A STATEMENT OF THE PHONEMES OF NORTHERN PAIUTE
Edward and Neva Andrews

0. Introduction
1. Phonemic charts
2. Vowel phonemes
3. Consonant phonemes
4. Neutralizations
5. Prosodic phonemes

0. Northern Paiute¹ is a Shoshonean language of the Uto-Aztecan language family. It is spoken by four or five thousand people living on several Indian reservations located in southern and eastern Idaho; northern Nevada; northeastern California; and central Oregon. As pointed out by Sapir², Northern Paiute should be carefully distinguished as an entirely separate language from Southern Paiute.

1.1. The phonemes of Northern Paiute consist of five vowel phonemes, /i, ɨ, u, a, o/; twenty-six consonant phonemes, /p, t, k, kʷ, s, c, b, d, g, gʷ, z, z, j, y, ɨ, m, m', ɨ, n, n', n', ɨ, y, w, ɨ, h, ɨ/; and one prosodic phoneme of tone-stress /′/.

1.2. It is of interest to compare a conventional chart listing the phonemes according to their similarities of phonetic production and a functional chart listing the phonemes according to their interaction in function. The two charts are as follows:
1.2.1. Conventional chart of phonemes:

Consonant phonemes:

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Alveolar</th>
<th>Alveo-palatal</th>
<th>Velar</th>
<th>Labialized Velar</th>
<th>Glottal + Fricative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop</td>
<td>(fortis)</td>
<td>p t k k^w</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(lenis)</td>
<td>b d g g^w</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>(fortis)</td>
<td>s h</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(lenis)</td>
<td>z</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affricates</td>
<td>(fortis)</td>
<td>c</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(lenis)</td>
<td>z j</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>(simple)</td>
<td>m n ñ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(long)</td>
<td>m n</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(complex)</td>
<td>m n</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-vowels</td>
<td>(simple)</td>
<td>w y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(complex)</td>
<td>w y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vowel phonemes:

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>i</td>
<td>å</td>
<td>u</td>
</tr>
<tr>
<td>Low</td>
<td>a</td>
<td>o</td>
<td></td>
</tr>
</tbody>
</table>

Prosodic phonemes:

Tone-stress (high)
1.2.2. Functional chart of phonemes:

Section I

Group A
Line 1  p  t  k  k\textsuperscript{w}  s  c
Line 2  b  d  g  g\textsuperscript{w}  z  ñ

Group B
Line 1  m  n  w  y
Line 2  m\textdegree  n\textdegree  k\textsuperscript{w}  j
Line 3  ñ  ñ  ñ  ñ

Group C
h  ñ

Section II
i  ï  u  a  o

Section III
tone-stress

1.2.3.1. In the functional chart the phonemes included in Group A, line 1 are those which interact with their counterparts in line 2 in neutralization (to be more fully described in section 4) and in morphophonemics.

1.2.3.2. The phonemes in Group B, line 1 interact with their counterparts in lines 2 and 3 in neutralization and with their counterparts in line 2 in morphophonemics.

1.2.3.3. The phonemes in Group C are those which do not function in either neutralization or morphophonemics. /ñ/ and /ë/ may occur in both utterance initial and medial positions, but /ñ/ is unique in that it occurs only in utterance medial position.
1.2.3.4. In the conventional chart /y/ and /j/ are somewhat removed from each other because of their production differences, but in the functional chart they are positioned more closely because they are counterparts in morphophonemic alternations.

1.2.3.5. In the conventional chart /kw/ is listed only once, but in the functional chart it is listed twice: once in Group A as the counterpart of /gw/ and again in Group B as the counterpart of /w/.

1.2.3.6. In Northern Paiute the functional chart is an advantageous means for describing the interaction and functional similarities of the phonemes.

2.1. The vowel phonemes are as follows:

/i/ [i] Voiced high close front unrounded vocoid.

[wi'hi] /Vihi/ 'knife'
[i'‰e] /isá/ 'wolf'

/ɪ/ [ɪ] Voiced high front unrounded vocoid occurs following an alveolar or palatal consonant.

[tɪ'‰a] /Tiká/ 'eat'
[mai'yt] /Małyː/ 'find'

[a] Voiced mid close central unrounded vocoid occurs following a noncontiguous low vowel except when following a contiguous alveolar or palatal consonant.

[ka'me] /Kamf/ 'rabbit'
[na'ũ·noⁿo°] /Nd砜noⁿo°/ 'saddle'

[ᵋ] Voiced high close central unrounded vocoid occurs elsewhere.

[pᵋ'hᵋ] /Pihᵋ/ 'feather'
[iᵋ'mᵋ] /Imᵋ/ 'they'
/u/ [u] Voiced high close back rounded vocoid.

[pu'ni] /Puni/ 'see'
[tu'ku] /Tukú/ 'meat'

/o/ Voiced mid close back rounded vocoid occurs in free variation with [u] in some environments and does not in other environments.

['ni·'saʊ a po'ni·doa] or ['ni·'saʊ a pu'ni·dua]
/Ni saʊá Punídua/ 'I will see you later'

/a/ [ɛ] Voiced mid close front unrounded vocoid occurs following a contiguous /i/ or palatal consonant, and is in free variation with [æ].

[æ] Voiced mid open front unrounded vocoid occurs in free variation with [ɛ].

[mi'æ] or [mi'ɛ] /Mía/ 'go'
['yæ·dua] /Yádua/ 'talk'
[u'džæ·dua] /u jádua/ 'his talk'

[ə] Voiced mid close central unrounded vocoid occurs following a noncontiguous high vowel. (n.b. that [ə] is a submember of both /i/ and /a/)

[tu'kə] /Tiká/ 'eat'
[ku'mə] /Kumá/ 'husband'
[ki'm·ə] /Kim·á/ 'come'

[a] Voiced low open central unrounded vocoid occurs elsewhere.

['pa·'] /Pá/ 'water'
[na'na] /Naná/ 'man'
/ø/ [ø] Voiced mid close back rounded vocoid occurs in free variation with [ø] in some environments and does not in other environments.

[mo'go'ni] or [mo'go'ni] /Moŋ6i/ 'woman'
['p6] or ['p6] /P6/ 'road'

Note: It may be that the [ø] that varies with [u] and the [ø] that varies with [ø] have a slight phonetic difference not detected by the authors.

[ø] Voiced low close back rounded vocoid.

[mo'k6] /Mok6/ 'shoe'
[ta'm6] /Tam6/ 'winter'

2.2. Vowel contrasts occur as follows:

[ta'ma] /Tama/ 'tooth'
[ta'mu] /Tamú/ 'thread'
[ta'mi] /Tamí/ 'we' (incl.)
[ta'mo] /Tamó/ 'winter'

[ka'me] /Kama/ 'rabbit'

[ka'ma] /Kama/ 'taste'
[ku'me] /Kuma/ 'husband'
[ki'me] /Kima/ 'come'
[ki'me] /Kima/ 'edge'

2.3. Long vowels are noncontrastive with short vowels and occur in syllables with tone-stress. They occur optionally in stressed syllables followed by a glottal stop and a vowel of the same quality. They also occur optionally in duosyllabic morphemes stressed on the second syllable and followed by a nonsuffix morpheme boundary.

[na'na] or [na'na] /Nana/ 'man'
[na'na] /Nana/ 'men'
[mu'h6u] or [mu'h6u] /Muh6u/ 'owl'
2.4. All vowels have voiceless allophones which occur as the second vowel in a sequence of two vowels of the same quality in unstressed syllables, and also occur in unstressed syllables preceding a pause.

[paA'mu]       /Paamü/    'tobacco'
[paA'wa]       /Paawá/    'father's sister'
['na·tsi] or ['na·tsI] /Náci/    'boy'

2.5. Sequences of two vowels may occur in both stressed and nonstressed syllables.

['kuapə]       /Kaupa/    'leg'
['yæ·dua]      /Ymdua/    'talk'

2.6. Patterns of vowel glides within a syllable are:

ia   ia -- ua   oa
      --   i ai   ui   oi
      iu   i u   --   --

3.1. The consonant phonemes in their contrastive positions are as follows:

/p/  [p] or [h]    fortis bilabial stop.

[k]    fortis fronted alveolar stop.

/k/  [k]    fortis velar stop
occurs elsewhere.

/[mo'ko]/  /Mok6/    'shoe'
fortis fronted velar stop occurs following /i/.

[i'k æ]  /iká/  'this'

/k'w/  [k'w]  or  [g'w]  fortis labialized velar stop.

[k'w]  and  [g'w]  occur in free variation with each other.

[sa'k'wa]  /Sák'wa/  'should'

/b/  [b]  lenis bilabial stop occurs elsewhere.

[pa'ba'yu]  /Pabáyu/  'big'

[b]  lenis bilabial stop of very short occlusion occurs following /i/.

[hi'kí]  /hibí/  'drink'

/d/  [ð]  or  [d]  lenis fronted alveolar stop.

[ð]  and  [d]  occur in free variation with [ð] tending to occur in faster speech.

[sa'dúl]  or  [sa'fúl]  /Sáďúl/  'dog'

[a]  lenis fronted alveolar stop of very short occlusion occurs following /i/.

[ki'a:l]  /Kidíl/  'ground hog'

/g/  [g]  lenis velar stop occurs elsewhere.

[ha'ga]  /hagá/  'who'

[g]  lenis backed velar stop occurs between two [o]s.

[mó'go•ni]  /Mogóni/  'woman'

[g]  lenis fronted velar stop occurs following /i/.

[i'gi]  /igí/  'scoop'

/g'w/  [g'w]  lenis labialized velar stop.

[sa'gwa]  /Ságwa/  'hay in the stomach'
/s/ [s] fortis fronted alveolar grooved fricative occurs elsewhere.

[pu'siøi] /Pusøi/ 'blind person'

[ʂ] fortis fronted alveopalatal grooved fricative occurs following /i/.

[i'ʂə] /isá/ 'wolf'

/c/ [ts] fortis fronted alveolar grooved affricate.

[pa'tsə] /Pacá/ 'kill'

/z/ [ʂ] or [z] lenis fronted alveolar grooved fricative.

[ʂ] and [z] occur in free variation with each other.

[pu'ʂiøi] or [pu'zìøi] /Puzøi/ 'louse'

/z/ [dz] lenis fronted alveolar grooved affricate.

[i'dzaøa] /izáøa/ 'coyote'

/m/ [m] voiced bilabial short nasal.

[ta'ma] /Tamá/ 'tooth'

/m'/ [m'] voiced bilabial long nasal.

[ka'm'a] /Kamá/ 'taste'

/n/ [n] voiced alveolar short nasal.

[tɪ'nə] /Tɪná/ 'root'

/n'/ [n'] voiced alveolar long nasal.

[tɪ'nə] /Tɪná/ 'antelope'

/y/ [y] voiced high close front unrounded nonsyllabic vocoid.

[mai'yə] /Maiyá/ 'find'

/w/ [w] voiced high close back rounded nonsyllabic vocoid.

[pa'wi] /Pawi/ 'vein'

/j/ [dʐ] voiced alveopalatal grooved affricate.

[tɪ'hə·dʐə] /Təhəja/ 'deer'
22.

\(/\text{o}\/ \quad [\text{\textomicron}] \quad \text{glottal stop.}\)

\([\text{ya}'\text{o}i]\) \quad /\text{Ya}\text{\textomicron}i/ \quad \text{'die'}

\(/\text{h}/ \quad [\text{h}] \quad \text{voiceless vocoid.}\)

\([\text{ha}'\text{n}_i]\) \quad /\text{han}_i/ \quad \text{'do'}

\([\text{wi}_i\text{hi}]\) \quad /\text{Wi}_i\text{hi}/ \quad \text{'knife'}

\(/\text{\textordmasculine}/ \quad [\text{\textordmasculine}] \quad \text{voiced velar nasal.}\)

\([\text{wa}'\text{pa}_a]\) \quad /\text{Wa}_a\text{\textordmasculine}a\quad \text{'younger brother'}

\(/\text{\textordfraktur}/ \quad [\text{\textordfraktur}] \quad \text{voiced bilabial preglottalized nasal.}\)

\([\text{sa}'\text{\textordmasculine}mi}\] \quad /\text{Sa}_mf/ \quad \text{'wet'}

\(/\text{\textordfraktur}/ \quad [\text{\textordfraktur}] \quad \text{voiced alveolar preglottalized nasal.}\)

\([\text{mo}_g\text{\textordmasculine}\text{\textordfraktur}ni}\] \quad /\text{Mo}_g\text{\textordfraktur}ni/ \quad \text{'woman'}

\(/\text{\textordgamma}/ \quad [\text{\textordgamma}] \quad \text{voiced high close front unrounded preglottalized nonsyllabic vocoid.}\)

\([\text{pa}_b\text{\textordfraktur}\text{\textordgamma}yu]\) \quad /\text{Pa}_\text{\textordfraktur}\text{\textordgamma}yu/ \quad \text{'big'}

\(/\text{\textordomega}/ \quad [\text{\textordomega}] \quad \text{voiced high close back rounded preglottalized nonsyllabic vocoid.}\)

\([\text{\textordtilde}_\text{\textordomega}\text{\textordomega}i]\) \quad /\text{\textordtilde}_\text{\textordomega}i/ \quad \text{'sleep'}

3.2. Consonant contrasts occur as follows:

\(/\text{p}/ \quad - \quad /\text{b}/ \quad [\text{t}_\text{\textordmasculine}_\text{\textordtilde}']\text{\textordfraktur}\theta] \quad /\text{T}_\text{\textordmasculine}_\text{\textordtilde}\text{\textordfraktur}\theta/ \quad \text{'mouth'}

\([\text{t}_\text{\textordmasculine}_\text{\textordtilde}\text{\textordfraktur}\theta}\] \quad /\text{T}_\text{\textordmasculine}\text{\textordfraktur}\theta/ \quad \text{'pinenut'}

\(/\text{t}/ \quad - \quad /\text{d}/ \quad [\text{p}_\text{\textordmasculine}_\text{\textordtilde}'\text{\textordfraktur}\theta] \quad /\text{P}_\text{\textordmasculine}\text{\textordfraktur}\theta/ \quad \text{'arm'}

\([\text{s}_\text{\textordmasculine}_\text{\textordtilde}'\text{\textordfraktur}\theta}\] \quad /\text{S}_\text{\textordmasculine}\text{\textordfraktur}\theta/ \quad \text{'bad'}

\(/\text{k}/ \quad - \quad /\text{g}/ \quad [\text{na}_\text{\textordmasculine}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\theta] \quad /\text{Na}_\text{\textordmasculine}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\theta/ \quad \text{'ear'}

\([\text{ha}_\text{\textordmasculine}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\theta}\] \quad /\text{Ha}_\text{\textordmasculine}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\theta/ \quad \text{'who'}

\(/\text{k}^\text{\textordomega}/ \quad - \quad /\text{g}^\text{\textordomega}/ \quad [\text{sa}_\text{\textordmasculine}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\theta\text{\textordfraktur}\text{\textordfraktur}\theta] \quad /\text{Sa}_\text{\textordomega}\text{\textordomega}^\text{\textordomega}/ \quad \text{'should'}

\([\text{sa}_\text{\textordomega}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\theta}\text{\textordfraktur}\text{\textordfraktur}\theta]\) \quad /\text{Sa}_\text{\textordomega}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\text{\textordfraktur}\theta/ \quad \text{'hay in the stomach'}
23.  

/s/ - /z/  
[pu'zi'\i] /Puzi'\i/ 'louse'  
[pu'zi'\i] /Puzi'\i/ 'louse'  

/s/ - /c/  
[pa'sa] /Pas\a/ 'dry'  
[pa'tsa] /Pac\a/ 'kill'  

/c/ - /\z/  
[hu'tsi'\i] /Hucl'\i/ 'father's mother'  
[hu'dzi] /Hu\z\i/ 'sagehen'  

/t/ - /c/  
[wa'\i] /Wat\i/ 'look for'  
[wa'\si] /Wa\ci/ 'hide'  

/w/ - /m/  
[ma'\i] /Mat\i/ 'grinding stone'  

/n/ - /\d/  
['t\inaha] /T\naha/ 'dish out'  
['t\naha] /T\naha/ 'stop work'  

/m/ - /m/  
[ki'me] /Kim\a/ 'edge'  
[ki'm\e] /Kim\a/ 'come'  

/m/ - /\m/  
[ta'mi] /Tam\i/ 'we' (incl.)  
[sa'\mi] /Sam\i/ 'wet'  

/n/ - /n/  
['t\n\e] /T\n\a/ 'root'  
['t\n\e] /T\n\a/ 'antelope'  

/n/ - /\n/  
['\n\o] /\n\o/ 'over there'  
['\n\o] /\n\o/ 'then'  

/w/ - /\w/  
[u'wiu] /U\wiu/ 'living'  
[i'wiu] /i\wiu/ 'sleeping'  

/y/ - /\j/  
[tai'ye] /Tai\a/ 'send'  
['naid\e] /Na\ja/ 'be mean'  

/y/ - /\y/  
[tsi'maiye] /Ci\af\a/ 'stir with a stick'  
[wa'hai\yu] /Wa\af\yu/ 'four'
24.

\[
\begin{align*}
/k^W/-/w/ & \quad [\text{kwa'\text{t}i}] \quad /k^W\text{at}i/ \quad '\text{shoot}' \\
/wa'\text{t}i/ & \quad /\text{Wat}i/ \quad '\text{look for}' \\
/k^W/-/k/ & \quad [\text{saka'wa}] \quad /\text{Sa}^W\text{a}/ \quad '\text{should}' \\
/na'\text{ka}/ & \quad /\text{Nak}a/ \quad '\text{ear}' \\
/m^*/-/m^*/ & \quad [\text{ni'mi}] \quad /\text{Nim}i/ \quad '\text{we}' (\text{excl.}) \\
/\text{sa}^\text{?mi}/ & \quad /sami/ \quad '\text{wet}' \\
/n^*-/n^*/ & \quad [\text{han'i}] \quad /han'i/ \quad '\text{do}' \\
/\text{wa}^\text{?ni'yu}/ & \quad /\text{Waniyu}/ \quad '\text{be like}' \\
/j/-/y/ & \quad ['\text{naidz}e] \quad /\text{Na}i\text{ja}/ \quad '\text{be mean}' \\
/pi'tsai'yu/ & \quad /\text{Pica}yu/ \quad '\text{dear}' \\
/k^W/-/w^*/ & \quad [\text{pa'kwi}] \quad /\text{Pak}^Wi/ \quad '\text{fish}' \\
/\text{pa}^\text{?wa}/ & \quad /\text{Paw}a/ \quad '\text{swell}'
\end{align*}
\]

4.1. Neutralization of consonants in utterance initial position occurs with some consonants which contrast in utterance medial position. Thus in utterance initial position:

/p and b/ become \( P \) voiceless bilabial stop.
/t and d/ become \( T \) voiceless alveolar stop.
/k and g/ become \( K \) voiceless velar stop.
\( /k^W \) \( /g^W/ \) become \( K^W \) voiceless labialized velar stop.
/s and z/ become \( S \) voiceless alveolar grooved fricative.
/c and \( z^*/ \) become \( C \) voiceless alveolar grooved affricate.
/m, \( m^* \), and \( \text{\ddot{m}}/ \) become \( M \) voiced bilabial nasal.
/n, \( n^* \), and \( \text{\ddot{n}}/ \) become \( N \) voiced alveolar nasal.
/y, j, and \( \text{\ddot{y}}/ \) become \( Y \) voiced high close front unrounded nonsyllabic vocoid.
/w, \( k^W \), and \( \text{\ddot{w}}/ \) become \( W \) voiced high close back rounded nonsyllabic vocoid.
4.2. M, N, Y, and W, ([ᵻm], [ᵻn], [ᵻy], [ᵻw]), also occur in certain other positions which are not yet fully defined.

5.1. Stress and tone are combined as a single unit. Low tone-nonstress is unmarked and high tone-stress is marked with the acute accent /'/ . The occurrences of these units cannot be predicted.

5.2. A syntactic tone-stress (not yet fully defined) of higher tone and greater stress may occur superimposed upon high tone-stress.

5.3.1. When a stem is combined with a prefix, high tone-stress occurs on the second syllable of the new construct, and if the syllable is short, the vowel is lengthened.

[ʼna·tsï] /Nâci/ 'boy'
[na'na·tsï] /Nanâci/ 'boys'
[na'na] /Nanâ/ 'man'
[na'na·na] /Nanâna/ 'men'

5.3.2. When a stem is combined with two or more prefixes, high tone-stress occurs on the second syllable of the new construct and also on the stressed syllable of the stem.

[su'tï·hai] /Sutïhai/ 'mercy'
[ni'ʃu·tï·hai] /Nisutïhai/ 'plead'
[na'ni·ʃu·tï·hai] /Nanisutïhai/ 'pray'

FOOTNOTES

1 The data used in this paper has been collected under the auspices of the Summer Institute of Linguistics during the winters of 1955-1960 as the authors resided at Owyhee, Nevada on the Western Shoshone Indian Reservation (Duck Valley Indian Reservation). Mrs. Jessie Little, as language informant, has been of great assistance in the collection and checking of data.