Overview

The Chinook Pipa script, an adaptation of the Duployéan shorthand by father Jean Marie Raphael LeJeune, is an historic script used for writing the Chinook Jargon and other languages of interior British Columbia. Its original use and greatest surviving attestation is from the run of the *Kamloops Wawa*, a (mostly) Chinook Jargon newsletter of the Catholic diocese of Kamloops, British Columbia, published 1891-1923. At the time, the Chinook Jargon trade language was spoken in an area encompassing SE Alaska, most of British Columbia, Washington State, western Montana, Oregon, Idaho, and far northern California, and although the Chinook Jargon was the lingua franca in many communities, it was generally a spoken, rather than written language. Most attempts at documentation used the Latin script to approximate Jargon phonology, and indeed, dictionaries of the Chinook Jargon are still readily available in these Latinate orthographies. In contrast, the archives of the *Kamloops Wawa*, written in Chinook Pipa, includes a considerable dictionary, but also constitutes a 3+ decade corpus of Chinook Jargon usage, during the height of its spread and utility. There currently exists no formal encoding, in any context, for the representation of the Chinook Pipa, and the only informal representation is transliteration by means of the Latin orthographies used in writing the Chinook Jargon. Indeed, the submission of the Chinook Pipa script to UCS has necessitated the creation, from scratch, of the first Chinook typeface, such an effort currently underway with glyph images available for review.

Structure

Chinook Pipa contains several classes of letters, differentiated by visual form - hence script function - and phonetic value. Letter classes include the line and arc consonants, circle vowels (A and the O/W vowels), nasal vowels, arc vowels, H and X. Vowels are further classified by their compounding behaviour. Since Chinook Pipa is an adaptation of a shorthand system, strings of letters are intended to join together cursively to form nominally syllabic units. This syllabic joining is generally algorithmic, but alternate syllable formation is quite commonly inherited from source languages and requires manual encoding or a form of spell checking. Most Pipa letters have variant forms, including the addition of ancillary dots, compounding of vowels, and overlapping concatenated behaviors for initialisms and abbreviations. Excepting for reverse stroke direction of some letters, Chinook Pipa is written LTR, syllable by syllable, in horizontal lines proceeding down the page, as with most European scripts.

Ordering

Ordering of the characters in the Chinook Pipa is undefined - the only lexicon using the script cites nominally in Latin alphabetical order - so allocation order in the Chinook Pipa Character Block is revisable up to inclusion in
the standard. Essentially, a Unicode Standard that includes a Chinook Pipa Character Block will be the only official ordering of the script. The currently proposed allocation ordering and its basis is as follows: According to Father LeJeune's Chinook Rudiments, the characters encoded x00-x09 (₁,₂,₃,₄,₅,₆,₇,₈,₉) double as the numbers 1-9&0. x09 & x0A (ₒ) constitute the next basic vowels given in his introduction. x0B (ɔ) is another simple vowel with a related variant form 16 code points later. x0C & x0D (ₒ & ₒ) round out the basic vowels given in LeJeune's repertoire, while x0E (œ) is the last simple (non-compound) vowel in the Chinook Pipa. x0F is a combining mark, used to indicate a Salish letter (by modifying U) and the modified arc consonants Ng, Ch/J, and Ts, and a variant, possibly glottalized, consonant. The second column of the allocation begins (x10-x14: ₁₁,₁₂,₁₃,₁₄,₁₅) with the voiced counterparts (elongated form) of the first five consonants (x00-x04). x15 (ᵣ) is the last simple consonant and x16 (ʃ) is the similarly acting and phonologically related letter 'X' used in writing Salishan languages. x17-x1A are reserved, ostensibly, for any new Salish-specific letters discovered in the corpus of handwritten texts left unstudied. x1B (ₒ) is the sister character to x0B. These two characters often have different orientations, being just turned or mirrored versions of each other, and distinct conjoining properties, but are identical in certain environments. x1C and x1D are again reserved code points. The second column is rounded out with the Chinook Pipa Full Stop (═ , x1E) and the Virama-like Chinook Pipa Concatenator (x1F) which encodes for abbreviations and similar constructions in the script. In the last column come the Nasal Vowels, x20-x23 (₃,₄,₅,₆) that only intermittently appear in the Wawa texts, but are neither composed characters nor variants. Last of all is the logograph /likalisti/ (⊕) meaning eucharist at x24. All further code points x25-x2F are again reserved, this time for any other logographs encountered in Pipa texts.

**Naming**

The Chinook Pipa script has gone by many names. The most common of these are "Chinook Pipa" and "Wawa Writing". The former, meaning Chinook writing in Chinook Jargon was used as both a Chinook Jargon and English name for the script. The latter was generally used only in an English context. It has been suggested that the name of the script could simply be "Chinook", and there is some merit, considering the redundancy of the phrase "Chinook Pipa script".

Some discussion has also centered around the glyph names having "old" phonetic values. Specifically, the phonemes represented by the characters "Oo" (x1C) and "U" (x1E) are found in modern orthography as "U" and "Yu" respectively. Given that the transliterations found in the source materials for the script, as well as in most historic lexica, and even used by the modern general public, all converge on the historic (Oo/U) transliteration, it is felt that the given character names are the most clear and accessible.

**Alphabetization**

No information is available on alphabetization, as the dictionary portions of the Chinook Rudiments text are given in roughly Latin alphabetical order. Other sources group words by novel alphabetization, no more or less canonical than any other. The most logical ordering, given the structure of the script, would be along the lines of P, B, T, (Th) D, (Dh) F, V, K, (Kh) G, L, (Lh, hl) R, (Rh) M, (Ng) Sh, (Ch), S, (Ts), O, (W+O+ vowels), (O+ vowels) A, (Wa), I, E, (Wi), (Wi+ vowels) Oo, (Woo), Ow, (Wow) (Ow+ vowels), U, H, (X) then An, In, On, and Un. Given that alphabetization is not a defined property of the Unicode Standard, it would seem that the above or simple binary order would more than suffice for any implementation needing an order of alphabetization.
<table>
<thead>
<tr>
<th>Glyphs</th>
<th>Character List</th>
</tr>
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<tbody>
<tr>
<td>U+x00</td>
<td>CHINOOK PIPA LETTER P</td>
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<tr>
<td>U+x10</td>
<td>CHINOOK PIPA LETTER T</td>
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<tr>
<td>U+x20</td>
<td>CHINOOK PIPA LETTER F</td>
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<tr>
<td></td>
<td>CHINOOK PIPA LETTER K</td>
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<td></td>
<td>written down and to the left</td>
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<tr>
<td></td>
<td>CHINOOK PIPA LETTER L</td>
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<tr>
<td></td>
<td>written up and to the right</td>
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<td></td>
<td>CHINOOK PIPA LETTER M</td>
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<td></td>
<td>number 6</td>
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<td></td>
<td>CHINOOK PIPA LETTER N</td>
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<tr>
<td></td>
<td>number 7</td>
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<td></td>
<td>CHINOOK PIPA LETTER SH</td>
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<td>CHINOOK PIPA LETTER S</td>
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<td>number 9</td>
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<td>CHINOOK PIPA LETTER O</td>
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<td></td>
<td>CHINOOK PIPA LETTER A</td>
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<td></td>
<td>Compounding Vowel</td>
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<td>Circle vowel</td>
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<td></td>
<td>CHINOOK PIPA LETTER I</td>
</tr>
<tr>
<td></td>
<td>Voiceless velar/uvular fricative</td>
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<tr>
<td></td>
<td>CHINOOK PIPA LETTER E</td>
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<tr>
<td></td>
<td>Compounding Vowel</td>
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<td></td>
<td>CHINOOK PIPA LETTER I</td>
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<td>CHINOOK PIPA LETTER E</td>
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<td>CHINOOK PIPA LETTER S</td>
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<td></td>
<td>Compounding Vowel</td>
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<td></td>
<td>Circle vowel</td>
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The Chinook Pipa script has complex cursive conjoining, overlapped concatenating, and nested compounding behaviours, and all are effected by the use of the Zero Width Non-Joiner and Zero Width Joiner. The Zero Width Joiner (ZWJ) will encode for conjoining behaviour (nominally syllabification) that would otherwise not exist in a given context (see Syllable Forming below). The Zero Width Non-Joiner (ZWNJ) encodes the override of conjoining, concatenating, and compounding behaviour that would normally exist in a given context. Except in the case of compounding vowels, a sequence of multiple ZWNJ/ZWJ characters between two Chinook Pipa characters acts as a single instance of the final character in the sequence. Any ZWNJ/ZWJ characters between a Chinook Pipa character and a character in any other block will have no effect on the Chinook Pipa character, and will effect the other character canonically.
**Cursive Conjoining**

The most common form of character interaction is that of the cursive connection. The termination of the stroke of an initial character leads directly into the beginning of the next character. Circle vowels are connected on their perimeter at a tangent. The vowels "I", "E", and "U" rotate to connect without angle to a preceding character and with minimal angle into following characters. The letter "Oo" connects with preceding characters as normal, but most often cursively connects with a following character at the nub. Rules for which characters can connect are given below at Syllable Formation.

**Figure 1-1. Compound Vowel formation in Chinook Pipa**

(1) O_b + A_c → Wa+

(2) O_b + E_c → Wi+

(3) O_b + O_c → W0+

(4) O_b + Oo_c → W0o+

(5) O_b + Ow_c → Wow+

(6) O_b + Ob_c + A_c → Ohwa+
(7) \( \text{Ow}_b + A_c \rightarrow \text{Owah}_+ \)
\[
\begin{array}{c}
\text{O} \\
\text{w}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} \rightarrow
\begin{array}{c}
\text{O}
\end{array}
\]

(8) \( O_b + E_c + E_c \rightarrow \text{Weyi}_+ \)
\[
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} \rightarrow
\begin{array}{c}
\text{O}
\end{array}
\]

(9) \( O_b + E_c + A_c \rightarrow \text{Weeya}_+ \)
\[
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} \rightarrow
\begin{array}{c}
\text{O}
\end{array}
\]

(10) \( O_b + O_c + I_0 \rightarrow \text{Wo}_+i * \)
\[
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} \rightarrow
\begin{array}{c}
\text{O}
\end{array}
\]

(11) \( O_b + \text{Obc} + E_c \rightarrow \text{Ohwi}_+ * \)
\[
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} \rightarrow
\begin{array}{c}
\text{O}
\end{array}
\]

(12) \( O_b + \text{Obc} + E_c + A_c + I_0 \rightarrow \text{Ohwia}_+i * \)
\[
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} \rightarrow
\begin{array}{c}
\text{O}
\end{array}
\]

(13) \( O_b + E_c + \text{ZWNJ} + \text{ZWJ} + E_c \rightarrow \text{Wi}_+eh * \)
\[
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} \rightarrow
\begin{array}{c}
\text{O}
\end{array}
\]

(14) \( O_b + \text{ZWNJ} + E_0 \rightarrow \text{O.E} \)
\[
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} \rightarrow
\begin{array}{c}
\text{O}
\end{array}
\]

(15) \( O_b + A_c + \text{ZWJ} + E_c \rightarrow \text{Wai}_+ * \)
\[
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} +
\begin{array}{c}
\text{O}
\end{array} \rightarrow
\begin{array}{c}
\text{O}
\end{array}
\]

* These Compound Vowels are not known in the source texts, but are included for demonstration purposes.

It has been pointed out that the rules for vowel compounding present a complexity that could be aleviated by including precomposed characters for all compound vowels. While I am receptive to the concept, I believe that three factors make this an unsatisfactory model for encoding of Chinook Pipa. 1) the repertoire of compound vowels listed above, while considerable, may not represent the entirety of compound vowels found in Chinook Pipa texts, and the process of adding new characters to the block would present unwarranted constraints on the ability of scholars to exchange script usage data in the future. 2) The number of compound vowels would require expanding the current allocation space for the Chinook Pipa script, as well as increasing the estimated demand on allocation room in the future. 3) The current repertoire respects both an analysis of the compound vowels as segmental, and the Unicode Design Principle of encoding plain text.

Given that the best typefaces designed for Chinook Pipa will probably contain precomposed glyphs for most compound vowels, novel uses may have unknown representations. However, I believe that fallback rendering would probably better serve the needs of the mostly scholarly community that will make use of this script, and will be non-existent to the members of the general public, who will more than likely use the script for the representation of either English or colloquial Chinook Jargon, both of which are completely represented by the compound vowel forms included above.

Alternate allocations can be found at the end of the proposal, allocating for all or some precomposed glyphs for compound vowels, modified consonants, and H-digraphs.
Chinook Pipa Concatenator

Normally, Chinook Pipa letters conjoin or compound cursively or separate into syllables by algorithm. There is, however, a variant joining behaviour, in which adjacent line and arc consonants will overlap, signifying an abbreviation, initialism, or acronym (denoted CCₓ). The Chinook Pipa Concatenator (CPC: ☀️, U+x1F), signifies this alternate concatenating behaviour, much like the Virama in Indic scripts indicating conjunct letters. The CPC is interlocuted between the effected consonants, signifying the concatenating interaction of the two letters. A concatenated consonant cluster will conjoin cursively as normal with any preceding characters, and will break immediately aft unless overridden with the Zero Width Joiner. The Chinook Pipa Concatenator cedes to both ZWNJ and ZWJ, allowing non-standard abbreviations that may be composed of cursively conjoined or separated characters, but retaining the cursive joining properties of a concatenated sequence. Therefore, two Chinook Pipa letters interrupted by any combination of the CPC and either the Zero Width Joiner or Zero Width Non-Joiner will join together as if the CPC were not there, and join adjacent letters as if the ZWJ/ZWNJ were not there.

Figure 1-2. Concatenated Consonant formation in Chinook Pipa

(1) \( S + CPC + T \rightarrow STₓ \)

(2) \( Sh + CPC + K \rightarrow JKₓ \)

(3) \( S + CPC + B + CPC + Sh \rightarrow SBShₓ \)

(4) \( I + T + CPC + S \rightarrow I.TSₓ \)

(5) \( Sh + CPC + ZWJ + K \rightarrow J-K \)

(6) \( Sh + CPC + ZWNJ + K \rightarrow J.K \)

The Combining Chinook Pipa Modifying Mark

The Combining Chinook Pipa Modifying Mark (CCMM: ☀️, U+x0F) is used to denote variant letterforms of various Chinook Pipa letters. Even though the CCMM appears similar to an H or a general combining dot, it behaves distinctly from any of these other characters and has a more general appearance, usually a dot, but also
as a "tie" or crossbar through a line consonant. New letterforms created with the CCMM often have a modifying mark away from the base letter stroke, unlike an H-digraph letter, and the CCMM is rendered above, below, to the left, or the right of the base character, depending on the orientation of a base letter - which can change contextually - unlike combining diacritics. Currently, the CCMM is attested in conjunction with the letters N, Sh, S, U, and K to represent Ng, Ch/J, Ts/Z, Uh or the labialized uvular Xʷ, and probably the glottalized velar K'. All instances of the CCMM in combination with the Zero Width Non-Joiner or Zero Width Joiner should act on the modified character exactly as it would following the base character without the CCMM. In other words, the CCMM should have no effect on the conjoining properties of its base character, and should be treated like any other combining diacritic mark. Proper Chinook Pipa typfaces would ideally have precomposed glyphs for most CCMM modified characters, as the mark has a distinct appearance in combination with different characters.

**Figure 1-3. Letters with Combining Chinook Pipa Modifying Mark**

1. \( \text{S} + \text{CCMM} \rightarrow \text{Ts} \)
2. \( \text{Sh} + \text{CCMM} \rightarrow \text{Ch/J} \)
3. \( \text{N} + \text{CCMM} \rightarrow \text{Ng} \)
4. \( \text{U} + \text{CCMM} \rightarrow \tilde{\text{U}} \text{ or } /\text{x}^\text{w}/ \)
5. \( \text{K} + \text{CCMM} \rightarrow \text{K'} \)

It has been pointed out that a simpler alternate to the CCMM would be to include precomposed characters for all modified letters. I believe that three factors make this proposal unsatisfactory. 1) the repertoire of modified letters above, while considerable, may not represent all possible forms used by Chinook Pipa writers. It is conceivable, at the very least, that undocumented texts in "minority" languages could use the modifier mark on most of the line consonants in the inventory for the representation of glottalized forms, as with K, or even double marked arc consonants. The burden of adding any new character to the block would present considerable constraint on the ability of scholars to exchange and document this novel script usage. 2) The number of possible letterforms significantly increases the estimated demand on allocation room in the future, and would increase the probability of the current allocation needing expansion. 3) The current repertoire conforms with an analysis of the modified letters as behaviourally unified with their constituent base characters, the CCMM as fundamentally diacritic in nature, and respects UTC practice of not encoding decomposable characters except for compatibility with pre-existing standards.

Given that the best typefaces designed for Chinook Pipa will probably contain precomposed glyphs for most CCMM combinations, novel uses will have unknown representations. However, I believe that fallback rendering would probably better serve the needs of the mostly scholarly community that will make use of this script, and will be unknown to the members of the general public, who will more than likely represent either English or colloquial Chinook Jargon with this script, both languages being completely represented by the glyphs included above.

Alternate allocations can be found at the end of the proposal, allocating for all or some precomposed glyphs for compound vowels, modified consonants, and H-digraphs.
H-digraphs and combining behaviours of the letter H

The letter H (U+15) is normally found in isolation in Chinook Pipa texts, that is, it is rendered syllabically spaced from any other characters, without cursive connection. This occurs almost absolutely when preceded by a vowel or non-line consonant. However, when preceded by a line consonant - and in one known case, preceding - the letter H can also form a digraph to create an H-flavored variant of the consonant (denoted Cₕ or hC). These digraphs include Tₕ, Dₕ, Kₕ, Lₕ, hL, and Rₕh. These digraphs connect to surrounding letters as if the H were not present. The Zero Width Non-Joiner (ZWNJ, U+200C) will override Cₕ digraph creation as C + ZWNJ + h, or override combining behaviour with C + h + ZWNJ. The Zero Width Joiner (ZWJ, 200D), by extension encodes for the rare hL digraph (or others) with h + ZWJ + C. In the event of a sequence of Cₕ + C needing rendering as cursive conjoined, the sequence C + ZWJ + h + C should be used, to disambiguate from the C + hC sequence C + h + ZWJ + C.

Figure 1-4. H digraphs and ZWNJ

(1) T + H → Tₕ
(2) D + H + I → DₕI
(3) K + H → Kₕ
(4) L + H → Lₕ
(5) H + ZWJ + L → hL
(6) R + H + H → Rₕh
(7) L + ZWNJ + H → LₕH
(8) P + ZWJ + H → Pₕ*
(9) I + H + T → I.H.T

It has been noted that a simpler alternate to H-combining behaviour would be to include precomposed characters for all H-digraphs. I believe that three factors make this an unworkable concept. 1) the repertoire of H-digraphs above, while considerable, may not represent all forms in the corpus of Chinook Pipa texts. It is conceivable that undocumented texts could have several currently unknown H-digraph glyphs. The burden of adding newly discovered characters to the block would present constraints on the ability of scholars to document script usage in the minority languages these digraphs could be found in. 2) The number of possible
letterforms increases the estimated demand on allocation room in the future, adding significant ambiguity to the space allocated for future additions to the script. 3) The current repertoire respects both a script analysis of H-digraphs as segmental, and with the Unicode Design Principle of encoding plain text.

One alternate that does not suffer from the drawbacks of precomposed characters is the idea of consistently encoding all H-digraph forms with the Zero Width Joiner (as example 8 above) and to make the default conjoining behaviour of H consistently non-joining. While simplifying the work of typographers, this proposal would increase the demand on end users, as the H-digraphs Th, Dh, Kh, Lh, ^L, and Rhh are more common than the consonant clusters T.H, D.H, K.H, L.H, H.L, and R.HH.

Furthermore, the use of ZWJ/ZWNJ with H-digraphs maintains internal consistency with the script behaviour concerning syllable breaking expanded on below; ie a ZWJ encodes for co-syllabic behaviour, in this case, the digraph form, where it would otherwise not do so, and the ZWNJ encodes for syllabic breaking behaviour where it would otherwise not occur - as T.H, D.H, K.H, L.H, H.L, or R.HH.

Lastly, the best typefaces designed for Chinook Pipa will probably contain precomposed glyphs for H digraphs. As the proposal now stands, novel digraphs will have varying represenations in different fonts. However, I believe that fallback rendering would probably better serve the needs of the mostly scholarly community that will make use of this script, and will be mostly unused by the members of the general public, who will more than likely use Chinook Pipa for the representation of either English or colloquial Chinook Jargon, both of which are completely represented by the glyphs included above. In the end, encoding H-digraphs segmentally gives the most flexibility to the community that needs to represent a large corpus of historical texts as accurately as possible, maintains transparency for the general user of the script, and presents few challenges to a typographer attempting to meet the needs of both these communities.

Alternate allocations can be found at the end of the proposal, allocating for all or some precomposed glyphs for compound vowels, modified consonants, and H-digraphs.

Combining diacritical marks on vowels

The Chinook Pipa script uses several combining diacritical marks, including an over-dot, underdot, diaeresis, and under diaeresis. The macron, under-macron, acute, and breve are also found in Salishan texts. These last four do not place directly above (or below) their base letter, but are instead shifted right, so their left-hand extreme is directly over the center of the base letter. The under macron has only been found in combination with acute, as some writers (mostly LeJeune) move the macron below a vowel to avoid collision with the acute placed above that vowel.

Nasal Vowels

The Chinook Pipa nasal vowels have a combining behaviour unlike any other characters. In certain circumstances, they take the form of a diacritic mark over the intersection of the two adjacent characters, and in others they will render inline, just as a regular letter. The nasal vowels will render displaced - as a diacritic - only if adjacent two regular consonants (not H or X), and the two consonants are not similar line consonants, ie the same angle. In all other circumstances, a nasal vowel will be rendered cursively connected to the adjacent consonant. ZWNJ will override displaced rendering by splitting the adjacent consonant into another syllable. A displaced nasal vowel will render below the intersection of adjacent consonants if room is not available above.
**Figure 1-5. Nasal Vowel rendering**

1. \(D + An + S \rightarrow D^{an}S\)
2. \(L + An + P \rightarrow L^{an}P\)
3. \(H + An + D \rightarrow HAnD\)
4. \(S + I + V + In \rightarrow SIVIn\)
5. \(A + I + L + An + D \rightarrow AIL^{an}D\)
6. \(A + I + L + ZWNJ + An + D \rightarrow AIL..AnD\)

**Other Characters**

The other characters in the Chinook Pipa - the letter "X", Full Stop, and "Likalisti" sign - do not typographically interact with other letters. The letter "X" acts like a non-digraph "H" and splits syllables fore and aft. The Chinook Pipa Full Stop character is used fairly frequently like a period or colon, probably due to these punctuations' similarity to Chinook Pipa letters. The logograph "Likalisti", meaning *eucharist*< is found in several texts and should be spaced as a word, not as a syllable.

**Vowel Orientation**

Chinook letters generally combine in syllabic groups according to a fixed algorithm. All consonants have a stroke direction - for P/B, F/V, K/G, M/N, and all variants, the stroke direction is top-down; for T/D, L/R, Sh/S, and variants, stroke direction is left to right. Consonants join with the stroke termination of the first consonant marking the beginning of the second consonant's stroke. Consonants, I, and E join to circular vowels and circular vowels to consonants, I, and E at tangent angles - in the original source materials, the circles are actually continuations of the consonant strokes moving into and out of the circular vowel form. Vowels often combine beneath and to the right of consonants, but generally above for the pattern T/D/L/R preceding a circle vowel plus S/Sh/N/P/B/K/G, or the pattern L/R + circle vowel + T/D. Circle vowels usually combine inside arc consonants. I and U almost exclusively follow the "in from the top or left, out down or right" rule, except that E orients exactly opposite when joining a single letter, either P, B, T, D, F, or V. An isolated E is also known to render upside-down, such a distinction necessitating markup outside the scope of the Unicode Standard. These
rules having been given, the down/right rule will always be intelligible, though less elegant than contextual implementations.

Syllable Formation

As mentioned above, Chinook Pipa letters cursively join together into nominally syllabic units. There are several rules for properly separating one syllable from another in the Chinook Pipa given below. All rules of syllabification can be overruled by ZWNJ and ZWJ. If ZWNJ is used to break a syllable, the adjacent letters should combine with the surrounding syllables as if the ZWNJ represented a word break. A ZWJ causes the conjunction of the two adjacent characters without any other effect. In other words, the adjacent syllables should form as if the ZWJ were not there.

The most important definition regarding syllable formation is that of a legal algorithmic consonant cluster. Legal algorithmic consonant clusters shall be of the following patterns 1) a labial plosive (P or B) followed by or following S or a liquid (L or R); 2) a dental plosive (T or D) followed by or following S/liquids or preceding consonant I (an I preceding A, O, I, or E); 3) a labio-dental fricative (F/V) followed by liquids, dental plosives, or velar plosives; 4) a velar (K/G) followed by or following S or liquids or preceding consonant I; 5) S followed by plosives or liquids, or a legal consonant+S cluster followed by a plosive or liquid; 6) Sh followed by or following R. In the preceding list, all variants are the same class as their base character. e.g. rule (a) would be "a labial plosive (P, B, or variants) followed by or following S (or variants) or a liquid (L, R, or variants)".

<table>
<thead>
<tr>
<th>Syllable breaking rules</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rules in bold</strong>, followed by</td>
</tr>
<tr>
<td>Trans.lit.er.a.tion1, Example1 - Trans.lit.er.a.tion2, Example2 - etc. (Periods symbolize syllable breaks)</td>
</tr>
<tr>
<td><strong>Consonants adjacent a vowel belong to that vowel</strong></td>
</tr>
<tr>
<td>Ip.soot, IpAddress - Wap.tos, $IPv4 - Peł.ten, $IPv6 - Tip.so, $IPv4 - Ik.tas, $IPv4 - Kim.ta, $IPv4</td>
</tr>
<tr>
<td><strong>Consonants adjacent two vowels belong to the trailing vowel</strong></td>
</tr>
<tr>
<td>Oo.kook, $IPv4 - A.la, $IPv4 - Ya.kwa, $IPv4 - Ka.na.mokst, $IPv4 - Li.li, $IPv4 - Ma.mook, $IPv4</td>
</tr>
<tr>
<td><strong>Legal consonant clusters belong to trailing vowels, as long as not adjacent to a preceding vowel</strong></td>
</tr>
<tr>
<td>Klak.sta, $IPv4</td>
</tr>
<tr>
<td><strong>The cluster T + L preceding a vowel joins to that vowel and only that vowel</strong></td>
</tr>
<tr>
<td>Pa.tlach, $IPv4 - Tlemen.tlemen, $IPv4 - I.tloo.ilh, $IPv4</td>
</tr>
<tr>
<td><strong>Adjacent consonants not forming legal clusters shall divide syllables</strong></td>
</tr>
<tr>
<td>Wap.tos, $IPv4 - Ash.noo, $IPv4 - An.ka.ti, $IPv4 - Kan.sih, $IPv4 - Kim.ta, $IPv4 - Kom.taks, $IPv4 -</td>
</tr>
<tr>
<td>Tsik.tsik, $IPv4 - L.ma.lo, $IPv4</td>
</tr>
<tr>
<td><strong>A nasal consonant (N/M) will form a consonant cluster with &quot;S&quot; or &quot;Sh&quot; if the nasal, &quot;S&quot;, or &quot;Sh&quot; is word initial or final.</strong></td>
</tr>
</tbody>
</table>
Nsai.ka, ː - Msai.ka, ː - Snaz, ː - La.Plansh, ː

An "I" or "E" immediately preceding or following an "OO" or "OW", or preceding a W vowel shall divide syllables

Ni.wa, ː - Tlemen.oo.it, ː - I.tlool.ih. ː - E.h.poo.i, ː - Kip.oo.it, ː - Kla.h.ow.iam, ː

An "I" immediately following a vowel (not U) and preceding a consonant shall be considered part of that vowel

Kwaits, ː - Oi.h.at, ː - H'loima, ː - Eit, ː - Fait, ː

An I/E flavored vowel will join with a following consonant + "I"

Fraide, ː

An "H" following a line consonant, or preceding a ZWJ + consonant creates a digraph equivalent to the base character.

Pelh.ten, ː - Khel, ː - Khow, ː - The, ː

An "H" not forming a digraph will break syllables fore and aft.

Oi.h.at, ː - I.h.t, ː - Ka.h.ka.h, ː - Ka.la.h.an, ː - Ke.h.tsi, ː - Kla.h.ow.iam, ː - Sa.h.al, ː - Wi.h.t, ː - Ta.h.am, ː - H.um, ː - A.h.a, ː - E.h.poo.i, ː - Ili.h.e, ː

A "U" will join with either preceding or trailing consonants, but not both

Kyu.tan, ː

A "U" will first join with lone (without a vowel) consonants or clusters

Stu.il, ː - H.um, ː

A legal consonant or cluster bracketed by two "I"s or "E"s will share a syllable

Ili.h.e, ː - Isik, ː

A nasal vowel will displace and join two adjacent consonants, unless the adjacent are similar (same angle) line consonants.

L(en)t, ː - Munde, ː - Lamp, ː - Dans, ː - Sacramento, ː

A nasal vowel will connect with a following consonant if word initial or preceded by an H, X, or vowel.

Hundred, ː - Hand, ː -

A nasal vowel will connect with a previous consonant and break syllables aft in all other circumstances.

Roten, ː - Seven, ː
Allocations are given here to address concerns that the above analysis and script mechanics stray too far into the segmental realm. I have not included all permutations of precomposed characters for Compound Vowels, Consonants + CCMM, and H-digraphs. Specifically, if it is decided that H-digraphs should be encoded as precomposed, Consonant + CCMM characters would surely follow suit. The following tables are headed by a list of the set of glyphs included as precomposed characters instead of character sequences.

<table>
<thead>
<tr>
<th>Vowels, CCMM, H's</th>
<th>CCMM, H's</th>
<th>Vowels, CCMM</th>
<th>CCMM</th>
<th>Vowels</th>
</tr>
</thead>
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<tr>
<td>x0 x1 x2 x3 x4</td>
<td>x0 x1 x2 x3</td>
<td>x0 x1 x2 x3</td>
<td>x0 x1 x2</td>
<td>x0 x1 x2</td>
</tr>
<tr>
<td>0 P B W a Th An</td>
<td>0 P B Th An</td>
<td>0 P B Wa An</td>
<td>0 P B An</td>
<td>0 P B Wa</td>
</tr>
<tr>
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<td>1 T D Wi In</td>
<td>1 T D In</td>
<td>1 T D Wi</td>
<td>1 T D In</td>
</tr>
<tr>
<td>2 F V Wo Kh On</td>
<td>2 F V Wo On</td>
<td>2 F V Wo On</td>
<td>2 F V Wo</td>
<td>2 F V Wo</td>
</tr>
<tr>
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<td>3 K G Woo Un</td>
<td>3 K G Un</td>
<td>3 K G Woo</td>
<td>3 K G Woo</td>
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<tr>
<td>4 L R Wow hL Lh Lik</td>
<td>4 L R Wow Lik</td>
<td>4 L R Lh Lh Lik</td>
<td>4 L R Wow</td>
<td>4 L R Wow</td>
</tr>
<tr>
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<td>5 M H Rhh -</td>
<td>5 M H Owa -</td>
<td>5 M H Owa</td>
<td>5 M H Wey</td>
</tr>
<tr>
<td>6 N X Ng - -</td>
<td>6 N X Ng -</td>
<td>6 N X Ng -</td>
<td>6 N X Ng</td>
<td>6 N X Wia</td>
</tr>
<tr>
<td>7 Sh - Ch - -</td>
<td>7 Sh - Ch -</td>
<td>7 Sh - Ch -</td>
<td>7 Sh Ch -</td>
<td>7 Sh - Ohw</td>
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<tr>
<td>8 S - Ts - -</td>
<td>8 S - Ts -</td>
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<td>9 0 - Weyi -</td>
<td>9 0 - Weyi</td>
<td>9 0 - -</td>
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<td>A A - Wia -</td>
<td>A A - Wia</td>
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<td>B I E Ohwa -</td>
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<td>B I E -</td>
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<td>C Oo - - -</td>
<td>C Oo - -</td>
<td>C Oo - -</td>
</tr>
<tr>
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<td>D Ow - - -</td>
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<tr>
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<td>E U - Uh -</td>
<td>E U - Uh -</td>
<td>E U - Uh</td>
<td>E U - FS -</td>
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<tr>
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<td>F CPC FS K' -</td>
<td>F CPC FS K' -</td>
<td>F CPC FS K'</td>
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<td>CCMM</td>
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<td>x0 x1 x2</td>
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<tr>
<td>0 P B A n</td>
<td>0 P B A n</td>
<td>0 P B An</td>
<td>0 P B An</td>
<td>0 P B An</td>
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<td>2 F V</td>
<td>2 F V</td>
</tr>
<tr>
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<td>3 K G -</td>
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<td>E U -</td>
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<td>E U</td>
<td>E U</td>
</tr>
<tr>
<td>F CPC FS K' -</td>
<td>F CPC FS K' -</td>
<td>F CPC FS K' -</td>
<td>F CPC FS K'</td>
<td>F CPC FS -</td>
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<td>F CPC FS K' -</td>
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</tr>
<tr>
<td>F CPC FS K' -</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Archives of the Kamloops Wawa 1891-1900 (subscription required)


Chinook:.... A History and Dictionary, by Edward Harper Thomas, 1935, Metropolitan Press, Portland, OR)
transliterated character repertoire, p, t, k, l, m, n, sh, s, o, a, oo, i, e, CCMM, d,
Lines 3, 6, 16: compound vowel "Wa"
Lines 7, 8: compound vowel "We"
Line 9: irregular syllabification "kla.ks.ta"
Line 12: irregular consonant cluster "t+s"

Kamloops Wawa No 1 page 3
you will be answered very sorry for it.

Now I will make known to you our A. B. C.

You see here sixteen different letters:

o o o o o o
\( \text{a o o o o o wa e u} \)

h p l k l sh s m

The seven first ones are called vowels and the other nine, consonants.
Line 10: syllable "PI". cf Kamloops Wawa No 1, page 1, line 1, syllable "PE"
Line 7,8: transliterated simple character repertoire, a, o, oo, ow, wa, e(i), u, h, p, t, k, l, sh, s, n, m.
Lines 6,12: irregular consonant cluster "t+s"

**KMW1 page 5, Prayers in Shushwap**
Line 3: Abbreviations, "T+CPC+K" & "S+CPC+S"
character repertoire h, r, full stop

KMW45 page 4
Line 7: h-digraph "Dh"
character repertoire v.
Line 6: irregular syllabification "ar.t"
Line 1, etc: Abbreviation "Sh+CPC+K"
Line 13: Abbreviation "S+CPC+T"

KMW51 page 3
Line 25: 3 letter abbreviation, "S+CPC+B+CPC+Sh"
Line 4: Syllabic breaking "A.U"
Lines 5,10,11,&17: abbreviation "Sh+CPC+K"
Lines 1,3,4,6,&20: Ch character, Sh+CCMM
Lines 2,4,7,9,15,17,20: Compound vowel "Wi"
Line 2: H-L, "H+ZWNJ+L"
Lines 3,4,9,10,13,18,&22: Compound vowel "Wa"

**KMW59 page 1**
No. 59: 😊😊Happy New Year!

This is the second year of our little paper.
Your and your friends' subscription is most respectfully solicited for the encouragement and support of our little paper.

God's blessing will be your reward, great exceeding.

We shall endeavor to fill the numbers of this paper with...
Line 2: U+CCMM
Line 2: 1+1+Diaeresis Yee

KMW68 page 2
the time spent in study: 620, 1280 columns, 8000 lines. This abbreviation could be put to better advantage in practicing phonography, 1200 columns in full. —From the Steno-...graphic Night, 22nd Year. Oct 5, 1893.

Rev. F. W. Marchal's letter:

6304 by 50 by 28. 60 by 60 by 60 by 60.

Obtained by 60 by 60 by 60 by 60 by 60 by 60 by 60 by 60.

By 60 by 60 by 60 by 60 by 60 by 60 by 60 by 60.

By 60 by 60 by 60 by 60 by 60 by 60 by 60 by 60.

By 60 by 60 by 60 by 60 by 60 by 60 by 60 by 60.

By 60 by 60 by 60 by 60 by 60 by 60 by 60 by 60.

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By 60 by 60 by 60 by 60 by 60 by 60 by 60 by 60.

By 60 by 60 by 60 by 60 by 60 by 60 by 60 by 60.
Line 28: "Likalisti" sign

KMW101 page 1
Proposal to include Chinook Pipa in Unicode/ISO-10646

11.43. Kumloops Warms. 23. Oct. 8

2220. §  The martyrs of the
23 Amphitheatre.
24 Cont.
25 I.
26 §  III. Sts. Eustachius.
27 §  104. 2. 10. 8. 1. 6.
28 §  8. 9.
29 §  6. 5. 4. 6. 6.
30 §  6. 5. 4. 6. 6.
31 §  6. 5. 4. 6. 6.
32 §  6. 5. 4. 6. 6.
33 §  6. 5. 4. 6. 6.
34 §  6. 5. 4. 6. 6.
35 §  6. 5. 4. 6. 6.
36 §  6. 5. 4. 6. 6.
37 §  6. 5. 4. 6. 6.
38 §  6. 5. 4. 6. 6.
39 §  6. 5. 4. 6. 6.
40 §  6. 5. 4. 6. 6.
41 §  6. 5. 4. 6. 6.
42 §  6. 5. 4. 6. 6.
43 §  6. 5. 4. 6. 6.
44 §  6. 5. 4. 6. 6.
45 §  6. 5. 4. 6. 6.
46 §  6. 5. 4. 6. 6.
47 §  6. 5. 4. 6. 6.
48 §  6. 5. 4. 6. 6.
49 §  6. 5. 4. 6. 6.
Line 15: K+CCMM, $K'$. Note that it looks like a crossed K.

**Chinook Rudiments**

The Chinook Rudiments text contains an extensive vocabulary list with transliteration and English gloss. Several pages are included for increasing familiarity with the script, while others have notes on content regarding a specific inclusion within the proposal not found in the above documentation. The first page contains a full character inventory, except for the Salish specific "X", including compound vowels, h-digraphs, the numerical values of the first ten characters, and even some basic pronunciation guidance.
to instruct and benefit the Indians, by means of written characters, is that known as the "Kamloops Wawa". Written in an international language, "set up" in stenographic characters, and printed on mimeograph by its inventor, editor, reporter, and publisher all in one, this little weekly seems to leave nothing in the way of novelty to be desired.

Phonetic Alphabet.

Vowels:

- a o o o o o e i
- an in on un

Consonants:

- h p t f k l sh s n m
- ch, ts ng

- a b c d e f g h
- i j k l m n o p
- q r s t u v w
- x y z

Pronunciation:

- o : o as in arm, are.
- o : o as in note.
- o : o as in food.
- o : o as in owl.
- o : wa as in wax.
- e : e as in obey.
- u : u as in use.

Compound vowels:

- o: wa; O: woe;
- O: wo; O: wow;
- O: owa; also O: owa.
- O: we; O: way;
- O: wayie; O: weeyo.

Consonants:

- h, always aspirated, never silent.
- kh, guttural, explosive.
- h-l, separate.
- hl, combined.
- lh, wet l, lla, lya.
- l-lh, separate.
- lh-k, separate.
- kr, an explosive articulation.
- a very soft r, or an imitation, heard in some native languages.

- h-h, a duplication of the articulation, but a lighter one than usual, can be acquired only by practice.
- th: in English th.

- in some instances in the native language
Chinook
Rudiments.

I. Numerals.

Iht, 1, One.
mokst, 2, two.
thood, 3, three.
lacket, 4, four.
kwem'nam, 5, five.
ta'ham, 6, six.
semmokst, 7, seven.
eit, 8, eight.
nain, 9, nine.
tat'ilam, 10, ten.
tat'ilam pi iht, eleven.
tat'ilam pi mokst, twelve.
mokst tat'ilam, twenty.
tloon tat'ilam, thirty.

Takmo'nak, 100.

Also:

stot'kin, 8, eight.
kw'aitz, 9, nine.

II. Adjectives.

A'yaq, op, quick.
a'yaq, e, big.
a'yoo, e, plenty.
bloo, 10, blue.
chi, n, new.
dlet, 11, right.
dlaai, m, dry.
glō, 5, yellow.
helo'ima, 9, different.
il'ep, 1, first.
k'a'kwa, 6, like.

Ka'nawe, 10, all.
kha'w, 8, lied up.
hel'l, 1, hard.
ki'hoole, 16, below.
kim'ta, 20, behind.
kla'han, 9, outside.
kla'haw yam, 11, poor.
kol, 6, cold.
ko'pa, 6, inside.
kwash, 6, afraid.
l'ez'i, n, lazy.
l'e'le, n, a long time.
māsa'chi, 16, sad.
memloos, 16, dead.
o'lo, 10, hungry.
pālt, 11, full.
pe'l, 11, red.
pel'he, 11, thick.
pooli, 16, rotten.
sa'haле, 6, high up.
sa'lix, 16, angry.
shem, 9, ashamed.
sik, 9, sick.
sit'kom, 26, half.
sa'waz, 16, sour.
tana'z, 12, small.
tek'op, 9, white.
tel, 11, tired out.
tla'wa, 12, slowly.
tle'm'en, 9, smashed.
Hil, 9, black.
tloos, 9, good.
tse'pe, 11, mistaken.
tsi, 16, sweet.
wam, 16, warm.
yool, 16, glad.
III. Pronouns.

I. Personals:
Na'ika, 26, I,
Ma'ika, 26, thou,
Sa'ka, 26, he,
Nsa'ika, 26, we,
Ms'aika, 26, you,
Kla'ska, 26, they.

II. Possessives: ex.:
Na'ika papa, my father,
Na'ika bb, Cj bb, vs bb,
Na'ika bb, Cj bb, Cj bb.

IV. Verb.

Conjugation, very simple:
Wa'wa, 00, to speak.

1. Present: I speak, she.
Na'ika wa'wa, 26, 00,
Ma'ika wa'wa, Cj, 00,
Sa'ika wa'wa, vs 00,
Nsa'ika wa'wa, 26 00,
Ms'aika wa'wa, 26, 00.

2. Perfect: I spoke, she.
An' rate na'ika wa'wa,
26 26, 00, ...
some time ago I did speak.

3. Future: I shall speak.
A'ke na'ika wa'wa,
26, 00, ...
later on I shall speak.

4. Cond.: if I speak...
Poos na'ika wa'wa,
26, 00, if I speak.

5. Subj.: that I speak.

List of Verbs:
Mita'it, 26, to be,
E'le', 26, to live,
Tom'tom, 26, to think,
Te'ke, 26, to like,
Kimta'x, 26, to know.

Na'nich, 26, to see,
Kola'n, 26, to hear,
Wa'wa, 00, to speak,
Se'som, 26, to tell,
"ya'yem," 26, to talk...

Moo'som, 26, to sleep,
Ma'komah, 26, to eat,
Ma'c'mook, 26, to work.

cha'ko, 26, to come,
Kla'twa, 26, to go,
Koo'li, 26, to walk,
Kilapa'i, 26, to come back.

He'he, 26, to laugh,
Sa'lix, 26, to be angry,
Ha'lah, 26, to open,
EH'poo'i, 26, to shut,
Ip'soot, 15, to hide,
Tlap, 26, to find.

Tlemonoot, 26, to lie,
Kapshwa'la, 26, to steal,
Ma'kok, 26, to buy,
Dhol, 26, to exchange.

Pa'latj, 26, to give,
Es'kom, 26, to take,
Mash, 26, to throw away.
To'lo.  P to win.

fight.  A kiss,  or

fly,  v. play, wash,

lose,  I sell,  or

get up,  A sleep, watch.

A help.  A swim.

cha'ko kwash,  p. get afraid
cha'ko tanzaq,  p. to be born
na'nich pepa 2 to read
kloos na'nich,  p. be careful
na'nich kopa 22 to
moosoom, p.QE dream.

V. Adverbs, etc.

ank'ate,  p. long ago.

al'ta,  now.

al'ke,  2 now on.

kopa il'ep,  p. at first.

taf'ke son,  p. yesterday.

taf'ke waim,  2 last summer.

taf'ke smo,  p. last winter.

kwanesem,  p. always,

Hah!  ? Where?

c'lo,  p. there is not.

c'lo kah,  p. no where.

Kah kah, p. here there.

Manwe kah, d0. every where.

ya'kw,  2 here.

ya'wa,  no yonder.

mawitka, 292 yes!

c'lo,  p. no!

Kloonas', p.2 may be

Poos,  c.  it.

weht,  p. again.

Kopet,  c. only.

"hi'wa",  20 because.

"heht'ni",  2. although,

A few interjections

a ha!  o.o! yes, so.
Remarks. — On the numerals. — 1st the first number, int, seems to imitate the Hebrew heh, the first.
2nd To understand the origin of the numbers, as expressed in the different languages of these districts, open out both hands, palms facing outside, the thumbs near each other. The little finger of the left hand is one, next to it, his helper, his second, two; the third finger, middle hand, three; the next coming, the index, is a special number, four: they used to keep the dead bodies until the fourth day... Then comes the thumb, full hand, five; the next is across to the other hand, the thumb of the right hand, the first of the second hand, six. Seven seems to mean second of the right hand, and in fact we have sermoish, again two. Eight is also a special number, an octave, slob’kin. — The fourth finger of the right hand shows but one, both hands full but one, kwaritz, pretty near full hands... Then comes full hands, ten.
Chinook Vocabulary.

The 163 original words.

1. af'ke, x, later, on.
2. alta, v, now.
3. an'hale, 56-, in time past.
4. a'yak, o, quick.
5. a'yaq, o, great.
6. a'yoo, o, many.
7. cha'ko, 56, to come.
8. chi, v, new.
9. chik'mun, 56, metal.
10. chök, 56, water.
11. dëkt, s, right.
12. e'he, ., to laugh.
13. e'poo, s, shut.
14. e'lehe, s, earth.
15. el'kiten, s, slave.
16. e'lo, p, none.
17. enatax, 56, across.
18. es'kom, v, to take.
19. ha'ha, a, awful.
20. ha'laq, a, to open.
21. it'ima, s, different.
22. hüm, c, one.
23. iht, s, what.
24. il'ka, s, belongings.
25. il'ep, s, first.
26. il'soot, s, hide.
27. is'sik, s, paddle.
28. it'loolth, s, flesh.
29. Kah, s, where.
30. Kak'shet, s, broken.
31. Kah'wa, s, like.
32. Kal'x'ham, s,
wo, to carry,
ma'ika, o, thou,
ma'kook, o, to buy,
ma'k'nak, o, to eat
ma'mook, o, to make
mo'ash, o, throw away
masachi, o, bad
ma'wich, o, dear
memloos, o, dead
mitla'it, e, to be...
mit'wil, o, to stand
mo'os'moo, o, cow
mo'oo'soom, o, to sleep
msa'ika, o, you
na'ika, o, I, me
na'wich, o, see
na'wita'k, o, yes
nsa'ika, o, we, us
dihat, o, road
di'chi, o, to exchange
ol'li, o, berries
lo, o, hungry
oo'kook, o, hind part
ow, o, young mother
pa'ya, o, fire
papoo, o, chill
pasis'si, o, blankets
pat, o, full
patla'ch, o, forgive
pel, v, red
pulpel, v, blood
pel'k'ton, v, insane
pi, v, and
poo, o, shot
poos, o, if
<table>
<thead>
<tr>
<th>Chinook Words</th>
<th>English Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>po’lafe</td>
<td>powder</td>
</tr>
<tr>
<td>sa’hale</td>
<td>above</td>
</tr>
<tr>
<td>sa’ya</td>
<td>far</td>
</tr>
<tr>
<td>sak’lax’ook</td>
<td>pants</td>
</tr>
<tr>
<td>sa’lax</td>
<td>angry</td>
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<tr>
<td>sap’le’</td>
<td>bread</td>
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<tr>
<td>sel’</td>
<td>soul</td>
</tr>
<tr>
<td>semnoxt</td>
<td>seven</td>
</tr>
<tr>
<td>si’a’hoos</td>
<td>face</td>
</tr>
<tr>
<td>sie’sem</td>
<td>to tell</td>
</tr>
<tr>
<td>sil’kom</td>
<td>half</td>
</tr>
<tr>
<td>skoo’koom</td>
<td>strong</td>
</tr>
<tr>
<td>sma’z</td>
<td>rain</td>
</tr>
<tr>
<td>sta’lo</td>
<td>uive</td>
</tr>
<tr>
<td>sti’wilh</td>
<td>to pray</td>
</tr>
<tr>
<td>ta’ham</td>
<td>six</td>
</tr>
<tr>
<td>ta’kom</td>
<td>one hundred</td>
</tr>
<tr>
<td>tamano’ax</td>
<td>magic</td>
</tr>
<tr>
<td>tan’z</td>
<td>small</td>
</tr>
<tr>
<td>tan’ke sm</td>
<td>yesterday</td>
</tr>
<tr>
<td>tatilam</td>
<td>ten</td>
</tr>
<tr>
<td>ta’ye</td>
<td>chief</td>
</tr>
<tr>
<td>te’re</td>
<td>to like</td>
</tr>
<tr>
<td>tek’op</td>
<td>white</td>
</tr>
<tr>
<td>tel</td>
<td>tired</td>
</tr>
<tr>
<td>tel’ikom</td>
<td>people</td>
</tr>
<tr>
<td>tep’so</td>
<td>grass</td>
</tr>
<tr>
<td>tik’lik</td>
<td>watch</td>
</tr>
<tr>
<td>tin’to’ii</td>
<td>bell</td>
</tr>
<tr>
<td>tap</td>
<td>to get</td>
</tr>
<tr>
<td>tha’wa</td>
<td>slowly</td>
</tr>
<tr>
<td>elem’</td>
<td>broken</td>
</tr>
<tr>
<td>elemu’</td>
<td>smashed</td>
</tr>
<tr>
<td>elemu’wot</td>
<td>tall pole</td>
</tr>
<tr>
<td>tep’</td>
<td>deep</td>
</tr>
<tr>
<td>hit</td>
<td>black</td>
</tr>
<tr>
<td>hoon</td>
<td>three</td>
</tr>
</tbody>
</table>

2. Chinook words
more or less used, not included in the above list.

a! | o! | ah!
anechem | hand.
anechim | Her chief,
at’s | you, sister,
bè’bè’ | a kiss,\nbit su mit | l, g, dime,
hallo’ | o! | hallo!
ho’ho’ | o’o | to cough,
hu’hu’ | m, mouse,
hip’i | Cedar,\ni’sa | beaver,
i’tlip’kum | gambling,
ika’ka | crow,
kap’o’ | overcoat,
k’at’hem | to cash,
ka’ko’ | coyote,
kesh | although,
Proposal to include Chinook Pipa in Unicode/ISO-10646

-14-

kwaïts, 6, nine,
kwaïta, 6, quarter,
kwij’kwij, 6, squirrel,
ma, 6, ma,
mâm’mouk- 6, to pull,
haul;
ma’mouk- 6, thinking
lapiche, 6, over,
moo’a, 6, mule,
na! 6, here,
niwa! 6, you there!
o! 6, oh!
op’thah, 6, knife,
pa, 6, pa,
p’pa, 6, father,
patak, 6, potatoes,
péth’te, 6, thick,
pooli, 6, rotten,
rat’rat, 6, geese,
Sa’hale-
taye, 6, God,
Siapool, 6, hat,
siks,
Sit’kom-
ta’la,
sopena,
stopkin,
Ta, 6, eight,
no,
ta’ta, 6, no,
ta’la,
talapos,
silver fox,
tame’lady, 6, barrel,
tetoosh, 6, milk,
tia’wit, 6, legs,
mâm’mouk- 6, to

tóto, 6, toy,
too’too, 6, a pet cat,
tseh, 6, to split,
wahpoos’, 6, snake,
wapi’toes, 6, potatoes.

3º Hudson Bay French words introduced into the early Chinook hardly ever used now.

génoux, 6, on the knees,
cosho, 6, pig,
couli, 6, to walk,
là bouché, 6, mouth,
là boutei, 6, bottle,
là carotte, 6, carrots,
là casette, 6, trunk,
là chandelle, 6, candle,
là cle, 6, Hey,
là gomme, 6, pitch,
là gumstick, 6, pitchwood,
là hache, 6, axe,
là langue, 6, tongue,
là médicine, 6, medicine,
là montagne, 6, mountain,
là pelle, 6, shovel,
là pipe, 6, stick,
là plante, 6, pipe,
là planche, 6, lumber,
là porte, 6, door,
là scié, 6, saw,
là table, 6, table,
là têt, 6, head,
là vieille, 6, old woman,
là Wagguine, 6, Wagno,
leda, 6, teeth,
leclou, 6, nails,
<table>
<thead>
<tr>
<th>English</th>
<th>Chinook</th>
</tr>
</thead>
<tbody>
<tr>
<td>l'ordre,</td>
<td>q, holy orders,</td>
</tr>
<tr>
<td>Mali,</td>
<td>q, medal,</td>
</tr>
<tr>
<td>Mistela,</td>
<td>e; mystery,</td>
</tr>
<tr>
<td>Paik,</td>
<td>b; faste</td>
</tr>
<tr>
<td>Paska,</td>
<td>d; Easter</td>
</tr>
<tr>
<td>Poison,</td>
<td>v; Person,</td>
</tr>
<tr>
<td>Sacremo,</td>
<td>v; sacraments,</td>
</tr>
<tr>
<td>Sakramen,</td>
<td>v; day</td>
</tr>
<tr>
<td>St. Trinite,</td>
<td>f, h. trinity,</td>
</tr>
<tr>
<td>Tloos Hati,</td>
<td>f; holy Mary,</td>
</tr>
<tr>
<td>Levitel,</td>
<td>v; gift,</td>
</tr>
<tr>
<td>Paska,</td>
<td>d; Easter,</td>
</tr>
<tr>
<td>Ayas Son,</td>
<td>v; feast day</td>
</tr>
</tbody>
</table>

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**5th Religious Words.**

Bliss Choki, .lift h. Water, Catholic  a Catholic, St. with,  v; Church, Jesu-Hri,  m; Jesus Christ, Hmiss,  w.e; christmas, La confirma,  v; confirmation, Laクロタ,  v; matin, Laクロト,  v; Way of the 三hat,  v; cross, La Mass,  v; H. Mass, La Noël,  v; Christmas, La petit'a,  v; penance, Le Batém,  v; Baptism, Le chapell,  v; rosary, Leholist,  v; h. indignant, Le hateta,  v; ember days, Le cain,  v; sent, Le giz,  v; the Church, Lemaliaj,  v; matrimony, L'autel,  v; the altar, Le Pripe,  v; the Pope, Le peche,  v; sin, Le ple,  v; the priest, Les Anges,  v; angels, Les Apôtes,  v; the Apostles, Les Avez,  v; the Bishop,
Note diacritic dots on *Bear, Beads, Beef, Bell & Cheap*
Proposal to include Chinook Pipa in Unicode/ISO-10646

-16-

Cheat, Grease, Cheese, 
Chicken, Hammer, 
Cock, Hand, 
Cocoa, Harness, 
Coffee, 
Cold, Hat, 
Court, Half, 
Coyote, Help, 
Cross, Hold, 
Cup, House, 
Dance, Hundred, 
Devil, Ice, 
Fish, Island, 
Dollar, Kettle, 
Don, Hey, 
Dream, Kiss, 
Dry, Kneel, 
Easter, Knife, 
Eighth, Lake, 
Emberdays, Lamp, 
Eyes, Lay down, 
Fall, Leggings, 
Fall down, Lent, 
Fight, Lettuce, 
Fish, Light, 
Fish hooks, Life, 
Five, Like, 
Flees, Lost, 
Flies, Man, 
Flour, Married, 
Flowers, Matches, 
Fly to, Medal, 
Fork, Medicine, 
Four, Milk, 
Friday, Monday, 
Get up, Moon, 

Mule, Salt, 
Musket, Saw, 
Mutton, Sawmill, 
Mystery, Saw, 
Nails, Scapular, 
Name, Scarlet, 
Napkin, Screen, 
Neck, Schooner, 
Necktie, Scissors, 
Needle, Scoop, 
Nine, Sell, 
Nose, Seven, 
Old, Shame, 
One, Shawl, 
Paid, Sheep, 
Pail, Shirt, 
Pail, Ship, 
Pig, Shoe, 
Pillow, Shots, 
Pin, Sick, 
Pipe, Sin, 
Plank, Six, 
Plate, Skin, 
Play, Sky, 
Pope, Sleep, 
Pork, Sled, 
Potatoes, Smoke, 
Powder, Soap, 
Prayer, Soup, 
Priest, Sour, 
Quarter, Snow, 
Rib, Snake, 
Rosary, Split, 
Rotten, Spur, 
Rifle, Spoons, 

42 of 52
5/4/2009 12:38 PM
Note diacritic dots on *Grease, Easter, Priest, Sheep*, etc.
Comparatives Superlatives.

Paul is good.

More.

Hoots.

Kahwa.

Peter.

Pete.

Peter.

Peter.

Peter.

Peter.

Peter.

Peter.

Peter.
Proposal to include Chinook Pipa in Unicode/ISO-10646

-8-

Koyun-koyoo. la. finger zing.

Mac'mac, 44: foods:
lagamin, 13, soups,
sapet, 6, bread
lagasit, 42, hotcakes,
ma'wich, 65, deer,
moos'moos, 34, beef,
ko'ho, 42, pork,
kah'kala, 34, birds,
glij, 2, grease,
tetoosh, 42, butter,
pata'k, 66, potatoes,
tepisk, 79, greens,
lesel, 75, salt,
tepoeser, 46, pepper,
shoo'kwa, 42, sugar,
oo'li, 34, fruit,
soup olali, 80, soup olali:
cabbage, 5, salad,
pear, 2, tea,
coffee, 66, turnips,
cocoa, 66, vinegar,
lettuce, 6, mustard.

Lawagin, 40, wagon,
bridle, 3, sleigh,
buggy, 3, spurs,
cart, 3, stirrups,
hares, 3, straps,
saddle, 4, whip.

Ik'ta? 3, what!
Kah? 2, where!
Kata? 60, how!

8.

Ya'kwa, ref, here,
ye'wa, n, there,
Sa'ya, in, far,
Wek saya, 6, not far,
Sit'kem. 4, half.

9.

An'kate, 90, in time past.
Se'le - 4, long-
An'kate, 46, ago,
Tan'z - 2, a little while
An'kate, 96, ago,
Tan'ke - 16, last.
Tan'kë- wäm, 8, summer.
Tan'ke- snö, 8, last,
Tan'ke- so, 8, winter,
Oo'kook - 8, to-
Son, 8, day,
Al'ta, 4, now,
Chi al'ta, 4, just now.

10.

Ba'i-n-bai, 49, by and by,
A'kë, 4, later on,
Tan'z - 2, not
A'kë, 4, long,
Tan'z - 2, a little while,
Wek 4, not
Se'le, 4, long,
Toma'lo, 46, tomorrow,
Mukt 8, after
Son, 8, to-morrow,
Ka'naw, 100, every
Son, 8, in.
Proposal to include Chinook Pipa in Unicode/ISO-10646

-19-

11. 
Kopa   60  in
ya'kwa,  69  here,
Kopa  60  over
ya'wa,  69  there,
Kopa  60  in the
house,  69  house,
Kopa  60  out
Klachane, 69  side,
Kopa  60  far
Sa'ya,  69  away,
Kopa  60  the other
enatai.  69  side.

12. 
Na'witka, 60  yes,
e'lo,  69  no,
welk,  69  not,
p'i,  69  and,
poos,  69  if,
weht  69,  again,
mamook  60  to
na'witka.  69  believe.

13. 
Iht,  69 ... one,
Iht iht,  69 ... a few,
Iht p'i iht.  69 ... one by one.

14. 
A'yo,  60  many,
welk a'yo,  69  not many,
tanaz a'yo,  69  a few,
elo a'yo,  69  not many,
delk a'yo,  69  quite a lot,
lel a'yo,  69  a great many,
a'nawe,  69  all,
na'kot.  69  together

15. 
Tloos,  69  good,
tanaz  69  pretty,
tloos,  69  good,
sil'hom  69  half
20.

α'ayaz  = very
tloos = good,
țlep = best

tloos = of all.

19.

Weh tloos = not-good,
Haltash = useless,
țanaz = pretty
Haltash = pretty,
Săl'kom = half
Haltash = spoiled,
dlet = altogether,
Haltash = useless,
α'ayaz = very
Haltash = useless,
masachi, Cem = bad,
α'ayaz = very
masachi, Cem = bad,
dlet = altogether,
masachi, Cem = bad.

20.

α'ayaz = big,
tanaz = small,
α'ayaz = a little
tanaz = small,
tanaz = a little
āyaz = big.

21.

chi = now, now,
chi alta, me = just now,
chi kő, me = new coat;
chi iktas, me = new dress;
chi cha'kom, me: new comer.

22.

O'lo = hungry,
o'lo chök = thirsty,
Man 3 Man
mitta't 2 has
late', 1 head,
ayah'soot, v.2 hair,
sia'hooy, o.2 face,
oi, 2 eyes,
kolain, 2.3 ears,
nöz, 2.3 nose,
laboosh, 2.5 mouth,
lang, 2.3 tongue,
lè dà, 2.4 teeth,
nèk, 3 neck,
retuosh, 2.5 breasts,
tom'tom, 2.5 heart,
kwat'men, 2.3 belly,
oo'pootz, 2.2 bottom,
lema, 2 hands,
tia'wit, 2.2 legs,
aj'moo, 2.2 knees,
lep'e, n. feet,
illo'ith, 2.3 flesh,
bôn, 2.3 bones,
skin, 2.3 skin,
pelipel, 2.4 blood,
s'ele, 2.4 soul,
ném, 2 name.

Man 9 Man
lo'lo', 20 wears
pasissi, 2.2, blanket,
saka'looox, 2.2, pants,
siapool, 2.5 hat,
yo, 2.2, necktie,
ô, bonnet, 2.2, scarf,
Proposal to include Chinook Pipa in Unicode/ISO-10646


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1. dishes, 2. stove
3. forks, 4. spoons
5. knife, 6. tea pot
7. knives, 8. tea spoon
9. lamps, 10. thread
11. napkins, 12. towels
13. needles, 14. window

15. Te'likom, 16. Natives
Klo'ima- other
telikom, - 17. Indians
p'il telikom, 18. red people
ll' telikom, 19. negroes
bokptelikom, 20. white men
passalyax, 21. French
kinjooj, 22. English
Boston, 23. Americans
Lejoip, 24. Jews
kanada man, 25. Canadians
kanaka, 26. kanakas
shanamam, 27. chinamen
sop... 28. Japs

thlap knem, 30. get came,
knem lak't, 31. head game
00'poets, 32. kind of
knem, 33. canoe
issik, 34. paddles
ik'ik, 35. fish hooks
net's, 36. fish nets
salmon, 37. salmon
chi salmon, 38. fresh 
sal salmon, 39. salt

saimon, 40. Salmon
try salmon, 41. try 

17. Mameook 42. Hunting
ma'wich, 43. deer
mosket, 44. gun
shik mosket, 45. Bow
chikum 46. steel
mosket, 47. Guns
pool'a, 48. powder
Hela'iton, 49. arrows

A rifle 50. shots.

18. Am'kate 51. Some time past
Te'likom, 52. the Indians
Kooli, 53. would go
lepie, 54. a foot;
lo'lo 55. packing
Klas'ka, 56. their
ik'tas, 57. outfit;
Klatawa, 58. struggling
Kopa, 59. through
stik, 60. the winds,
Kopa 61. up the
mountain, 62. mountains.
Mameook 63. setting
traps, 64. traps
thlap 65. getting
aiyou 66. all
Hlo'ima 67. of good
Hloos 68. of good
yah'soot 69. fur ed
Ima, 70. beavers

5/4/2009 12:38 PM
Note diacritic underdot on *Thread*.
My apologies for the antiquated ethnic terms.
<table>
<thead>
<tr>
<th>English</th>
<th>Chinook</th>
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<tbody>
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<td>19.</td>
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Number of Words in the above vocabularies: 1. The original words, 163. 2: Chinook words more or less in use, 56; 3: H.B. French words, 36; 4: Sound words, 26; Religious words, 38; English words, 233; all together 552. The following list of compounds of the verb “mar'mook” shows how it is possible to
Original handwritten correspondence.

Written in Salishan languages demonstrating macron, breve, and acute usage and the Salish "X".

Text to come