language he speaks has been influenced by at least two different dialects. For simplicity, the lexical items collected from Mr. Bacon have been included under the Owyhee dialect. Mr. Bacon is currently 45 years old.

Lexical items from the Burns dialect of Northern Paiute were taken from Timothy Thornes' (2003) dissertation *Northern Paiute Grammar with Text*. Although this grammar covers the entire Northern Paiute language, the dissertation states (Thornes 2003:iv) that "most of the raw field data comes from the dialect presently spoken by older members of the Burns Paiute Tribe in the Harney Valley region of eastern Oregon." Lexical items from McDermitt dialect were taken from *Northern Paiute*, a grammar by Allen Snapp and John and Joy Anderson (1982). This grammar was created from the spoken words of Allen Snapp, a native speaker of Northern Paiute. Mr. Snapp was born in McDermitt in 1919 and lived there most of his life. Lexical items of the Yerington dialect were obtained from the *Paiute – English, English – Paiute Dictionary* by Arie Poldevaart (1987) and *Yerington Paiute Language Grammar* by Dick et al. (1987).

Considering the Bannock have long lived among the Northern Shoshone, it is highly probable that linguistic borrowings from this language have occurred. Therefore, the Fort Hall dialect of the Northern Shoshone language was included in the analysis. Shoshone language lexical items were collected almost exclusively from the Idaho State University Shoshoni Online Dictionary (www.shoshonidictionary.com). The lexicon of the Fort Hall dialect of Shoshone is based upon elicitations from Drusilla Gould, a Shoshone-Bannock Tribal member from Fort Hall, Idaho. However some of the Shoshone lexical items used in the analysis, which are not listed in the Shoshone Online Dictionary, were elicited from Caroline Racehorse. These elicitations were transcribed using the Shoshone orthography developed by Gould and Loether (2002).

To make the comparison easier all lexical items were put into a single standardized orthography or writing system. To do this the following Orthography Key (Table 2) was developed and used to standardize the various orthographies used on the Northern Paiute language. This writing system was also used to make reading the Northern Paiute and Bannock lexical items easier for those not trained in using the International Phonetic Alphabet (IPA). A comparison of the Shoshone language writing system was also included in the key. However, Shoshone lexical items were not put into the Bannock/Northern Paiute writing system because Shoshone is a separate language.

TABLE 2. ORTHOGRAPHY KEY OF VARIOUS WRITING SYSTEMS USED TO DOCUMENT NORTHERN PAIUTE DIALECTS AND THE SHOSHONE LANGUAGE.

CONSONANTS AND VOWELS

Northern Paiute	Yerington Paiute	IPA	Shoshone
--	<i>dd</i>	<i>d</i>	--
--	<i>dds</i>	<i>dz, ź</i>	<i>dz</i>
--	<i>nng</i>	<i>ŋ:</i>	--
--	<i>q</i>	<i>q</i>	--
--	<i>qw</i>	<i>qw</i>	--
--	--	<i>t:</i>	<i>t</i>
--	<i>tz</i>	<i>ts</i>	--
--	--	<i>k:</i>	<i>k</i>
--	<i>gw</i>	<i>ɣw</i>	<i>gw (medial)</i>
--	<i>ggw</i>	<i>gw</i>	--
--	--	<i>xk</i>	<i>hk</i>
--	--	<i>hn</i>	<i>hn</i>
--	--	<i>hs</i>	<i>hs</i>
--	--	<i>hθ</i>	<i>ht</i>
--	--	<i>hw</i>	<i>hw</i>
--	--	<i>hy</i>	<i>hy</i>

Northern Paiute	Yerington Paiute	IPA	Shoshone
--	--	<i>dž</i>	<i>j</i>
--	--	ϕ	<i>f</i>
‘	‘	γ	‘
a	<i>a</i>	<i>a</i>	<i>a</i>
aa	<i>aa</i>	<i>a:</i>	<i>aa</i>
b	<i>b</i>	β	<i>b</i> (medial)
b	<i>bb</i>	<i>b</i>	--
ch	--	\check{c}	<i>ch</i>
d	<i>d</i>	<i>d, r</i>	<i>d</i> (medial)
e	<i>u</i>	<i>ɨ</i>	<i>e</i>
ee	<i>uu</i>	<i>ɨ:</i>	<i>ee</i>
ei	<i>ue</i>	<i>ɨ i</i>	<i>ei</i>
g	<i>g</i>	γ	<i>g</i> (medial)
gg	<i>gg</i>	<i>g</i>	--
h	<i>h</i>	<i>h</i>	<i>h</i>
i	<i>e</i>	<i>i</i>	<i>i</i>
ii	<i>ee</i>	<i>i:</i>	<i>ii</i>
k	<i>k</i>	<i>k</i>	<i>g</i> (initial)
kw	<i>kw</i>	<i>kw</i>	<i>gw</i> (initial)
m	<i>m</i>	<i>m</i>	<i>m</i>

Northern Paiute	Yerington Paiute	IPA	Shoshone
<i>mm</i>	<i>mm</i>	<i>m:</i>	<i>mm</i>
<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>
<i>ng</i>	--	<i>ŋ</i>	<i>ng</i>
<i>nn</i>	<i>nn</i>	<i>n:</i>	<i>nn</i>
<i>o</i>	<i>o</i>	<i>o, ɔ</i>	<i>o</i>
<i>oo</i>	<i>o</i>	<i>o:</i>	<i>oo</i>
<i>p</i>	<i>p</i>	<i>p</i>	<i>b</i> (initial)
<i>s</i>	<i>s</i>	<i>s</i>	<i>s</i>
<i>sh</i>	--	<i>š</i>	<i>sh</i>
<i>t</i>	<i>t</i>	<i>t</i>	<i>d</i> (initial)
<i>ts</i>	<i>ts</i>	<i>c</i>	<i>ts</i>
<i>u</i>	<i>oo</i>	<i>u</i>	<i>u</i>
<i>uu</i>	<i>ooo</i>	<i>u:</i>	<i>uu</i>
<i>w</i>	<i>w</i>	<i>w</i>	<i>w</i>
<i>x</i>	--	<i>x</i>	--
<i>y</i>	<i>y</i>	<i>j</i>	<i>y</i>
<i>z</i>	<i>z</i>	<i>z</i>	<i>z</i> (medial)
<i>zh</i>	--	<i>ž</i>	<i>zh</i>

DIPHTHONGS

Northern Paiute	Yerington Paiute	IPA	Shoshone
<u><i>ai</i></u>	--	ɛ	<u><i>ai</i></u>
--	--	ɛ:	<u><i>aii</i></u>
<i>ai</i>	<i>i</i>	<i>ai</i>	<i>ai</i>
<i>au</i>	<i>ow</i>	<i>aʊ</i>	<i>au</i>
--	--	<i>ɪi</i>	<i>ei</i>
<i>oi</i>	<i>oe</i>	<i>oi</i>	<i>oi</i>
<i>ui</i>	--	<i>ui</i>	<i>ui</i>
<i>ia</i>	--	<i>ia</i>	--
<i>oa</i>	--	<i>oa</i>	--

Using the sources identified above and spoken elicitations, lexical items from each Northern Paiute dialect and the Shoshone language were entered and matched to an English equivalent. The number of lexical items collected for each dialect included: Bannock (1409), Owyhee (294), Burns (760), McDermitt (727), Yerington (533), and Shoshone Language (853).

LEXICON COMPARISON

The comparison method used to identify differences and similarities between the various dialects of Northern Paiute and Shoshone is similar to the methodology developed by Swadesh (1955). However, other lexical items were included in the analysis, in addition to some of the so called “culture free” lexical items used in Swadesh’s method. The method used here is also different in that an attempt to estimate time depth using the cognates was not done because linguistic research has shown there really is no constant rate of loss or retention across languages through time (Campbell, 2002). Nonetheless, we believe that aspects of Swadesh’s (1955) method can be useful for determining differences and similarities between related languages. Table 3 provides a listing of lexical items used in the cognate comparison.

TABLE 3. LEXICAL ITEMS USED IN THE COGNATE COMPARISON OF THE NORTHERN PAIUTE AND SHOSHONE LANGUAGES.

ENGLISH	BANNOCK	BURNS PAIUTE	MCDERMITT PAIUTE	YERINGTON PAIUTE	OWYHEE PAIUTE	SHOSHONE
ABOVE	PA'A	PA'A	PA'A	PA'A	PA'A	BA'A
ABSENT	KATU'U	KADU'U	KADU'U, KADU	KADU'U	KADU'YU	GAIHAIWA'I
AGAIN	TEWAU	TIWAU	TEWAU, TEWAZU	TEWAZU	TEWAZU	DEASEN
ALREADY	MO'ASE, WIO	MU'ASU	MUASU	MU'ASU	MAASE HA	BAJSHEN
ALSO	TEWAU TIMA	TIWAU, PENO'O, PENNO'O, TEWAO	TEWAU, TEWAZU	TEWAZU	TEWAZU	DEASEN
ALWAYS	O'NONOSE, NO'OSU	UUSAPA	NONOTSA, UUSAPA	UUSABBA	NANOTSI'	OYOSEN
ANT	ANI, ANINA, ANINYA, AANI	ANIBI	ANI	HA'INABI	ANI	AANI
ASK	TEBINGE	TEPINGA	TEENGA	TEBINGE	TEBENGE	NIWAI-, DEBINNI
BABY	OHA'A, ONGA'A	OHA'A	ONGA'A	OHA'A	OWA'	DEAIPEDE
BADGER	HUNA, HUNANA	HUNNA	HUNA	HUNNA	HUDA	HUU'NA
BAG	MAGO'O	MAKO	MAGO'O	MAGO'O	MOGO	MOGOTSI
BEAR	WEDA, WEDA'A	WEDA'A	WEDA'A	PADUA	WEDA'	WEDA
BED	KAPA, KAPPA	HABINO	KAPA	GAPA	KAPA	GAPAI
BIG	PABA'YU	PABA'YU, PABAU	PABA'YU, PABA	PABA'YU	PABA	BIAI'CHI'
BIRD	HUZIBA, HUZIBA'A	HUDZIBA	HUTSIBA'A	HUTSIBA	HUZI	HUCHUU'
BITE	KEI, KEKKA'A	KE'I	KEI	KUIPE	KEYU	GETSIA-
BLACK	TUHUUKWICHADE, TUHUUKWACHADE	TUHUUKWICHADE	TUU-, TU(HU)	TUHUGGWID DADDE	TUHUKWICHA	DUHUBITE
BLOOD	PEEPI, PE'EPPI	PEE	PEEPI	BBEEPI	PEEPI	BEEPI
BLUE	PUHIKWECHADE,	PUHIKWICHADE	PUHI, PUI	PUHIGGWIDD	AHOWIKWECHA,	AI'BEHIBITE

ENGLISH	BANNOCK	BURNS PAIUTE	MCDERMITT PAIUTE	YERINGTON PAIUTE	OWYHEE PAIUTE	SHOSHONE
	<i>ΔIBUHIKWACHADE</i>			<i>ADE</i>	<i>ABOWIKWECHA</i>	
BROTHER, ELDER	<i>PABI'I</i>	<i>PABI</i>	<i>PABI'I</i>	<i>PABI'I</i>	<i>PABI'</i>	<i>BABI'</i>
CHILD	<i>TUHAYU, TEHA'YU</i>	<i>TUA-</i>	<i>TUA'A</i>	<i>TEA'AYU</i>	<i>TUDUAME</i>	<i>DEAIPEDE</i>
CHILDREN	<i>TEDUAKI, TUAME</i>	<i>TUAKI, TUAME</i>	<i>TUAKI</i>	<i>TUAMEBI</i>	<i>TODOAKI</i>	<i>BAHA', DUDUA'</i>
CHOCKECHERRY	<i>TO'ISABUI, TOISHABUI</i>	<i>TOISSAPUI</i>	<i>TOOISABUI</i>	<i>TOISABBUI</i>	<i>TOISHABUI</i>	<i>DOO'NAMBI</i>
COLD	<i>EZETEDE, EZETSE, EEZETSE</i>	<i>EDZETSE, EZETSE</i>	<i>EZESI</i>	<i>ETZETZE</i>	<i>EZETSE, NA'EZETE</i>	<i>EZHE'I</i>
COYOTE	<i>IZA, IZA'A</i>	<i>IDZA'A, IDZA</i>	<i>IZA'A</i>	<i>ITZA'A</i>	<i>IZA</i>	<i>IZHAPE'</i>
DAY	<i>TABINO, TABINGYO, TABAIYU</i>	<i>TABI</i>	<i>TABINU</i>	<i>TABINO</i>	<i>KUTABOI</i>	<i>DABAIYI</i>
DEER	<i>TEHICHA, TEHECHA</i>	<i>WIZI-GA'YU, TEHECHA</i>	<i>TEHEJA</i>	<i>TEHEDDA, WIZIGA'YU</i>	<i>TEHICHA, TEHECHA</i>	<i>DEHEYA'</i>
DOG	<i>SADEE', SADE', SATE'E, SADE'E</i>	<i>TOGE, SADE'E, DUDZI'I, TOOGE, SOGO PUKU</i>	<i>DOOGE, SADE'E</i>	<i>TOGE</i>	<i>SADI', NADEMI</i>	<i>SADEE'</i>
EAGLE	<i>PABAGWINA, NEWE KWINA'A, PABA KWINA'A, PABAGWI'NAA'A, KWINAA'A</i>	<i>KWI'NAA</i>	<i>KWI'NA'A</i>	<i>KWE'NA'A</i>	<i>NEME-KWINA, TUU- KWINA</i>	<i>BIA GWI'YAA'</i>
EAR	<i>NAKA, NAKKA</i>	<i>NAKA</i>	<i>NAKA</i>	<i>NAKA</i>	<i>NAKA</i>	<i>NAINGI</i>
EAT	<i>TEKA, TEKKA</i>	<i>TEKA</i>	<i>TEKA</i>	<i>TEKA</i>	<i>TEKAU</i>	<i>DEKA</i>
FATHER	<i>NA, NAA</i>	<i>KAIN NAA'A, NA</i>	<i>NAA</i>	<i>NAA'A</i>	<i>NA</i>	<i>APE'</i>
FIND	<i>EMA'YUNA, MAYEE</i>	<i>MAYE</i>	<i>MAYE</i>	<i>MA'YE</i>	<i>MAYE</i>	<i>DA'ODA-</i>
FISH	<i>PAKWI</i>	<i>PAKWI</i>	<i>PAKWI</i>	<i>PAGGWI</i>	<i>PAKWI</i>	<i>BAI'NGWI</i>

ENGLISH	BANNOCK	BURNS PAIUTE	MCDERMITT PAIUTE	YERINGTON PAIUTE	OWYHEE PAIUTE	SHOSHONE
GIRL	TSEA'A	TSEA'A	TSIA'A	TETS'I'YU SEA'A	TSEA	NAIBE
GOOD	PISHA, PISHAKU, PISHAYU	PISA, PIZA'YU, PISAU	PISA	PISA'YUU	PISHA'YU	TSAAN
GREEN	PUHIKWICHADE	PUHIKWICHADE	PUHI, PUI	SAGWA'NI ENE PUHIGGWIDD ADE	PUHIKWACHA	BUHIBITE
GROUNDHOG	KIDE, KITHE	KIDE	KIDE	KIDE	KIDE	YAHA
HAND	MAI	MAI	MAI	MMAI	MAI	MO'O
HEAD	KWOO, KWO	WHO	KWOBI	DDSOPIGI	WOO, KWOO	BA'MBI
HEAR	NAKA	NAKA, NAKAPENI	NAKA	NAKA	ONAKA	NANKAH
HELP	TEMAZAI, TEMAZAIOTUA	TIMADZAI	TAMAZA'I	TEMMATZAI	TEMAZAI	DEMAZAI'-
HORSE	TUISE, PUKU, TUIISHI	WISIPUGGU, PUKU	PUKU	BBUGGU	PUKU	DEHEE'YA
HOUSE	NOBI	NOBI	NOBI	NOBI	NOBI	GAHNIN
HUSBAND	KUMA, KUUMA	KUMA	KUMA	GGUMA	KUMA	NADA'INAPE', GUHAPE'
KILL	PATSAU, PATSA	KOI (PL), PATSA	KOI (PL), PATSA-	PATZA'HU	PATSA	BA'KA-
MAN	NANA	NANA	NANA	NANA'A	NANA	DA'INAPE'
MANY	EWAYUNE, IWAU, IWAYU	IWATS'I'YU, IWA	IWA	IWA	IWA'YU	SOONDE, DUKUMBA'J- BA'I
MAYBE	SEMEBA	SEMENA	SEMENA	SEMENA, SEMEBA	SEMENA	NOONGIA
MINE	NEGA	NEGA	NEGA	NEGA	NEGATE	NEA

ENGLISH	BANNOCK	BURNS PAIUTE	MCDERMITT PAIUTE	YERINGTON PAIUTE	OWYHEE PAIUTE	SHOSHONE
MORE	TEWAU, EWASU	UHUNAKWA	UUNAKWA	MAMI'ISU	IWASU	DEASE
MY [+NOUN]	II	I	II	I	I	NEAN
NIGHT	TUKANO, TOKANNO	TOKAANO	TOGANO, TOGANU	TOGANO	TOKANO	DUGAANI
NINE	SEMEWEMIHOIDE, SEWEUKATU'UPE	SEME KADU'UPE	SEMEKADUPE	SEME KADUPE	SEMEWATSI	SEEMONOWEMIHYAND E
NO	KAI	KAI	KAI	KAI	KAI	GAJ
ONE	SEME'YU	SEME'YU	SEME'YU	SEME'YU	SEME'YU	SEMME'
PEOPLE	NEME	NEME	NEME	NEME	NEME	NEWE
RABBIT	KAMME	KAMU	KAME	KAMME	KAMMA	GA'MMU
RAIN	PAMA, PAAMMA	POWMA, PAUMA, PAUMABA	BAU'MA	POWMA	PAMABE	BA'EMMA-
RED	ATSAKWICHADE, ATSAKWACHADE	ATSAKWICHADE	ATSA	ATSA- GGWIDDADU	ATSAKWECHIA'	ΔINGABITE
RELATIVE	NANEWE	NANEME	NANEME	NANEME	NANEMA	NANE'WE
ROCK	TEPI, TEPII	TEPI', TEPI	TEPI	TEBBI	TEPI	DEMBI
RUN	AHOMENAI	TANO HOMANI	TA'NOMANAI, TANOMANI	TANO HOMAN NI	TAMONANA KIA	NUKI-
SALT	ONABI, ONGABI	ONGABI	ONGABI	ONGABI	ONABI	ONAA'BI
SEE	PUNI	PUHWI, PUNNI	PUNNI	PUNNI	PUNI	BUI
SHOE(S)	MOKO	MOKO	MOKO	MOKO	MOKO	NAMBE
SHORT	KEPITE	MIITSI	MIITSI	MIITSI'YU	KAI UDE	GEBINDE', GEBII
SIT	KATE, KATTE	KATE	KADE	KATE	KATE	GADE-
SMALL	TETSIYU	TEETSI	TEETSI	ENEITS'I'	TETSI	DEIDE'
SNOW	NEBABI	NEBABI	TEEKWA	NEBABI	NEBABI	DAKAWEIFE'NNI

ENGLISH	BANNOCK	BURNS PAIUTE	MCDERMITT PAIUTE	YERINGTON PAIUTE	OWYHEE PAIUTE	SHOSHONE
STAND	WENU, WENNE	WENE	WENE	WENE	WENU	WEE'NE-
SUN	TABA	TABA	TABA	TABA	TABA	DA'BAI
TASTE	KAMMA	KAMMA	KAMA	KAMA, ADEMMA	TEMA	GAMA
TEACH	TENICHUI	TENICHUI	TENIJUI	TENIDDUI	TENICHUI	TSATEBOOFOIN-
TEN	SEMANOYU, SEWANOYU, SEEWANOYU	SEME MANO'YU	SEMEMANOI	MANO'YU	SEMENANO'YU	SEEMOTEN
THEM	EME, EMME	EME-	UME	EMI	EME	UDEI'
THERE	O'O	O'O, OWI	O, O'O'O, ONA	ONO	O'O	OKU
THREE	PAHI'YU	PAHI'YU	PAHI'YU	PAHI'YU	PAHI'YU	BAHAITEE'
TOBACCO	PAHMU, PAHMUU	PAHMU	PAHMU	PUIBAHMU	PAHMU	BA'HMU
TOMORROW	MUUA, MU'A	MO'A	MUUA, MUU'A	MUU'A	MU'WA	IWAA'
TROUT	PISHAPAKWI, PISAPAKWI	KAIBA AGAI	AGAI	AGAI	PAKWI	TSAA-BAINGWI
TWO	WAHA'YU	WAHA'YU	WAHA'YU	WAHA'YU	WAHA'YU	WAHATEHWE
WATER	PAA	PAA	PAA	PAA'A	PAA	BAA'
WE	TAMMI, TA'A	TAMMI	TAMMI	TAMMI	TAMMI	DAMME
WEASEL	PABIZI', PABITS'I', PABIZI	PABIDZI'I'	PABITSI	PABIDDSI	PABIZHI	BABIZHII'
WHAT	HIMMA, HIMA	HAYU, HIMMA, HAGA	HIMMA, HII	HII	HII, HIA	HAGAI'
WHEN	HANANO, NEIDE?	HANANO	HANANO'O	HANANO'O	HANANO	HIMBAI'
WHERE	HANU	HANNO	HANO	HANNO	HENU	HAGA'
WHITE	TOSAKWICHADE	TOHAKWICHADE	TOHA	TOHA-	TOHAKWICHA	DOSABITE

ENGLISH	BANNOCK	BURNS PAIUTE	MCDERMITT PAIUTE	YERINGTON PAIUTE	OWYHEE PAIUTE	SHOSHONE
				GGWIDDADE		
WHO	HAGA	HAGA, HAKA, HIMMA	HAGA	HAGA, HAKA	HAGA	HAGAADEN
WIFE	NODEKWA	NOTEKWA, NODIKWA	NODEKWA	NODEGGWA	NODEKWA	GWEE'
WINTER	TOMMO, TOMO	TOMMOBA	TOMO	TOMMO	TOMO	DOMMO
WOLF	ISHA, ISSA	ISSA, ISA	ISA	ISA	ISHAYAI'	I'SHA
WOMAN	MOGO'NI	MOGO'NI, MOKO'NI	MOGO'NI	MOGO'NI	MOGO'NI	WA'AIPE'
WOMAN, OLD	HEBIZHO'	PIAWABI	PIAWABI	PIAWABI	PIA WABI'	HEEBIZHO'O
WOMEN	MOMOKO'NI	MO'MOKO'NI	MOMOKO'NI	MOMOKO'NI	MOMOKONI	WAIPENE
YELLOW	OHAKWICHADE	OHAKWICHADE	OHA	OHA-	OYAKWACHE	OHABITE
				GGWIDDADE		
YES	AH HAA	AHAA	AHA	AAHA	AHA	HAA'
YESTERDAY	IZI'I	IDZI'I	IZI'I	ITZI'I	IZI'	GENDUN
YOU, SINGULAR	EE	EH, EE	E	E	E	ENNE

Following Swadesh's method, lexical items found to have attestable phonetic correspondences were identified as a cognate. In other words, lexical items were considered to have a positive correspondence set when the items exhibited reflexes of a common proto-form. For example, the Bannock lexical items *Wenu* for "stand" and Burns *Wene* for "stand" have attestable correspondences because they share the root *Wen-*. Lexical items found not to have attestable correspondences were scored as a zero (i.e., not a cognate). For example, the Bannock *izi'i* for "yesterday" and the Shoshone "*gendun*" for "yesterday" clearly do not exhibit reflexes of a common proto-form. Lexical items were also considered a cognate when reflexes of the common proto-form were identified with at least one of the lexical items listed under a single English equivalent.

TABLE 4. COGNATE SCORE RESULTS OF PHONETIC CORRESPONDENCE ANALYSIS.

ENGLISH	BANNOCK	BURNS PAIUTE	MCDERMITT PAIUTE	YERINGTON PAIUTE	OWYHEE PAIUTE	SHOSHONE
ABOVE	1	1	1	1	1	1
ABSENT	1	1	1	1	1	0
AGAIN	1	1	1	1	1	0
ALREADY	1	1	1	1	1	0
ALSO	1	1	1	1	1	0
ALWAYS	1	0	1	0	1	1
ANT	1	1	1	1	1	1
ASK	1	1	1	1	1	0
BABY	1	1	1	1	1	0
BADGER	1	1	1	1	1	1
BAG	1	1	1	1	1	1
BEAR	1	1	1	0	1	1
BED	1	0	1	1	1	1
BIG	1	1	1	1	1	0
BIRD	1	1	1	1	1	1

ENGLISH	BANNOCK	BURNS PAIUTE	MCDERMITT PAIUTE	YERINGTON PAIUTE	OWYHEE PAIUTE	SHOSHONE
BITE	1	1	1	1	1	1
BLACK	1	1	1	1	1	1
BLOOD	1	1	1	1	1	1
BLUE	1	1	1	1	0	0
BROTHER, ELDER	1	1	1	1	1	1
CHILD	1	1	1	1	1	0
CHILDREN	1	1	1	1	1	1
CHOKECHERR Y	1	1	1	1	1	0
COLD	1	1	1	1	1	1
COYOTE	1	1	1	1	1	1
DAY	1	1	1	1	0	1
DEER	1	1	1	1	1	1
DOG	1	1	1	0	1	1
EAGLE	1	1	1	1	1	1

ENGLISH	BANNOCK	BURNS PAIUTE	MCDERMITT PAIUTE	YERINGTON PAIUTE	OWYHEE PAIUTE	SHOSHONE
EAR	1	1	1	1	1	1
EAT	1	1	1	1	1	1
FATHER	1	1	1	1	1	0
FIND	1	1	1	1	1	0
FISH	1	1	1	1	1	1
GIRL	1	1	1	1	1	0
GOOD	1	1	1	1	1	0
GREEN	1	1	1	1	1	1
GROUNDHOG	1	1	1	1	1	0
HAND	1	1	1	1	1	0
HEAD	1	1	1	0	1	0
HEAR	1	1	1	1	1	1
HELP	1	1	1	1	1	1
HORSE	1	1	1	1	1	0
HOUSE	1	1	1	1	1	0
HUSBAND	1	1	1	1	1	1

ENGLISH	BANNOCK	BURNS PAIUTE	MCDERMITT PAIUTE	YERINGTON PAIUTE	OWYHEE PAIUTE	SHOSHONE
KILL	1	1	1	1	1	0
MAN	1	1	1	1	1	0
MANY	1	1	1	1	1	0
MAYBE	1	1	1	1	1	0
MINE	1	1	1	1	1	1
MORE	1	0	0	0	1	0
MY [+NOUN]	1	1	1	1	1	0
NIGHT	1	1	1	1	1	1
NINE	1	1	1	1	1	1
NO	1	1	1	1	1	1
ONE	1	1	1	1	1	1
PEOPLE	1	1	1	1	1	1
RABBIT	1	1	1	1	1	1
RAIN	1	1	1	1	1	1
RED	1	1	1	1	1	0
RELATIVE	1	1	1	1	1	1

ENGLISH	BANNOCK	BURNS PAIUTE	MCDERMITT PAIUTE	YERINGTON PAIUTE	OWYHEE PAIUTE	SHOSHONE
ROCK	1	1	1	1	1	1
RUN	1	1	1	1	1	0
SALT	1	1	1	1	1	1
SEE	1	1	1	1	1	1
SHOE(S)	1	1	1	1	1	0
SHORT	1	0	0	0	0	1
SIT	1	1	1	1	1	1
SMALL	1	1	1	1	1	0
SNOW	1	1	0	1	1	0
STAND	1	1	1	1	1	1
SUN	1	1	1	1	1	1
TASTE	1	1	1	1	1	1
TEACH	1	1	1	1	1	0
TEN	1	1	1	1	1	1
THEM	1	1	1	1	1	0
THERE	1	1	1	1	1	1

ENGLISH	BANNOCK	BURNS PAIUTE	MCDERMITT PAIUTE	YERINGTON PAIUTE	OWYHEE PAIUTE	SHOSHONE
THREE	1	1	1	1	1	1
TOBACCO	1	1	1	1	1	1
TOMORROW	1	1	1	1	1	0
TROUT	1	0	0	0	1	1
TWO	1	1	1	1	1	1
WATER	1	1	1	1	1	1
WE	1	1	1	1	1	1
WEASEL	1	1	1	1	1	1
WHAT	1	1	1	1	1	0
WHEN	1	1	1	1	1	0
WHERE	1	1	1	1	1	0
WHITE	1	1	1	1	1	1
WHO	1	1	1	1	1	1
WIFE	1	1	1	1	1	1
WINTER	1	1	1	1	1	1
WOLF	1	1	1	1	1	1

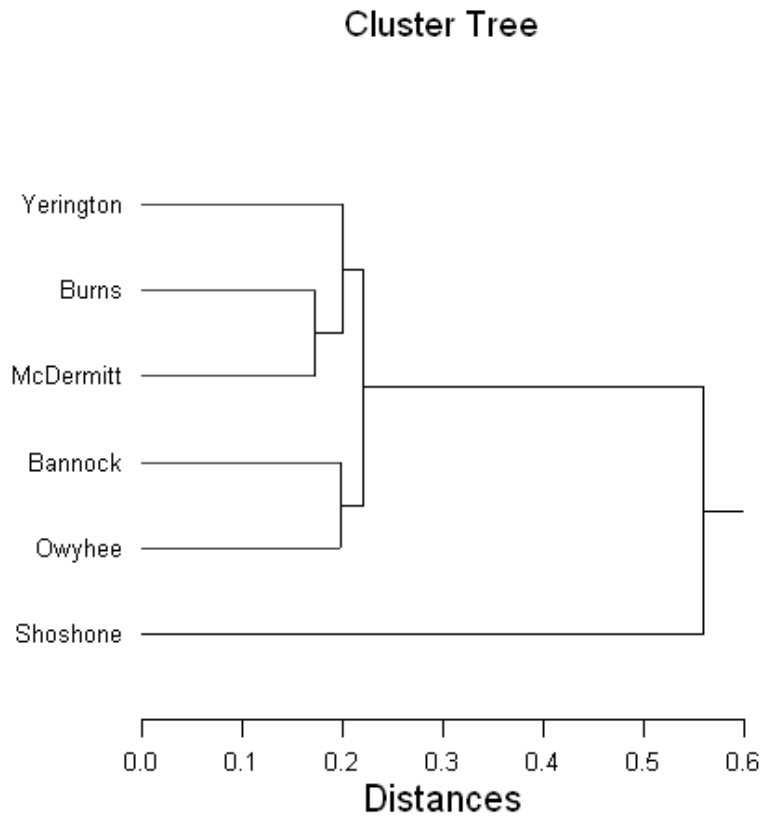
ENGLISH	BANNOCK	BURNS PAIUTE	MCDERMITT PAIUTE	YERINGTON PAIUTE	OWYHEE PAIUTE	SHOSHONE
WOMAN	1	1	1	1	1	0
WOMAN, OLD	1	0	0	0	0	1
WOMEN	1	1	1	1	1	0
YELLOW	1	1	1	1	1	1
YES	1	1	1	1	1	1
YESTERDAY	1	1	1	1	1	0
YOU,	1	1	1	1	1	1
SINGULAR						
Percent	100	94	95	92	96	61
Similarity						

Table 4 provides the cognate scores of the attestable phonetic correspondence analysis. The closest relative of the Bannock dialect is the Owyhee dialect. This is an expected result considering the Owyhee dialect is geographically closest, approximately 200 miles, from the Bannock dialect. The results could also have been affected by the fact that the Owyhee language consultant has lived in Fort Hall, Idaho, for the past twenty years and his language may have been influenced by the Bannock or Shoshone of Fort Hall. The Burns and McDermitt dialects scored a similarity value of 94 and 95 percent. This may be attributed to the history of where Northern Paiute bands were subsequently removed after the treaty making era and establishment of reservations. It is possible that these Northern Paiutes had closer ties or belonged to what Steward (1970) referred to as cohesive groups of larger spheres. The Yerington was found to be the most dissimilar to the Bannock dialect with a similarity value of 92 percent. Nonetheless, the Bannock, Owyhee, Burns, McDermitt, and Yerington dialects differ by no more than eight percent. Shoshone is only 61 percent similar to the Bannock dialect and is thus likened to a comparison between English and German. In other words, they are not mutually intelligible languages, but are clearly derived from a common ancestral language.

A hierarchical cluster routine of the data was run to detect natural groupings of the lexical data using MYSTAT 12. The hierarchical cluster routine was used because it can identify lexical items into subgroups when the number

or members of the subgroups are unknown. It was also used because the dataset was smaller than 250 cases. The output of the hierarchical clustering depicts the cognate linking results as a cluster tree or dendrogram (Figure 2). Cluster distances were computed as the chi-square measure of independence of rows and columns on 2-by-n frequency tables, formed by pairs of cases (or variables). The chi-square is used when the data are counts of objects or events, such as ones (i.e., descended from a common proto-language) and zeros (i.e., unrelated lexical items) for cognate similarity.

FIGURE 2. CLUSTER TREE IDENTIFYING COGNATE LINKAGE BETWEEN DIALECTS OF NORTHERN PAIUTE AND THE SHOSHONE LANGUAGE.



The results of the cluster are very similar to the percentages results. The closest relative of the Bannock dialect is the Owyhee dialect. The Burns and McDermitt dialects form a related cluster and are the most similar of all the Northern Paiute dialects analyzed. The Bannock, Owyhee, Burns, and McDermitt dialects form a cluster separate from Yerington, which would support the northern and southern superdialect conclusions made by Dick et al (1987:1) and Fowler and Liljeblad (1986:435). Fowler and Liljeblad (1986) state that the isogloss bundle between the northern and southern speech groups occurs near Pyramid Lake where speakers of both dialects reside.

LOAN WORDS AND BORROWINGS

All languages have linguistic loanwords and other borrowings. A loanword is a lexical item which has been borrowed from another language and was not originally part of the vocabulary of the recipient language (Campbell 2004:63). This process is also called linguistic borrowing (Campbell 2004:62) and is not restricted to only lexical items. It can include borrowings of sounds, phonological rules, grammar, syntactic patterns, semantic associations, etc. Borrowing is very prevalent where there is bilingualism or multilingualism. Some of the major reasons why languages borrow from one another is because of need or prestige. For example, prior to the coming of the whiteman, there was no word for “chief” in Bannock, and when the Bannock first encountered the French trappers they were introduced to the concept of a “chief.” They likely observed the fur trappers referring to their headman as *capitaine*, and adopted this word to refer to a chief

or headman. Therefore, it is reasonable to conclude that the Bannock borrowed the French word, as *kapita'a*, and used the word to refer to someone who could talk for the group.

Table 5 identifies borrowings or loanwords with comments about why or where the lexical item may have been borrowed or its possible history. This is an incomplete list and only includes the lexical items included in the study. It should also be noted that the direction of borrowing, for example from Shoshone to Bannock, is difficult and in some cases impossible to know for certain. However, inferences on directionality can be made based upon phonological rules of the languages, known history, and Numic expansion theories.

TABLE 5. BANNOCK LOANWORDS.

Bannock	Donor	English	Comment
Lexicon	Language	Translation	
<i>Hebizho'</i>	Unknown	Old woman	Essentially the same as Shoshone, but similar to other Numic languages (e.g., Mono <i>Hebitsi'</i>)
<i>Kapi</i>	English	Coffee	Corrupt form of the English word for "coffee".
<i>Kapita'a</i>	French	Captain	Prior to the coming of the whiteman there was no word for "chief" in Bannock, and when the Bannock first encountered the French trappers they were introduced to the concept of a "chief" or "headman". They likely observed the fur trappers referring to their headman or chief as <i>capitaine</i> , and adopted this word to refer to headman. The Bannock word for "chief", "chief", or "boss" is <i>Kapita'a</i> .

Bannock	Donor	English	Comment
Lexicon	Language	Translation	
<i>Mubi</i>	English	Automobile	The Bannock shortened the English word “automobile” to simply <i>mubi</i> . <i>Kaazi</i> is a corrupt English form of “car” used in the McDermitt and Burns dialects.
<i>Napiase</i>	Shoshone?	Money	The Bannock and Owyhee word for “money”, <i>Napiase</i> , is possibly borrowed from the Shoshone who were likely the first to encounter the whiteman. However, the word just have likely been borrowed from another Indian tribe. The McDermitt and Yerington, <i>moni'i</i> or <i>moonii</i> , word for “money” are obvious corrupt forms of the English word for money.
<i>Pahakabe</i>	Shoshone	Ice	This word is essentially the same as the Shoshone word for ice is likely a borrowing.

Bannock	Donor	English	Comment
Lexicon	Language	Translation	
<i>Pozena</i>	Shoshone?	Buffalo	This word is very similar to the Shoshone word for buffalo, <i>Bozheena</i> , and this may be a borrowing from this language. The meaning of the word <i>Pozena</i> may be describing the shaggy head of the animal.
<i>Puku, Tuishe, Tuishi</i>	Shoshone	Horse	The Shoshone were likely the first to acquire the horse and thus either borrowed or coin a name for the horse first. There are basically two words in Shoshone for horse and they are <i>Dehee'ya</i> and <i>Bungu</i> . <i>Tuishe</i> , <i>Tuishi</i> , and <i>Puku</i> are all likely corrupt forms of <i>Dehee'ya</i> and <i>Bungu</i> . The root word used for the Burns word for horse, <i>Wisipuku</i> , is derived from the <i>Bungu</i> as well. However, the

Bannock	Donor	English	Comment
Lexicon	Language	Translation	
			<p>meaning of <i>Wisi-</i> is unknown.</p> <p>Apparently, the original meaning of the word, <i>Puku</i>, means “Pet”.</p>
<i>Sadee’, Sade’</i>	Unknown and English	Dog	<p>This word is essentially the same as the Shoshone word for dog, but only differs in accent. The origins of these words are unknown. The Burns and McDermitt words for dog are simply a corrupt pronunciation of the English word dog.</p>
<i>Taibo</i>	Shoshone	Whiteman	<p>This word was likely borrowed from the Shoshone. The word refers to “the man who writes about us”. Tai- [us] bo-[write].</p> <p>The Shoshone Indians who the first to encountered Lewis and Clark may have observed them writing things down and this observation was different</p>

Bannock	Donor	English	Comment
Lexicon	Language	Translation	
			<p>enough to give them the name “the man who writes on paper” or <i>Taibo</i>. The Bannock word for newspaper, <i>Aishitebope</i>, may have also borrowed the sound innovation or phoneme that is very rare in other dialects of Northern Paiute, that is the “<u>ai</u>” or /ɛ/ sound.</p>
<i>Tazyumbe</i>	Shoshone	Star	<p>This word is very similar to the Shoshone word for “star” and is likely a borrow. The Shoshone word for “star” is <i>Da’ziyumbi</i>.</p>
<i>Tedeaide</i>	Shoshone	Work	<p>This word is likely a borrowing of the Shoshone word for “work”, which is <i>Dede’ai</i>.</p>
<i>Yagwatsa</i>	Shoshone or Mono	Frog	<p>This word very similar to Shoshone (<i>Yagwatsa</i>) and Mono (<i>Yagatsa</i>). Other Northern Paiute groups call the “frog”</p>

Bannock	Donor	English	Comment
Lexicon	Language	Translation	
			<i>Pamogo</i> , which literally means “water bag”.
<i>Semewemihoidé</i>	Shoshone	Nine	This word is very similar to Shoshone (<i>Seemonowemihyande</i>).

Some borrowings were also observed in other dialects of Northern Paiute. For example, McDermitt uses the term *kwidawo'yo* to describe magpie. This is very similar to the Shoshone term *gwidawo'yo* used to describe the magpie. This is an indication that the McDermitt Paiute, like the Bannock, also have a social-linguistic relationship with Shoshone. Burns and McDermitt have also borrowed English words that are not present in other dialects. This includes the English word for “school”, which is *Nazikuude* in Burns Paiute, and *Sekudu* in McDermitt. The English word for “chicken” may have also been borrowed into McDermitt, as *Tsikana*. The Burns and McDermitt dialects have also adopted *suga* into their vocabularies for the English word “sugar”.

Phonemic rules from Shoshone may have also been borrowed into the Bannock vocabulary. For example, the Bannock word for breast is */piži/* which is very similar to */biži/* in Shoshone. This is different from the Owyhee dialect of Northern Paiute for breast, which is */piza/*. Therefore, it would appear that the Bannock dialect may be borrowing the Shoshone phonological rule */s/→[š] / i ___* and */z/→[ž] / i ___*. A possible example of this rule being borrowed and applied to the Northern Paiute language is the Bannock word for good, */piša/* or */pišaku/*, where no other Northern Paiute dialect has */š/* in this word.

Another interesting finding was the borrowing of the */ɛ/* phoneme into the Bannock dialect. This sound innovation was not observed in any other dialect and was most likely borrowed from Shoshone in which this phoneme is ubiquitous. However, Liljeblad (1966) observed the */ɛ/* occurred infrequently

when /i/ or /ɨ/ was followed by /u/. For example, /hibiu/ is pronounced [hibɛ:u] by some speakers (Liljeblad 1966:15). This may have been the first appearance of the /ɛ/ phoneme in the Bannock dialect. Unfortunately, Liljeblad did not identify the dialect where this observation was taking place, nor did he mention it in Bannack I: Phonemes (Liljeblad 1950). However, considering much of his work came from the Bannock of Fort Hall, it is likely this observation was made in Fort Hall after his 1950 publication. It is possible that the first appearance of the /ɛ/ phoneme may have facilitated the phonemicization of the sound into the Bannock dialect. Two cases where this rule was observed were the words /mɛʂu/ and /wacikwɛ'yu/.

Thornes (2003:21) observed the phonetic [e] or [ɛ] and described it as an allophone of /a/. Thornes argued that these instances of vowel "raising" bear no relationship to the Proto-Numic sixth vowel. It is possible that Thornes made this conclusion based upon a few rare observations and thus did not include as a sixth vowel. Out of a total of 1409 lexical items, the [ɛ] phoneme was observed total of 16 times in common usage among the Bannock. Therefore, Thornes may very well be right to not include it as a sixth vowel. However, it is likely the phoneme has increased in usage among the Bannock since removal from aboriginal homelands to the Fort Hall Reservation with a much larger Shoshone speaking population. If the Bannock dialect continues in usage it is expected that this phoneme would increase in the lexicon through time.

There was also a case where the Bannock use a word not found in the Owyhee, McDermitt, and Burns dialects, but is found in the Yerington dialect. The Bannock word for sand, /*pasiwa*/, is very similar to the Yerington word for dust /*pasiwabi*/. While the words for dust in Owyhee is /*kusiva*/, /*kusi*/, /*kuciva*/, and the Burns word is /*kus:il*/, which are less similar. The latest theories about the Numic expansion would favor the Yerington speech group as speaking a dialect more closely related to the proto-language. This single relic word provides some evidence that the Bannock speech group may have been in place longer than the late 18th century as proposed by Liljeblad (1957) and Madsen (1996).

Being the furthest south, Yerington is more different than any of the other Northern Paiute dialects analyzed. For example, the word *mami'isu* (more), *huza* (nephew), *kudu'u* (stick), *nimaggemi* (a lie or false statement), and *sagwa'ni* (little) are all different than what is found in the other dialects. Interestingly, the Yerington word for “ground,” *sogo*, is very similar to the Shoshone word for “ground,” *sogope*. Differences in lexicons among the Yerington speech group and northern dialects provides evidence that there are significant differences between the north and south.

BANNOCK COMPOUND LEXICAL ITEMS

Compound words are formed from pieces (lexical items) or units that are (or were) themselves distinct words (Campbell 2004). Compounding is still an ongoing process for Bannock and other languages for that matter. Table 6

provides a collection of compound words observed in the Bannock dialect of Northern Paiute. The significance of compound words is that each dialect is likely to coin new compound words. Considering the speech groups are now separate the coining of new words may eventually lead to language divergence.

TABLE 6. BANNOCK COMPOUND WORDS.

Bannock Words	English Translation	Comment
<i>Sewenabo’o</i>	Ace	Literally means “one written on”.
<i>Hibi nobi</i>	Bar	Literally means “drinking house”.
<i>Pihategumahanipe</i>	Cake	Literally means “sweet or sugar bread”.
<i>Wahamatsipuide</i>	Tribal Business Council	The exact meaning of this word is not known but it may refer to “two extra”, “two-over five”, or “the twelve”.
<i>Tezikwehe</i>	Fork	Literally means “spear pick up”.
<i>Yuhubi</i>	Gas/Fuel	The root meaning of this word refers to fat and because fuel is like fat this word is used.
<i><u>A</u>ishitebope</i>	Newspaper	<u>A</u> ishi- refers to the color gray. Tebope is the word for paper. Therefore this word literally means “gray paper”.
<i>Atsahuzha</i>	Pheasant	Atsa- refers to the color red. Huzha is the word for sage grouse. Therefore, this word literally means “red sage grouse”.
<i>Tebopuni</i>	School	Tebo- is the lexical item for “paper”. -

Bannock Words	English	Comment
	Translation	<p><i>Puni</i> is the lexical item for “look”.</p> <p>Therefore the word for school literally means “looking at paper”.</p>
<i>Newe-tammu</i>	Sinew	<p><i>Newe</i> is the lexical item for “Indian or Indian People”. <i>Tammu</i> is the lexical item for “thread”. Therefore, the term literally means “Indian thread”.</p> <p>However, the original lexical item for sinew was probably <i>tammu</i>.</p> <p>Therefore, the Bannock needed to coin a new word when thread was first traded with them. Therefore, they added the lexical item <i>Newe</i> to their existing lexical item to distinguish between thread and sinew.</p>

INTERNAL RECONSTRUCTION

Internal reconstruction is similar to the comparative method, but different in that it is applied to a single language – in this case Northern Paiute. The purpose of internal reconstruction is to uncover aspects of language history from what is observed in various dialects of the single language. This is achieved by comparing forms that have more than one phonological shape or allomorphs of a given morpheme to derive internal reconstruction. In this situation, internal reconstruction can be applied to recover information on the proto-language, or to arrive at an earlier stage of Northern Paiute speech in which the comparative method can then be applied to compare the Northern Paiute language with related languages in the Numic family. Overall, internal reconstruction relies upon the assumption that the variants (allomorphs) of Northern Paiute dialects are not all original, but that at some time in the past each morpheme had a single form.

Ideally, internal reconstruction relies upon large datasets of many lexical items with a one-to-one matches. Unfortunately, only 100 one-to-one matches (Table 3) were obtained during the data collection portion of the study, which is a not a sufficiently large enough dataset to complete internal reconstruction. Nonetheless, a regular sound change and some inferences can be made from Table 3 and the dataset collected.

In general, the following steps were used in internal reconstruction. These steps were adapted from Campbell (2004:226).

1. Identify alternation, that is, forms which have more than one phonological shape (different allomorphs) in paradigms, derivations, and different styles.
2. Postulate a single, non-alternating original form.
3. Postulate the changes (usually conditioned sound changes) which must have taken place to produce the alternating forms. Where relevant identify relative chronology (i.e., the sequence in which the changes took place). All information is used concerning directionality of change and how natural or likely (or unexpected and unlikely) the changes postulated are in order to evaluate the reconstruction and the changes propose.
4. Checking of the results to make certain the changes postulated do not imply changes for other forms that they do not in fact undergo. Postulated reconstructions must also be typologically plausible and do not imply things that are impossible or highly unlikely in human languages.

Although, there are slight dialectical differences from each speech group, the only regular sound change observed occurs between the northern dialects (i.e., Bannock, Owyhee, Burns, and McDermitt) and southern dialect of Yerington Paiute. This occurs in the environment of $dd \rightarrow ch / \{b, w, m\} i _ _$. For example, the lexical item for the color green in Yerington is /puhiywidadi/ which goes to /puhikwičade/ in Bannock. This regular sound change supports the conclusion made by Fowler and Liljeblad (1986) and Dick et. al (1987) that there are two

superdialects, North and South. Cluster analysis (Figure 2) of the Northern Paiute dialects also supports this conclusion.

Another interesting finding of the analysis is that there were some unique Bannock language words not found in other dialects of Northern Paiute. These included the Bannock lexical items for “nine” *semewemihoidé*, and “run” *ahomenai*. The word for “seven,” *tatsekwi’yu* or *tatsikwi’yu*, also appears to have a Shoshone root with a Bannock suffix (i.e., this word appears to have the Shoshone root *tatse-*, with the Bannock number suffix *-kwi’yu*). Lexicon differences among the Bannock group provides some evidence that would support an east-to-west branch of the North dialect of Northern Paiute.

DISCUSSION

The Bannock dialect has some unique lexical items not found in other Northern Paiute dialects, as well as a phonetic innovation not observed in other dialects. The cognate cluster analysis also indicates that the Bannock dialect is statistically different from the other dialects. There is also evidence of phonetic rule borrowings, as well as direct lexical borrowings from the Shoshone language. Furthermore, the Bannock speakers of today are quick to make a distinction between their vernacular and the Northern Paiute speakers to the west and south. All speakers of the Bannock dialect in Fort Hall also refer to their speech as the “Bannock language”. The linguistic differences combined would support the Bannock as being at the very least a discernable and separate dialect from other Northern Paiute speech groups, or for political reasons a separate language. Some political reasons for recognizing the Bannock dialect as a separate language include: many Bannock speakers recognize themselves as a distinct nationality or tribe; the Bannock are federally recognized, along with the Northern Shoshone, as the Shoshone-Bannock Tribes; and most, if not all, speakers of the Bannock dialect refer to their language as the “Bannock Language”.

However, more work needs to be done to truly understand the dialectology of the Northern Paiute language. Further research in this area should include analysis of grammatical differences which would involve making comparisons between the way phrases are put together. Collection of more linguistic data

from each dialect is needed to build a larger one-to-one comparison table between the various speech groups, and to preserve unique differences among the various speech groups before they become extinct. This would increase the statistical power of the comparison and also provide a larger dataset for internal reconstruction. It would also be interesting to include the Mono language and lexical items from the Northern Paiute Language Project (<http://linguistics.berkeley.edu/~paiute/> data) into the comparison to identify linguistic relationships between Mono, a closely related language to Northern Paiute, and other dialects of southern Northern Paiute. More linguistic data needs to be collected from the Duck Valley Reservation to more thoroughly document the Owyhee Dialect(s). Little, if anything, is known about the language status of the Northern Paiute colonies spread out over Nevada, Oregon, and California. What dialects do they speak and what is the endangerment level of the language in these colonies?

Much work also needs to be conducted to understand linguistic borrowings and differences in use of compound words among the speech groups. Borrowings are interesting because they can provide insight into “who was in contact with whom.” I suspect that borrowings, such as *Pozena*, in the Bannock dialect are quite different than the borrowings that have occurred with the western and southern dialect speech groups. There are also significant differences in the borrowing of English words into Northern Paiute language between the Bannock and Northern Paiute. Further analysis in this area may

reveal aspects into socio-cultural differences among the speech groups not previously known. For example, there is higher potential for the Bannock to borrow lexical items from Plains Indians more than Northern Paiute of Oregon and Great Basin. The logical place to begin further analysis of borrowings would be to examine the lexicon of tribes within and adjacent to the historical subsistence use area of the Northern Paiute speech groups. The formation and use of different compound words among the speech groups may also be leading to greater linguistic divergence.

Theories on the Numic expansion would also favor the Yerington Paiute speech group as having a dialect that is older and more similar to the proto-language of Northern Paiute. However, inclusion of other Northern Paiute dialects and further documentation of the language may provide new insights in regard to the Numic expansion of the Northern Paiutes. Using internal reconstruction and a quantitative analysis of relic words present within each dialect, one may be able to ascertain the dialect most similar to the proto-language and gain insights into the spread of Northern Paiute speakers throughout their historical subsistence territory. Further research should also include documentation of oral history traditions among the Bannock and Northern Shoshone about the origins of the Bannock.

It would also be interesting to conduct this same type of analysis on the various dialects of Shoshone, including the Comanche, and make a comparison between the levels of change between the Shoshone and Northern Paiute

languages. If linguistic differences among various Shoshone dialects (e.g., Eastern Shoshoni, Northern Shoshoni, and Western Shoshoni) are slight, much like what has been observed for Northern Paiute, it would be difficult to make inferences about relative time periods when the Northern Shoshone and Bannock came occupy their historical subsistence territory. If it is not true and there are major linguistic differences among the Shoshone, this finding would provide evidence that supports separation of various Shoshone groups long enough to result in substantial linguistic divergence, thereby supporting the conclusions made by Liljeblad (1957) and Madsen (1996) that the Bannock are recent arrivals. Furthermore, by including the Comanche into the analysis, the findings may lead to new insights into the acquisition of the horse, not only for the Shoshoni but other groups as well. However, this analysis must also consider the linguistic changes that have occurred since these Indian groups have been segregated onto reservations.

BIBLIOGRAPHY

Poldevaart, Arie. 1987. Paiute – English, English – Paiute Dictionary. Yerington

Paiute Tribe.

Campbell, Lyle. 2004. Historical Linguistics. Cambridge: The MIT Press.

Corless, Hank. 1996. The Weiser Indians Shoshoni Peacemakers. Caldwell,

Idaho: Caxton Printers.

Davis, Cleve. 2010. A Comparative and Historical Linguistic Analysis of the

Bannock Dialect of Northern Paiute. Master Thesis. Idaho State

University. Pocatello, Idaho.

Dick, Russell, Ed Williams, and Arie Poldervaart. 1987. Yerington Paiute

Grammar. Anchorage: Bilingual Education Services.

Fowler, Catherine S. and Sven Liljeblad. 1986. Northern Paiute. *In* Handbook of

North American Indians, vol. 11: Great Basin, ed. Warren L. D'Azevedo.

Pp. 435-465. Washington: Smithsonian Institution.

Gould, Drusilla and Christopher Loether. 2002. An Introduction to the Shoshoni

Language. Salt Lake City: The University of Utah Press.

Jenks, Michael S. and Patricia A. Dean. 1998. Mapping Northern Paiute Witness Testimony: Using GIS and the 1951 Indian Claims Commission Court Documents. <http://www.isu.edu/~deanpatr/iccslide/guidtr01.htm>, accessed April 6, 2010.

Liljeblad, Sven. 1950. Bannack I: Phonemes. *International Journal of American Linguistics*, vol. XVI, No. 3: 125-131.

Liljeblad, Sven. 1957. *Indian Peoples in Idaho*. Pocatello: Idaho State College.

Liljeblad, Sven. 1958. *Field Notes*. Box 86-14. University of Nevada Reno. Reno, Nevada.

Loether, Christopher. 2009. Language Revitalization and the Manipulation of Language Ideologies: A Shoshoni Case Study. In *Native American Language Ideologies: Beliefs, Practices, and Struggles in Indian Country*, ed. Paul V. Kroskrity and Margaret C. Field. Pp. 238-254. Tucson: The University of Arizona Press.

Madsen, Brigham D. 1996. *The Bannock of Idaho*. Moscow: University of Idaho Press.

- Miller, Wick R. 1986. Numic Languages. *In Handbook of North American Indians*, vol. 11: Great Basin, ed. Warren L. D'Azevedo. Pp. 98-106. Washington: Smithsonian Institution.
- Murphy, Robert F. and Yolanda Murphy. 1986. Northern Shoshone and Bannock. *In Handbook of North American Indians*, vol. 11: Great Basin, ed. Warren L. D'Azevedo. Pp. 284-307. Washington: Smithsonian Institution.
- Nabokov, Peter and Lawrence Loendorf. 2002. Visitors on the West: Bannock and Nez Perce. *In American Indians and Yellowstone National Park*. National Park Service. Pp. 161-198. National Park Service: Yellowstone National Park, Wyoming.
- Park, Willard Z., Edgar Siskin, Anne M. Cooke, William T. Mulloy, Marvin K. Opler, Isabel T. Kelly, and Maurice L. Zigmond. 1938. Tribal Distribution in the Great Basin. *American Anthropologist* 40 (4):622-638.
- Snapp, Allen, John Anderson and Joyce Anderson. 1982. Northern Paiute. *In Studies in Uto-Aztecan grammar*, ed. Ronald W. Langacker, vol. 3. Pp. 1-92. Dallas: Summer Institute of Linguistics and the University of Texas.
- Steward, Julian H. 1938. Basin-Plateau Aboriginal Sociopolitical Groups. Salt Lake: The University of Utah Press.

Stewart, Omer C. 1970. The Question of Bannock Territory. *In* Languages and Cultures of Western North America, Essays in Honor of Sven S. Liljeblad, ed. Earl H. Swanson, Jr. Pp. 210-231. Pocatello: Idaho State University Press.

Swadesh, Morris. 1955. Towards Greater Accuracy in Lexicostatistics Dating¹. *International Journal of American Linguistics*. Volume 21: 121-137.

Thornes, Timothy Jon. 2003. A Northern Paiute Grammar with Text. Ph.D. dissertation, Department of Linguistics, University of Oregon.