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We would like to thank the faculty of the Linguistics Department and the Graduate Student Council for their continuing encouragement and support.
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### Contents of Previous Volumes

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MORPHOPHONEMICS OF NISGHA PLURAL FORMATION:  
A Step towards Proto-Tsimshian Reconstruction

Marie-Lucie Tarpent
University of Victoria

0. Abstract

To the purely descriptive linguist the Nisg̱a̱a1 system of plural formation appears to be of great complexity. On the other hand, a generative phonological analysis of that system, carried as far as the data will allow, recovers an underlying morphological simplicity which has often been buried under a multiplicity of morphophonemic rules and obscured by reformation.

Starting with general comments on Nisg̱a̱a morphology, the paper first presents the basic methods of plural formation and the rules discoverable from the most regular alternations. The second part presents the irregular and pleonastic stems and shows that only a few rules differentiate these from the most regular stems. These rules can in turn be used to discover relationships between apparently unrelated forms. The third part makes a case for recognizing three different layers or stages of historical evolution of the plural forms.

The depth of reconstruction possible in some cases gives promising hints of the possibilities for further internal and comparative reconstruction of Proto-Interior Tsimshian (underlying Nisg̱a̱a and Gitksan) and ultimately Proto-Tsimshian, leading eventually to a much surer foundation for the tracing of areal and genetic relationships between the Tsimshianic and other language families.

1. Introduction

The Nisg̱a̱a language, like the other members of the Tsimshianic family, has a mixed analytic-synthetic morphological structure and a rich derivational system. Words are built up of a relatively small number of roots and a large variety of proclitics, prefixes and suffixes, used singly and in various combinations. In general, morphemes preceding the root tend to have lexical meaning, morphemes following it tend to have grammatical meaning. Some of these processes of word-formation are still very productive, and recent colloquialism give evidence of great freedom in compounding. Many other words can be analyzed into their component parts when morphophonemic alternations are taken into account, although the identity of some parts may remain obscure. But in general, Nisg̱a̱a morphology gives at first an impression of openness and immediacy, with only a few low-level phonological rules mediating between the surface representation of a word and a full understanding of its morphological and semantic structure.2

Particularly revealing examples of word-formation are:

1. root *baldum*:

baldum 'to be lost, missing' (−k* passive suffix)
baldum 'to lose sth. that might still be found' (−?n causative suffix)
baldum 'to lose sth. for good' (−?l completive suffix)
baldum 'to be unconscious' (−?sk* antipassive suffix)
baldum 'to miss menstrual periods because of pregnancy' (−?n k* suffix indicating predictable duration)
baldum 'to feel lost, disoriented' (−ksk* suffix of yet undetermined meaning)
baldum 'alone in a boat' (proclitic) (−?s modifying suffix)
baldum 'to fish alone in a boat' (−?s t* 'fishnet, to fish with a net')

2. root *tam*:
tam 'to carve, depict, write sth.'
tam 'the Bible, Scripture' (lit. 'which is written down')
tam 'down on' (proclitic)
tam 'here' passive suffix
 tam 'intransitive relative suffix'
tam* 'picture' (lit. 'exactly self-depicted')
tam 'self' (proclitic)
tam 'tightly against' (proclitic)
tam 'to write, writing' (−fs intransitive suffix, derivational)
tam 'pencil' (lit. 'means of writing') (−an- 'means, cause of', derivational prefix)
tam 'desk, writing pad' (lit. 'for writing on') (ha- 'instrument of', 'used for', derivational prefix)

3. root *fps*:

tf 'to close one's eyes'
4. root *k'vát:

k'vát 'man, person, people'; the partially reduplicated plural k'vik'vát is used only in composition

ʔama'-k'yát, pl. ʔama-kyik'vát 'to be friendly' (?ama- shortened form of ʔám 'to be good'; -ʔa modifying suffix)

ʔanək'vát, pl. ʔanənk'vátkw 'parent' (ʔanə- 'source, cause', derivational prefix; -k'w (here) collective suffix)

sayt'ko-limsk'vátkw 'to be united' (lit. 'to be together as one person') (sayt, saqayt 'together', proclitic; k'vát 'one (person)'; -ʔa- ... -k'w co-occurring elements used to form compounds with a meaning of similarity: 'to ... like a ...')

sink'vátkw 'chiefs, gentlemen' (sim 'real, best, very')

An underlying singular *sink'vát 'chief, noble person' must be postulated to account for this form as well as the following:

sink'vítim, pl. sink'vítimnaq 'chieftainship, lady'

* sink'vítim handá lit. 'noble woman'

(-m attributive suffix; handá 'woman' cf. náq 'woman')

k'vítksán 'Gitksan', lit. 'people of the Skeena River' (k'vít unstressed form of k'vát; k'sán 'the Skeena River')

háltó-k'vít 'medicine-man', lit. 'acomen people' (háltó- 'to rub axly with einctue')
In sharp contrast to this apparent order and transparency of much of the morphology, plural formation strikes the descriptivist as extremely complex if not downright chaotic, involving a multiplicity of methods and a large number of exceptional forms. Morphological distinction between singular and plural plays a major syntactic role in Nisga'a. Apart from the use of pronominal suffixes and clitics for person and number, plural and singular are indicated by the shape of the verb stem, which agrees with the object noun in a transitive sentence, with the single noun in an intransitive sentence. As only a very small number of nouns have separate stems for singular and plural, the verb stem is often the only element that indicates whether the noun, especially the object noun, should be construed as singular or plural. It is therefore crucial that singular and plural stems be recognizable as such. It is also likely that this distinction is of ancient origin.

Plural stems appear at first sight to be formed in a great variety of ways. A purely synchronic, surface-oriented description of Nisga'a must recognize several main classes of regular formation alone (regularity being defined by statistical occurrence: classes which have more than one or two members), depending on modification of the root:

a. pure types:

class I: full reduplication (statistically the most important):

1. root ending in Velar: the formula is

   CVK → CVKCVK

   example: cäch cächəcäch 'to stay, camp, live'

2. root ending in other consonant:

   cTC → CVCVC

   example: čim čimčim 'to write nthu'
class II: partial reduplication:

\[ CVC \rightarrow CV_{CV} \]

example: p6? \( \rightarrow \) pip6? 'thigh'

class III: prefixation:

1. with \( lv \): (a small class):

example: \( y\delta k\) \( \rightarrow \) \( lly\delta k\) 'to follow sthg'

2. with \( qa \): (a growing class):

example: \( w\delta k \) \( \rightarrow \) \( qa\delta k\) 'to bark'

class IV: vowel-lengthening (a very small class):

example: \( han\delta \) \( \rightarrow \) \( han\delta \) 'woman'

b. mixed types:

class V: partial reduplication with velar infix (a growing class):

\[ CV_{\delta} \rightarrow Gix\delta \]

example: \( k\delta ft\delta \) \( \rightarrow \) \( k\delta x\delta k\delta \) 'to ask abdy sthg'

class VI: partial reduplication with vowel lengthening and stress-shift; roots ending in Velars only (a non-productive class):

\[ CV_k \rightarrow CV_{CV_k} \]

example: \( w\delta q \) \( \rightarrow \) \( w\delta w\delta q \) 'to sleep'

While the majority of words affected by these processes exhibit a fair degree of consistency and predictability, a number of stems deviate more or less from these categories, and are therefore irregular. They can be so irregular, in fact, that in some instances it is difficult to decide without a thoroughgoing analysis whether two forms are actually related or whether they should be classified as suppletive stems—a category which includes a number of very common words.\(^{10}\) In many cases, the stems are obviously related, but it is difficult to decide which category of regular stems they least deviate from. To compound the difficulty, a number of words have competing plural forms belonging to different classes.

To the generatively or comparatively inclined phonologist, on the other hand, this openness and classificatory intractability of much of the data provides an especially interesting challenge. The
clear semantic relationship existing between singular and plural forms is a guide to the discovery of the rules governing the morphophonemic alternations between them, even in cases where there is so much discrepancy that the morphological relations might go unsuspected were it not for the semantic connection. Thus a generative analysis can be carried on much deeper, using the data of plural formation, than with other, more immediately obvious morphological processes, such as those in fairly recent compounds, or than with forms that may have a complex history but that we have, at least thus far, no way of relating to others.

It is possible to discover regularities among the irregular stems, and relationships between the various methods, with underlying or historical forms recoverable through rules which in most cases are also needed to account for more superficially obvious alternations. In a number of instances the variety of methods available has given rise to the creation of forms which embody more than one of them: It is as if the original form created by one method did not 'sound plural enough', and was used as the base for another method, the result of which may have been phonologically modified. Rules both phonological and morphological have sometimes been reapplied until the contemporary form can no longer be derived simply and automatically from the singular, but must be learned as a separate form altogether. Thus, many 'irregular' forms should rather be classified as 'pleonastic', when morphological rules of plural formation have applied more than once, while the apparent multiplicity of classes can be understood in terms of an historical sequence where once fairly restricted rules have gradually been extended to less and less precise environments. There are also cases which cannot be explained otherwise than by analogical reformation, where a new plural has been created by analogy with a synchronic singular/plural alternation which is actually the outcome of a more complex set of rules. And finally, the study of plural formation enables us to recognize an original singular/plural relationship in forms whose meanings have now diverged, and to reconstruct singular forms in cases where only the plural is now in use.

Instead of multiple morphological methods with a few low-level phonological rules, the following generative analysis recognizes only two basic methods, prefixation and reduplication, but a number of rules, sometimes applying several times, resulting in the multiplicity of overt classes. I first describe these basic methods in their most regular applications before going on to the irregular and pleonastic stems. The emphasis throughout is on accounting for the differences between singular and plural stems.

2. Methods of Plural Formation

21. General. All Sinhala methods of plural formation, whether regular, irregular, pleonastic or suppletive, result in a distinctive plural
stem different from the singular stem. What is changed in most cases is the root\(^1\) of the word, partially in non-suppletive stems, totally in suppletive stems. Derivational affixes are added to either the plural or the singular form of the root, or both, and while in most cases the same affixes are used for plural and singular forms of the same word, the use of different affixes in such derivatives is not uncommon. Some examples are:

- **regular stems:**
  1. **reduplication:**
     a. full reduplication:
     
     \(\text{qō·t} \quad \text{\textquoteleft \textquoteleft heart\textquoteright \textquoteright} \quad \text{qatqō·t}\)
     
     \(\text{lu·gō·tēnsk} \quad \text{\textquoteleft \textquoteleft to apply oneself\textquoteright \textquoteright} \quad \text{lu·gatqō·tēnsk}\)
     
     b. partial reduplication:
     
     \(\text{kīōt} \quad \text{\textquoteleft \textquoteleft man, person\textquoteright \textquoteright} \quad \text{kīyīōt} \quad \text{(used in compounds)}\)
     
     \(\text{ʔankōt} \quad \text{\textquoteleft \textquoteleft parent\textquoteright \textquoteright} \quad \text{ʔankīyīōt} \)

  2. **prefixation:**
     
     \(\text{mō·tēw} \quad \text{\textquoteleft \textquoteleft to be safe, cured, rescued\textquoteright \textquoteright} \quad \text{limō·tēw}\)
     
     \(\text{timō·tēw} \quad \text{\textquoteleft \textquoteleft to save, cure, rescue\textquoteright \textquoteright} \quad \text{tilimō·tēw}\)
     
     - **irregular stems:**
     
     \(\text{kīō·t} \quad \text{\textquoteleft \textquoteleft to lie (on sth)\textquoteright \textquoteright} \quad \text{īō·t}\)
     
     \(\text{hañī·kīō·t} \quad \text{\textquoteleft \textquoteleft bed\textquoteright \textquoteright} \quad \text{hañī·īō·t}\)
     
     \(\text{kīyīfēntēw} \quad \text{\textquoteleft \textquoteleft to get up\textquoteright \textquoteright} \quad \text{li·tēntēmys}\)
     
     - **pleonastic stems:**
     
     \(\text{kīyāmk} \quad \text{\textquoteleft \textquoteleft to be warm, hot\textquoteright \textquoteright} \quad \text{limiāmk}\)
     
     \(\text{sīkīyāmk} \quad \text{\textquoteleft \textquoteleft to warm, heat sth\textquoteright \textquoteright} \quad \text{si·limiāmk}\)
     
     - **suppletive stems:**
     
     \(\text{kīō·tēw} \quad \text{\textquoteleft \textquoteleft to flee, escape\textquoteright \textquoteright} \quad \text{hō·t}\)
     
     \(\text{kīō·tān} \quad \text{\textquoteleft \textquoteleft to chase sth away\textquoteright \textquoteright} \quad \text{hō·tōn}\)
22. Regular Stems. Regular stems can now be redefined as those in which the root is unchanged and
1. only one method of plural formation is used: either
   prefixation or reduplication;
2. morphophonemic rules apply to a number of forms of the
   same type;
3. no root consonants are deleted or extraneous consonants
   added as a result of these rules.

The two methods of regular plural formation both involve initial
extension of the root; reduplication is a form of prefixation, since
the root or part of it is prefixed to itself. Although reduplication
is statistically by far the most common method, prefixation will be
tried first as it involves fewer rules.

221. Prefixation.

2211. Prefix iv: This prefix is used only for plural formation and
has no other meaning. The vowel v is predictable according to the
VOWEL SPECIFICATION rule:

   o / _ 0
   a / _ C
   u / _ Cv' in the same syllable
   1 / otherwise

If the root already begins with l, there is no vowel.

Prefixation with l- is associated mostly with specific prefixes
and suffixes, the meaning of which is not always determinable. Never-
theless it also forms the plural of some bare stems.

- l- prefix, no other changes:

| l- | l- |  
|---|---|---|
| q | q | 'to eat too fast, to gorge oneself'
| x | x | 'to be satisfied'
| c | c | 'to defecate'
| v | v | 'to discuss things'
| w | w | 'to hold a discussion'
| k | k | 'to be safe, cured, rescued'
<table>
<thead>
<tr>
<th>form</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>tim'ítkw</td>
<td>'to save, rescue, cure sbdy'</td>
</tr>
<tr>
<td>yótkw</td>
<td>'to follow along esp. a route'</td>
</tr>
<tr>
<td>náškw</td>
<td>'to fart'</td>
</tr>
<tr>
<td>ísks</td>
<td>'to drink'</td>
</tr>
<tr>
<td>tawítm ǹáq</td>
<td>'to starve to death' (ǹàq/ tóx 'to die', -ǹ attributive, ǹáq 'mouth')</td>
</tr>
<tr>
<td>f's</td>
<td>'to urinate'</td>
</tr>
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</table>

Several of these forms begin with Velar prefixes:

<table>
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<tr>
<th>form</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>xʷtóks</td>
<td>'to shoot'</td>
</tr>
<tr>
<td>ʔòtós</td>
<td>'to burp' (cf. ʔó'x 'to be satiated')</td>
</tr>
<tr>
<td>ʔóskʷ-ʔkw</td>
<td>'to whistle' (lit. 'to imitate a marmot, kw-ːkw')</td>
</tr>
<tr>
<td>ʔóskʷ-ʔkw</td>
<td>'instep(s)'</td>
</tr>
<tr>
<td>ʔóskʷ</td>
<td>'to roll' (root lóš)</td>
</tr>
</tbody>
</table>

- roots prefixed with ʔó-ː plural in ʔóly----ː;

<table>
<thead>
<tr>
<th>form</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ʔóskläf</td>
<td>'to be unpleasant, ugly, strange, funny'</td>
</tr>
<tr>
<td>ʔóliáq</td>
<td>'to be reluctant, lazy'</td>
</tr>
<tr>
<td>ʔóliá́n</td>
<td>'to lag behind, to be slow'</td>
</tr>
<tr>
<td>ʔólimf</td>
<td>'voice' (from earlier ʔólm-ːf lit. 'good for talking')</td>
</tr>
<tr>
<td>ʔólyö-ː</td>
<td>'to go fast'</td>
</tr>
</tbody>
</table>

- singular stems suffixed with -kw or -q: plural in ly----ː;

<table>
<thead>
<tr>
<th>form</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ʔóliátkw</td>
<td>'to walk fast'</td>
</tr>
<tr>
<td>pilóltkw</td>
<td>'to climb (on a tree, ladder, etc.)'</td>
</tr>
</tbody>
</table>
2212. **Use of the prefix go- as plural prefix:** Although ly- is the only prefix specialized for plural formation, it is no longer productive. Another prefix not originally plural, but of related meaning, is used to form many plurals and seems to be gaining ground.

The prefix go- is normally used to form (a) distributive plurals ('some each') and (b) abstractions. The words which form their plural with it are all intransitive verbs, and this usage seems to be an extension of the distributive meaning of the prefix, since these verbs refer mostly to actions performed by, or qualities of, several individuals, rather than repeated actions by one individual as is often the case with reduplicative plurals. No morphophonemic changes are associated with this prefix, but this extension of the morphological characteristics of one category to the related plural category is also found elsewhere (see 2221).

Only a few examples of go-prefixation need be given:

- go-p_INTERFACE-ikk 'to tell lies'
- go-f_INTERFACE-saw 'to be forgetful'
- go-d 역시 'to yawn'
- go-p_INTERFACE-tikk 'to joke'
- go-p INTERFACE-tikk 'to adorn oneself' (with make-up, fancy or ceremonial clothing etc.)
- go-q INTERFACE-q 'to giggle'
- go-q INTERFACE-q 'to bark'
- go-q INTERFACE-q 'to fish with a net'

This prefix is also used very productively to form the plural of some derivatives, especially those formed with co-occurring prefixes and suffixes, as in
forms in $\tilde{\text{il}}\ldots\text{-}\text{kw}/\text{-}\tilde{\text{g}}$ 'to ... together with sbdy'

\begin{itemize}
  \item $\text{sil}^\text{?}\text{tikw}$
    \begin{align*}
    \text{silqal}\text{?}\text{tikw} & \quad \text{to go sit (\text{?}d\cdot) with one person} \\
    \text{silqan}\text{?}\text{tikw} & \quad \text{to go swimming (\text{?}dtik\cdot) with sbdy}
    \end{align*}
\end{itemize}

forms in $\text{his}\ldots\text{-}\text{kw}/\text{-}\tilde{\text{g}}$ 'to ... just for fun, not really'

\begin{itemize}
  \item $\text{hisp}\text{?}\text{tikw}$
    \begin{align*}
    \text{hisqop}\text{?}\text{tikw} & \quad \text{to go for a boat (p\text{-}\text{t} \text{ride})} \\
    \text{hisqan}\text{?}\text{tikw} & \quad \text{to laugh ('?q\cdot \text{mouth}')}
    \end{align*}
\end{itemize}

222. **Reduplication.** Reduplication is by far the most common method of Nisga\a plural formation. It applies typically to monosyllabic roots of the shape $\text{C}_1\text{C}_2?$. The reduplicated syllable is prefixed to the root, which does not change, although there may be some changes in the prefixed syllable.

There are two major types of reduplications:
- full reduplication, the main type, is characteristic of the plural. The general formula is
  \[ \text{C}_1\text{C}_2\ldots? \rightarrow \text{C}_1\text{vC}_1\text{C}_2\ldots? \]
  where $c$ is a consonant identical to or related by rule to the original consonant, and whose $v$ is a vowel predictable from the consonantal environment, as in prefixed plurals;
- partial reduplication, which forms the plural of a small number of words, is the normal way of inflecting any stem\(^3\) (not just the root) for imperfective aspect. As with the use of the distributive prefix $\text{go}$ to form some plurals, the use of partial reduplication for plural formation seems to be an extension of the meaning of this morphological device. The formula for partial reduplication is
  \[ \text{C}_1\ldots? \rightarrow (\text{v})\text{C}_1\ldots? \]
  where $c$ and $v$ are as defined above. If the original $C_1$ is a resonant, there is no vowel.

As fewer rules are involved in partial reduplication, it is treated first.

2221. **Partial Reduplication.** The morphophonemic rules associated with partial reduplication are:

**Vowel Insertion:** A vowel is inserted between the two identical consonants at the beginning of a word. If these identical consonants are both resonants, there is no vowel.
tašk'ät  tašk'ık'ät  'to be strong'
sišk'ät  sišk'ık'ät  '(human) body'
kišn  kišk'ın  'to feed (by) athg'
šišk'ät  šišk'ık'ät  '(sg) Tilisqit; (pl) slaves'
ʔasg'  (ʔa)sigš'  'foot, leg'
siš'  šiš'  'to be small'

2212. CONSONANT DEGLOTTALIZATION: The deglottalization rule
č  →  C ∕ ρ ∕ (v)č

applies to all consonants including resonants. The vowel insertion rule remains the same.

- č is a resonant:

će  meće  'canoe'

- č is not a resonant:

lćx  tilćx  'lake'
halećkw  hatilćkw  'to be bad, to sin'
čimlfn  čimtilfn  'valley'
čćkn  ččškn  'plate, dish'

2213. GLIDE REDUCTION TO h: This is a general rule of partial reduplication, although only words beginning with w form their plural in this way. The formula for these words is

w...  →  ᵁw...  (the vowel is w through the vowel-specification rule before Cw).
wá  hów  'name'
wášk'  hówṣk'kw₂l  '(man’s) brother'
wšl  hówšl  'to acr, be, do, effect, etc.'
wšlp  hówšlp  'house'
2222. Full reduplication. Full reduplication, the most typical method of plural formation, involves both consonants of the typical root \$C_1\text{VC}_2\text{C}_3. The vowel of the reduplicated syllable, which is unstressed, depends on the consonantal environment, according to the vowel-specifica-
tion rule above. This vowel is not then a reduced version or a copy of the
root vowel; instead, the original vowel has been deleted by a rule
of VOWEL DELETION, and a new, unspecified vowel inserted as in partial
reduplication. This is shown by the fact that full reduplication also
applies to roots of the shape \$C_1\text{VC}_2\text{C}_3\text{C}_4 or \$\text{VC}_1\text{C}_2\text{C}_3\text{C}_4. In such cases, the
fricative is treated as \$C_1, the adjacent consonant as \$C_2.

22221. RESONANT DEGLOTTALIZATION: In full reduplication only resonants
are deglottalized (except \$), initial resonants deglottalize when
reduplicated, except if the second consonant is also a glottalized res-
onant, in which case it deglottalizes (by a normal rule, 22222).

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</table>
| mátin | mitátin | 'to pull apart, loosen sthg
soft: dough, soft fruit, etc' |
| mátkw | mitátkw | 'soft object) to fall apart,
come loose' |
| mál | milál | 'to fasten, button sthg' |
| qamáša | qamáša | 'button' |
| mátkasık | milátkasık | 'to be heavy' |
| númá | mórnumá | 'to smear a substance' |
| nófín | mórñoñ | 'to scatter sthg' |
| nótkw | mórñtkw | 'to be scattered, in powder
form' |

(but: núhö | núhö | 'to wrap sthg' |
| núhöńtkw | núhöñtkw | 'to be wrapped') |
| ñö (t)25 | wítö | 'to reach, find sthg' |
222212. **Glide reduction to h:** Where only words beginning with w had this rule in partial reduplication, it only affects words beginning with ve in full reduplication:20

<table>
<thead>
<tr>
<th>Sanskrit</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>yāc</td>
<td>'to strike, chop, kill sthg'</td>
</tr>
<tr>
<td>yātkw</td>
<td>'to be slippery, smooth'</td>
</tr>
<tr>
<td>hilyātkw</td>
<td>'to turn'</td>
</tr>
<tr>
<td>lu·yātkw</td>
<td>'to turn around'</td>
</tr>
<tr>
<td>lu·yālitín</td>
<td>'to turn sthg around'</td>
</tr>
<tr>
<td>tēhīyātkw</td>
<td>'to do an about-face'</td>
</tr>
<tr>
<td>hilyāntk</td>
<td>'be mouldy'</td>
</tr>
<tr>
<td>hilyāntk</td>
<td>'(body part) to feel a chilling, shivering or tickling sensation'</td>
</tr>
</tbody>
</table>

222221. **Rules affecting C₂.**

2222211. **CONSONANT DEGLOTTALIZATION:** The rule of consonant deglottalization which affects resonants in C₁ affects all consonants in C₂ position. The rule affecting C₂ is more general, since only C₂ will deglottalize if both C₁ and C₂ are glottalized resonants.

<table>
<thead>
<tr>
<th>Sanskrit</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ā → m tām</td>
<td>'to press sthg'</td>
</tr>
<tr>
<td>tāmikṣ</td>
<td>'to squeeze sthg'</td>
</tr>
<tr>
<td>tāntikṣ</td>
<td>'to be pressed'</td>
</tr>
<tr>
<td>lu·tām</td>
<td>'to hug, embrace stby'</td>
</tr>
<tr>
<td>ā → n qīḥ</td>
<td>'(sg form) to chew, to chew sthg; (pl form) to chew sthgs in places, to chew on sthgs'</td>
</tr>
<tr>
<td>l → i līlī</td>
<td>'to be early, soon'</td>
</tr>
<tr>
<td>cāi</td>
<td>'face, (pair of) eyes'</td>
</tr>
<tr>
<td>tipīś</td>
<td>'to rub, massage stby'</td>
</tr>
<tr>
<td>mrōś-l</td>
<td>'to keep sthg or stby'</td>
</tr>
<tr>
<td>Indo-European</td>
<td>Malayalam</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------</td>
</tr>
<tr>
<td>to wrap sthng or abdly</td>
<td>റട്ടിയിട്ടി</td>
</tr>
<tr>
<td>to be wrapped</td>
<td>റട്ടിയിട്ടിക്ക്</td>
</tr>
<tr>
<td>to be brave, determined, quick-tempered</td>
<td>ചെളിലിജാണ്</td>
</tr>
<tr>
<td>to stick</td>
<td>ഹോമ്പ്</td>
</tr>
</tbody>
</table>

**222222. VELAR FRICATIVIZATION:** The formula is

\[ K \rightarrow K, \quad CVCK \rightarrow CK \]

or the rule

\[ K \rightarrow X / CVCK \]

**A. K = K:**

<table>
<thead>
<tr>
<th>Indo-European</th>
<th>Malayalam</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>to feel, experience sthng (pl. form) to feel around for sthng</td>
<td>പാലിക്ക്</td>
<td>(sg. form) to feel, experience sthng (pl. form) to feel around for sthng</td>
</tr>
<tr>
<td>to hammer on sthng</td>
<td>തോട്ടിലിജാണ്</td>
<td>to hammer on sthng (ഇഡിജ് 'hammer')</td>
</tr>
<tr>
<td>to fall</td>
<td>പക്കിൽഡിജാണ്</td>
<td>to fall (ഇഡിജ് 'hammer')</td>
</tr>
<tr>
<td>to be hanging</td>
<td>റട്ടിലിജാണ്</td>
<td>to be hanging (ഇഡിജ് 'hammer')</td>
</tr>
<tr>
<td>to finally reach the goal</td>
<td>റട്ടിലിജാണ്</td>
<td>to finally reach the goal (ഇഡിജ് 'hammer')</td>
</tr>
<tr>
<td>to be able to do sthng</td>
<td>ഡിജാണ്</td>
<td>to be able to do sthng (ഇഡിജ് 'hammer')</td>
</tr>
<tr>
<td>to point to sthng</td>
<td>റട്ടിലിജാണ്</td>
<td>to point to sthng (ഇഡിജ് 'hammer')</td>
</tr>
<tr>
<td>to put one's index finger (ad-q) in sthng</td>
<td>റട്ടിലിജാണ്</td>
<td>to put one's index finger (ad-q) in sthng (ഇഡിജ് 'hammer')</td>
</tr>
<tr>
<td>to drag sthng</td>
<td>റട്ടിലിജാണ്</td>
<td>to drag sthng (ഇഡിജ് 'hammer')</td>
</tr>
<tr>
<td>to be worn (from use)</td>
<td>റട്ടിലിജാണ്</td>
<td>to be worn (from use) (ഇഡിജ് 'hammer')</td>
</tr>
<tr>
<td>to stay, live, camp</td>
<td>റട്ടിലിജാണ്</td>
<td>to stay, live, camp</td>
</tr>
<tr>
<td>supernatural being</td>
<td>റട്ടിലിജാണ്</td>
<td>supernatural being (ഇഡിജ് 'hammer')</td>
</tr>
</tbody>
</table>
woñwɔq * 'bat (animal)' (cf. ʁɔq 'to sleep')

cɑ́ːq * cɑ̃cɑ̃q * 'to be embarrassed, ashamed'

tɔ̀q * tɔ̃tɔ̀q * 'to wake or get up early'

yɔ́nɔ̀q * yɔ̃nɔ̃q * 'to like, approve of sth or sbdy'

sùqskw * sãxsiwə̃qskw * 'to dive'

mañmənay * 'rainbow'

láqal * lãqal * 'to examine sth'

láqalitkw * lãqalitkw * 'to be examined'

séqal * sãxsiqal * 'to be rough (to the touch)'

hə̃qal * hãxhə̃qal * 'to do one's best esp. to persuade'

lɛq? * lãɛq? * 'to clap'

qaq? * qãxq? * 'to go somewhere, to go get sth or sbdy'

sqaqq? * sãxaqq? * 'to go in front of, obstruct, sth or sbdy'

B. s̥k̥C → sãx̥k̥C

sqkskw * sãx̥sqkskw * 'to be injured'

sq̥skw * sãx̥sq̥skw * 'to be in short supply'

s̥q̥q̥kw * sãx̥sq̥q̥kw * 'to be dark, to be night'

B. k = k̥;

a. ˀcvk̥ → ˀcvvcv̥k

Before the non-Velar fricatives s̥ and t̥, k̥ loses its glide release through the rule of GLIDE RELEASE DILUTION:

k̥v → k / _ [+cont]

t̥ɛk̥v * t̥ivɛk̥v * 'to forget sth'
| ꦫꦪꦣꦽ | ꦫꦪꦣꦽ | 'fire, light' to go out, be out' |
| ꦫꦣꦽ | ꦫꦣꦽ | 'to occur, move, etc. as a mass' |
| ꦫꦪꦣ | ꦫꦪꦣ | 'to tie, bind sbth' |
| ꦫꦪꦪ | ꦫꦪꦪ | 'to clean sbth' |
| ꦫꦪ | ꦫꦪ | 'to be clean' |
| ꦫꦪ | ꦫꦪ | 'to insult sbdy' |
| ꦫꦪ | ꦫꦪ | 'water, stream' |
| ꦫꦪ | ꦫꦪ | 'to be wet' |
| ꦫꦪ | ꦫꦪ | 'to slide on one's rear' |
| ꦫꦪ | ꦫꦪ | 'to be wide' |
| ꦫꦪ | ꦫꦪ | 'to spit in sbth' |
| ꦫꦪ | ꦫꦪ | 'to spit' |
| ꦫꦪ | ꦫꦪ | 'to place sbth or sbdy with others' |
| ꦫꦪ | ꦫꦪ | 'to be present somewhere, to be with other people or things' |
| ꦫꦪ | ꦫꦪ | 'to be right, correct' |
| ꦫꦪ | ꦫꦪ | 'to hit the ground' |
| ꦫꦪ | ꦫꦪ | 'to fold sbth' |
| ꦫꦪ | ꦫꦪ | 'to feel silly' |

b. ꦫꦪ ꦫꦪ ꦫꦪ ꦫꦪ - ꦫꦪ ꦫꦪ ꦫꦪ

| ꦫꦪꦪ-ꦪ | ꦫꦪꦪ-ꦪ | 'woman's sister' |
| ꦫꦪ-ꦪ | ꦫꦪ-ꦪ | 'to be small(inside)' |
C. \( K = K^2 \): The formula is ...

D. \( C_2 = X \)

a. Naturally, if \( C_2 \) is already a Velar fricative, there is no change:

\[ C_2 = X: \]
- syáx  
  sixxyáx  'to be scorched'
- \( m\dot{x}t \)  
  mixm\( \dot{x}t \)  '(canoe, boat) to be loaded'
- \( k\dot{v}l\dot{a}ll\dot{x} \)  
  kvlall\( \dot{x}k\dot{x} \)  'to be covered with fur'
- wá\( \dot{x} \)  
  wixwá\( \dot{x} \)  'to paddle'
- h\( \dot{x} \)  
  haxh\( \dot{x} \)  'to be fat'
- h\( \dot{\epsilon} \)\( \dot{x} \)  
  haxh\( \dot{\epsilon} \)\( \dot{x} \)  'to use, wear ssthg'
- \( j\dot{x} \)  
  j\( \dot{x}j\dot{x} \)  'to throw ssthg'

\[ C_2 = \dot{X}: \]
- \( s\dot{\epsilon} \dot{x}k\dot{x} \)  
  sa\( \dot{x}k\dot{x} \)\( \dot{k}\dot{x} \)  'to have finished eating'
- m\( \dot{\epsilon} \)\( x \)  
  ma\( \dot{\epsilon} \)m\( \dot{\epsilon} \)\( x \)  '(food) to be sour, fermented, spoiled'
- n\( \dot{\epsilon} \)\( \dot{n} \)\( \dot{x} \)\( \dot{x} \)  
  'duck'
- h\( \dot{\epsilon} \)\( \dot{\epsilon} \)\( \dot{\epsilon} \)\( \dot{\epsilon} \)  
  ha\( \dot{\epsilon} \)h\( \dot{\epsilon} \)ha\( \dot{\epsilon} \)  'to smell good'

\[ C_2 = \dot{W}: \]
- \( \dot{\epsilon} \dot{x}k\dot{x} \)  
  lu\( \dot{x} \)\( \dot{x} \)\( \dot{k}\dot{x} \)  'to be stout'
- k\( \dot{x}w \)  
  kux\( \dot{k}\dot{\epsilon} \)\( \dot{k}\dot{x} \)  'to shoot ssthg'
'to shake stbg (eg. a blanket)'

'from another aspect'

'from another aspect'

'b', however, a sequence X + ? results in a glottalized resonant. This occurs when a root ending in X adds a suffix beginning with or consisting of ?. In this case, since full reduplication normally affects the root, C2 is normally identical to the underlying C2, as in:

\[ C_2 = \frac{x}{y} + ? : C_2 = x \cdot \]

haxhaxin 'to put a garment on sbdy, to make sbdy wear stbg' (haxin 'to wear stbg')

'makemak'in 'to lead a boat' (mak'in 'to be loaded')

'kaykayit 'to be clumsy'

'kautaakw 'to fall over' (related to kautaakw 'to shoot stbg')

'lawlskw 'to deny requests' (lawlskw 'to deny a request')

'lawlskw 'to burst stbg' (lawlskw 'to burst')

'ayldlit 'to be competent, capable'

'ayluxlawlskw 'to stop, go home'

but the plural now in use is

'hawlax or hawlax.

It seems that reformation has taken place where because of the obsolence or semantic divergence of the root word, there is no longer a perceived connection between the glottalized resonant and the Vial fricative it derives from, as also in
In ʢu-ʢwawg, the reduplicated syllable should have been ʢw, the glide w has vocalized, by: the rule of GLIDE VOCALIZATION, and the result is the long vowel w-.

222223. DEAFFRICATION:

<table>
<thead>
<tr>
<th>Cs</th>
<th>Cs'</th>
</tr>
</thead>
<tbody>
<tr>
<td>qsc</td>
<td>qasqsc</td>
</tr>
<tr>
<td>qasqsc-c</td>
<td>'dogfish'</td>
</tr>
<tr>
<td>qasqsc-c</td>
<td>'tendons'</td>
</tr>
<tr>
<td>hsc</td>
<td>'cut sthg'</td>
</tr>
<tr>
<td>quscə</td>
<td>'(person) to be exhausted'</td>
</tr>
<tr>
<td>qasqscnk</td>
<td>'ant'</td>
</tr>
<tr>
<td>?as?ckks</td>
<td>'to be proud'</td>
</tr>
<tr>
<td>?as?c</td>
<td>'to fry, iron sthg'</td>
</tr>
<tr>
<td>hsc</td>
<td>'to send sthg or sbly'</td>
</tr>
<tr>
<td>hscə</td>
<td>'to cut'</td>
</tr>
<tr>
<td>hsc</td>
<td>'to bite sthg'</td>
</tr>
<tr>
<td>?as?cə</td>
<td>'shadow, soul'</td>
</tr>
<tr>
<td>psc</td>
<td>'to lift, carry sthg'</td>
</tr>
<tr>
<td>kyscə</td>
<td>'(boat, vehicle) to have arrived'</td>
</tr>
</tbody>
</table>

This rule applies both to the affricates c and k and to the sequence ks (from kə when not preceded by g) (by the glide deletion rule above).
yēc  hisyēc  'to strike, chop, beat sthg'
sqapisp'  '(eyes) to be half-closed'
liš-dəkw  lisli-dəkw  'to be black' (liš-' charcoal')
mək-skw  mismək-skw  'to be white' (mək-' know')

b.  4  : 4

The affricate 
may be considered as a sequence  just as the affricate  
is treated in reduplication as a sequence  . Since this affricate 
is rare in the language, there are very few examples:

\[\text{ččč} \rightarrow \text{čččč} \]  'sg. form (music) record; (pl. form) to have a rippled surface'
\[\text{qasqas} \]  'to be slightly crooked'
\[\text{yqasq} \]  'to slip and fall' (root yqas- 'slime')
\[\text{hax(b)qasq} \]  'to fall'  

2223.  Unaffected consonants.  Other consonants are unaffected in  
position:

\[C_2 = \emptyset: \quad \text{čp} \rightarrow \text{čipchp} \]  'to drive sthg (sail, etc.) in'
\[\text{čp} \rightarrow \text{čipčp} \]  'organized group of people (clan, village, etc.)'
\[\text{qalčp} \rightarrow \text{qalčipčp} \]  'village, village site'
\[\text{čp} \rightarrow \text{čipčp} \]  'to be hard' (čp- 'bone')
\[\text{čp} \rightarrow \text{čipčp} \]  'to close one's eyes'
\[\text{čp} \rightarrow \text{čipčp} \]  'to be tied with a knot'
\[\text{čp} \rightarrow \text{čipčp} \]  'to tie up for the night'
\[\text{čp} \rightarrow \text{čipčp} \]  'to tie sthg with a knot'
\[\text{čp} \rightarrow \text{čipčp} \]  'pierce'
\[\text{čp} \rightarrow \text{čipčp} \]  'bunchberry'
<table>
<thead>
<tr>
<th>Word 1</th>
<th>Word 2</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>tóp</td>
<td>tiptóp</td>
<td>'to measure, judge atgh or shdy'</td>
</tr>
<tr>
<td>cáp</td>
<td>cipcág</td>
<td>'to make atgh'</td>
</tr>
<tr>
<td>?ama-cáp</td>
<td>?ama-cipcág</td>
<td>'to fix atgh'</td>
</tr>
<tr>
<td>cf·pisks</td>
<td>cipcf·pisks</td>
<td>'to burn down'</td>
</tr>
<tr>
<td>kripks</td>
<td>kripk·pisks</td>
<td>'to be high'</td>
</tr>
<tr>
<td>kípf</td>
<td>kílpkípf</td>
<td>'(sg. form) to eat atgh; (pl. form) to nibble on atgh'</td>
</tr>
<tr>
<td>qapqapksa?'él</td>
<td>qapqapksa?'él</td>
<td>'to blink' (*?él 'eye', used in some derivatives)</td>
</tr>
<tr>
<td>qáp</td>
<td>qapqáp</td>
<td>'to scratch atgh'</td>
</tr>
<tr>
<td>qá·pkip</td>
<td>qapqá·pkip</td>
<td>'to scrape atgh'</td>
</tr>
<tr>
<td>gúyáx</td>
<td>gúypíyáx</td>
<td>'to be bright, light'</td>
</tr>
<tr>
<td>slípíx</td>
<td>slípslí·píx</td>
<td>'to be sick, to hurt'</td>
</tr>
<tr>
<td>sr·bín</td>
<td>srslí·bín</td>
<td>'to love shdy'</td>
</tr>
<tr>
<td>sr·bintk</td>
<td>srslí·bintk</td>
<td>'to be loved'</td>
</tr>
<tr>
<td>?onsí·bínsk</td>
<td>?onsíslí·bínsk</td>
<td>'friend, lover'</td>
</tr>
<tr>
<td>tóp</td>
<td>tipitép</td>
<td>'to be deep'</td>
</tr>
<tr>
<td>lmpkíx</td>
<td>lílp·mpkíx</td>
<td>'to new atgh'</td>
</tr>
<tr>
<td>Nóp</td>
<td>hashipóp</td>
<td>'to put a lid on atgh, to jump on atgh or shdy'</td>
</tr>
<tr>
<td>?áp·píux</td>
<td>?ápslí·píux</td>
<td>'to be light (in weight)'</td>
</tr>
<tr>
<td>kwít·tkw</td>
<td>kwítk·tkw</td>
<td>'to be missing, lost'</td>
</tr>
<tr>
<td>kwít·tískx</td>
<td>kwítk·tískx</td>
<td>'to feel lost, disoriented'</td>
</tr>
<tr>
<td>kwít·lin</td>
<td>kwítk·lín</td>
<td>'to lose atgh (that might still be found)'</td>
</tr>
<tr>
<td>kwít·lii</td>
<td>kwítk·lii</td>
<td>'to lose atgh (for good)'</td>
</tr>
<tr>
<td>qōtq</td>
<td>qōtq'q</td>
<td>'to patch sthg'</td>
</tr>
<tr>
<td>qōtq'f</td>
<td>qōtq'f</td>
<td>'to be painful'</td>
</tr>
<tr>
<td>qōt</td>
<td>qōt</td>
<td>'heart'</td>
</tr>
<tr>
<td>qōt(a)35</td>
<td>qōtqō't(a)</td>
<td>'(group, mass) to be gone'</td>
</tr>
<tr>
<td>lu·qōta</td>
<td>lu·qētqọta</td>
<td>'to be empty'</td>
</tr>
<tr>
<td>lu·qō·tīnq</td>
<td>lu·qōtqō·tīnq</td>
<td>'to make efforts, to apply oneself'</td>
</tr>
<tr>
<td>līt</td>
<td>līlit</td>
<td>'wedge'</td>
</tr>
<tr>
<td>mītin</td>
<td>mītin</td>
<td>'to fill sthg'</td>
</tr>
<tr>
<td>mītk</td>
<td>mītk</td>
<td>'to be full, plentiful'</td>
</tr>
<tr>
<td>mō·tk</td>
<td>mōtk</td>
<td>'to be safe, rescued, cured'</td>
</tr>
<tr>
<td>nō·tk</td>
<td>nōtk</td>
<td>'(group) to head somewhere'</td>
</tr>
<tr>
<td>nō·tīk</td>
<td>nōtīk</td>
<td>'to come, arrive'</td>
</tr>
<tr>
<td>nō·tīk</td>
<td>nōtīk</td>
<td>'feelings of delicacy, refinement, squeamishness'</td>
</tr>
<tr>
<td>nō·q</td>
<td>nōq</td>
<td>'to pronounce sthg, to call by name, mention, put the blame blame on sth or sb'</td>
</tr>
<tr>
<td>nō·qks</td>
<td>nōqks</td>
<td>'to be called, mentioned, pronounced'</td>
</tr>
<tr>
<td>nō·qks</td>
<td>nōqks</td>
<td>'to repent' (lit. 'to blame oneself')</td>
</tr>
<tr>
<td>nō·qks</td>
<td>nōqks</td>
<td>'convert' (lit. one who repents')</td>
</tr>
</tbody>
</table>

C₂ = \(5\):

| ṭs | ṭis | 'to push, hit sthg or sb or sb' |
| ṭs | ṭis | 'to knock (repeatedly, eg. on a door)' |
| ṭs | ṭis | 'to break, shatter' |
kǔsērən 'to break; shatter
kǔsēst 'to be broken'
qisēskw 'to be unripe, green'
qasqas 'crane, heron'
pīsēn 'to divide
pīsēs 'to be divided, separated'
pēs 'to tear
lu-xīl's 'to make a mistake'
kīxīl's 'bluejay'
qīs 'to borrow from
qīs 'to taste bitter'
qīskw 'to be narrow (qs 'hair')
qīskw 'to shut up'
qis 'to jump'
mīxīk 'to be reddish brown'
mīxīs 'cow'
līl'sk 'to be hanging'
hsīzhīs 'to urinate on
hīs 'dog'
qīskw 'to stink'
hashskw 'sommotion, trouble'
C₂ = 4
liq 'to adhere; to apply a substance; group of people'
čiśiśik 'ripples in the water' (cf. 2iśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśiśиs
<table>
<thead>
<tr>
<th>Pāk</th>
<th>pepek</th>
<th>&quot;to spread sthg flat (eg. sheet)&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cāf</td>
<td>cichāf</td>
<td>&quot;to eat sthg up; to lose in a contest or war, to fail&quot;</td>
</tr>
<tr>
<td>Kyākku</td>
<td>kiyakkyakku</td>
<td>&quot;to poke, pierce, spear, gaff sthga&quot;</td>
</tr>
<tr>
<td>Kyākku</td>
<td>kiyakkyakku</td>
<td>&quot;to be pierced, speared, gafted&quot;</td>
</tr>
<tr>
<td>Mās</td>
<td>mismaa</td>
<td>&quot;to tell, announce sthga; to lay sthga flat, eg. floorboards, lining in a box&quot;</td>
</tr>
<tr>
<td>Mēs</td>
<td>mismaa</td>
<td>&quot;to burn&quot;</td>
</tr>
<tr>
<td>Yākku</td>
<td>biyakku</td>
<td>&quot;to be slippery, smooth&quot; (yēś 'slime')</td>
</tr>
</tbody>
</table>

C2 = m:

<table>
<thead>
<tr>
<th>Lām</th>
<th>limlam</th>
<th>&quot;to carve, depict, write sthga&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tāṃkōn</td>
<td>tilmākon</td>
<td>&quot;to pull on, tighten sthga&quot;</td>
</tr>
<tr>
<td>Tāṃsku</td>
<td>timtāmsku</td>
<td>&quot;to lift a weight, shoulder a burden, assume costs&quot;</td>
</tr>
<tr>
<td>Cām</td>
<td>cimcām</td>
<td>&quot;to boil, cook sthga&quot;</td>
</tr>
<tr>
<td>?ancām</td>
<td>?ancimcām</td>
<td>&quot;cooking-pot&quot;</td>
</tr>
<tr>
<td>Tāṃm</td>
<td>tilmāmsku</td>
<td>&quot;in-law (parent or child)&quot;</td>
</tr>
<tr>
<td>?ān fem</td>
<td>?ānmīn</td>
<td>&quot;to be good&quot;</td>
</tr>
<tr>
<td>?ām fēm</td>
<td>?āmīm</td>
<td>&quot;pail, bucket&quot;</td>
</tr>
<tr>
<td>?ānūsku</td>
<td>?ānmīnūsku</td>
<td>&quot;to hate be unable to bear sthga or abdy&quot;</td>
</tr>
<tr>
<td>Yāmēsku</td>
<td>yimēmsku</td>
<td>&quot;to sniff sthga&quot;</td>
</tr>
<tr>
<td>Yēm</td>
<td>yimēm</td>
<td>&quot;to sniff&quot;</td>
</tr>
<tr>
<td>Homhōm</td>
<td>homhōm</td>
<td>&quot;joints&quot;</td>
</tr>
<tr>
<td>Homēkāk</td>
<td>homhōmēkāk</td>
<td>&quot;to kiss abdy&quot;</td>
</tr>
<tr>
<td>English</td>
<td>Khmer</td>
<td>Meaning</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>---------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>to be palseid, uncoordinated</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to be palseid, uncoordinated'</td>
</tr>
<tr>
<td>to put sthg somewhere</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to put sthg somewhere'</td>
</tr>
<tr>
<td>to go near sthg (near enough to touch it)</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to go near sthg (near enough to touch it)'</td>
</tr>
<tr>
<td>to fall from a height</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to fall from a height'</td>
</tr>
<tr>
<td>'tree, log'</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'tree, log'</td>
</tr>
<tr>
<td>to be straight, stiff</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to be straight, stiff'</td>
</tr>
<tr>
<td>'to blow on sthg'</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to blow on sthg'</td>
</tr>
<tr>
<td>to blow sthg off</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to blow sthg off'</td>
</tr>
<tr>
<td>to move sthg (in one place, eg. an animal its tail)</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to move sthg (in one place, eg. an animal its tail)'</td>
</tr>
<tr>
<td>to move in one place</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to move in one place'</td>
</tr>
<tr>
<td>to be angry</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to be angry'</td>
</tr>
<tr>
<td>'hand, arm'</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'hand, arm'</td>
</tr>
<tr>
<td>to be baked</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to be baked'</td>
</tr>
<tr>
<td>to bake sthg</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to bake sthg'</td>
</tr>
<tr>
<td>'to be mouldy'</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to be mouldy'</td>
</tr>
<tr>
<td>'to be mouldy'</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to be mouldy'</td>
</tr>
<tr>
<td>'body part) to feel a chilling, shivering or tickling sensation'</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'body part) to feel a chilling, shivering or tickling sensation'</td>
</tr>
<tr>
<td>to plant sthg</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to plant sthg'</td>
</tr>
<tr>
<td>'to be thin (not thick)'</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'to be thin (not thick)'</td>
</tr>
<tr>
<td>'temple (of the head)'</td>
<td>ក្ដីតាក់នាី  (k'ntotna)</td>
<td>'temple (of the head)'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English</th>
<th>Khmer</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>to split sthg in two</td>
<td>តីផ្កេ  (t'p'nl)</td>
<td>'to split sthg in two'</td>
</tr>
<tr>
<td>to be split in two</td>
<td>តីផ្កេ  (t'p'nl)</td>
<td>'to be split in two'</td>
</tr>
<tr>
<td>English</td>
<td>LíthíÁn</td>
<td>Meaning</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td>-----------------</td>
</tr>
<tr>
<td>'to split a tree (with wedges)'</td>
<td>lílídíšán</td>
<td></td>
</tr>
<tr>
<td>'to be cily, greasy'</td>
<td>lílí lílxít</td>
<td></td>
</tr>
<tr>
<td>'to sound'</td>
<td>títítál</td>
<td></td>
</tr>
<tr>
<td>'to make a sound louder'</td>
<td>sílí sílídí</td>
<td></td>
</tr>
<tr>
<td>'to speak to sbdy'</td>
<td>títítőq</td>
<td></td>
</tr>
<tr>
<td>'to meet sbdy'</td>
<td>líútítítítíkx</td>
<td></td>
</tr>
<tr>
<td>'to echo'</td>
<td>títítítí</td>
<td></td>
</tr>
<tr>
<td>'to be close by, short'</td>
<td>líltítílpk</td>
<td></td>
</tr>
<tr>
<td>'to live, be alive'</td>
<td>títítíls</td>
<td></td>
</tr>
<tr>
<td>'to melt, thaw'</td>
<td>cílcíiks</td>
<td></td>
</tr>
<tr>
<td>'to melt, thaw sbg'</td>
<td>cílcíiksáÁÁÁn</td>
<td></td>
</tr>
<tr>
<td>'to be dry'</td>
<td>kwílíkókwí</td>
<td></td>
</tr>
<tr>
<td>'(body part) to give the feeling that something is about to happen'</td>
<td>qalqalqílíkó</td>
<td></td>
</tr>
<tr>
<td>'to shave or plane sbg'</td>
<td>sítílp</td>
<td></td>
</tr>
<tr>
<td>'to burn sbg'</td>
<td>milmílíkw</td>
<td></td>
</tr>
<tr>
<td>'scab, to be scabby'</td>
<td>76mílímk</td>
<td></td>
</tr>
<tr>
<td>'to be sour, acid'</td>
<td>mímílíksáÁÁÁk</td>
<td></td>
</tr>
<tr>
<td>'to carry sbg on one's back'</td>
<td>wílíwik</td>
<td></td>
</tr>
<tr>
<td>'to be new'</td>
<td>sítíwik</td>
<td></td>
</tr>
<tr>
<td>'to speak'</td>
<td>sítílíkxÁÁÁk</td>
<td></td>
</tr>
<tr>
<td>'to drift'</td>
<td>sítílíksík</td>
<td></td>
</tr>
</tbody>
</table>
$C_2 = y :$

| hɔykw | həyhɔykəw | 'odor, spirit; to have an off smell' |

$C_2 = w :$

| təw | tu-təw | 'ice; to freeze' |

23. Almost regular plurals: from full reduplication to partial reduplication with -iₚ- infix. The canonical root shape for full reduplication is CVČ, sometimes preceded by an ə or ʰ augment. The reduplicative process is not affected by anything which may follow the CVČ sequence. There are however some cases where the regular reduplicative formula has been modified to accommodate special conditions, especially with roots longer than CVČ, creating new formulas of singular/plural correspondence in which the reduplicative $C_2$ is no longer so closely related to $C_2$, if at all. Most such formulas apply sporadically to form descriptive classes, except for the extension of the CI- reduplicative syllable from roots with front velars as $C_2$ to any kind of stem.

231. Reinterpretation and extension of the Cve- prefix formula. Reinterpretation of data can occur as a result of phonological confusion. For instance, the regular reduplicative plurals for roots of the shape C[C]V are of the form C[C]CV[V]. If the initial consonant is a C, the vowel is normally ə instead of u, thus

| hɔk'v | haxwəhk'v | 'gaff, hook; to gaff, hook sthg' |

| hɔl'və | haxwəhl'və | 'to cause a blockage, completely fill a space' |

| ɬu·hɔl'və | ɬu·haxwəhl'və | 'to be too large to fit comfortably into sthg, eg. clothes' |

| hɔl'vədən | haxwəhl'vədən | 'to cause sthg to create a blockage' |

| həwən | həxəwən | 'to catch sthg in a snare or trap' |

| hɔl'vəl | həxwəhl'vəl | 'to roll sthg flat, eg sleeves' |

| qə]],kw | qəxəqə]],kw | 'sinews, large veins' |
The sequence ɣx<śy is very difficult to distinguish from a sequence Çax<śy; ɣ can be derived from ɣx by glide release deletion (cf. Nw 'ak before ɣ, 222222.8a). The formula then becomes

\[ Çax → Çax<śy \]

which accounts for the alternate plural in

\[ tōk'înk \rightarrow tōk'în<śy \]

'to drown, suffocate'

besides the regular plural tux<śtōk'înk, and for

\[ mōx \quad 'ear' \quad maśmōx \quad 'earrings' \]

Alternately, in tōk'în<śy the ɣ of the reduplicative syllable may also be interpreted as corresponding to the final ɣ (the ŋ is inserted to break up the cluster ġ<śy). There are several other examples of roots ending in consonant clusters where the C2 of the reduplicative syllable corresponds to the final consonant of the cluster, rather than to the postvocalic C2 of regular stems, thus

\[ 1īk'w \quad lūx<śīk'w \quad 'to lace one's shoes' \]

\[ nī<śk'u \quad maśnī<śk'ū \quad 'to breathe' (root nī<śq 'breath') \]

\[ nl<śk'y \quad maśnl<śk'y \quad 'to be wet, moist' \]

In the last two examples the reduplicative syllable ends in ŋ because the root ends in a back consonant before addition of the suffix -śy.

In the next three examples, the root ends in an-underlying cluster before the insertion of a vowel by a low-level, automatic rule:

\[ ı<śux<ś \quad lűx<ś<śux<ś \quad 'to value, treasure sthg; to cherish sthg' \]

\[ qō<śos \quad qāšqā<śos \quad 'to be cooled' (from *qō<śa) \]

\[ ı<lōp \quad ı<ślōp \quad 'stone, rock' (from *ı<lāp) \]

In the last two cases, the vowel has been inserted by the rule of COPY VOWEL INSERTION operating after ɣ:

\[ \emptyset \rightarrow V_{\emptyset} / \emptyset_{\emptyset} \quad C \]

\[ [-loāy] \]
The formula in these cases is no longer
\[ C_1^x C_2^x \rightarrow C_1^y v C_2^y \]
as before, but
\[ C_1 C_2^x \rightarrow C_1 v C_2^y \]
Both of these formulas are extensions of the canonical formula
\[ \#C_1^x C_2^y \rightarrow \#C_1^y v C_2^y \]
to roots longer than \( \#C_1 C_2 \); one takes as \( C_2 \) the first, the other one the last consonant of a cluster.

In the case of C-\( \) plurals, this sort of extension of the basic reduplicative formula has been carried even further.

232. A new class: Cix- plurals. These plurals are now found with a wide variety of stems, many of which are disyllabic stems with the stress on the second syllable. Disyllabic stems do not fit the canonical specifications for regular reduplicated plurals, which suppose a shape CVC. They are therefore difficult to pluralise by reduplication, although in some cases an initial -sequence CVC is treated as a syllable for the purposes of reduplication, as in

- 'to be barefoot'
- 'to be knowledgeable, educated'
- 'to do sth to sb, to treat sb in a certain way (usually badly)'
- 'to know sth or sb'
- 'to be related, a relative'
- 'star' (the plural means 'each and every star')

Disyllabic stems with a front vowel as \( C_1 \) will most likely have a reduplicative syllable of the shape Cix-, as in

- 'object) to smoke'
- 'to look for sth'
The effect here is the opposite of that just described above, in which the prominent last consonant of a cluster is the one repeated in reduplication. Here, the reduplicated $c_2$ is derived from the unprominent medial consonant, and has no relation to the final consonant. It is possible then to reinterpret the $C\perp$ syllable as related only to the initial consonant, and to nothing else in the word, launching this syllable on an independent existence as an all-purpose pluralizer. In many cases a $C\perp$ plural has been formed on stems which already have a plural of another type, and the two formations coexist; in a number of other cases an existing plural has been taken as the basis for a $C\perp$ formation, resulting in a pleonastic, that is morphologically complex stem, formed in two methods.

Even though the following list includes forms with consonants of all kinds, the vast majority contains non-back consonants, especially palatals, dentals and laterals. Because different contributing factors may be present in the same word, the following classification cannot be a rigid one, or follow a strict probable chronological order.

A. Forms beginning with front Velars:

<table>
<thead>
<tr>
<th>Stem</th>
<th>Reduplication</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ky'taŋ</td>
<td>ky'i ky'taŋ</td>
<td>'to ask sbdy sthg' (besides ky'i ky'taŋ)</td>
</tr>
<tr>
<td>ky'k'w</td>
<td>ky'i ky'k'w</td>
<td>'to buy sthg'</td>
</tr>
<tr>
<td>ky's</td>
<td>ky'i ky's</td>
<td>'to miss sthg (by mistake)'</td>
</tr>
<tr>
<td>kvi'm'f</td>
<td>kvi'i kvi'm'f</td>
<td>(sg. form) sibling of the opposite sex; (pl. form) brothers and sisters'</td>
</tr>
<tr>
<td>kvi'f</td>
<td>kvi'i kvi'f</td>
<td>'to see sthg or sbdy'</td>
</tr>
<tr>
<td>kvi'k'us</td>
<td>kvi'i kvi'k'us</td>
<td>'(fish) to jump'</td>
</tr>
<tr>
<td>kvi'q'yan</td>
<td>kvi'i kvi'q'yan</td>
<td>'to drill a hole in sthg'</td>
</tr>
</tbody>
</table>

B. Forms beginning with $\gamma$:

<table>
<thead>
<tr>
<th>Stem</th>
<th>Reduplication</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>yd'n</td>
<td>hi yd'n</td>
<td>'to be foggy, steamy' (yd'n 'cloud')</td>
</tr>
<tr>
<td>yd'oks</td>
<td>hi yd'oks</td>
<td>'to wash sthg' (besides yd'oks, see 243213)</td>
</tr>
<tr>
<td>yd'timq</td>
<td>hi yd'timq</td>
<td>'to lecture or give authoritative advice to sbdy'</td>
</tr>
</tbody>
</table>
C. Forms containing s:

- shape sCVC where one C = C:

  sqlx-s kw  sixsqlx-s kw  'child, animal) to be a playmate or companion (to sbdy)'
  sity-s kw  sixsity-s kw  'to be changed'
  sity-sískw  sixsity-sískw  'to change sbhg'
  sity-síiskw  sixsity-síiskw  'to change one's clothes'

- s initial, prevocalic:

  sítiaq  sixsítiaq  'to clam up' (cf. Dñoq  'small clam species')
  sítinsk  sixsítinsk  'paper' (root Sow  'to flutter')
  sít  sixsít  'fiber' to break'
  sítatískw  sixsítatískw  'fiber) to be weak, to break easily'
  sít sanitize  sixsít sanitize  'sweater' (*Eng.)48
  sítqskw  sixsítqskw  'to dive' (besides regular sa2ndqskw)

- shape sCVC with any C:

  sítwétique  sixsítwétique  'to joke'
  sítapí  sixsítapí  'curtain'49
  sítahíst  sixsítahíst  'mountains'

- words in s or t (= Cs):

  cítkw  cíxw  'to kill sbhg or sbdy'
  'besides cux-cíkw')

  cít?  cíx-cit?  'to separate, pull or come apart'; (the pl. form is used in the context of skinning animals; it is rephrased on cít-init?, see 243213)
<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ḇikst</td>
<td>'to be dirty' (ثقة 'dirt', 24321.A)</td>
</tr>
<tr>
<td>póc</td>
<td>(pair of) boots' (Eng.)</td>
</tr>
<tr>
<td>ḍ-ḵw</td>
<td>'metal, knife' (also meaning 'to be black', with regular plural (or that meaning ḍiṣf-ḵw)</td>
</tr>
</tbody>
</table>

- C1 = non-back Velar; C2 = 狎 :

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ḱiskw</td>
<td>'shirt' (lit. 'under-most'; root ḍsw 'underside' 50)</td>
</tr>
<tr>
<td>ḱiskw-kšw</td>
<td>'to be blue' (חקק 'bluejay')</td>
</tr>
</tbody>
</table>

- recent color words prefixed with ḱ-, as in

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ḱomš-šikw</td>
<td>'to be purple' (מד 'berry')</td>
</tr>
<tr>
<td>ḱloqalqopk</td>
<td>'to be brown' (לחם 'to be rotten'; הלçıp 'stone, rock')</td>
</tr>
</tbody>
</table>

D. Forms containing laterals:

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>tambš skew</td>
<td>(pair of) socks'</td>
</tr>
<tr>
<td>mittikw</td>
<td>'to be green' (מית 'bile')</td>
</tr>
<tr>
<td>ʔi4pré</td>
<td>'to be red' (from ʔi4préʔi4pré 'blood, to bleed', see 2522)</td>
</tr>
<tr>
<td>ʔixšæon</td>
<td>'to finish sthd'</td>
</tr>
<tr>
<td>ʔixšæon</td>
<td>'to be finished'</td>
</tr>
<tr>
<td>ʔixšæon/kšw</td>
<td>'to shake oneself' (ʔixšæon 'to shake sthd)</td>
</tr>
<tr>
<td>Arabic</td>
<td>Syriac</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>ʾšāḥiks</td>
<td>ᵃʾšāḥiks</td>
</tr>
<tr>
<td>ʾlītkw</td>
<td>ᵃʾlītkw</td>
</tr>
<tr>
<td>ʾlītšl̄</td>
<td>ᵃʾlītšl̄</td>
</tr>
<tr>
<td>(ʾšīfikš)</td>
<td>ᵃʾšīfikš</td>
</tr>
<tr>
<td>ʾṭīšk</td>
<td>ᵃʾṭīšk</td>
</tr>
<tr>
<td>ʾqawššīlmikš</td>
<td>ᵃʾqawššīlmikš</td>
</tr>
<tr>
<td>ʾpīššstšl̄</td>
<td>ᵃʾpīššstšl̄</td>
</tr>
<tr>
<td>qalšl̄</td>
<td>ᵃʾqalšl̄</td>
</tr>
<tr>
<td>ʾlāšk</td>
<td>ᵃʾlāšk</td>
</tr>
</tbody>
</table>

E. Forms beginning with other non-Šaššars:

<table>
<thead>
<tr>
<th>Arabic</th>
<th>Syriac</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>ṫīššś</td>
<td>ᵃʾṭīššś</td>
<td>'to look after sthg or sbdy'</td>
</tr>
<tr>
<td>ṭīššśš</td>
<td>ᵃʾṭīššśš</td>
<td>'to live, be alive' (besides ṭīššśš)</td>
</tr>
<tr>
<td>ṭīšššq</td>
<td>ᵃʾṭīšššq</td>
<td>'to talk with sbdy'</td>
</tr>
<tr>
<td>ṭēššśšk</td>
<td>ᵃʾṭēššśšk</td>
<td>'to lead, guide sbdy'</td>
</tr>
<tr>
<td>ḫāšššq</td>
<td>ᵃʾʾḫāšššq</td>
<td>'to place an order for sthg'</td>
</tr>
<tr>
<td>ʾmūšk</td>
<td>ᵃʾmūšk</td>
<td>'to be ripe'</td>
</tr>
<tr>
<td>ṭīššššk</td>
<td>ᵃʾṭīššššk</td>
<td>'to catch fish'</td>
</tr>
<tr>
<td>ṭāq̄-ʾšīššššk</td>
<td>ᵃʾʾṭāq̄-ʾšīššššk</td>
<td>'to figure out or receive an explanation'</td>
</tr>
</tbody>
</table>
G. Forms beginning with non-front Velars:

`kwóːm` \(\text{kwixkwóːm}\)  'to be dusty, ashy'  \(\text{kwóːm} \text{ 'dust, ashes'}\)

`batsiː` \(\text{hixbatsiː}\)  'to work'

`batiː(ː)ləkəkw` \(\text{hixbat(ː)ləkəkw}\)  'to boil'

`sílmíːkw` \(\text{sihxsílmíːkw}\)  'to shine shoes, eg.

`híːnáː` \(\text{hixhínáː}\)  'to spank shdy'

`háːni-tɔsː-ːkəw` \(\text{hixháːni-tɔsː-ːkəw}\)  'table' (lit. 'for eating sm'; tɔsː-ːkəw 'to eat' (pl.), see 2421)

(similarly for other forms beginning with the prefix háːni-)

`ʔamóː̀` \(\text{hixʔamóː̀}\)  'corner' (probably orig. 'listening post'; cf. ʔamóː̀ς 'to listen', móːk 'eat')

`ʔamóː̀-kviːt` \(\text{hixʔamóː̀-kviːt}\)  'to be beautiful, pretty' (esp. landscape) (prob.

`ʔamóː̀-kviːt` 'to remember')

`ʔamóː̀-ksw` \(\text{hixʔamóː̀-ksw}\)  'to be trusting, guile-

-less' (prefix ʔsw- 'not')

(similarly for other forms beginning with the prefixes ʔam and ʔsw)

That hix can then be considered an independent plural marker is

shown by 

`qamwiː` \(\text{qamhixwíː}\)  'to be worn out, useless'

`ninhoʔanə́`: \(\text{ninhixʔanə́}:\)  'to pin things together' (ninho NT 'together',

`nuːbaʔ' 'pin')

H. Prenting of reduplicated back Velars: The j of the infix

-ix- is compatible with all the other consonants, but not with an

Initial ʔ or ʔi instead of the vowel adjusting to the position after
back consonant as in the regular vowel specification rule, the Velar is made compatible with the vowel, by the fronting rule

\[ q \rightarrow kv \] / ix

\[ qaftkw \rightarrow kvixqaftkw \] 'to be difficult, expensive' (cf. qftkw 'to be painful')

\[ qaftkw \rightarrow kvixqaftkw \] 'to hawl'

\[ qamkwftkw \rightarrow kvixqamkwftkw \] 'to bless, baptize shdy'

24. Irregular stems. Irregular stems are formed originally by one of the two processes of prefixation or reduplication, but the relationship between singular and plural is less immediately obvious and necessitates recourse to additional rules. These stems then are morphophonemically more complex than the regular and almost regular stems described thus far. Under this definition, 'irregular' applies to some categories which in a purely superficial classification (as in 1. above) are defined as regular classes because of the number of similar forms they contain.

Because irregular stems may no longer 'sound like plurals' as a result of morphophonemic change, they are especially prone to pleonastic reformation, in which an already plural stem is used as the basis for a new plural, but there are no rules restricted to this type of formation (cf. 232).

24.2. Some irregularities of prefixed stems.

2421. Prefix t2n-. Among those stems formed by prefixation, another prefix is involved in the formation of only two related words:

\[ y6-xk \] to eat'

\[ y6-xan \] 'to feed shdy'

The singular forms y6-xk and y6-xan must be derived from y6-'a 'string ofoolichans', a major source of food. In y6-xk from yv6-q-k-we find the rule of preconsonantal Velar fricativization which is not restricted to the reduplicative environment and occurs here after stress:

\[ k \rightarrow x / v \] .

and in y6-xan from yv6-q?n (-?n causative suffix) the rules of GLOTTAL ABSORPTION

\[ c + ? \rightarrow \] .
and of vowel insertion, this time in a different environment:

\[ \emptyset \rightarrow \nu / \nu \rightarrow \emptyset \nu \text{ } [\text{tense}] \]

followed of course by the vowel specification rule.

There are no words beginning with vowels in Nisah, but a few where morphological alternation shows the operation of a rule of V-INSERTION:

\[ \emptyset \rightarrow \nu / \emptyset \rightarrow \emptyset \nu \]

thus \( \nu \cdot q \) is from earlier \( \nu \cdot o \).

The prefix recognizable in \( t\emptyset \cdot \emptyset \cdot \emptyset \) and \( t\emptyset \cdot \emptyset \cdot \emptyset \) is \( t\emptyset \cdot \emptyset \), 'all', attested for instance in

\[ t\emptyset \cdot \emptyset \cdot \emptyset \]

'third person' (\( \emptyset \nu \) topicalizer)

\[ t\emptyset \cdot \emptyset \cdot \emptyset \]

'almighty' (\( t\emptyset \emptyset \emptyset \) 'to be strong'

The prefix \( t\emptyset \cdot \emptyset \) is added to \( \emptyset \cdot \emptyset \) not \( \emptyset \cdot \emptyset \), hence \( t\emptyset \cdot \emptyset \) is from \( t\emptyset \cdot \emptyset \cdot \emptyset \) and \( t\emptyset \cdot \emptyset \cdot \emptyset \) from \( t\emptyset \cdot \emptyset \cdot \emptyset \). The rule

\[ a \nu \rightarrow \nu \]

occurs in many languages, although there are few attested examples in Nisah.\textsuperscript{55}

2422. Prefix \( \emptyset \nu \):\textsuperscript{56}

24221. Before vowel: \( \emptyset / \nu \) alternation: When a root beginning in a vowel adds the prefix \( \emptyset \nu \), the prefix vowel merges with the stressed vowel; but the unprefixd singular form is subject to the rule of \( \nu \)-insertion, hence the singular/plural alternation \( \emptyset / \nu \). This alternation occurs in the now semantically divergent by still related forms

\( \emptyset \nu \cdot \emptyset \) 'to move (pl.) from one place to an other'

which derive from earlier

\( \emptyset \nu \cdot \emptyset \)

\[ \emptyset \nu \cdot \emptyset \]

\( \emptyset \nu \cdot \emptyset \)

\[ \emptyset \nu \cdot \emptyset \]

\( \emptyset \nu \cdot \emptyset \)

\[ \emptyset \nu \cdot \emptyset \]

\( \emptyset \nu \cdot \emptyset \)
Before Velar: Intervocalic Velar Deletion:

KY deleted between unstressed vowels: The stems

\[ k\text{y}p\text{ig}k\]  \[ l\text{i}-p\text{ig}k\] 'to fly'

can be related by invoking a rule of VELAR DELETION between unstressed vowels: one would expect the plural to be \[ l\text{i}k\text{y}p\text{ig}k\].

There exists a particle likyi which has the alternate form li· in some unstressed environments, as in

\[ ?ak\] 'what'  \[ likyi \?ak\] 'something'
\[ ni\$ 'here'  \[ likyi ni\$ 'somewhere'

but likyi lip \?ak or li· lip ?ak 'just about anything'
\[ likyi lip ni\$ or li· lip ni\$ 'just about anywhere'

Similarly, the negative particle nikyi is normally replaced by its alternate form ni in normal, informal speech, as in

\[ nikyi ni li· ky\$at \sim ninti· ky\$at 'I did not see it/him/her'.\]

The two-syllable sequence likyi of \[ k\text{y}p\text{ig}k\] is in unstressed position in the underlying form, as in the syntactic examples above. The rule then is

\[ k\text{y} \rightarrow \emptyset / \emptyset \sim \emptyset \]

The two adjacent \( l\)'s then combine into a long \( li\).

This rule also allows us to relate two at first glance very different stems:

\[ k\text{yi}\$t\text{ig}k\]  \[ l\text{i}·\$t\text{im}q\] 'to get up (from bed)'

When the suffixes -\( ki\) and -\( im\) are removed, the remaining forms

\[ k\text{yi}\$t\] \[ l\text{i}·\$t\]

have the same relation to each other as

\[ k\text{y}p\text{ig}k\] \[ l\text{i}·p\text{ig}k\]

Note that both these pairs have disyllabic roots with unstressed first syllable, unlike the other examples of prefixation encountered thus far.
24222. Vellar deletion at morpheme boundary between unstressed and stressed vowel: A number of examples have monosyllabic plural stems beginning with l. Alternating with singular stems beginning with Velars, a few of these stems begin with a uvular:

\[ q\text{f}k\wedge \quad l\text{f}k \quad \text{to wind sth. around} \]
\[ q\text{n}k \quad l\text{n}k \quad \text{(pl.) to lure sth. out} \]
\[ q\text{f}k\text{sk}k \quad l\text{f}k\text{sk}k \quad \text{'(tree) to fall'} \]

most of them with front Velars:

\[ k\text{f}k\wedge \quad l\text{b} \quad \text{('boat, vehicle) to be moored, parked'} \]
\[ k\text{f}k\text{b}k \quad l\text{d}k \quad \text{'to lie (on sth.)'} \]

(While vowel alternation will be considered later) including the pleomastic stems, formed by reduplication of a monosyllabic l-stem:

\[ k\text{f} k \quad l\text{i}l\text{f} k \quad \text{to dip sth.} \]
\[ k\text{f} k\text{p} \quad l\text{i}l\text{i} p \quad \text{('aquatic mammal) to come up for air'} \]
\[ k\text{f} k\text{p} k \quad l\text{i}l\text{i} k\text{p} k \quad \text{'to be high'} \]
\[ k\text{f} k\text{m}k \quad l\text{i}l\text{i} m\text{m} \quad \text{'to be warm, hot'} \]
\[ s\text{i}k\text{f} k\text{m}k \quad s\text{i}l\text{i} m\text{m} \quad \text{'to warm sth.'} \]
\[ k\text{f} k\text{m}k \quad l\text{i}l\text{i} m\text{m} \quad \text{'to wine sth.'} \]

It is likely that the plural forms in l originally derive from forms in l\text{i} through deletion of the Vellar. Thus \text{f}k\text{n}k, \text{f}n\text{k}, \text{f}k\text{sk}k, \text{f}n\text{sk}k, etc. as in l\text{i}l\text{f}k\text{k}\text{w}, \text{s}k\text{i}l\text{f}k\text{k}\text{w} above. Here, however, the vowel resulting from the merger of the vowel of the prefix vowel and the root is short, not long. This can be attributed to the fact that the unstressed, undifferentiated vowel of the prefix has merged with a stressed vowel, not an unstressed one (cf. l\text{i}k\text{w} from l\text{v}-l\text{h}\text{w}, 24221).

Another difference concerns the specification of the environment for the Vellar deletion rule. The environment for the deletion of \text{f} in s\text{f}l\text{f}k\text{n}k cannot simply be 'intervocalic', as there are examples of both deletion and non-deletion in this environment: for example, \text{f} is never deleted in the following proclitics (proclitics are never stressed)

\[ \text{fog} \quad \text{going across} \]
caqem 'going towards the shore'
lagam 'getting into a boat'

but is deleted in these other ones:
formal: colloquial:  
paqayt, paqayt 'in the middle'  
spaqayt, spaqayt 'among a group'
naqayt, saqayt 'together'
wqayt, waqayt 'far away'

The second set of proclitics differs from the first in that each of these is built from two morphemes, the second being anyt, which also appears in 'already'. Thus the environment for the deletion of  ֠ in anyt is not just /V , but /V + V , or rather in this case, /V + V . Note that this is probably also the proper environment for the deletion of  ֠ in the preceding section, since the singular forms are prefixed stems rather than disyllabic roots, although the meaning of the prefixes has been lost and the stems are treated as unanalyzable roots.

Most of the examples here involve front velars, with two cases of uvulars. We shall see (in 2431) that the rule is general for all unglottalized velars:

\[ K \rightarrow \emptyset \]  
[-glott]

We now turn to the vowel alternation in

\[ \text{vowel alternation in} \]

\[ kr\text{-}t \quad i\text{-}t \quad \text{to lie' (on sthg)} \]

According to the rules just described, the plural of krít should be \[ k\text{rít} \], \[ i\text{tít} \], not \[ ítít \]. There may have been a change  ֠ to  ֠ . Alternatively, the underlying form of the singular could be  ֠ , with a later rule  ֠ to  ֠ , perhaps caused by the fronted environment. Note that the other roots in krít belonging to this set of plurals all have short vowels. There are very few instances of a sequence krít in Najma, but quite a few of a sequence krít. We shall see later that a rule

\[ ֠ \rightarrow ֠ \]  
also explains other alternations in singular/plural forms. We derive

\[ k\text{rít} \] and  ֠ from

\[ k\text{rít} \]  
\[ ítít \]  
\[ k\text{rít} \]  
\[ ítít \]
242223. Initial stress assignment: The plural stem


iūms 'to grow (pl.)'

is used as the suppletive plural for the singular stem


mās 'to grow (sg.)'

But iūms is not an isolated form. It occurs for instance in the compound


qāyalīmsūt 'teen-agers' (lit. 'who are still growing; 'still': -ī relative)

which has the alternate form, also plural,


qāyāmsūt

The root mās of this word has other derivatives with a plural meaning, used as suppletives for singular stems:


hītkē mūqós 'to stand up'

hīlān mūqūsātan 'to place sthg upright, in a standing position'

On the other hand, this 'root' is itself derived by suffixation from the actual root māq 'to place sthg' which is used exclusively in the singular, with suppletive plurals, as in


māq lāt 'to place sthg, to put sthg away'

māqānā lān-āl 'to put things away'

mūqūs (sc. mūqūsē) sūntīkē 'to ride, to be a passenger'

māqūn sūnīn 'to give a ride to stby'

It seems clear that the meaning of both māq and mās was originally a singular one: 'to place sthg', 'to be placed' and that māq has become specialized in the singular, mās in the plural, hence the need for suppletion in both cases.

A prefixed plural for māq then could be expected to be 6īmāqā. In the actual form iūms, the stress is on the prefix instead of on the root as in all previous examples, and the root vowel, instead of being the one
stressed, has been deleted. The deleted vowel is likely to have been unstressed as a result of the stress being assigned to the prefix. This represents an exception to all the examples encountered thus far, and indeed to the great majority of Nisga words, but we shall see that many other cases show that initial stress assignment must have been the rule at an earlier time in the history of the language. (2432)

Two other verbs also have stress on the prefix. In

\[ sk\
\]

\[ i_fsk^\prime \]

'sto be born'

the unstressed \( i \) in the root syllable of the plural form shows that the original vowel \( a \) must have been deleted and replaced by an unspecified vowel which breaks up the cluster, since \( i \) is predictable from the consonantal environment.\(^2\)

The case of

\[ k\nu_k^\nu^s_kw \]

\[ l\nu_k^\nu^w^s_kw \]

'to wake up'

is slightly more complex. The singular \( k\nu_k^\nu^s_kw \) has an alternant

\[ k\nu_k^\nu^w_kw \]

which seems to be the basis for the plural form. Eliminating the suffix \(-sk^\nu\),\(^4\) we are left with

\[ k\nu_k^\nu^w_kw \]

The sequence \( kw \) in Nisga appears to be always derived from an underlying or historical \( k\nu^l\).\(^5\) Certainly there is no explanation for the \( u \) of the prefix unless the root begins with \( k\nu^l \) thus

\[ k\nu^l_k^w_kw \]

\[ k\nu^l^w_k^w_kw \]

and eventually

\[ k\nu^l \ (, k\nu_k^\nu^w_kw) \]

\[ l\nu_k^\nu^w_kw \]

243. 'irregularities' in reduplication, with resulting long vowel:

243.1. Partial reduplication: The regular formula for partial reduplication is

\[ C \ldots \rightarrow \ C \nu C \ldots \]

All the examples given under regular partial reduplication were of monosyllabic roots, therefore the reduplicated form had one unstressed syllable before the stressed root syllable: \( C \nu C \rightarrow C \nu C \nu C \). On the
other hand, the preceding section had described irregularities among
disyllabic stems forming their plural by prefixation, where a sequence
of two unstressed vowels flanking an unglottalized Velar caused deletion
of that Velar and lengthening of the vowel: KVKCV → KV-CV (242221).
If then partial reduplication applied to a disyllabic stem beginning with
a Velar, we would expect deletion of that Velar: KVKCV → Ky-CV.

This is the case in a series of words which on the surface appear
to form their plural by lengthening of their first, unstressed vowel
(class IV in a superficial classification), a very small category which,
with two exceptions which will be considered below, is more easily de-
scribed as following the rules of partial reduplication, with subsequent
Velar deletion. The forms

\[ \text{kvi\'i\'i} \quad \text{kvi\'i\'i} \]
\[ \text{kvi\'i\'} \quad \text{kvi\'i\'i} \]

'sto watch sthg or sbdy
in motion'

'sto give sthg'

start with kV like kvi\'p\'i\'y\'i\' and the plural has a long vowel like
li\'-p\'i\'y\'i\'. The back Velar category is represented by

\[ \text{h\'a\'i\'y\'i\'t} \quad \text{a\'h\'a\'i\'y\'i\'t} \]
\[ \text{a\'n\'a\'i\'t} \quad \text{a\'h\'a\'n\'a\'i\'t} \]

'shaman, shaman's dance'

'woman'

and there are also examples of labialized Velars:

\[ \text{kvi\'i\'i} \quad \text{kvi\'i\'i} \]
\[ \text{kvi\'i\'i} \quad \text{kvi\'i\'i} \]

'blanket'

'to feel cold' (from
\[ \text{kvi\'i\'i} \quad \text{kvi\'i\'i} \]
\[ \text{kvi\'i\'i} \quad \text{kvi\'i\'i} \]

'to ask for sthg'66

The rule, then, is again

\[ K \quad \rightarrow \quad 0 / \acute{\text{u}} \quad + \quad \text{\acute{u}} \\ \text{[-glott]} \]

resulting in the juxtaposition of two unstressed vowels, merging into
a long vowel, hence the 'vowel-lengthening' class.

The two exceptions seem to be later formations by analogy with
this pattern of short/long vowel alternation. For

\[ \text{kvi\'i\'i\'i\'y\'i\'i\'} \quad \text{kvi\'i\'i\'i\'i\'} \]
the vowel-lengthening formula has been extended to a word beginning with a glottalised labiovelar on the model of the surface alternation found in \textit{kwi\textsuperscript{<}λ}\textsuperscript{λ}/kw\textsuperscript{<}λ. The other analogical formation is
\begin{align*}
\textit{pi\textsuperscript{<}fist} & \quad \textit{pi\textsuperscript{<}list} & \quad \textit{’star’} \\
\textit{pi\textsuperscript{<}l\_fist} & \quad \textit{pi\textsuperscript{<}l\_list} & \quad \textit{’star’}
\end{align*}
It is significant that the other examples of ‘vowel-lengthening’, which all begin with Velars, have no alternate forms, while \textit{pi\textsuperscript{<}list} has two other plurals, the almost regular \textit{pi\textsuperscript{<}l\_fist} and the CV-plural \textit{pi\textsuperscript{<}l\_fist}: the phonological shape of this word does not fall into an easily recognizable category for plural formation, hence the various tries at a plural in conformity with various patterns,\textsuperscript{67}

2432. Full reduplication of roots CVK with initial stress and vowel lengthening: This fairly large class (class VI of the superficial classification) appears at first to combine elements of partial reduplication, vowel-lengthening and stress-shift. This class is restricted to roots of the shape CVK (where \textit{K} includes \textit{X} and \textit{\textsuperscript{<}λ}), suggesting that Velar deletion may have occurred. The general formula for this class is
\[
\textit{CVK} \rightarrow \textit{CV\_CVK}
\]
but there are also a number of unpredictable forms, as well as pleonastic re formations. A few extra rules, including some governing vowel alternations, are required to generate the forms, and these rules also account for some otherwise very puzzling alternations in some prefixed forms, whether simple or pleonastic. They also allow us to speculate on the possible derivations of some presently non-alternating words. Such forms, then represent an earlier stage of the language than the CVKCVK forms of regular reduplication.

24321. Roots with back vowels and back Velars:

| spāq | spā\_paq | ‘to taste s taste’ |
| spā\_paq | ‘to struggle’ |
| kw\textsuperscript{<}t\textsuperscript{<}g | kw\textsuperscript{<}t\_tg | ‘to leave, abandon sthg or shdy’ |
| hi\textsuperscript{<}dāq | hi\textsuperscript{<}d\_aq | ‘(long object) to break’ |
| hi\textsuperscript{<}d\textsuperscript{<}g | ‘(Id.) to be broken’ |
| hi\textsuperscript{<}d\textsuperscript{<}dn | hi\textsuperscript{<}d\_ndn | ‘to break a long object’ |
| ks\textsuperscript{<}dāq | ks\textsuperscript{<}d\_ndn | ‘to kick sthg’ |
lāq  lā:laq  '(fish etc.) to live in water, to swim'

lāq  lā:laq  'to bathe, immerse oneself in water'\(^{66}\)

lāq  lā:laq  '(pair of) pants'

The surface formula for these forms is

Cəq  →  Cducation

We recall that the regular reduplication formula for roots of the shape CVK is

CVR  →  CVKCVK

with Velar fricativization before consonant. It is likely that this rule has applied here too, thus

Cəq  →  Cducation

Here, however, the Velar affected has disappeared completely, leaving only a trace of its absence in the lengthening of the vowel. Such a rule is a very general one in Nongo, for instance

pəx  'to run (sg.)'  *pəx:n  pən  'run!'\(^{70}\) (–2 25)

nəx  'mother'  *nəx:n  nən  'your mother'

nəx:ə  nə:ə  'my mother' (–2 15)

təx  '(objects) to lie, ʔən-lu-təx  "drawer", to be (put) somewhere'

Note that in these examples the rule affects ə after stressed vowel, as in the present plural examples, showing that stress assignment on the first syllable must have occurred before fricativization.

It is likely that there was an intermediate stage əə between the sequences əə and əə, since long vowels often result from a combination əəh, and there is a close relation between ə and h.\(^{71}\) The rule of GLIDE FORMATION converts ə to h. The long vowel ə can be derived from ə through vocalization of the glide h (cf. ʔu from ʔu through vocalization of ʔ, 22222.0.c.c.). Thus the derivation of lə:laq :
full reduplication  iaq  iaqiaq
stress assignment  idq  idqiaq
fricativization  "  idqiaq
glide formation  "  idqiaq
glide vocalization  "  idqiaq

The same steps, excepting fricativization, explain
naska  naska  'pair of snowshoes'
nuqgamtaska  nuqgamtarka 73  'to be unclean in one's personal habits'
laq  laq  'hail'

243212. Roots Con or Con: Examples are
kpod  kpodar  'crease, pleat'
kpodan  kpodaran  'to crease, pleat sth's'
lod  lodar  'to be rotten'
woq  wogar  'to sleep'
noq  noqara 74  'mother'
as well as the pleomastic reformation from original #noq
naenoq  naenoq  'supernatural being'

In these forms the second syllable, which is unstressed, has a instead of the root vowel o. The presence of unstressed a before a bak velar is normal according to the vowel specification rule, if the original vowel has been deleted and replaced by an undifferentiated vowel. This deletion and replacement does not appear with roots in o, but should be postulated for them as well, as in the following comparative derivations:

noq  noq  noq
iaq  iaq  iaq

V-deletion

v-insertion

v-specification
able, and _corners of the root syllable), while this form has no \( C_1 \). Continuing the derivation:

V-deletion " \( \delta^7\)-ks
fricativization " \( \delta^7\)-ks
glide formation " \( \delta^7\)-ks
glide vocalization " \( \delta^7\)-ks
\( \lambda \)-prefixation \( \nu \delta^7\)-ks \( \nu \delta^7\)-ks

(copy vowel insertion \( \nu \delta^7\)-ks \( \nu \delta^7\)-ks

(the last two rules are not necessarily ordered at the end, unlike the previous ones).

243214. Sporadic final fricativization: The forms analyzed thus far are all very regular within their own class in that they all obey the same derivational rules. There are some slightly deviant forms. In

\[ \begin{align*}
\delta^7\lambda & \quad \delta^7\lambda^2 \\
\end{align*} \]

'to grab sthg'

the plural ends with \( \lambda \) instead of normally expected \( \lambda \). It seems that the rule \( \eta \cdot \lambda \) has applied twice, the first time normally to the reduplicated syllable, the second time to the root syllable. The alternation \( \sigma/\lambda \) in final position appears sporadically in Nisg̱a; sometimes final \( \lambda \) can be traced to earlier \( \gamma \), other times \( \gamma \) appears in what seems to be the same morphological environment. It seems that the rule \( \eta \cdot \lambda \ / \_ \_ C \) has been sporadically extended to the final environment.

243215. Roots containing \( \lambda \):

\( \lambda \)

a. Initially: The same sporadic rule \( \eta \cdot \lambda \) is responsible for the final \( \lambda \) in the plurals of

\[ \begin{align*}
\delta^7\lambda & \quad \delta^7\lambda^2 \\
\delta^7\lambda & \quad \delta^7\lambda^2 \\
\end{align*} \]

'to pull on sthg (that is attached at one end: hair, roots, etc.)'

which also differ from the normal type in having \( \lambda \) instead of the medial \( \lambda \). One would normally expect \( \delta^7\lambda^2 \delta^7\lambda \delta^7\lambda \). The explanation must be that the normal set of rules has applied twice, because the application of the first set yields an environment structurally identical to the original environment, and the rules reapply: for instance, the derivation
of InputDialog is:

full reduplication
stress assignment
fricativization

glide formation
glide vocalization

This set yields a A in medial position. We saw earlier that there is a rule of glottal absorption which converts sequences C + ? into glottalized consonants; conversely, a glottalized consonant can be interpreted as a C + ? sequence. If the medial A here is considered as a sequence A + ?, A is again in preconsonantal position as at the beginning of the derivation, and the Velar weakening and deletion rules apply once more:

A = decomposition
fricativization
glide formation
glide vocalization followed by
final fricativization

Vowel deletion and insertion rules are invisible here as the vowel normally inserted is also A. In InputDialog, the unstressed vowel A is not a preserved root vowel, but the copy vowel inserted between ? and a following consonant, by a rule that takes precedence over other vowel specification rules.

b. Finally: In the following set of roots ending in A, there have also been two rounds of application of the Velar deletion rules, first to A, then to ?:

AABB
ABB
AABB

'to crack, to be cracked'
'dress'
'to swallow sthg'
'to suck on sthg (that is inside the mouth)'
fricativization

glide formation

glide vocalization

At this point, vowel deletion and vowel insertion occur; note that if the vowel was not deleted in 16\textsuperscript{1}7p, 1 and 2 could not merge by glottal absorption.

vowel deletion

glottal absorption

vowel insert. & specif.

vowel shifts: 1. \( \delta \rightarrow \delta' \)

2. \( \delta \rightarrow \delta' \)

copy vowel insertion

A new vowel shift restricted to the environment before \( ? \) must be postulated to derive 16\textsuperscript{1}7p from 16\textsuperscript{1}8p. This rule may explain the fact that there are numerous instances of Co7, but very few of Co6,\textsuperscript{83} in surface forms.

24322. Roots Co7: plural words and plural suffixes. A handful of words with plural meaning and a long vowel in the stem end in the frozen plural suffix -\textsuperscript{-t}O.\textsuperscript{84} Apart from this suffix, their forms are derivable through by now familiar rules. The normal third person plural suffix is -\textsuperscript{-t}. The 3/4 alternation in -\textsuperscript{-t}O and -\textsuperscript{-t}, as in plurals of the type Co5, suggests that these suffixes too derive from a root of this type.

A. Plural words: roots Co5 and Co6:

The only forms in -\textsuperscript{-t}O with corresponding singulars are those of the quotative verb \( \frac{\text{y}}{\text{y}} \); the plural forms in h\textsuperscript{1}t\textsuperscript{O} are irregular on the surface. The forms of this verb are always used with an ergative clitic pronoun between the words quoted (which are the object of the verb) and the verb:

\[ ... \text{ni y\textsuperscript{\text{a}}} \text{... "I said"} \]

\[ ... \text{ti p h\textsuperscript{1}t\textsuperscript{a}} \text{... "we said"} \]

\[ ... \text{ni sm h\textsuperscript{1}t\textsuperscript{a}} \text{... "you (pl.) said"} \textsuperscript{85} \]
In the third person, the ergative clitic pronoun *i, normally occurring before any change, is, in this verb alone, prefixed to the stem with an intervening vowel:

\[ tiŷ \]  
\[ tih̕-to \]

The stem *h̕ of the plural h̕-ta is regularly formed by full reduplication on the singular ŷ: the initial h̕ in the plural corresponds to ŷ in the singular by glide reduction to h̕ (22213) and the ŷ-alteration points to an underlying root in *ŷ. It is unlikely however that the underlying root is simply *ŷ. There is independent evidence that words ending in a vowel in present-day Nisg̱a'a originally ended in a sequence ŷh, accounting for alternations such as

\[ sá 'day' \]  
\[ t̕aix̕al̕as-ta 'period of four days' \]

where the preconsonantal long vowel in the compound points to earlier *s̕n̕. In

\[ k̕wil̕á 'blanket' \]  
\[ k̕wil̕-mi̕sk̕w 'to place the blanket on one's shoulders (part of some ceremonies)' \]

(-mi̕sk̕w suffix having to do with clothing)

the alternation *ŷ/s̕: points to an earlier sequence *s̕n̕.\(^{86}\)

The alternation ŷ/h̕-ta then points to a root *ŷn̕, with a rule of FINAL h deletion. Thus we reconstruct the third person derivations (excluding the suffix -ta) as:

<table>
<thead>
<tr>
<th>full redupl.</th>
<th>stress</th>
<th>ŷn̕</th>
<th>ŷn̕-n̕</th>
</tr>
</thead>
<tbody>
<tr>
<td>glide reduction to h</td>
<td>&quot;</td>
<td>n̕-ŷn̕</td>
<td></td>
</tr>
<tr>
<td>glide vocal. h, v</td>
<td>&quot;</td>
<td>n̕-ŷn̕</td>
<td></td>
</tr>
<tr>
<td>vowel deletion</td>
<td>&quot;</td>
<td>n̕-ŷn̕</td>
<td></td>
</tr>
<tr>
<td>glide vocal. y, v</td>
<td>&quot;</td>
<td>n̕-ŷn̕</td>
<td></td>
</tr>
<tr>
<td>final h deletion</td>
<td>ŷ</td>
<td>n̕</td>
<td></td>
</tr>
<tr>
<td>vowel shifts</td>
<td>ŷ</td>
<td>h̕</td>
<td></td>
</tr>
</tbody>
</table>

\(^{86}\)
prefixation of  \( t \)  \( t\)-\( q \)  \( t\)-\( hi \):  

vowel insert. & specif.  \( t\)\( y\)\( d \)  \( \text{t}h\)\( f \):  

(the last two rules may have occurred at any point after glide reduction to \( j \).)

b. \( \delta\)\( t\)\( a \)  protective covers, diapers  
\( \delta\)\( t\)\( a \)  (group, mass) to be all gone

The plural stem \( \#\delta\) of \( \delta\)\( t\)\( a \) is found in the word  

\( k\)\( wi\)\( k\)\( s\)\( \delta\)\( t\)\( k\)w  pocket-knife' (lit. 'self-protected': \( k\)\( wi\)\( k\) 'self', -\( t\)\( k\)\( w \) reflexive or passive

and in the compounds  
\( t\)\( o\)\( t\)\( \delta\)\( \text{cip} \)  'fortress' (lit. 'taking the tribe along for cover': to- comitative prefix; \( \text{cip} \) unstressed form of \( \text{cip} \) 'organized group of people, tribe')

\( s\)\( m\)\( \delta\)\( \text{kvit} \)  'chief' (lit. probably 'protects people': \( \text{kvit} \) unstressed form of \( \text{kvit} \) 'man, person, people')

The meaning of 'cover' is also found in various derivatives of the stem \( \#\delta \), attested in  

\( l\)\( k\)\( t\)\( \delta \)  'top or surface of'

\( \hat{\text{t}}\)\( m\)\( k\)\( h\)\( \delta \)  'sphagnum moss', originally 'diapers' (made of this moss)\( \text{(-\( m\)\( k\)\( h\)\( \delta \))} \) temporary suffix?)

\( \hat{\text{t}}\)\( m\)\( \delta\)\( \text{kvit} \)  'clothing' (lit. 'good for covering a person'; \( \hat{\text{t}}\)\( m\)- 'good for', from \( \hat{\text{t}}\)\( m\)-\( m \) 'to be good')
The word *ʔū probably represents an earlier *ʔ prestigious plural of which would eventually become ʔū by reduplication.88

full redupl. i stress ʔū i ʔūʔū

vowel deletion ʔū ʔūʔū

? x h ʔū ʔūʔū

glide vocalization ʔū ʔūʔū

final h deletion ʔū ʔū

The stem ʔū of ʔū-t 'to be all gone' is also found in its alternate ʔū-t, used in some syntactic contexts instead of ʔū-t, and in the word 'ʔū-t, to remember atha'

which does not have a separate plural form. It is probable that ʔū- is an original plural, formed like ʔū by reduplication: ʔū can be derived from *ʔūʔū in the same way as ʔū from *ʔūʔū above.

c. Remarks: It is interesting that the only examples of the suffix -ʔū to occur in words with roots of the shape CV- from *CVh. These are pleonastic plurals: the stem was probably too short to be felt as a proper plural, and the plural suffix remains frozen on these forms.89

B. Plural suffixes: -ʔū, -tī, *-ʔūh: Although the suffix -ʔū is no longer productive and exists only as a frozen relic on a few forms, it has not totally lost its morphological function as a plural suffix and appears largely as an allomorph of another, more widespread suffix. The use of these suffixes must be considered.

Normally, under conditions which call for the use of a third person suffix, -ʔū is used in the singular, -tī in the plural.90

for instance in dependent intransitive constructions such as

(1) ʔū-y νะ - t
by now arrive 3
(in boat, vehicle) 'he has arrived'

(2) ʔū-n σρι - ν t
arrive (pl) 3P
(in several boats or vehicles) 'they have arrived'
(6) nősikw ål·ɨ ʔən - t  wil mɨ·lukw - ti·
           be present  I   PREP  CORN where  dance    PL

'I went to a dance'

and (7) nősikw ål·ɨ ʔət wil mɨ·lukw - ti· - t
           PL       3

'I saw then dancing, I was there as they danced'

The morphemes -ɾə and -ɾɨ are both indefinite plural morphemes with no personal meaning. It is likely that they are allo-
morphs of each other, although since -ɾə is no longer productive, it is
difficult to know what the conditioning of the alternation might have
been. Phonologically the ə/ɨ: alternation is characteristic of under-
lying roots *COPY: a final short vowel must have once been followed by ɨ:
the only evidence missing for a derivation of both -ɾə and -ɾɨ: from
-ɾəh is that of stress, but such an alternation could not have occurred
in an unstressed suffix, the vowel of which would have been lost: the
presence of the vocalic alternation is itself evidence that the suffix
must have once been stressed.

In previous cases of ə/ɨ: alternation, the long vowel occurred
in forms where a Velar had been deleted before a consonant. We note
however that -ɾə is found mostly at the end of words that do not norm-
early take suffixes, while -ɾɨ: is found mostly (though not exclusively)
in association with the suffix -ɾ, a fact which may explain the diverg-
ce:

-ɾən

-ɾə-t

glide vocalization

" -ɾə-t

final h deletion

-ɾə

" -ɾɨ:

vowel shifts

-ɾə

-ɾɨ:

followed by stress reduction on the suffix. But -ɾɨ: is also used
finally, and there are other cases of stressed or unstressed final -ɾ:,
as in ɨf. 'Indeed, too', ɨf: 'no, to say no', and the co-occurring elem-
ents wi....i- 'to look like a ...'. Whatever the reason for the
differentiation, there is no doubt that -ɾə and -ɾɨ: must derive from
a single morpheme ə-ɾəh.

25. More irregular plurals.

251. Irregularities of ɨv- plurals.

2511. yóx' ɨf·i·x' 'to hide, to hide sth'
The plural is formed by reduplication on an earlier plural formed by prefixation. The \(S/\xi\) alternation points to an original root in \(\xi\), and the long vowel of the original plural \(\xi^\circ\xi\) shows that \(\xi\) must belong to the root and has not been added by rule (as for instance in \(\xi\gamma\xi\xi/\xi\delta\xi\)). The derivation is:

**stage 1:** prefixation
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)

**vowel specification**
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)

**stress assignment**
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)

**vowel shift \(\delta/\delta\)**
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)
- \(\xi\gamma\xi\xi\)

**stage 2:** full reduplication
- \(\xi\xi\gamma\xi\xi\)
- \(\xi\xi\gamma\xi\xi\)
- \(\xi\xi\gamma\xi\xi\)
- \(\xi\xi\gamma\xi\xi\)
- \(\xi\xi\gamma\xi\xi\)
- \(\xi\xi\gamma\xi\xi\)

At this point, deletion of the unstressed vowel would normally occur, followed by insertion of the vowel \(\gamma\) before \(\xi\xi\). There are other examples where an unstressed long vowel has been deleted, probably after a vowel shortening rule (eg. \(\xi\xi\xi\xi/\xi\xi\), 2522). It is possible that the \(\xi\)-bound \(\xi\xi\) remains by analogy with other plurals with two long vowels.

2512. \(\xi\xi\gamma\xi\xi\xi\)

The obsolescent form \(\xi\xi\gamma\xi\xi\xi\) can be related to the singular \(\xi\xi\gamma\xi\xi\xi\) as a prefixed plural with stress on the prefix.

The change \(\xi\xi\xi/\xi\xi\) at the end is the sporadic fricativization also found in \(\xi\xi\xi\xi\), \(\xi\xi\xi\xi\) and \(\xi\xi\xi\xi\) above (24324, 24325). The underlying form of \(\xi\xi\gamma\xi\xi\xi\xi\) is \(\xi\xi\gamma\xi\xi\xi\xi\). However, it is unlikely that the underlying form of \(\xi\xi\gamma\xi\xi\xi\xi\xi\) is \(\xi\xi\gamma\xi\xi\xi\xi\xi\), which would have resulted in \(\xi\xi\xi\xi\xi\), not \(\xi\xi\gamma\xi\xi\xi\xi\xi\). The singular \(\xi\xi\gamma\xi\xi\xi\xi\xi\) is a prefixed form. The prefix \(\xi\xi\) occurs in very few words and is no longer productive. Its meaning is undetermined. The plural \(\xi\xi\gamma\xi\xi\xi\xi\) is formed on the bare root, without the prefix. The derivations are
The plural is formed by prefixation on an earlier plural. The word is obviously a compound, but although the surface singular form suggests the two elements 'śpi 'halfway up' and ġdsx 'to be much, impressive', the meaning of this combination is nonsensical, and more important, no rules exist that could derive ćś-śxw from ġdsxʷ. On the other hand, if the second member of the compound is ġdsxʷ, from ġšw, the plural ćś-śx is expected according to the rules of full reduplication, with two rounds of Velar weakening:

full redupl. & stress ġšw ćś-śxw ġšw?śxw
vowel deletion ġšw ćś-śxw ġšw
vowel shifts ġšw ćś-śxw ġšw

If, as has been suggested above for the pair ġšw?śxw ćś-śxw 'porcupine'/'warriors', common meaning 'armed' (251-221.1,a,b.), ġšw means some sort of sharp weapon, the meaning of the compound may have to do with cowardice in battle, since the present meaning is 'to be afraid'. The probably etymology is ćś-śpš-śxw 'not-bearing-arms', hence 'coward'.

The long ġ of the second syllable of the plural ġškś-śk⁻x is more difficult to explain except by analogy with other plurals with two long vowels, as in ġškś-nš-qš ġškś-nš-qš 'to feel cold'

The plural form ġškś-nš-qš in ġškś-nš-qš 'to feel cold' is a pleonastic formation by prefixation to the original plural form ġškś-nš-qš. The prefix šś- means 'resembling, imitating':'bald eagles live by the water and eat fish even though they are not really water birds. Abstracting this prefix leaves šś-kś-kv, which must be derived from a singular šš-kv, from root šš-kv, through normal rules. There is no attested form kvš-kv, but the same rules applying to a root šš-kv would yield the attested form kvš-kv:
The word laʔskʔy'-k', then, is the plural of an unattested form *laʔskʔy', while the current k'εsk'y' found in composition is the plural of an equally unattested form *k'εsk'y'. As many names of animals commonly seen in groups are morphologically plurals, it is not surprising that the original plural forms of these words should be the only ones that are in use. However, being monosyllabic, they do not 'sound plural', hence the formation of a new, indisputably plural prefixed form to designate a group of people, the members of the Eagle clan.39

The singular form *laʔsk'y' requires an explanation; one would expect instead either *laʔsk'y' (a singular form) or *laʔsk'y'-k' (a plural form). In words formed by full reduplication of this type, a long vowel is indicative of a plural form. The sequence k'εk'y' does appear in the derivation from root k'εsk'y' above, just before the application of the vowel shift k'ε' > k'. This rule does not affect words beginning with a back velar. The form k'εk'y' does not begin with a back velar, but itk'y' does, since the prefix kε' begins with k'. This fact may have been enough to prevent the application of the rule kε' > k'.

252. Irregularities in reduplicated plurals.

2521. ʔiʔOʔ 'blood, ʔiʔOʔ-ʔaʔ 'to bleed (pl.)' to bleed (sg.)'

A plural in kε' normally corresponds to a singular in kε' from kε', but the fact that the stressed sequence kε' in the singular has a long vowel shows that it is not an original root, 96 but has been simply treated as such for plural formation. Thus we derive ʔiʔOʔ-ʔaʔ from ʔiʔOʔ by the normal reduplication rule, plus one of VOWEL SHORTENING:

<table>
<thead>
<tr>
<th>full redupl. &amp; stress</th>
<th>ʔiʔOʔ</th>
<th>ʔiʔOʔ-ʔaʔ</th>
</tr>
</thead>
<tbody>
<tr>
<td>ʔε kε' h &gt; v</td>
<td>ʔiʔOʔ-ʔaʔ</td>
<td></td>
</tr>
<tr>
<td>vowel shortening</td>
<td>ʔiʔOʔ-ʔaʔ</td>
<td></td>
</tr>
<tr>
<td>vowel deletion</td>
<td>ʔiʔOʔ-ʔaʔ</td>
<td></td>
</tr>
</tbody>
</table>
The plural form is pleonastic, built by partial reduplication over an earlier *nh₁-lukʷ attested in

\[
\text{h₁}\text{h}_{-}\text{hukw}s
\]

\[
\text{h₁-lukw}s
\]

'to reach over, to stretch an arm'

(lit. 'to lengthen oneself': -self reflexive)

One would expect the plural of h₁aw to be h₁-f₁-lukʷ, which is attested in Bosa 1911 and in the alternate plural of h₁h₁-wː w₁-f₁-lukwː.

The I of h₁-f₁-lukw and w₁-f₁-lukw could be attributed to a rule

\[
\text{h₁} \rightarrow \text{i}\text{h₁}
\]

alternately, \[
\text{i}\text{h₁}
\]

could be part of an original alternation

\[
\text{h₁}\text{lukw} \rightarrow \text{i}\text{lukw}
\]

traceable ultimately to a root *lokʷ, with a rule \[
\text{i} \rightarrow \text{I}
\]

before stressed vowel. There are a few instances of alternation between \[
\text{I}
\]

and \[
\text{I}
\]

as between n and l.\textsuperscript{2} The proclitic n₁ 'down on sth' is pronounced l₁ or l₁ by some persons in Greenville and Kinclith, as well as in Coast Tsimsian. Many CT plurals are formed by reduplicative methods similar in principle to the Kisgwa ones (Ham 1980). The plural of the Tsimsian word k₁y₁h₁̓d would appear to give sth₁g (identical to the Kisgwa word) is formed by full reduplication, with one irregularity: the plural is k₁y₁h₁̓d, not k₁y₁h₁̓d (though k₁y₁h₁̓d is given by Bosa). The form k₁y₁h₁̓d is derived either from (a) k₁y₁h₁̓d, with a rule \[
\text{i} \rightarrow \text{I}
\]

before consonant, or perhaps more likely, in unstressed syllable, or from (b) k₁y₁h₁̓d, with a rule \[
\text{i} \rightarrow \text{I}
\]

before stressed vowel.

Although the evidence is meager, a rule \[
\text{i} \rightarrow \text{I}
\]

may be the most likely hypothesis: there are no stressed words starting with l in present-day Kisgwa; the phonological element l is common only in final position; interconsciously, it always derives from the juxtaposition of l and ʔ (as in li-lip above, 243222.B., and pil̓ʕʕʕʕʕ, see note 67). It is probably then that the I of h₁-f₁-lukʷ and w₁-f₁-lukʷ is original, and that the alternate plural h₁-f₁-lukʷ is a later reformation on the model of h₁aw.

26. Conjectural plurals: These are forms which must have been plurals originally, although they have lost their relationship to a singular either through phonological change or through semantic differentiation.

\[
\text{h₁}_\text{a} \text{w}
\]

'to understand'

\[
\text{nax̱d}
\]

'to hear sth'

\[
\text{words}, \text{language}
\]
The form *n5d used in Nišgah for both singular and plural sounds almost like a regular reduplicative plural (shape CVCV...), with deglottalization of the reduplicated sound. The stress of the unstressed syllable could be justified by supposing an underlying n as the C2 of the root, thus *ndn, or perhaps *ndh.

In fact, this form must indeed have originally been a plural, but not a reduplicative one. It must have been the plural of the singular form *fnd which has a different but related meaning. The Gitskan equivalent of *n5d is l5n7 which has the ly- plural prefix normally found on words beginning with a Velar prefix, such as *nd7. Interchange between l and n, with a rule l > n initially, is not surprising in Nišgah (cf. 2522). The change l > n responsible for *n5d instead of *l5n7 was probably helped along by the resemblance of the resulting form to a regular fully reduplicated plural.

A reconstruction

*ndh

*lsdn7

"to hear s.th. properly"

accounts for both the Nišgah and Gitskan forms.

262. η̄s "hair, horse"

η̄syf root of

η̄slyf

"to hang s.th. pl."

η̄llyf

"(pl.) to be hanging"

The forms l̄5k and l̄5k5 are used exclusively in the plural, serving as suppletive plurals for *7k and *sk7k, respectively. These plural forms must have been derived from a singular by ly-prefixation. We saw that plural forms of the shape lCV may correspond either to singulars in KVC (as in l̄5k from η̄sk7, 'tree to sail', 24222) or in VVC, from 7CV (as in l̄5k from η̄7k7, 'move', 25221).

There is no form η̄sf, but there is η̄s "hair", which fulfills both formal and semantic criteria for a connection with η̄s: straight hair especially hangs down. Note that although η̄s, like English 'hair', refers mostly to a whole head of hair, it can also refer to a single hair. The meaning of its derivative η̄sf to be thin, narrow obviously supposes a comparison with a single hair, not the whole mass. The original meaning of η̄s then must be 'to hang down'; the meaning has become specialized in the singular for 'hair', but has been preserved in the plural, necessitating recourse to a suppletive singular, 7n7k.

263. l̄5n7k "to be thin" l̄5n7k found in

l̄5n7k (1) pl. of l̄5n7k

l̄5n7k (2) "neck"

l̄5n7k (1) pl. of l̄5n7k

l̄5n7k (2) "temples of the head"
The sequence lḵn found in ḫemlx 'neck' could be the original plural of ḫmwx 'to be thin'. The word hom(+)ḫn 'temples', also the plural of ḫnx, refers to a part of the head that is thinner than the lower part. The neck of course is even thinner. The prefix ḫm- in front of ḫnx occurs in several other words designating parts of the body, for instance

\[\text{ṭinmf} \quad \text{'head'} (ṣfṣ 'hair')\]

\[\text{ṭimxqf} \quad \text{'spine'} (xqf 'backbone')\]

This prefix seems to be the reduced form of ḫm (ḏā 'to sit, exist', =m attributive) and to mean 'place of'. If the analysis of ḫnx is correct, ḫmṭnx means literally 'place where they (=the two sides of the body) are thin'.

\[\text{ setSize } \quad \text{found in lwxr} \text{ḥṭikxš} \quad \text{'to do the laundry'}\]

\[\text{ṭixmf} \quad \text{liḥṭikxš} \quad \text{'to wash things in a tub: sheets, garments, etc.'}\]

\[\text{liḥṭikxš} \quad \text{'id.'}, suppletive plural of lwxr-ḫš 'to wash σtgh (sheet, garment, etc.) in a tub'\]

The pronomial lwx 'inside' refers to the tub in which things are washed. The suffix -ḥš is a de-transitive, and ḫṭikxš is a GC - reformation on original ḫṭikx, which must be a prefixed plural. There is an interesting relation between the plural ḫṭikx and the suppletive singular ḫšxks.

Both ḫšxks and ḫṭikx end in the suffix -ḫš or -ḥš which occurs in some instances with words having to do with water, and probably derives from ḫšxks 'water', ḫšxks 'to swim', ḫšx 'to float', ṭšxks 'rising tide', ḫšxks 'spring, well', ṭšxks 'to wash σtgh (hands, dishes etc.), ččšxks 'ripples in the water'. The root ḫšx of ḫṭikx must be the plural of a singular of the shape VCV or CVČ. Gitksan has this root in the word ḫšx, the plural of ḫšx 'to stand', which corresponds to NisgāɁ ḫšx 'id.'. The root ḫšx is also evidenced in ḫšx (suffix -če causative) 'to place σtgh in a standing position'.

In NisgāɁ the root ḫšx is specialized in the singular. The plural is supplied by ḫšxšx, now a plural stem, which must originally have been a singular (24223). This stem is derived from ḫšx 'to place ṭšx', now specialized in the singular (ibid.). The form ḫšxšx used as a suppletive for the plural ḫṭikx probably derives from ḫšx-šx (perhaps from ḫšx-šxšš) through precessomal velar weakening. The stem both ḫšxšx and ḫṭikx (from ḫšx-ḥš-šxšš) probably mean 'to place σtgh in water', hence 'to wash it'.
kyñlp 'testicles' kyñ̪iši 'two (objects)'
(common meaning 'pair')

kyñt 'man, person' kȳiȳiȳišw 'twenty' (lit. 'one man')

Although the conditioning is not clear, since the suffixes are varied, and the alternation also occurs under other circumstances, there is no doubt that yäc and šIfc are related, and that šIfc must be a plural form.

266. yäi 'to turn, stir' šIfl root of
štgh 'to roll' (cf. 22:11)
Ifšīn 'to make štgh roll'

The probability of a singular/plural relation between yäc and šIfc suggests a similar relation between yäi and the root Ifl found in words denoting circular motion.

The form šIfl is the prefixed plural of a stem šIf, itself composed of the prefix š- and the stem šIf also found in šIfin (with causative suffix -ʔp). The ending -p is not productive, and plays no observable grammatical or semantic role, but it must have had a meaning at an earlier time and is found in a small number of words, some of which seem to be related to words without -p (e.g. 不舍 'stone, rock', 'classics' 'rocks in water, reefs').

267. čfn čmęk čmękšx 'to enter'
čm (proclitic) 'in, inside of'

The singular and plural forms appear at first to be totally suppletive. But the Gitksan equivalents
čfn čməks 'to enter'

with a plural formed by suffixation, show the alternation -k also found between čfn 'to enter' and čm 'in'. There must be a rule čn ṣn operating under certain circumstances. We can take then čfn as the singular-

The initial č is found in a number of words with the common meaning of 'inside':
čšw 'plate, bowl'
čšl 'face, eyes' (čšl 'eye')
čšw 'the inside of..'
We can analyze  setBackgroundColor - and the root  setBackgroundColor.  

The Nisga’a plural  setBackgroundColor or  setBackgroundColor ends in the suffix  setBackgroundColor or  setBackgroundColor; the latter is found in several other words, as in  setBackgroundColor ’to kiss  setBackgroundColor’, BackgroundColor ‘to carry  setBackgroundColor on one’s shoulders’. 105 Removing this suffix leaves BackgroundColor where we recognize the  setBackgroundColor prefix, leaving  setBackgroundColor.  

The singular then is BackgroundColor, the plural  setBackgroundColor, where BackgroundColor and BackgroundColor derive from underlying BackgroundColor, although the vowel alternation process is not well understood (it is the reverse of that found in  setBackgroundColor/BackgroundColor,  setBackgroundColor, and  setBackgroundColor/BackgroundColor,  setBackgroundColor). 106 Note that this is yet another example of an underlying root of the shape VC rather than the usual CV.  

BackgroundColor, BackgroundColor ‘to help  setBackgroundColor’  

The single form BackgroundColor for both singular and plural is general in Nisga’a; BackgroundColor is obsolescent, although it is normal in Gitksan. The prefix  setBackgroundColor, of undetermined meaning, also appears in other forms such as  setBackgroundColorBackgroundColor ‘to rub, massage  setBackgroundColor’,  setBackgroundColorBackgroundColor ‘to wrap  setBackgroundColor or  setBackgroundColor’, discussed under regular reduplication (222221). The root of the stem,  setBackgroundColor or  setBackgroundColor, may be related either to  setBackgroundColor ‘to act, be, seem like  setBackgroundColor else’ (to help somebody often means to perform the same activity) or to  setBackgroundColor ‘to be safe, rescued, cured’ (often thanks to another person’s help), or both.  

It is very unlikely that the final  setBackgroundColor of BackgroundColor is a suffix, but the presence of two identical consonants flanking a long stressed vowel suggests a resemblance with plurals such as those in  
BackgroundColor  setBackgroundColorBackgroundColor ‘mother’  
BackgroundColor  setBackgroundColorBackgroundColor ‘to suck on  setBackgroundColor in one’s mouth’  

discussed above (242321). Here, however, there is no unstressed final syllable and no Velar at the end. But there is one Velar that does not appear finally but yet must be postulated to reconstructing some forms, namely BackgroundColor. In the present case, the root syllable  setBackgroundColor of  setBackgroundColor,  setBackgroundColor and  setBackgroundColor may be derived from original  setBackgroundColor. Application of the rules of full reduplication as in the examples above given
full redupl. & stress: $\text{sim}^n$ $\text{sim}^n\text{m}$
glide vocalization: $\text{sim}^m$ $\text{sim}^m\text{h}$
vowel deletion: " $\text{sim}^m\text{n}$
final b deletion: " $\text{sim}^m$

It is probable then that $\text{sim}^n$ was originally the singular form, $\text{sim}^m\text{n}$ the plural form, and that in so many cases, phonological rules have so changed the shape of the plural form that it is no longer recognizable as such, and has taken over the singular role as well.

269. $\text{sk}^m$+$\text{i}^n$w 'one's child; child'; $\text{sk}^m$ $\text{iv}^f$ 'one's children; children'; $\text{sk}^m$+$\text{kw}$ 'puppies'; $\text{sk}^m$+$\text{ku}$ 'little' (proc.); $\text{sk}^m$+$\text{ik}^w$ 'woman's sister'; $\text{sk}^m$+$\text{i}$ 'to be small (inside)'.

The vowel alternation in these words is not found in any other singular/plural correspondence. Another unusual feature of the pair $\text{sk}^m$+$\text{i}^n$w/$\text{sk}^m$+$\text{iv}^f$ is that here a long vowel is associated with the singular, a short one with the plural. As we shall see though, these features are only incidental.

Both $\text{sk}^m$+$\text{i}^n$w and $\text{sk}^m$+$\text{iv}^f$ must be related to the unstressed form $\text{sk}^m$+$\text{ku}$ 'little'. The long preconsonantal vowel of $\text{sk}^m$+$\text{kw}$, found also in $\text{sk}^m$+$\text{ku}$ and $\text{sk}^m$+$\text{iv}^f$, corresponds to short final vowels in $\text{sk}^m$+$\text{ku}$ and $\text{sk}^m$+$\text{iv}^f$, points to a root ending in $\text{h}$. Similarly $\text{sk}^m$+$\text{kw}$ must be formed on $\text{sk}^m$+$\text{ku}$, and $\text{h}$ in the underlying form would explain the long vowel of $\text{sk}^m$+$\text{iv}^f$. We reconstruct then two forms, $\text{sk}^m$+$\text{ku}$ (hence $\text{sk}^m$+$\text{kw}$, $\text{sk}^m$+$\text{ku}$ and $\text{sk}^m$+$\text{i}$) and $\text{sk}^m$+$\text{iv}^f$ (hence $\text{sk}^m$+$\text{kw}$ and $\text{sk}^m$+$\text{iv}^f$).

There is some internal evidence for a relationship between $\text{f}$ and $\text{d}$ in Nisga, for instance $\text{kw}^m$+$\text{f}$ $\text{ku}^m$+$\text{d}$ 'five'. Can be traced to $\text{sk}^m$+$\text{kw}$+$\text{d}$+$\text{f}$+$\text{h}$. 'Leaving aside one's hand', and comparison with other members of the Tsimshianic family shows that there are cases of correspondence between $\text{f}$ in Nisga and $\text{d}$ in the other languages, for instance

<table>
<thead>
<tr>
<th>$\text{N}$</th>
<th>$\text{NV}^m$</th>
<th>$\text{G}$</th>
<th>$\text{K}^m$</th>
<th>$\text{h}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{pi}^m$+$\text{f}$</td>
<td>$\text{pi}^m$+$\text{f}$+$\text{d}$</td>
<td>$\text{pi}^m$+$\text{f}$+$\text{d}$+$\text{h}$</td>
<td>$\text{pi}^m$+$\text{f}$+$\text{d}$+$\text{h}$+$\text{h}$</td>
<td>'to eat sthg'</td>
</tr>
<tr>
<td>$\text{qal}^m$</td>
<td>$\text{qal}^m$+$\text{d}$</td>
<td>$\text{qal}^m$+$\text{d}$+$\text{h}$</td>
<td>'to drop sthg'</td>
<td></td>
</tr>
<tr>
<td>$\text{ti}^m$+$\text{d}$</td>
<td>$\text{ti}^m$+$\text{d}$+$\text{h}$</td>
<td>$\text{ti}^m$+$\text{d}$+$\text{h}$+$\text{h}$</td>
<td>$\text{ti}^m$+$\text{d}$+$\text{h}$+$\text{h}$+$\text{h}$</td>
<td>'the Nass River'</td>
</tr>
<tr>
<td>$\text{tis}^m$</td>
<td>$\text{ti}^m$+$\text{d}$+$\text{h}$</td>
<td>$\text{ti}^m$+$\text{d}$+$\text{h}$+$\text{h}$</td>
<td>$\text{ti}^m$+$\text{d}$+$\text{h}$+$\text{h}$+$\text{h}$</td>
<td>'to be alive' '07</td>
</tr>
</tbody>
</table>
It is probable that at least some *i* in Nigsha derive from *i* rather than the opposite. This is especially likely in N  kêf, G kdp. As we saw above for *k* sûr/k*ér*/*k*ér/*k*ér (24223), a sequence k*ú* always derives at some point (more or less repeated) from a sequence k*ú* + front vowel, thus k*ù*e. A series k*ù*e, k*ú* p, k*ú* ( = k*ú*p) seems reasonable. A similar series must account for k*ù* if, from k*ù*wêh: thus k*ù*wêh, k*ù*nh, k*ù*fn, k*ù*f.

In the proclitic k*ú*, which is always unstressed, the change *i* > *e* which seems restricted to short another word and therefore cannot occur finally, so that the final *h* of  k*ù*wêh would always have been phonem- antal here as well as in k*ú*-k*w, k*ú*-w and k*ú*-l, and result in a long vowel, which was probably shortened in pre-stress position. Thus we can reconstruct the derivations of k*ú* and k*ù* if:

\[
\begin{align*}
\text{k*ù*wêh} & \rightarrow \text{k*ù*nh} \\
\text{k*ù*nh} & \rightarrow \text{k*ù*fn} \\
\text{glide vocalization} & \rightarrow \text{k*ù* nh} \\
\text{â} & \rightarrow \text{k*ù* fn} \\
\text{final h deletion} & \rightarrow \text{k*ú*} \\
\end{align*}
\]

The word k*ú*-wâ 'litter of puppies' should probably be analyzed as k*ù*w*ên*-7s (-7s antipassive suffix, here with nominal meaning), literally 'a bearing of young', with stages k*ù*w*ên*-7s, k*ú*-7s, k*ú*-7s, k*ú*-7s, k*ú*-7s, k*ú*-7s (the last stage by a rule *u* > w, a form of glottal absorption). Here as in k*û* if, the root k*ù*wêh refers to a plural, not a singular. The meaning is 'to bear young/children; young/children'. Among these words referring to the bearing of offspring, the only singu- lar is the suffixed form  k*ú*-k*w. The suffix -k*w has the meaning 'temporarily, from time to time, at intervals'. The original meaning of k*ù*-ôr*k*w then is 'to bear children at intervals', that is, one at a time, hence the singular meaning 'to bear one child'. In a household, the con- trast was between women, who bore children one at a time, and dogs, the only domestic animal, who bore many young at once, hence the specialization of the words  k*ú*-ôr*k*w and  k*ú*-ôr*k*w.

The meaning 'small, little' evidenced in the singular k*ú* (which has q suppletive plural k*ó*pa) is therefore a derived one. The word k*ú*-li 'to be small (inside)' is formed on the intermediate form k*û*nh rather than the underlying root k*ù*wêh. The meaning differentiation k*ù*nh 'small' versus k*û*nh 'children' must have occurred after the vowel *k*û*nh *i* > *e* (The suffix at the end of k*û*-l is the complete suffix -l).
3. Historical Interpretation

31. Evolution of the Nisga language. The categories of plural formation described above must belong to three distinct stages of evolution of the language. There can be called:

- Stage I: Early
- Stage II: Classical
- Stage III: Modern

Stage I: Early: Plural built on the root: Words are formed of roots of the shape CV'C, including CV'H, with vowels a, e, or o. A consonantal prefix or suffix or both may be added to the root, but does not affect it phonologically. There are two methods of plural formation: full reduplication and prefixation with lY-, probably with a semantic difference, although prefixation seems to be the preferred method for roots CV'. Stress is on the initial (or perhaps the penultimate) syllable.

Towards the end of the period, full reduplication of roots ending with Velars causes these consonants to be in preconsonantal position, leading to their eventual disappearance: instead, long vowels occur, and there are plurals of the shape CV'C(VX), KX and KX'. Long vowels also result from intervocalic Velar weakening, causing prefix lengthening and shapes CV'C'. Vowel shifts occur, moving short and long vowels in opposite directions, higher or lower. As a result of these changes, many plurals and singualrs are no longer transparently related to each other, some have drifted apart semantically, and the stage is set for morphological reformation.

Stage II: Classical: Plural built on the stem: This is the stage represented by the most regular of the categories described above, which accounts for the majority of forms.

As a result of Velar weakening in the previous period, there are numerous stems with long vowels as well as some ending in short vowels. The two methods of full reduplication and prefixation with lY- are still the main ones, but as a result of gross-shift to the second or last syllable, many plurals with only one syllable are no longer felt to be appropriate forms. To this period belong the numerous plenevocalic reformation with the shapes lYlVC', lYlVC'-C'VH and YlVC'-C'VH, as well as the generalization of the use of lY- before stems with Velar prefixes.
As a result of the stress shift, which minimizes or deletes the first vowel, and the loss of syllabic identity of consonantal prefixes and suffixes, which become fused with the root, there is some doubt as to which of the consonants of a 'root' beginning or ending in clusters are to be reduplicated, giving rise to several formulas, for instance s\textsc{v}c+ s\textsc{v}s\textsc{v}c instead of s\textsc{v}c\textsc{v}. The rules of vowel insertion and deletion which regulate the formation of clusters probably contribute to the new morphological formations. Preconsonantal velar weakening still occurs in the reduplicated syllable, now unstressed, causing preconsonantal fricativization.

New forms of pluralization are also used:
- prefixation with \textsc{t}: 'all';
- partial reduplication, normally characteristic of the imperfective aspect.

Stage III: Modern: Plural built on the whole word: This period again extends the reduplication formula to more and more non-canonical forms until a new type is evolved. This new extension of the reduplicative method prefixes a reduplicated syllable no longer to roots or even stems, but to the whole word, even including some proclitics. The syllable \textsc{c}x- normally the reduplication of roots ending in front Velars, is extended to roots containing various non-back consonants, as well as to roots, stems and words starting with such consonants. Eventually the prefix \textsc{c}x- comes to have independent existence as \textsc{hi}-. Where previous rules made the quality of the prefix vowel dependent on the surrounding consonants, the \textsc{t} associated with \textsc{v} causes a back Velar to reduplicate as a front Velar.

This new pattern of plural formation gives rise to numerous reformations, as all words, including non-native borrowings, can be fitted into the new pattern. The diversity of surface correspondences now available being somewhat confusing, several words have concurrent plurals built on different principles, with the simpler \textsc{c}x-plural gaining ground.

Prefixation also holds its own, this time with the extension to the plural of the distributive or abstract prefix \textsc{ta}.

Thus, the present chaotic situation with many classes and a large number of irregular forms is the result of a series of historical circumstances, with the clearly defined morphological formations of one period being gradually eroded by phonological change, with subsequent reinterpretation and new morphological rules, again to be disguised by phonological change. But the same tendencies recur throughout the various periods: prefixation and reduplication are again and again used, and Velar weakening keeps happening, under slightly different forms. In this respect the history of Ningha plural formation does not differ from the history of any other language.
32. Importance of this study and avenues for further research. Only brief indications can be given here.

321. Internal reconstruction: The study of the most regular alternations has provided the basis for analyzing superficially more irregular forms and reconstructing their regular origins, and for discovering possible singular/plural relationships in some cases between forms that at first sight seemed unrelated either morphologically or semantically, or both. This was done through the application of the rules established through the study of incontrovertibly related stems. It will now be possible to apply the rules discovered by these methods to other forms of the language, in order to reconstruct earlier stages in the development of the Nisga language. For instance, the $\text{ደ} \text{ቀ}/\text{ቱ} \text{ቱ}$ alternation found in

\[ n\text{ Rockets} \quad \text{፨\text{nik}\text{skw}} \quad \text{'spouse; to be married'} \]

\[ s\text{ Rockets} \quad \text{፨\text{yik}\text{kw}} \quad \text{'to stretch sthg'} \]

is also found in

\[ l\text{ Rockets} \quad \text{፨\text{rskkw}} \quad \text{'to forget sthg'} \]

\[ r\text{ Rockets} \quad \text{፨\text{frsk}} \quad \text{'to forget things, to be forgetful'} \]

and on the model of the reconstructions

\[ *n\text{ Rockets}\text{-s} \quad *n\text{ Rockets}\text{-rek}\text{-s} \]

we can also reconstruct

\[ *f\text{ Rockets} \quad *f\text{ Rockets}-\text{7skw} \quad \text{(-7skw antipassive)} \]

To mention only some general facts, the knowledge that the oldest reconstructible Nisga roots all have the shape (C)VGC, that long vowels in plurals always derive from a sequence involving a Volar, either preconsonantally or intervocally, and that most glottalized consonants (perhaps all) derive from a sequence C+?, can now be applied to a wider range of forms, if not with full confidence, at least with some degree of plausibility. As was shown especially in the section on conjectural plurals (26), the narrowing down of possibilities through knowledge of the likely rules actually opens up new perspectives and suggests otherwise undreamed-of relationships. 109

Detailed comparison with Gitksan can then establish with precision the areas of divergence between the two languages and perhaps the timing of these divergences (in terms of the stages sketched above), and lead to the reconstruction of Proto-Interior Tsimshian.

322. Comparison with Tsimshian (Coast and South): Even a very superficial look at Coast Tsimshian plural forms (Dunn 1980) shows that a large proportion of them have cognates in the Interior languages and that the basic methods of prefixation and reduplication are the same, as
one would expect from the pervasiveness and early origin of these methods, perhaps dating back to the protolanguage. But as in Gitksan, the same methods often do not apply to the same forms, and the results are sometimes quite different, as in

N honó 'woman' hó 'hand
sho-handó (partial reduplication
affecting the stem)
CT handó handú (full reduplication
affecting the root)

CT appears to have been historically quite innovative in comparison with the Interior languages, especially in the evolution of consonants, and there are many cases where CT words are opaque while Nisg̱a'a and Gitksan cognates are still transparently analyzable, as in

N dox̣ 'shoes', dox̣-q̣ 'shoes', G dox̣-q̣́ CT dox̣́ 'shoes'

so that reconstruction of the consonantal system of the protolanguage is best approached through analysis of the Interior languages.

On the other hand, CT has a substantially different and more complex vocalic system. A single Nisg̱a'a vowel often has different and unpredictable reflexes in CT, contrasting in similar environments, showing that besides vocalic evolution in CT there must have been phonological convergence in Nisg̱a'a (as in the shift ə̱̱ to ə̱̱ obscuring the earlier contrast between ə̱̱ and ə̱̱). The Interior languages then cannot be taken as representing an earlier stage in the development of the Tsimshianic family, although they give indistinguishable clues. All the languages, including what can still be gathered of the nearly extinct Southern Tsimshian (Doon 1976) will have to be taken into account. But the facts gathered about the Early stage reconstructed for Nisg̱a'a here (CVC root, three-vowel system) are likely to hold true in large part for the ancestor of CT and ST as well.

Detailed comparison of Nisg̱a'a and Gitksan with Coast and Southern Tsimshian then should establish a number of reliable correspondences for both vowels and consonants, and lay the basis for reconstructing Proto-Tsimshian (the ancestor of Coast and Southern Tsimshian), for establishing the place of Southern Tsimshian in the Tsimshianic family, and ultimately for the reconstruction of the Proto-Tsimshianic ancestor.

313. Areal and phylogenetic research: Finally, such reconstructions should provide a basis for comparison with other languages of the area and for establishing potential phylogenetic affiliation. In particular, it may be possible to come closer to providing a more definite answer to the question of the Penutian connection, first propounded by Samir (1921-23:59), which seems never to have been either substantiated or disproved (Silverstein 1977).
### APPENDIX I
Phonological sketch of Nisga'a

**Consonants:**

<table>
<thead>
<tr>
<th>Non-velars</th>
<th>Velars</th>
</tr>
</thead>
<tbody>
<tr>
<td>labials</td>
<td>dentals sibil- laterals</td>
</tr>
<tr>
<td>front</td>
<td>labio-front velars velars velars</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>glott. stops</th>
<th>affricates</th>
<th>plain stops</th>
<th>affricates</th>
<th>fricatives</th>
<th>Syllables</th>
<th>Glides</th>
</tr>
</thead>
<tbody>
<tr>
<td>[p]</td>
<td>[t]</td>
<td>[k]</td>
<td>[kʰ]</td>
<td>[s]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[kʰ]</td>
<td>[kʷ]</td>
<td>[x]</td>
<td>[xʷ]</td>
<td>[ʔ]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>plain resonants</th>
<th>glottalized resonants</th>
</tr>
</thead>
<tbody>
<tr>
<td>[m]</td>
<td>[mʰ]</td>
</tr>
<tr>
<td>[n]</td>
<td>[nʰ]</td>
</tr>
<tr>
<td>[l]</td>
<td>[lʰ]</td>
</tr>
<tr>
<td>[y]</td>
<td>[yʰ]</td>
</tr>
<tr>
<td>[w]</td>
<td>[wʰ]</td>
</tr>
<tr>
<td>[h]</td>
<td>[hʰ]</td>
</tr>
</tbody>
</table>

**Remarks:**
- Non-glottalized stops and affricates are voiceless before vowels, voiceless before consonants and finally. In addition, intervocalic [ʔ] is usually a voiced fricative [y].
- Palatal [kʰ] and plain [k] (glottalized or not) contrast only before [u].
- There is normally a short voiceless copy vowel after [ʔ] in final position.

- The following abbreviations are used in the text:
  - C: any consonant
  - C': any glottalized consonant
  - CS: C, C', C + s
  - K: any Velar
  - X: any Velar fricative
  - CV: any element in the front Velar column
  - CV': " " " " labiovelar " "
  - C': " " " " back Velar " "
  - P: any resonant
  - X: any glottalized resonant
- The glides ʊ and ɔ sometimes function as ɔ, sometimes not. The abbreviation ɔ includes them unless the text mentions otherwise.

Vowels:  

Long: [œ]  

Short: stressed:  

\[
\begin{array}{c|c|c|c}
\text{í} & \text{e} & \text{e} & \text{e} \\
\text{æ} & \text{æ} & \text{æ} & \text{æ} \\
\text{æ} & \text{æ} & \text{æ} & \text{æ} \\
\end{array}
\]

Unstressed:  

\[
\begin{array}{c|c|c|c}
\text{i} & \text{u} & \text{u} & \text{u} \\
\text{æ} & \text{æ} & \text{æ} & \text{æ} \\
\text{æ} & \text{æ} & \text{æ} & \text{æ} \\
\end{array}
\]

[ø] varies considerably inside a triangle formed by [i], [o] and [ø]. Younger speakers tend towards the [i] pole more than older speakers, who tend to have a more central vowel.

Note: As there are very few cases of contrast between í and ʊ, ɛ and æ, and as the quality of unstressed vowels is largely predictable from the consonantal environment (though not always), one could make a case for a vocalic system with only three short stressed vowels ʊ, ɛ and ɛ and one unstressed vowel ə with predictable allophones, a system which must be postulated for an earlier stage of the language. But the system of five short stressed vowels and four unstressed ones adopted here is closer to native speakers' perceptions and allows for simpler distributional statements in the present state of the language.

Remark on consonant-vowel interaction: The unstressed sequence wi, usually in ʊwi, is in free variation with w in the speech of many persons, w being the more rapid, colloquial pronunciation, wi the more deliberate pronunciation.

APPENDIX II
Suppletive stems

(Some of the individual stems have other meanings for which they are paired with regular stems. Stems mentioned in the text are marked with T).

<table>
<thead>
<tr>
<th>Stem</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ʊwi</td>
<td>to run</td>
</tr>
<tr>
<td>ʊwi</td>
<td>to leave</td>
</tr>
<tr>
<td>ʊwi</td>
<td>to sit, to exist</td>
</tr>
</tbody>
</table>
'to be placed, seated'
'to place, sit
'to plant things'
'to kill, slay
'to be small, little'
'man, boy'
'to take sthg'
'to go out'
'to flee, escape'
'to cause s. to flee'
'(object) to fit, be (somewhere)'
'to throw sthg in a fire'
'to put sthg away'
'to ride (in a boat or vehicle)'
'to give a ride to sthg'
'to wash sthg in a tub'
'to grow'
'to cause sthg to grow'
'to raise sthg'
'toon-agor'
'to die, be dead'
'to go, walk'
'to hold, carry sthg'
'to go up a slope'
'to hang sthg'
'to be hanging'
'to cry'
'to be back, come from somewhere'
'to stand'
'to stand sthg up'
'little'

* These plural stems may also contain the prefix to- *all* like  tst-saw analyzed in 2421.
** These stems seem to be based on the root k*rf*/*k*ff *man, person* although the prefixes are a puzzle.
1 The Nisg̱a’a (n̓ı́sq̱á7 [nisqátə]) language is spoken by the Nisg̱a’a, who live in the Nass Valley of British Columbia. It is the ‘Nass River dialect’ of Boas 1902 and 1911. Nisg̱a’a and the closely related Gitksan have been referred to together as Nass-Gitksan by Rigby and Dunn. Here the term Interior Tsimshian is used instead. Together with Coast Tsimshian and Southern Tsimshian these languages form the Tsimshianic family.

The data presented here represent the speech of New Aiyahsh, present home of the Gitlahaniks (Gitlahanniks) band. They were collected during the course of my employment with the Nisg̱a’a Bilingual/Bicultural Centre of B.C. School District no. 92 (Nisg̱a’a) in 1977-80 and again in the summer of 1982, during which times I resided on the reserve at New Aiyahsh.

Among the numerous Nisg̱a’a speakers who helped me learn their language over the years, I am especially indebted to Mrs. Rita Morven, Mrs. Rose Robinson and Mrs. Verna Williams, who were my first teachers of Nisg̱a’a, and whose patience and friendliness never failed; to the Rev. Robert McMillan, a hereditary chief of the Wolf tribe and priest of St. Peter’s Anglican Church, New Aiyahsh, as well as to Mr. Harold Wright, a hereditary chief of the Eagle tribe and Cultural Researcher for the Gitlahaniks band. Mr. Bert McKay, the hereditary chief of the Frog/ Raven tribe and co-ordinator of the Bilingual/Bicultural Centre, arranged for me to have access to these and other resource persons.

Bruce Rigby shared with me his notes on the language, obtained mostly from Rev. McMillan, and provided all of the Gitkan data mentioned here. He also read an earlier version of this paper.

The classifications and reconstructions mentioned here are my own, own, and I alone am responsible for any errors.

2 eg. Rigby 1975 has called the language a ‘logician’s dream’. This statement, found in a discussion of syntax, applies to a large portion of the morphology as well. Nisg̱a’a recalls German in its facility for derivation and compounding.

3 Basic phonological information is given in Appendix I.

4 cf. Boas: “The multiplicity of the method used for forcing the plural is one of the striking characteristics of the Tsimshian language” (1911:297-8).

5 The terms ‘noun’ and ‘verb’ are used here for convenience, but the distinction between them is rather loose, as both may be used as sentence predicates. Morphologically there is no difference at the root level, but in some cases different plurals are used for nominal and verbal meanings, as in ?ƛ̓aɑ̨̄ Noun ‘water, stream’ pl. ?ƛ̓ax?ƛ̓aɑ̨̄ ‘streams’
Verb 'to drink' pl. "ařaćus

6 This means that the syntactic structure is ergative, cf. Rätty 1975, Tarpent 1982. Examples:

Transitive sentence:
sikvi't kawłi't fpin
   'I tried to shoot a seallion'
sikvi' kuxwɔarkwi' fpin
   'I tried to shoot several
d  seallions'

sikvi' (proclitic) 'trying to'
kokw 'to shoot inbg singlist'
kuxwɔarkw ' inbg plural'
-w ergative suffix
-y IS
-t non-determinate syntactic connective
fpin 'seallion'

Intransitive sentence:

fpin fi pqskw qawlt fpin qawlt 'The seallion dived down and escaped'
fpin fi pqskw qawlt fpin qawlt 'The seallions dived down and escaped'

fpin (proclitic) 'straight down'
skapw 'to dive (sg)'
skapw qskw ' inbg (pl)
-qawlt 'and' (subordinator)
kawlt 'to escape (sg)'
qawlt ' to escape (sg)
-w ergative suffix
-t inbg plural
-t IS

7 The distinction between plural and singular stem, especially in the reduplative stems, usually refers to the number of actions rather than the number of persons, as it

cf. qskw 'fifi-t
   'They tied up for the night
   (in one boat)'
qskw 'fifi-t
   'Itd. (in more than one boat)'

In spite of the importance of the singular/plural distinctions, there are many invariable stems, although the most common verbs all have two stems. It is also interesting to note that in actual usage singular stems are often used even when the meaning is plural, provided that the plural meaning is clear from other sources, for instance a plural pronominal ending, or the context. This is especially the case if the verb stem is preceded by proclitics, making the word a very long one. However, such usage is frowned upon by purists.

8 This classification is my own and is based on superficial
The word root here refers to the stem stripped of productive affixes. In later discussion, some roots according to this definition are further analyzed; forms which cannot be analyzed any further are then referred to as 'underlying roots' and marked with *. 

9 v is a vowel predictable from the consonantal environment, as explained below.

10 See list in Appendix II.

11 See note 8.

12 While this list is probably not exhaustive, it includes all the relevant examples I have collected in almost six years of study. This is true of all the lists given here, except those forming their plurals in -ó and -hix-, which are too numerous to mention.

13 Forms marked with a following * have singular meaning as well.

14 -(?)*w (=s after K) has many meanings, among which are Passive and Reflexive. -* forms Passive of state; thus pšíškšiššíšíš, root pšíš 'to rise' probably means 'to raise oneself', hence 'to climb', and other forms in this section probably have similar origins. It is not clear at this point why words beginning in -ṣ-, a prefix of undetermined meaning, should also form their plural with final -t.

15 Distributive plural: used mostly when referring to parts of the body, personal belongings and relatives of more than one person, e.g. yóšikašiš ṭimíššíš *they washed their hair* (lit. her head) yóšikašiš ṭimíššíš *they washed their hair* (pl. vóšikaš ṭimíššíš 'to wash sth'; ṭimíššíš 'head' (qfs 'hair'); -ṭ- ERG; -ṭ 3p. -ṭ- pl. + ERG; -ṭ undetermined syntactic connective).

Abstractions: The concept of abstraction is related to that of plurality: 'all instances of the concept' ----. The prefix qa- in conjunction with the suffix -v- forms abstractions from suitable words:

yóššíš 'to be long' qa-góššíš 'the length of the day' yóšíš 'leaf' qa-góšshíš 'the foliage of the tree' kóšshíš 'upstream' qakóšshíš 'upstream from Aiyamh' (a =v definite particle).

16 Note that this prefix is also of the form Cv- like the plural prefix ky-; but the vowel is always ə, according to the vowel specification rule after back consonant.

17 Aspectsal reduplication affects the first consonant of the word, including all affixes, unlike plural reduplication which affects the root (at least in its regular form). This allows for a combination of aspect with number, as in:

fípsó-néw* fípsóqáqáqíš 'to dive down'
18 Note that in the case of words beginning with $i$ is impossible to say for sure whether partial reduplication or $iy-$ prefixation is involved. Perhaps the fact that most of these words begin with the prefix $\text{ʔa}-$ led to an extension of the $iy-$ prefix to other words with the same prefix. To add to the confusion, many forms ending in $i$ have alternate pronunciations in $\text{ʔa}$, as in $\text{ʔans}(i)$, $\text{ʔalaw}(i)$. The form $\text{ʔaɪl}n$ is an alternate plural of $\text{ʔai}n$, besides $\text{ʔaɪl}n$.

19 The form $\text{siɪp}$ is more colloquial, $\text{basip}$ is considered more correct.

20 Examples with aspectual reduplication:

\begin{align*}
v\text{ɪp} & \quad \text{'to go, walk'} & v\text{ɪp} & \quad \text{'to be going, walking'} \\
v\text{ɪn} & \quad \text{'to sit (pl)'} & v\text{ɪn} & \quad \text{'to be sitting'} \\
v\text{ɪc} & \quad \text{'to bite sth'} & v\text{ɪc} & \quad \text{'to be biting sth'} \\
\text{ɪc} & \quad \text{'to fry sth'} & \text{ɪc} & \quad \text{'to be frying sth'}
\end{align*}

21 $\text{ɪh}^\text{w}$ (here) possessive

22 I have no explanation of why $\text{ɪd}$ and $\text{ɪd}ɪ$ which seem to be the active and passive forms of the same verb should differ in the glottalization of the first consonant. (All consultants are consistent on this point).

23 provided that $\text{C}_2$ is a true consonant, not a glide, in which case it is ignored, as in $\text{sič/sinsɨn}$ 'to blow sth'.

24 It may be significant that all the examples collected begin with labial, $\text{m}$ or $\text{x}$. There are no other consonants involved (except for a later example, $\text{gall/callɪx}/\text{ɪf}$ 'to drop sth'), where the $\text{i}$ is not original but derives from a sequence $\text{i}+\text{i}$. (cf. Gitksan call70). It may also be significant that Nisga'a and Gitksan $\text{m}$ normally corresponds to Coast, $\text{patsim}n$ in $\text{m}$. $\text{m}$Buff, etc., $\text{m}$ pair 'of pants'. The sound $\text{m}$ is very rare in the Interior languages except in derivation, and may be a borrowing from CT. Interior $\text{m}$ may be the reflex of original $\text{m}$ preserved in CT.

25 The $\text{i}$ does not belong to the root morphologically, but only phonologically as it completes a shape CVC. Most transitive verbs can take the strong or definite transitive suffix $-\text{ɪ}$ indicating full agent control, before the ergative and personal suffixes. With a vowel-final root such as $\text{m}$, the resulting morphological structure is the same as if the root had $\text{i}$ as $\text{C}_2$. (In this case, $\text{m}$ alone cannot take this suffix), but it does when preceded by a proclitic, as in $\text{m}\text{ɪ}l\text{ɪ}n$ 'to most sth'.

26 eg. it does not affect $\text{y}nal/\text{yn}l\text{m}$ 'to sniff sth'. Note that
when results from glide reduction, the unstressed vowel is i not ə, showing that the vowel specification rule applies before glide reduction.

27 For ə in this word, see 222222.a.

28 Mass nouns agree with plural verbs.

29 This form appears to be built in the opposite way to plurals formed by partial reduplication, since it has plural form but imperfective meaning.

30 Reformation on original ənən, see 232212.

31 I transcribe this form phonologically. Mass does not indicate glottalized resonants.

32 In most (perhaps all) cases this affricate must be considered as derived either from ʃ + ə or from ʃ + oʃ, for instance ʃət, ʃiʃət. ʃətik (see note 96). ʃəḻkəw, ʃəḻkən (ʃəḻkən 'fish-slime' cf. ʃəḻkw 'to be smooth, slippery') 'to slip and fall'.

33 h often drops after a fricative.

34 regularized plural, besides older lɪpəḻkə (242222).

35 These forms are frequently used in composition and the singular form (originally a plural, 2324) applies to one group or mass, the plural form to several.

36 regularized plural, besides lɪmətkə (2211).

37 It is not clear why this word should have i not ə in the reduplicating syllable.

38 This word seems to be of non-Tsimshianic origin. A similar form exists in several other Northwest languages.

39 besides older lɪsəkw, sometimes pronounced lɪskə (242222).

40 Although this word is apparently of Chinook Jargon origin, it has the reduplicative shape typical of a number of animal names.

41 See note 21.

42 probably from ʃɪp-kʷənkw, lit. 'to move straight down'.

43 The form ən is not used by itself, but is found in composition, as in hayəḻkəsʔənkw 'soap', x̣əpən'ti' 'ten fathoms' (ba- 'used
for'; yoč 'to wash aţhæ'; -šk reflexive; xó- 'ten'; -ti- PL).

44 The partially reduplicated from tifis is now used for the singular.

45 The fact that in the surface form the reduplication rule skips over the š to reduplicate the š, and also the fact that the vowels are back ones, may give rise to reinterpretation and to a new surface formula where š is used as an infix associated with some broad phonological characteristics of the entire original syllable (cf. classification on C1X-plurals in next section). In Nisgha examples of this type are too few to be treated as more than exceptions to the general rule, but Coast Tsimshian has a class of C1X -plurals as well as one of C1X-plurals, both with rather loose phonological characteristics (Hum 1980).

46 perhaps by an extension of the rule CNCS > CNCS(C122223.a) which also skips over the step to reduplicate the fricative.

47 In š{/łə}/šxw-š{łə}šx 'to slurp', one would expect šxśxśxś by this rule, but in both ſxw-š{łə}šxw and ſxw-š{łə}šx the reduplicating syllable may reflect an earlier labiovelar in the root.

48 The ʃ, being of English origin, is not voiced in this word.

49 cf. note 96.

50 ʃ, ʃ / C - ʃ; ʃšxśxśxś 'extreme'; šśxw 'underside'; -šxśx antipassive).

51 Oolichans have special significance among the Nisghas since they are the first food fish to appear in the spring, and come up the Nass River in amazing numbers. In the old days their appearance, in even larger numbers, signalled the end of winter deprivation and sometimes near-starvation, and the beginning of abundance. The Nass River is claimed to have the largest and best oolichan run in the area, and the Nisghas used to control a brisk trade in oolichan products. Stringing oolichans for drying must have been one of the earliest methods of preserving them. Thus at a certain time of year, to eat at all was to eat oolichans, and 'all' could eat and be fed, such was the abundance of the run. Note that the suffix -šx must have many meanings, including a possessive one. Thus if the derivation proposed here is correct, š{łə}-x-šx means literally either 'having oolichans' or 'one's own oolichan string'. For instance, ḥa, yoč-x-šx in which now means 'here, eat' could have meant 'here in your oolichan string'.

52 Note that x + ? , y, xw + ? , w (222222.0,b) are also instances of this rule.

53 This rule also inserts y between a word-final vowel and a
suffix beginning with a vowel, e.g. kwili 'blanket'. kwili + -vs assertive, kwiliys 'it is a blanket'.

54 but it is likely that some instances of o derive from ou or ow, e.g. in Boas 1902, the clan name 'Gispawadwida', present K'ispō-twito with o', ow or ow.

55 nikl negative particle; ni is ergative pronoun; li emphatic particle; klih 'to see sth or abide'; a echo vowel after l or l. 3.

56 Note that stops are automatically voiced between vowels, thus this rule applies to a voiced stop, which is more likely to drop than a voiceless one.

57 liti or liti is obsolescent, and litl has a regularized plural cnsftslk.

58 There is also a regularized plural K'ipkylpks.

59 Older speakers tend to use the longer vowel, younger ones the shorter vowel.

60 og. kyd 'downstream' (location)
     kyv 'at the shoreline' (location)
     kyv'nix 'upstream' (location) (cf. CT ny'n)
    7usnkyv 'duck species'
     slyyv 'one (animal)'
     Kyv 'to flee, escape (sg.)'
     kyv-lon 'to cause sth to flee'

cf. discussion of xklvk'ky in 232312.

61 Le? is used in composition in salki? 'to get undressed', see note 96.

62 Alternately, if lsv (see rule 56, 4 below 243221h) the plural is lsflyt, with no vowel deletion in the consonantal environment.

63 Kyvks is used in the upper Nass villages (Aiyannah, Greenville, Canyon City), as in Gitksan, kyvks in Kincolith, at the mouth of the Nass. Boas did his field work in Kincolith, which was then the most accessible of the Nisga'a villages (from Prince Rupert by boat). My own data reflect the speech of Aiyannah, the furthest upstream, and now the most accessible, by road. I did not notice any significant differences between Aiyannah and the other upper villages, but the speech of some persons in Kincolith does have some features of its own, reflecting its mixed population (as a recently founded Christian village it originally welcomed converts from various origins) as well as Coast Tsimsian
influence.

64 This is composed of two suffixes, -₅ and -₇w. The word is related to k₇w "to jump"; the common meaning is probably 'to give a start, to make a sudden and powerful motion'. The suffix -₅ is an allomorph of the more general suffix -(t)₅₉w, used after Velars.

65 See Appendix 1, cf. also N (ʔa)kā 'what'. Gitksan kā, k̲w.

66 All these words appear to be bimorphic: e.g. hām̲ =wx 'woman' is thought to be related to h̲ām̲ 'dress'; this is confirmed by the corresponding CT forms hām̲wx/ hamã-n̂ox (Dunn 1980; cf. N ʷãm̲w/ ʷãm̲n̂ox).

67 The Gitksan cognate pil̲̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣̣...
79 eg. ɛstaksm 'hail', inxiša '(snow) to fall'.
80 hwa- 'used for'; ĥi- 'down on'; t̂ö̂ 'to take things'.
81 gan- 'means of'; t̂ö̂ 'to start sth in its way' (evidenced in t̂ö̂skiw 'to guide abdy', t̂ö̂skiškiw 'to conduct a band, beat time', t̂ö̂skiškiw 'to lead prayers').
82 Note that if the rules of Velar weakening applied again here, the eventual result would be 7̂l̂x̂m, which actually occurs as a variant of 7̂l̂x̂ŵm, which is considered more correct. See 2512 for a form 7̂l̂x̂ŵ postulated as the plural of 7̂l̂x̂w.
83 Other alternations of 5̂ and 5̂, such as 5̂më/5̂-70ë 'to pull sth that's attached at one end', 5̂sū 'cedar rope', vs. 5̂-qti 'to drag sth' show that at least some present-day occurrences of 5̂ before back Velar are traceable to original 9 (there are very few occurrences of a sequence 5̂x). The long 5̂ in 5̂-qti is preserved (instead of going to 5̂) because of the following back Velar.
84 This suffix is apparently still used in Gitksan for 3P.
85 The 2S form is also irregular: miŷ̂̂̂̂̂n̂ instead of expected mi ŷ6. -n̂ is normally the causative suffix. These quotative forms are the only ones in which the ergative clitic pronoun is morphologically fused with the verb stem. Perhaps for this reason, some older persons (and the Boas tales, 1902) treat these forms as intransitive and add the independent pronouns normally used in independent intransitive clauses, thus

... ni ŷ6 5̂r̂̂̂̂̂̂ŷ ... 'I said!'
... 5̂r̂̂̂̂̂̂ŷ t̂a 5̂m̂̂̂̂̂̂t̂ ... 'we said'

Perhaps the irregular form miŷ̂̂̂̂̂n̂ is a contraction of 5̂mi ŷ6 5̂r̂. These forms may not be so much phonologically irregular as syntactically irregular.
86 protected from the vowel shift 5̂ > 5̂ by the following 4, which here functions as a C (C < C + T).
87 cf. also 5̂ñ̂m̂ls 'pillowcase' (5̂ñ̂m̂ls cf. 5̂ñ̂š̂km̂, 243234). The new word 5̂ñ̂š̂km̂ 'diapers' has been reformed on 5̂ñ̂t̂a, with the sequence 5̂ñ̂t̂ taken as the root to which is affixed the suffix -š̂kiw indicating temporary and predictable duration. The meaning is still 'temporary covers', like that of 5̂ñ̂š̂kiw.
88 a. There is no contrast between 5̂ and y next to a Ą.
89 b. Both the singular 5̂ and the plural 5̂ are found in the words for 'naked':
čakšítkw 'to be naked' (čax = š, -tkw reflexive or passive)
š-šám tk 'to be completely naked' (š-š 'both ways, back and forth',
perhaps here 'front and back'; -š passive of state').
The meaning 'naked' seems to clash with that of 'cover, protection'
but it is possible that these words originally meant 'covered with paint'
that is, covered from the original native point of view, but naked from
the missionary's. (cf. note 96, where ša-šameleon probably
meant 'to remove body paint').

89 Also in hās, found in the expression šaštkim hāfis 'there
is a light breeze' (šaš 'to be small'; -š attributive; šiš 'air').
The word hāf must derive from hīf or hśf; the -f suffix must have been
added after f deletion. Note the impersonal meaning of the suffix here,
cf. discussion of -la/-ll in next section).

90 at least for animates. For inanimate plurals and mass nouns,
including sometimes groups of people, -l alone is used.

91a. Person/function and number are also separate in the second
person, as in
kvič mi ci (sin) kšštkw = t 'Don't touch him/her/it!'
don't ZERG POT - PL of touch 3
ENTIAZERG
The clitic sin is used only as the plural marker for the ZERG clitic
pronoun m (mu) and can be separated from it and from the verb by other
particles such as ci (cv) above. Note that sin is always preverbal,
the plural marker -ll potverbal.

b. The bimorphic nature of the sequence -ll has become
obscured by reinterpretation as a single plural morpheme, hence
constructions such as
...t čšp - tič - n wšp '... they made a house'
ZERG make CONN house
where -ll has replaced -ll as the plural morpheme coreferent with the
ZERG clitic, making the 3PL construction an exception to the mutual ex-
clusiveness of clitic and suffix pronouns in the same role in the same
environment.

c. Recognizing -ll as bimorphic in origin also solves a
mutter morphological problem. In transitive verbs in independent clauses,
an ergative or transitive infix consisting of a single vowel is used
between the verb stem and the personal ending, in all forms except the
third person plural as in (y is inserted between a vowel-final verb stem
and this infix, cf. note 53):
cšp - l - y 'I made it' kvičšp - yl - y 'I waited for h.'
cšp - l - n you 'you' kvičšp - yl - n 'you' 'you'
cšp - l - š k/he 'k/he' kvičšp - yl - š 'k/he' 'k/he'
cšp - l - šš y 'you' kvičšp - yl - šš 'you' 'you'
cdp - ti:t 'they made it' kvipə - ti:t 'they waited for h.' yielding a third person plural form identical to that used in dependent clauses, where the infix is not used (g. for third person, sg. .:t cdp-t, .:t kvipə-t; pl.:t cdp-li:t, .:t kvipə-li:t).

This seems to be another overt peculiarity of the third person plural, and there seems to be no reason why there should be no infix with this person only; but if we decompose the superficially nonmonomorphic plural suffix -ti:t into the plural marker, originally -a-táh and the third person suffix -t, there is no reason why these two morphemes cannot be separated by a third, namely the vocalic infix, thus on the model of the dependent clause constructions:

sg: .:t cdp - t
pl: .:t cdp - a-táh - t

we reconstruct for the independent clause:

cdp - v - t

cdp - a-táh - v - t

hence the surface forms: sg. cdp:t, pl. cdp:t:t (the undifferentiated vowel in unstressed position has been specified in cdp:t but lost in a-cdp-tóh-v-t, cdp-tóh , cdp:t , cdp:t:t, cdp:t:t).

92 See also note 89.

93 As a result, there is sometimes ambiguity as to whether -ti:t refers to a plurality of agents or of objects: in .:t cdp:t:t '..they made it', there is no ambiguity because the plain stem cdp must refer to a single object (compare .:t cip cdp 'he made them') but kvipə 'to wait for sbey' has no separate plural stem, so that .:t kvipə:t:t may mean 'they waited for h.' as well as 'he waited for them'. In this case, the interpretation is likely to be that -ti:t refers to a plurality of objects. If a plurality of agents is meant, an independent pronoun is used for the object: .:t kvipə:t:t n'í:t;

94 Boss actually gives 1f i:lu:x. The form 1f li:x may be influenced by other words with two long vowels, at least one of them l, as in laskámi:n'-dá 'to feel cold', kwi'n'-skw 'to bend over'.

95 The plural meaning of chtâ word has been completely forgotten and it is thought to mean 'on the eagle' (la:k 'on'). This etymology has caused the formation of another clan name, laskákipə', lit. 'on the wolf (kvi:pə). This clan appears on historical evidence to be of fairly recent origin, and the linguistic evidence of the name confirms this. Another clan name, qa:náta, of Tlingit origin, is sometimes referred to as la:qama by analogy.

96 probably from the two suffixes a-táh (later -á) + -(ʔ)ã? detransitivizer, thus a-táh? + -ʔã? -a-táh? -ã? (ã does not become l before a t). Examples:

spqatöʔ 'curtain' ʔ pū 'to spread sthg flat'
(see 'in the way, forming an obstacle'

'bird')

'house' (wip) o binding'

'embroidery'

(originally with porcupine quills)

'shed' 'to apply, smear on a

'sp.' 'prob. orig. 'to

'substance, eg. body paint'

'to remove one's body paint')

'put patches on'

'cf.  to patch sth'

'similarly probably'

'blood, to bleed'

The suffix -a by itself is found in mūd 'bile', probably from mūd 'to burn'.

97 eg. for l:n: sili (proclitic) 'together with', s[fr]kxi 'to ride

(pl) in a boat or vehicle', sfrg 'to be crowded together'; cfn 'to enter'

'cilim (proclitic) 'entering' (-m attributive).

98 cf. Pr. entenedre 'to hear', Sp. entender 'to understand',

both from Latin intendeere.

99 The rule of glottal absorption which operates between a root

or stem and a bound morpheme, as in hif + -m , hifm, does not apply

across word boundaries in compounds. Instead, the initial - of

the second word drops. Thus mōh-γäs , mōks , mōk , mōks , mōks , mōk

ow-hif-γmks , lfmks , lfmks , lfmks

100  'one'; γά , γά ..., γά alternate form of γά 'man, person'.

101. It may have to do with 'acting on, or for the benefit of,

someone else'.

102 In other derivations we saw that glide vocalization applied

only to the preconsonantal position, not the final position, where Ε

drops. There may have been contamination from such forms as na-ει and

na-ει (if they are indeed related) and also the plural form -εινος.

(Also, this verb being transitive, does not occur without a final suffix,

so that the syllable mō would never be in absolute final position; but

this reasoning applies just as well to other forms which do not have a

long vowel, and therefore seems dubious).

103 I do not know of any other examples of this alternation in

Mngkha but it is fairly common in other languages, eg. Eng. bow, German

Bowen; Sp. una, Ptg. uma; Lat. -um, Gr. -om.

104 probably related to homām 'joints', root wōm 'to join, be

joined', and  'skull' respectively.

105 We would expect that left unprefixed, the root wōm would
become *uf'm or *uf'm. The word *fn/yin/y in exists, with the meaning 'to
sniff, smell ***u'ng'. The sequence *n also occurs in *n'ml'skw 'to sniff
sniff in' (-skw suffix as in *l'ml'skw 'transitive'). These words involve
taking in something, at least some air. There in doubt that these
words are related to *lm and *m. The prefix n- of *n'ml'skw
could be the marker for unalienable possession, productive in CT but
recognizable in Nisga'a only in a few kinship terms and perhaps in n'a
'breath').

106 When counting to ten on the fingers. *ikstan 'to leave shtong
aside'; *y'il 'hand, arm'; -x reflexive (here). cf. note 99.

107 CT data from Dunn 1979. Comparison with CT must be used
with caution, since there appears to have been wholesale rounding in CT,
og. N *it'k'a: 'slaves, CT *it'k'nyi: , from 'Tlingit', where surely
the * is not original.

108 Small brothers and sisters are referred to as *ki:ke: 'sibling', a word also applied to animals, rather than by the proper
sibling terms used with adults.

109 For one application see Tarpent 1983.

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