THE KICKAPOO SOUND SYSTEM AND KICKAPOO
STANDARD ORTHOGRAPHY

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1. Seven years ago I presented a spelling system for the Kickapoo language (Voorhis 1974). I want to introduce a new and different system in this paper. These two systems do have certain similarities, though: they both use the Roman alphabet, and they are both phonemic, that is, both represent all the phonological distinctions of Kickapoo unambiguously. Listed below are the letters and diacritics used in the system of spelling from 1974. Each letter represents a phoneme:

Vowels: i, e, a, o
Consonants: p, t, c, k, θ, s, h, m, n, w, y
Accents:

The new system of spelling uses all the same letters, but includes one additional accent, ́, and three additional consonants, q, ψ, and š. The additional letters can also be viewed as representing a single phoneme each. It follows that some sequences of phonemes in the earlier analysis are now treated as single phonemes.

2. There is a third Kickapoo writing system that has had more or less extensive use, namely, the orthography used by the Kickapoo people themselves. It too is based on the Roman alphabet, but it is not wholly phonemic, for it obscures certain phonological distinctions. The structure of this third system will not be described in detail here. But to give credit where credit is due, I should mention that the new spelling system presented here is essentially an adaptation of the Kickapoos’ own way of writing their language. The old spelling system was developed with a knowledge of the Kickapoos’ own orthography, but the greater influence was the typical phonemic analyses by linguists of the central Algonquian languages, and of Proto-Algonquian. (I realize that anyone who has looked into my publications on Kickapoo may find it hard to believe that spelling with such a barrage of vowel letters is influenced by Proto-Algonquian.)

Other influences on both spelling systems, influences from the solutions to problems of phonemic analysis or representation that have been offered for other languages, will be mentioned later in this paper. I will note right now just two comments on my original spelling
system. A colleague once said, "I hate it when people write Algonquin long vowels with double letters." And a Kickapoo person said, "You sure use a lot of letters to write our language." The latter comment did not refer to the use of many different letters, but rather to many letters being used in each word. So the Kickapoo person's criticism was the same as the linguist's. In response to those two critics, this paper proposes a way to eliminate the double vowels while retaining phonemic accuracy in Kickapoo transcription.

3. I will now briefly mention the Kickapoo sound changes which have complicated the application of a typical central Algonquian phonemic writing to this language. In Proto-Algonquian, one vowel never stood beside another vowel. Many modern Algonquian languages have developed vowel clusters by dropping intervocalic *w and *y. Those who are familiar with Delaware, many modern Ojibwa dialects, modern Mesquakie (Fox), and even sometimes Cree have encountered this. Kickapoo gained vowel clusters by this means earlier than most Algonquian dialects, and these clusters were then subjected to three further changes:

1) In most contexts, original long and short vowels merged before another vowel.
2) In most contexts, a cluster of two like short vowels merged with an original long vowel. Where this merger has failed to take place, the cluster is, in fact, phonetically a long vowel, but it has a falling pitch, whereas the original long vowel has a level pitch.
3) In most contexts, *y or *w plus an original long vowel merged with *i or *o plus an original short vowel. Again, the merger has sometimes failed to take place only in that the original vowel cluster has falling pitch, while the sequence based on the original long vowel has level pitch.

4. With so many mergers of long vowels and vowel clusters, it is apparent that a phonemic transcription of Kickapoo must either write many original long vowels as vowel clusters, or write many original clusters as long vowels. My 1974 analysis took the former path, which I might call the Polynesian way. Since Kickapoo, like Polynesian, allows virtually any two vowels to stand beside one another, the phonetic long vowels were treated as two identical vowels. An acute accent on the first of two vowels indicated falling pitch.

Another possibility, that of representing long vowels by some diacritic added to the short-vowel letters, has been chosen for the new transcription. In fact, since there are two kinds of long vowels, those with level pitch and those with falling pitch, two different diacritics
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will be used, the acute accent and the circumflex, to indicate at once length, and level or falling pitch respectively:

1974       1981
poohkamaaki pōhkamáki in a peach < *pōhkamáki
poohkamáaki pōhkamáki peaches < *pōhkamáwaki

Here and below, forms in the old transcription are designated by the date 1974, and forms in the new transcription by 1981. Note that the acute accent marked falling pitch in 1974, but marks level pitch now. Clusters of unlike vowels whose first members are \(i\) or \(o\) can be converted in transcription to sequences with \(y\) and \(w\) plus long vowels, with the same diacritics used to indicate pitch and length:

1974       1981
ohpenieni ohpenyéni potato (obv.) < *ohpenyéni
wiθeníeni wíθenyéni food < *wíθeniweni
nemenoateθi nemenwáteθi I'm well < *nemenwáteθi
menóaki menwáki they drank it < *menowáki

Actually, I have not been in the habit of writing nemenoateθi, as above, but rather nemenwaateθi, restoring \(w\) and a following double vowel wherever it is justified morphophonemically or etymologically, but Kickapoo pronunciation hardly supports such a spelling (Voorhis 1974:4.4). The changes in spelling described above leave the 1981 transcription with clusters of unlike vowels whose first members are \(e\) or \(a\). Their transcription remains unchanged; they are still written as vowel clusters:

1974       1981
miñeaki míñeaki they gave it to him < *mínéwaki
yooh aiciki yóh aiciki those who are here < *yóh awiciki

And while the new transcription no longer reflects the generalization that vowel sequences of every kind occur, it does reflect the difference in origins and treatments of the different kinds of vocalic sequences, for the clusters of unlike vowels with first \(e\) or \(a\) derive only from vowel clusters, and always have the potential for falling pitch.

5. Now I have spoken of the potential for falling pitch, so I had better specify what that means. In fact, all the falling pitches men-
tioned so far are only potential. They are usually only realized as actual falling pitch when they happen to coincide with the sentence accent in a certain way. When they occur in a sentence later than the sentence accent, they are level, but their presence is indicated by the position of the accent: it is attracted toward the end of the sentence. When they occur in a sentence earlier than the sentence accent, they coincide entirely with the level pitches. This has lead to the complete merger of original clusters and long vowels in most cases when they occur in that part of a word which is beyond reach of sentence accent, namely, earlier than the third syllable from the last. As a result of this, there must be a rule to convert many a circumflex accent into an acute when words are construed in sentences. I will not try to formulate that rule here, but I will point out that the rule prevents me from taking up a third possible transcription, namely, writing original long vowels with a long mark, and original clusters of like vowels as clusters. For I find it more attractive to alternate diacritics because of accent than to exchange vowel clusters for long vowels because of accent. The reader may notice that the diacritics chosen here to indicate the different pitches of long vowels resemble those used in Lithuanian for a rather similar purpose, or even in Proto-Indo-European, where, in fact, the origin of the pitches is somewhat like that in Kickapoo. So I will call the new way of writing the Kickapoo vowels the Lithuanian way.

6. The examples show that so far the discussion has dealt only with clusters of two vowels, or with long vowels by themselves. But Kickapoo tolerates vowel sequences of greater length. We can say that a short vowel has a length of one mora, and a long vowel or a cluster of two short vowels has a length of two morae. Then each mora of a vowel sequence that precedes the last two morae is treated as a single short vowel in both transcriptions:

<table>
<thead>
<tr>
<th>1974</th>
<th>1981</th>
</tr>
</thead>
<tbody>
<tr>
<td>neepoth e</td>
<td>neépóθ e</td>
</tr>
<tr>
<td>nenohtaáaki</td>
<td>nenohtaáaki</td>
</tr>
<tr>
<td>nenohtaeaki</td>
<td>nenohtaeaki</td>
</tr>
<tr>
<td>eehmehtoth ee-</td>
<td>éhmehthoth é-</td>
</tr>
<tr>
<td>neniaake</td>
<td>neniiáake</td>
</tr>
<tr>
<td>oiiinaki</td>
<td>oíinaki</td>
</tr>
<tr>
<td>waieaaki</td>
<td>waieáaki</td>
</tr>
<tr>
<td>I left</td>
<td>I heard them</td>
</tr>
<tr>
<td>they heard him</td>
<td>we who are Indians</td>
</tr>
<tr>
<td>horns</td>
<td>a round one</td>
</tr>
</tbody>
</table>

7. We can sum up what has been said so far by the following rules for changing the Kickapoo phonemic transcription of 1974 into that
of 1981: 1) two like vowels are rewritten as a single vowel; 2) i and o before a vowel are rewritten as y and w respectively; 3) the remaining single vowel receives the acute accent unless the first of the two vowels had it originally; 4) in the latter event, the remaining vowel receives a circumflex. These rules apply only when the sequences in question are followed by a consonant. In mathematical notation:

\[
\begin{align*}
V_1V_1 & \rightarrow \hat{V}_1 \\
\hat{V}_1V_1 & \rightarrow \hat{V}_1 \\
iV & \rightarrow y\hat{V} \\
i\hat{V} & \rightarrow y\hat{V} \\
oV & \rightarrow w\hat{V} \\
o\hat{V} & \rightarrow w\hat{V}
\end{align*}
\]

Notice that the first two rules in the mathematical notation precede the others; that precludes ii and oo being rewritten as yi or wo.

8. Actually, there is one other place where these rules apply. They apply also before a vowel, but only if it is the last vowel in the sentence. Throughout the Kickapoo language, the last vowel in the sentence is always treated as if it had a consonant before it, whether such a consonant has been recognized as a phoneme or not. Phonetically, there is a consonant, a glottal stop, in front of the last vowel, intervening where a vowel cluster has been written heretofore. This glottal stop is in complementary distribution with its own absence. But if we accept it into our transcription, we can eliminate all the rules and statements to the effect that sentence-final vowels are exceptional in being treated as if preceded by a consonant where none is written. Leonard Bloomfield wrote u for an allophone of o in Eastern Ojibwa (Bloomfield 1957:1.7). In the same tradition, I will write this Kickapoo glottal stop:

1974
poohkamaa
menoa
ihkweea
nenenohtáaa
nenotohaa
yooh aia
waieai
mehtoθeenenii

1981
póhkama?a
meno?a
ihkwe?a
nenenohtá?a
nenotohae,a
yóh ai?a
waiea,i
mehtoθéeneni?a

9. Earlier in this paper, I stated that, in most contexts *y or *w
plus an original long vowel merged with *i or *o plus an original short vowel. Of course, most contexts does not mean all contexts. In addition to those sequences where the different pitches maintain the distinction, the merger failed to take place at all after *k and *h. Phonetically, the sequences from original *kw and *hw before long vowels are unique in that the *w is not lengthened to a short o at the expense of some of the length of the following vowel; the sequences from *kw and *hw remain in contrast with those from *ko and *ho in all contexts. Clearly the former are unit phonemes, labiovelars, such as are often reconstructed for Proto-Indo-European, or are found in Nahuatl. And since the original clusters of o plus vowel are now to be written with an initial w which can occur after k or h in contrast with the labiovelars, we have not even the option of writing the labiovelars as clusters with w.

I have chosen to represent the labiovelar stop with the letter q (no following u), which is exactly how the Kickapoo people write this phoneme in their own orthography. And I have written the labiovelar spirant here with that special combination of h and u which was developed for the similar sound in the old grammars of Gothic:

1974 1981
pepehkahokóaki pepehkahokwâki they float
meskwáani mesqâni they are red
wacahóaki wacahwaki they cooked
nekehkahwáaki nekehkahóki I specified them

A more modern and scientific appearance to the transcription can be gained by using a raised w after k and h for the labiovelars. And a more practical spelling for typewriters and typefaces would just involve writing hu for the labiovelar h. Note that u does not otherwise occur in any Kickapoo writing system, so it is available to help represent this phoneme. In fact, it could be used alone, without the preceding h, but I find such an unprecedented application of the letter u unattractive.

10. I have already said that this new spelling system is based on the Kickapoo people’s own writing, and that the letter q comes from that source. In fact, the new spelling system presented here is essentially Kickapoo orthography with three adjustments made:

1) Kickapoo orthography never distinguishes long from short vowels, nor does it indicate the pitches. And it does not write h or the glottal stop. So h, h', ?, and the acute and circumflex accents are all additions to the regular spelling of the Kickapoo people.
2) A number of Kickapoo letters have somewhat unusual shapes for a Roman alphabetic system; for example, the Kickapoo p looks like an l, the Kickapoo c resembles a double t, and the Kickapoo s is written like a d. Obviously, the unusual Kickapoo letters have been replaced here by more conventional symbols, at least they are more conventional from the point of view of North American linguistics.

3) There are a few points in the Kickapoo orthographic tradition where there are alternate signs or practices. In each such instance, of course, only one alternate has been selected for emulation here.

11. Long ago, Y.R. Chao (1934) pointed out that alternate phonemic analyses of a phonology may be good or bad for different purposes. I will now briefly try to assess what seem to me to be advantages and disadvantages of the two phonemic descriptions discussed here. While the 1974 analysis comes up with fewer phonemes, the newer transcription takes less space on the page by writing a single vowel where the old system had two like vowels before a consonant. The new system is more readily adaptable to Kickapoo orthography, which could be a real advantage in preparing texts or a dictionary that would be useful to both linguists and Kickapoo-speaking people. Kickapoo orthography can be approached even more closely with a few simple adjustments: 1) the glottal stop can be omitted again; it is not essential to the system; 2) h can also be noted by a diacritic. I like to use a Greek rough breathing over any vowel that has h following it. The same system has been used for Cree (Watkins and Faries 1938). The labiovelar spirant can be specified by a rough breathing directly over w. The rough breathing is marked on a preceding, rather than a following, vowel, so as to represent the frequent clusters of h plus consonant more conveniently. The few words with initial h, a handful of interjections and a few borrowings, can be written with the rough breathing in front of the vowel:

<table>
<thead>
<tr>
<th>Kickapoo</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>pōkamāki</td>
<td>peaches</td>
</tr>
<tr>
<td>openya</td>
<td>potato</td>
</tr>
<tr>
<td>yō aiciki</td>
<td>those who are here</td>
</tr>
<tr>
<td>pepēkāokwāki</td>
<td>they float</td>
</tr>
<tr>
<td>wacāwāki</td>
<td>they cooked</td>
</tr>
<tr>
<td>nëkēkawāki</td>
<td>I specified them</td>
</tr>
<tr>
<td>'émipakēi</td>
<td>hamburger</td>
</tr>
</tbody>
</table>

The Lithuanian spelling of vowels has a disadvantage when compared with the Polynesian in that the former obscures the similarities in the inflectional paradigms of stems ending in different vowels. Against this must be weighed another suggestion from Chao that the
perceptions of native speakers about their phonology should be taken into account when considering alternate phonemic solutions. In the Kickapoo instance, their orthography has long contained the equipment for a substitution of kw for q, and of clusters for long vowels. The Kickapoo have not chosen to do this. The labiovelar q and the unit long vowel must have some reality as phonemes for speakers of Kickapoo, if phonemes have any reality at all for the speakers of a language.

12. Now two different phonemic spelling systems, and a few minor variants, have been presented from the Kickapoo language. And a few advantages and disadvantages have been discussed for each system. I am going back to work on a Kickapoo lexicon now, and if you, the reader, have a preference for one or the other of these ways of spelling, please let me know. A brief text is appended in both transcriptions to help in their assessment. Ini cahi’ni ihahqácimoáni. (Ini caahii ‘ni ihahkwacimoaani.) ‘That’s as far as I’m going to tell it.’

1974

1981

“Are you going to go with us?” they asked me. “Take your grandchildren to the movie theatre.” I just put them inside. “Don’t go outside!” I told them. “Wait for your mother,” I told Susan. “Don’t wait for me!” I told her then. “Those white people will take me home.”

REFERENCES
Bloomfield, Leonard
Chao, Y.R.

Voorhis, Paul

Watkins, E.A., and R. Fairies
As you go to do something, they asked me. Take your grandson to the police station. He is there inside. Don't go out.

"Don't go out. I told him to stay with me," I told Susan. "Don't wait for me."