In this paper we concentrate on the lexical suffixes of Bella Coola as a system of anatomical reference. The suffixes of this system constitute a major portion of the stock of lexical suffixes in Bella Coola. In addition to their number, they are representative of the structural patterns of the larger system.

A lexical suffix is one which reflects the semantic content of lexical items. It marks not syntactic properties (say, of arbitrary noun classes), but copies a portion of the semantic content of some term in construction with the form to which it is affixed.

Lexical suffixes in Bella Coola occur in strings of from one to five suffixes. There are several prefixes which occur in conjunction with the lexical suffixes. A single lexical suffix is called a *simple lexical suffix*. We use the term 'simple' with reference to the syntactic origin of the suffix and not as a comment on its degree of semantic complexity. Simple lexical suffixes result from the single application of LEXICAL COPY to a single term of the Topic or Adjunct of a sentence. (For explanation of the terms 'Comment', 'Topic', 'Adjunct', 'Agent' and 'Patient' and their application in Bella Coola, cf. Davis and Saunders 1973; for details of the copying procedure and rules such as LEXICAL COPY, cf. Davis and Saunders 1972.)

(1) kma-lxa-c 'My nose hurts.'

kma ti maXsa-c tx
(\*hurt Prox. 'nose'-my Art.)
(2) qup'-'lXs-cimu 'I am going to punch your nose.'
qup'-'ic ti maixa-mu tx
(/punch-I-it Prox. 'nose'-your Art.)

(3) ?il'-'aǎ-m-ic 'I am going to move it with my foot.'
?il'-'ic ?aǎ ti ?ixa-c tx
(/move-I-it 'with' Prox. 'foot'-my Art.)

Sentences (1)-(3) have the base structures:

In (4) we see the base structure from which (1) is ultimately derived. It contains a single-term Topic part of whose semantic content is copied into the Comment. In (5) the copying occurs within a two-term Topic. In this case it
is the Patient from which the semantic content is copied. In (6) we have an example of a Topic and Adjunct with LEXICAL COPY applying to the Adjunct.

Lexical suffixes which consist of two or more suffixes can be differentiated as multiple simple lexical suffixes, complex lexical suffixes, and multiple complex lexical suffixes.

Multiple simple lexical suffixes result from the application of LEXICAL COPI to two terms, one within the Topic and one within the Adjunct.

(7) ?iik'-ak-aš-m-cimu 'I am going to move your hand with my foot.'

?iik'-ic ti suxa-ru tx ?aš ti ?ixa-c tx
(above-I-it Prox. 'hand'-your Art. 'with' Prox. 'foot'-my Art.)

Sentence (7) has the base structure:

\[
S \rightarrow \text{Comment} \rightarrow \text{Topic} \rightarrow \text{Adjunct} \\
\quad \rightarrow \text{Agent} \rightarrow \text{Patient} \rightarrow \text{Prep} \rightarrow \text{Object}
\]

\[
\text{(8) } ?iik', \quad 'I' \quad \text{ti suxa-ru tx} \quad \text{?aš} \quad \text{ti ?ixa-c tx} \\
\quad \text{(-ak)} \quad \text{(-aš)}
\]

where LEXICAL COPY applies to the Patient term of the Topic and the Object term of the Adjunct.

Complex lexical suffixes result from the application of LEXICAL COPY to a succession of embedded Topics.

(9) kma-ank-alus-c 'The side of my chest hurts.'

kma ti kušānk ti sqx̂ma-c tx
(hurt Prox. 'side' Prox. 'chest'-my Art.)
Sentence (9) has the base structure:

\[
S_1 \\
\text{Comment} \rightarrow \text{Topic} \\
\quad \rightarrow \text{Agent} \\
\quad \rightarrow S_2 \\
\quad \text{Comment} \rightarrow \text{Topic} \\
\quad \text{kma} \rightarrow \text{kužank} \rightarrow \text{ti suxas-c tx}
\]

where LEXICAL COPY applies first to the Topic of \( S_2 \) and subsequently to the Topic of \( S_1 \).

Multiple complex lexical suffixes result when LEXICAL COPY is applied to one or two terms of the Topic of \( S_1 \) and one or the other of these terms contains at least one embedded \( S \).

(11) \( ìqîankanš-ulik-ak-m-cimu \) 'I am going to slap the side of you face with the back of my hand.'

\( ìq' \)-ic ti kužank ti musa-mu tx \( ìal \) ti kužāīk ti suxa-c tx

(\( ìq' \)-slap-\( ì-l \) Prox. 'side' Prox. 'face' your Art 'with' Prox. 'back' Prox. 'hand' my Art.)

Sentence (11) has the base structure:

\[
S_1 \\
\text{Comment} \rightarrow \text{Topic} \\
\quad \rightarrow \text{Agent} \rightarrow S_2 \\
\quad \rightarrow \text{Patient} \\
\quad \rightarrow \text{Prep.} \rightarrow S_3 \\
\quad \text{Comment} \rightarrow \text{Topic} \\
\quad \text{ki} \\
\quad \text{ti musa-mu tx \( ìal \) ti kužāīk} \rightarrow \text{ti suxa-x tx}
\]

\( ìq' \) 'I' kužāīk (-\( ánk \)) ti musa-mu tx \( ìal \) kužāīk (-\( õšiik \)) ti suxa-x tx (-\( ák \))
where LEXICAL COPY applies to the terms of $S_2$ and $S_3$ and subsequently to those of $S_1$.

It should be noted that the analytic paraphrases of sentences (9) and (11) have the variants:

\[(13)\) kma ti $\text{sku\-tankalus-c}$
\[\text{(\text{hurt Prox. 'side of chest'-my})}\]

and

\[(14)\) $\text{iq'}-ic$ ti $\text{sku\-tankus-m} tx$ ?ai ti $\text{sku\-ulikak-c} tx$
\[\text{(\text{slap-I-it Prox. 'side of face'-your 'with' Prox. 'back of hand'-my.})}\]

We view $\text{sku\-tankalus} \text{ 'side of the chest'}, \text{sku\-tankus} \text{ 'side of the face'}$ and $\text{sku\-ulikak} \text{ 'back of the hand'}$ as derived nominals whose derivation is substantially the same as the application of LEXICAL COPY to $S_2$ of (10) and to the terms of $S_2$ and $S_3$ of (12).

Finally, (15) is an example of a complex lexical suffix where LEXICAL COPY applies to multiple embedded $S$'s.

\[(15)\) kma-$\text{u\-dik-l}\text{\-x}-\text{ak-c }'\text{The back of my finger hurts.}'
\[\text{kma ti ku\-dik ti ku\-llx\-s ti su\-xa-c tx}
\[\text{(\text{hurt Prox. 'back' Prox. 'terminus/digit' Prox. 'hand'-my Art.})}\]

Sentence (15) has the base structure:

```
  S1
    Comment
     |  Topic
      |   Agent
       |  S2
         Comment
          |  Topic
           |   Agent
            |  S3
              Comment
               |  Topic
                kma
                ku\-dik
                ku\-llx
                ti su\-xa-c tx
```
where LEXICAL COPY applies first to $S_3$, then $S_2$ and finally $S_1$.

1.1 A simple lexical suffix is always a primary suffix. Multiple simple suffixes such as found in (8) consist of two primary suffixes. Complex lexical suffixes consist of one primary suffix which copies a portion of the semantic content of the lowest Topic in a tree representation of the base structure of a sentence such as (15). The remaining suffixes of a complex lexical suffix occur at some point in the base structure as a Comment and these are called secondary suffixes.

In the anatomical reference system, primary suffixes correlate to the gross anatomical item and the secondary suffixes serve to increase the specificity of the anatomical reference.

There are 28 primary suffixes in the system, of which 19 may also occur as secondary suffixes. There are five suffixes which occur only as secondary suffixes. The suffixes may be categorized according to the nature of the semantic content they copy as: topographic, shape, location and corporeal suffixes.

Topographic suffixes combine features relating to both shape and location. They occur as both primary and secondary suffixes. They are: -\textit{kw} \textit{<capital>}, -\textit{sc} \textit{<orifice>}, -\textit{lx} \textit{<terminus>}, -\textit{als} \textit{<wall>}, -\textit{ik} \textit{<top surface>}, -\textit{us} \textit{<front surface>}, and -\textit{nk} \textit{<base>}.

Shape suffixes also occur as both primary and secondary suffixes. They are: -\textit{givs} \textit{<socket>}, -\textit{alk} \textit{<semi-circular>} and perhaps -\textit{layx} \textit{<tubercle>}. The last suffix does not occur as a secondary suffix.

Location suffixes are of two types. The first group consists of suffixes which occur as both primary and secondary suffixes. This group includes: -\textit{an}
<corner>, <behind>, <under>, <in front of>, <next to>,
-le <exterior surface>, -and <external surface>, -u <exterior> and -(uâ)ik <back>. The members of the second group occur only as secondary suffixes of complex lexical suffixes which have anatomical referents. In non-anatomical references, all except -uc may occur as a primary suffix. The members of this group are: -āk <distributed>, -ik <middle>, -u <around>, -nalis <between>, and -uc <lower>.

The final group of suffixes are the corporeal suffixes. With the exception of -îâ, these suffixes occur only as primary suffixes. The corporeal suffixes are: -apâ <side of neck>, -ams <side of mandible>, -âh <throat>, -(al)tr <breast>, -(al)te <tooth>, -(al)te <tongue>, -îâ <genitals>, -â <foot, leg>, and -ak <appendage>.

2.0 In this section we treat each suffix individually and in some depth. Under each suffix heading we have included the following items of information: (1) an indication of the semantic content copied by the suffix; (2) a statement concerning the privilege of occurrence of the suffix as either primary, secondary or both primary and secondary suffix; (3) the specific anatomical referent of the simple suffix with supporting examples; (4) examples of non-anatomical items of related semantic content; (5) the anatomical referent of the suffix as a primary suffix in a complex lexical suffix, accompanied by a list of all complex suffixes where the suffix of the heading served as primary suffix and occurred in our test frame?; and (6) the semantic content copied by the suffix as a secondary suffix along with a list of the various primary suffixes it modified.
2.1 -\(\text{b}w\) (-\(\text{kw}\))

This toponymic suffix copies the semantic content <capital>, used here to refer to the top end of an object with a vertically oriented long axis or the distal terminus of a horizontal long axis. This content is shared by several words, which, with additional semantic content, are employed to refer to the heads or tops of objects and geographical features. Cf. \(\text{tasb}\)- 'to be located at the top/head of something' as in: \(\text{tasb}\) wa \(\text{emt}^\circ\) 'It is at the head of the valley'; \(\text{nasay}^\circ\) 3 ka \(\text{sa}\) 3 pc \(\text{ru}\) wa \(\text{tasb}\) wa \(\text{tasb}\) 'I want to go to the head of the river.'; \(\text{kuib}\)- 'to be the concrete head of something'; \(\text{kuib}\) ti \(\text{pc}\) 'head of a pin'; \(\text{kuib}\) ti \(\text{stn}\) \(\text{tx}\) 'tree top'; \(\text{Pkdaw}\) 'They are far away.'; \(\text{imigho}\) 'I am going far away.'; and \(\text{t}\) \(\text{naw}\) 'corporeal head.'

This suffix occurs in morphologically simple and complex suffixes, and as both primary and secondary suffix of the latter.

As a simple lexical suffix, the anatomical referent of \(-\(\text{b}w\)) is the entire head as in: \(\text{tasb}\) \(\text{ip}\) \(\text{b}w\)- 'to grab and hold someone's head'; \(\text{piq}\)- 'to have a broad flat head (cf. \(\text{piq}\) \(\text{b}w\) 'Flatheads'); \(\text{pib}\)- 'to be headless'; and \(\text{que}\)- 'to wash someone's head.' In these forms, \(-\(\text{b}w\)) copies the semantic content <capital> of \(\text{t}\) \(\text{naw}\), viewed here as a complex lexical item consisting of <capital> plus the remaining lexical matter required to specify 'corporeal head.' Cf. \(\text{que}\)-ie ti \(\text{t}\) \(\text{b}w\)-\(\text{m}\) \(\text{tx}\) ('wash-I-it Prox. 'head'-your Art.) > \(\text{que}\)-\(\text{t}\) \(\text{sw}\)-'I am going to wash your head.'

In a number of stems, \(-\(\text{b}w\)) refers to the hair. Cf. \(\text{w}\) \(\text{b}w\) 'gray hair'; \(\text{msb}\)- 'fair hair'; \(\text{b}\) \(\text{b}\)- 'to cut someone's hair'; and also \(\text{b}\) \(\text{b}\) \(\text{w}\) 'scissors.'

The semantic content <capital> is also copied from \(\text{qart}\) 'hat' as in: \(\text{quib}\)- 'to borrow/use someone's hat'; \(\text{b}\) \(\text{b}\) \(\text{b}\)- 'to wash someone's hat for them'.


t̃əg̊ʷəxʷ- 'to steal someone's hat'; t̃əw̓ul̓əxʷ- 'to trade hats'; t̃əq̓əw̓əxʷ- 'to urinate on someone's hat'; and t̃əm̕w̓əxʷ- 'to throw someone's hat away.' The last form is also 'to put the blame on someone' as well as the literal 'to throw the head of something away.' The word sínələw̓ 'head dress' belongs to this group although it is independent of qəyət.

The head of an animal is either analytic t̃ənəx ti 'name' or synthetic 'name'-Łw̓ as in sḵw̑ələxʷ 'fishhead' and nənələxʷ 'Grizzly head'. The steelhead is known as sənələxʷ 'literally 'bonehead' and a type of cooked fish is səl̓əw̓ (cf. səl- 'to slice'.)

Non-anatomical referents of -Łw̓ are manifold. We find it in stems referring to the top or growing tip of plants: kʷcəł̓əxʷ- 'to top a tree'; pułəł̓əxaw- 'the seeds are sprouting'; n̓ux̑əł̓əxʷ- 'to break off the top of a plant'; səp̓əł̓əxʷ- 'to nip/pinch off the growing tip'; and səlxəł̓əxʷ- 'to set fire to the top of a bush/tree'. In some stems, the referent is the flower or the entire plant. Cf. cəł̓əxʷ- 'to pick flowers/pull weeds'; and səsqəw̓əxʷ- 'to water plants.' Some apparently frozen forms connected with plants are t̃əm̕əł̓əxʷ 'stump' and cəł̓əł̓əxʷ 'weed.'

There is a set of words referring to the paraphernalia of oolichan fishing which is apparently based upon a reference to the <capital> of the poles upon which are strung the nets. The net itself is səltəł̓əxʷ literally, 'that which has had its top hammered.' Oolichan fishing is səltəł̓əxumə- 'to use an oolichan net'; of. also təł̓əxʷ- 'to hammer the top of a pole'; səł̓əxumətə 'hammer'; səł̓əxumə 'the pole upon which the nets are strung'; and nəltəł̓əxʷ- 'to hook up an oolichan net.'

A productive referent of -Łw̓ is the lid of a container as in: t̃əl̓əxʷ 'lid'; t̃əl̓əxʷ- 'to put a lid on something'; qəł̓əxʷ- 'to open a container'; səł̓əl̓əxʷ- 'to
wipe the lid'; muqawāx- 'to have a red lid'; and qūdā'ax- 'to decorate a lid.'

In addition, we have two numbers which contain -inw: q'inw 'five' and ?asāl'wilik(t) 'one hundred.'

As the primary suffix in a complex lexical suffix, -inw no longer refers to the entire head. The basic referent now is an area bounded anteriorly by the coronal suture, posteriorly by the lambdoid and laterally by the squamosal sutures of the skull. The lateral boundary is sometimes extended to include the temporal bone, although there exists a suffix for this region.

The following complex lexical suffixes occurred in our test frame: -alāxw 'top of head'; -alāxaw 'entire top of head'/'scalp'/'hair covering'; -ankāxw 'side of head'; -alāxaw 'entire side of head'; nu-...rikāxw 'inside the head'; nu-...-ankāxw 'inside one side of the head'; and nu-...-alāxaw 'palate'. In addition, we found the following complex suffixes which did not occur in the test frame: -ikāxw as in ?asikāxw 'inside of the head'; -alāxaw as in ?asalāxw 'palate' and -saspalāxw 'palatal bone'.

We have the following additional forms: spuālāxw- 'to hit someone on top of the head'; q'wpulāxw- 'to be bald' (lit. 'bare on top', which refers to male pattern baldness in contrast to q'wpulāxaw- 'to be completely bald'); īmatāxw- 'to sit on someone's head'; wulāxw- 'to pour something over someone's head'; tāyulāxw- 'to throw something at someone's head'; pusmālāxw- 'to have a swelling head'; sūkāxw 'top of the head'; saspakāxw 'parietal bone'; sūkāxw 'side of the head'; yusmāxw- 'to have a tumor in parietal region'; muslāxikāxw- 'to have a head full of mucus'; and smutixonalsxaw- 'uvula'.

As a secondary suffix in complex lexical suffixes, -āw modifies the referent of six primary suffixes and three complex suffixes: -āwak 'fingernail';
-IXwai 'toenail'; -IXwalt 'shoulder'; -IXwánk 'top of hip'/iliac crest';
-IXylayx 'knee'; -IXwán 'pubic bone'; -IXwlqasak 'tip of finger'; -IXwlqasak
'tip of toe'; and -IXwlstucak 'elbow'/upper arm'. These complex lexical
suffixes and further modifications of them account for over forty different
complex lexical suffixes containing the secondary suffix -IXw.

2.2 -uc (-uc) ch -úc can -úc 'niche' / cm -c̣i'n 'mouth; language; food; creek'

This lexical suffix copies <edge> and <orifice> from the semantic content
of lexical items. In some words, only <edge> is copied as in kułuc 'shoreline'/
'hat brim'. In other words both <edge> and <orifice> are copied as in ?asuc
'doorway'/mouth of cave'/entrance'. Various edges can be specified by
addition of secondary suffixes as in: kułikuc 'top edge'; kułasuc 'bottom
edge'; ?asalsuc 'inside top edge'; ?asamaruc 'corner edge'; ?asalsamuc 'inside
corner edge'; and ?asalsaşuc 'inside bottom edge'. Under <edge> are included
the concepts of boundary, littoral, cutting edge, rim and brim.

This suffix occurs in simple and complex lexical suffixes and as both
primary and secondary suffix in the latter.

As a simple lexical suffix, the anatomical referent of -uc is the mouth.
As with all words with the semantic content <orifice>, the <edge> here, the
lips, is also part of the referent. Cf. našuc 'grizzly bear's mouth'; meškuc
'fish mouth'; ?aiпасамuc- 'to have a swollen mouth/lips'; ciekmuc- 'to have a
twitching mouth'; qup'uc- 'to punch someone in the mouth'; kaimuc- 'to pull
one's mouth to the side'; mųmcuc- 'to have a wide mouth'/to gossip'; mųmcuc
'to open someone's mouth'; mukuc- 'to drop something from one's mouth'; mųlcu
'to bleed from the mouth'; ?aatmuc- 'to hold something in one's mouth'; stpuuc-
'to have a freckle on one's lip'; wik'mc- 'to have a chapped lip'; sk'iyuc 'lips;
ṣ̌umuc- 'to press one's lips together'; and numuqwc- 'to have red lips.'
Semantic extensions related to corporal 'mouth' fall into two main categories: hair covering and oral functions. In the former, belong sqoomc 'beard'; kwaXuc- 'to have a rough beard'; sXaXucm- 'to shave one's beard'; ciXucm- 'to pluck one's beard'; and XlaXuc- 'to pull someone's beard.' In the category of oral functions, we find stems referring to eating and the associated paraphernalia as in: ?inaxuc- 'to have breakfast'; mukalikuc 'to eat lunch'; ?xucm 'to quit eating'; ?a?a?Xucm 'to eat quickly'; ?aykuc- 'to eat slowly'; ?anux?laXuc- 'to force someone to eat'; cayuc-tuc 'to wean a baby'; cayuc- 'to stop smoking'; paxuc- 'to be afraid to taste something'; nip'ucta 'fork'; ?amatuc 'plate'; ?amataquc 'eating place/table'; ?olXuc- 'to steal someone's food'; ?ayucm- 'to trade food'; mukauc- 'to bring food to someone'; napucm- 'to take along something to eat'; sqaluc 'fruit'; and nulimuc 'crumbs. Equally productive are references to speech as in: ?iso'uc 'to be a loudmouth'; nomyc- 'to gossip'; k'isckuc- 'to mispronounce something'; nuyam'uc- 'to hum'; ?a?a?cim?utimut- 'to mumble'; sXucm- 'to say something bad to someone'; kaluc- 'to guess/say something correctly'; numuXucm- 'to practice a song/speech'; nuq ucm- 'to tell a lie'; ?ukuc- 'to brag'; vayXuc- 'to be a facile talker'; namanuc- 'to be mute'; ?anuk'wp'laXucm- 'to translate something for someone'; muk'yukuc- 'to recognize someone's voice'; mut'winuc and gomuc 'sisaok whistle'. In addition, we have the following forms: sninig'a?usucm- 'to have pertussis'; muksaXucm- 'to inhale'; ?a?i?ip'ucm- 'to hold one's breath'; sp'iluc? 'visible water vapor from breath'; nusliq'uc- 'to slobber/dribble'; s'unguc- 'yawn'. The drying of oolihan involves hooking a stick into the mouth of the fish and from this activity we have the words: tpuctic 'to put oolihan onto the drying sticks'; tpuctica 'drying sticks'; and tpucta 'the drying rack'.
Non-anatomical referents of -uc which copy <edge> include: *kukikuc* 'edge of top surface' which can refer to the edge of a tabletop, the brim of a hat, lip of a bottle, drinking glass, rim of a pail, toilet seat, spoon, any boundary line as well as the cutting of all cutting tools. Other, more specific forms: *lik'astuc* 'to fill something to the brim'; *s'ikakikuc* 'dirty ring around bathtub' or 'strip of debris on beach'; *spikuc* 'to wipe the top edge/rim of something'; *qwtuc* 'carver’s hook'; *q'pun* 'to be dull'; *tiq'ikuc* 'to hem something'; *taXeikuc* 'upper end of village'; *tXaqwikuc* 'lower end of village' and *pluc* 'to be rimless.' In a number of words, -uc has been extended to refer to not only the edge of bodies of water but to the liquid itself or its surface as in *qnikuc* 'low tide'/ 'shallow water'; *A'ukuc* 'high tide'/ 'deep water'; *mukluc* 'to cross a stream'; *sq'aXuc* 'to jump across a stream'; *puluc* 'flood'; *q'wamuc* 'to be rising'; *mamtuc* 'to dip water'; *mamtucota* 'dipper'; *mamtucota* 'cup portion of dipper'; *lauc'uc* 'surface of a liquid'; *stuc* 'to soak dried fish in water'; *tumantuc* 'to skim something from the surface of a liquid' and *makuc* 'to clear off the surface of a liquid.'

In the following stems, -uc copies <orifice>: *fasuc* 'doorway'; *mamota* 'door'; *mamuc* 'to close a door'; *maq'wuyuc* 'to open a door'; *q'awaluc* 'to stand in/ block a doorway'; *q'wpuc* 'net'; *maxtuc* 'to open the mouth of an oolihan net'; *mamuc* 'to pass by someone’s door'; *tapuc* 'to open a bag'; *nuwikuc* 'to pull open a bag'; *palupuc* 'to cork/plug a bottle'; and *malikxuc* 'to force one’s way through a crowd.'

As the primary suffix of a complex lexical suffix, -uc copies part of the semantic content of *ucuc* 'mouth' and *sk'iyuc* 'lips'. The following complex lexical suffixes occur in our test frame: *mu*...-uc 'entire external mouth'; *ikuc
'either or both lips' (for FW and SS, this suffix is equivalent to ūm-...ūm; for MS the referent is the front part of the lower lip); -ākuc 'top lip' (CS); -ānkuč 'area of mouth behind the lips' (for FW and SS, this suffix refers only to the beard); -āmuč 'around the mouth'; -ānkuc 'corner of the mouth' (SS); -ānkuč 'corner of mouth (SS and CS); -ānkučānko 'corner of mouth'; ūm-...ūmuč 'inside of mouth'; ūm-...ānkučānko 'inside corner of the mouth'; and -ākuc 'area from top lip to base of nose.' (CS).

We have the following additional forms: ūpamuč 'to have no feeling on the lips'; ūmučakuc 'to hold one's hand over one's mouth'; ūmumuc 'to open someone's mouth'; ūmumuc 'to have a bloody mouth'; ūpamumuc 'both lips are swollen'; ūsikuc 'lips'; ūsakuc 'freckle on mouth'; ūšikuc 'buccinator'; ūšikuc 'orbicularis oris'; ūšikuc 'circle of dirt around mouth'; ūsikuc 'top lip'; ūšikuc 'area of mouth behind lips'; ūsankuc 'corner of mouth'; ūsalsuc 'inside of mouth'; ūsalkuc 'moustache'; ūnutuč 'to put something in one's mouth'; ūtuk'ankucakuc 'to stretch one's mouth by pulling at the corners'; ūšikucakuc 'to talk out of the corner of one's mouth'; ūšikucakuc 'to make a hollow click'; ūsalsuc 'to have blood inside one's mouth'; ūsakuc 'saliva'; and ūsakuc 'saliva'; and ūsakuc 'to clean the inside of someone's mouth with one's finger.'

As a secondary suffix in complex lexical suffixes, -uc <edge> modifies the referent of two primary suffixes and four complex suffixes: -ucūl 'suprapubic region'; -uclayx 'lower edge of rib cage'; -ucūl 'margin of tongue'; -ucūl 'lateral edge of shoulder'; -ucūl 'edge of fingernail'; and -ucūl 'edge of toenail'.

There is another secondary suffix -uc. It modifies the referent of three
primary suffixes and one complex suffix. It is consistently glossed as 'lower region' in such complex suffixes as: -ucaX 'buttock'; -uak 'forearm'; -uak 'lower leg'; and -uqank 'lower abdomen.

2.3 -iX ( -aX) cu -q. 'nose, front end' / cu -alga 'nose, point'

This lexical suffix copies <terminus> and <point> from the semantic content of lexical items. In such words as cwa:iX as in cwa:iX ti saniX 'end of the day' and kuiliX in kuiliX ti bakyala 'end of the box', only <terminus> is copied. In other forms, both <terminus> and <point> may be copied as in kuiliX ti me'a:ata 'point of pin' or kuiliX ti quiquata 'pencil point.'

This suffix occurs in simple and complex lexical suffixes and as primary and secondary suffix in the latter.

As a simple lexical suffix, the anatomical referent of -iX is the nose. Cf. lase:iX 'seal nose'; nanlX 'grizzly's nose'; swaklX 'fish nose'; piq'ilX- 'to have a broad flat nose'; kei'lX- 'to have a crooked nose'; ik'wilX- 'to have a big nose'; muqwilX 'red nose'; falkwilX 'broken nose'; isalpulilX 'swollen nose'; xwililX- 'to have an itchy nose'; q'ililsm- 'to scratch one's nose'; txalqsm- 'to cut one's nose'; ?anacqilX- 'to have a pierced nose'; nii'wikilXcuttum 'to talk with a plugged nose'; mulilsm- 'to blow one's nose'; mulilsta 'handkerchief'; squplX 'nasal bone'; xkolX 'nasal cartilege'; and ak'ima:ylX 'compressor narium'.

The suffix occurs in ninip'ucalga 'elephant'; ?alk'almX- 'to hold something in it's beak'; ?asiX ti toms tx 'nipple'; and ?asiX ti xli 'head of penis'. In two stems, the referent is both the nose and mouth or the muzzle as in mulilX- 'to muzzle someone' and caqwilX- 'to have a long muzzle'.


Non-anatomical referents of -Ixs include: ḥaplāks 'end of a non-concrete object' such as the end of a day, month, feast, potlatch, dance, song, race; ḥuqāk 'tip or end of concrete object'; ḥaslās to be at/in/on the end of something; ḥplās the other end; ḥplāk 'just one end'; ḥsamsāk 'both ends'; ḥatlās 'to draw a plank from a pile by its end'; ḥslāk 'object on front end of boat'; ḥsalsāk 'one side of the front end of a boat'; ḥmāk 'stick upon which colichan are hung to dry'; and ḥqāk 'pointed end of dip net.'

As a primary suffix in a complex lexical suffix, -Ixs copies the semantic content of ḥas 'nose'. The following complex suffixes occur in our test frame: ḥankās 'one side of the nose'; ḥsanksās 'all over the side of the nose'; ḥu-...-ankās 'inside one side of nose'; and ḥu-...-ikās 'inside of nose' and 'nose'. In addition, we have the following complex suffixes which did not occur in our test frame: ḥqāls 'behind the nose' as in ḥqeqāls 'posterior aperture (choana) of nasal cavity' and -ikās 'median line of nose' as in ḥqeqikās 'to have a red stripe down median line of nose'. SS glosses the latter as 'red tip of nose'.

We have the following additional forms: ḥeqeqikās 'nose'; ḥeqeqikās 'nose'; ḥeqeqikās 'side of nose'; ḥeqeqikās 'to have a bloody nose'; ḥeqeqikās 'to belch through the nose'; ḥeqeqikās 'to have wide nostrils'; ḥeqeqikās 'to sniffle'; ḥeqeqikās 'to hold one's nose'; ḥeqeqikās 'to pick one's nose'; and ḥeqeqikās 'side of the nose.'

As a secondary suffix, -Ixs modifies the referent of four primary suffixes and six complex suffixes: ḥsak 'finger'; ḥsak 'toe'; ḥsank 'anterior process of iliac spine'; ḥsank 'coccyx/sacrum'; ḥsalmek 'nipple'; ḥsalman 'xiphoid process'; ḥsalās 'second thoracic vertebra'; ḥsalās 'ischiium'; ḥsalal 'tip of tooth'; and ḥsalī 'tip of tongue.'
This suffix copies <wall> from the semantic content of lexical items. In general, it applies to containers or hollow structures, but is also used to refer to the sides of a mountain. With reference to containers, kwasals may be used to refer to any wall. If, however, kūtūs and kūtūx are used for the front and rear walls, then kwasals refers specifically to the side walls.

This suffix occurs in simple and complex lexical suffixes and as both primary and secondary suffix of the latter.

As a simple suffix, the anatomical referent are the external walls of the buccal cavity or the cheeks. Cf. sk'wasals 'cheek'; stpals 'freckle on cheek'; nik'alas- 'to nick one's cheek'; and sk'imyals 'zygomatic major muscle'.

Non-anatomical referents of simple -als include: ?asals 'interior walls including the ceiling'; kwasals 'wall'/side of mountain'; q'wpals 'bare mountain side'; tpaals(t) 'exposed mountainside'; kumals 'water flowing down wall/mountainside'; k'icals 'crooked wall'; q'wtals 'curved wall'; p'atals 'thick wall'; tpyals 'the other wall'; k'als- 'to clear off a wall'; shals- 'to scrape a wall'; quc'als- 'to wash a wall'; qpe- 'to wipe a wall'; t'cals- 'to tap on a wall'; and kisals- 'to push against a wall or the side of something'. The names of various containers are formed with -als as in: st'sals 'bottle'; qunals 'big round bottle'; sinals 'new pot'; and ?a?ixmals 'barrel'.

The formation of complex lexical suffixes with -als facilitates specification of particular walls as well as house types as in: musq'pals 'smoke house'/smoky house'; muku?iyals 'potato cellar'; mIMUMals 'ice house'; muma?kals 'semisubterranean house with one level'; mukwa?kals 'semisubterranean house with two levels'; matq'kals 'basement'/'downstairs'; mat'?ukals 'attic'/'upstairs'; ?asankals 'inside front wall'; ?asucals 'outside front wall'; kula?kals
'inside rear wall'; muq'alals - 'to wash the inside rear wall'; muq'alals - 'to wash any inside wall'; muq'alas 'wet inside wall'; mut'ausals 'damp inside wall'; muq'alas - 'to rip off old wallpaper'; muq'alas - 'to paint an inside wall'; muq'alas 'hole in wall'; and muq'wpikals 'to strip a house bare.'

As the primary suffix in a complex lexical suffix, -als copies the semantic content of sk'wals 'cheek' and skuškwalst 'shoulder'/"upper arm'. Both nominals are derived nominals and contain the lexical suffix which copies part of their semantic content. The latter word always occurs in the variant form -alst and is bound to the secondary suffix -šə. We treat -škwalst below in a separate section. The following complex suffixes with -als as primary suffix occur in our test frame: -ιkals 'top of cheek', i.e., on cheek bone; -ιkals 'all over the cheek'; and -ιkals 'all over the cheek.' Another form which did not occur in the test frame is -lićukals 'skin of cheek' as in ἀuoskalcićukals - 'to have a rash all over the cheek.'

We have the additional forms: scoqikals 'zygomatic bone'; muqwikals 'broken cheek bone'; ἀq'ulals - 'to slap someone on the cheek'; cikumqikals 'a twitching cheek'; and quq'ulals - 'to decorate one's cheek.'

The complex suffix -škwalst is the base of several other complex suffixes, all of which refer to the scapula, shoulder and upper arm. There is an alternate form for scapula, namely -ʃkwalstnušik. This complex suffix is an extent complex suffix in that it specifies the boundaries of an area. In this case, the boundaries are the shoulder -škwalst and the upper back -ušik, the area thus described generally that of the scapula in humans. For quadrupeds, all references to this complex, namely scapula-shoulder-upper arm are based on -škwalst. The orientation of the complex in quadrupeds appears to be the source of the single complex suffix reference and the quite different orientation of scapula-shoulder - upper arm in humans, the source of the variant for scapula.
We have the following complex suffixes in our test frame: -İwalst 'shoulder, et al'; -İwalstvük 'scapula'; -ankİwalst 'side of shoulder' viewed in profile so that 'side' means front or back of shoulder when viewed face front; -ucİwalst 'lateral edge of shoulder'; and mu-...-İwalst 'internal shoulder'. We have the following complex suffixes which did not occur in the test frame: -alusİwalstvük 'between the shoulder blades' as in oik'nalusİwalstvük- 'to stab someone between the shoulder blades' and -alusİwalst 'shoulder joint' as in slip'nalusİwalst 'shoulder joint.'

We have the additional forms: ak'imaxİwalst 'deltoid muscle'; scapİwalst 'scapula of quadruped' but 'acromion process of scapula if human'; and scop- İwalstvük 'scapula of human.'

As a secondary suffix in complex lexical suffixes with anatomical referents, -als generally occurs with the prefix mu- <internal>. The combination specifies the reference as the inner wall of the anatomical item or the cavity formed by such walls. For this reason, it occurs with only those body parts which exhibit or are located in a hollow structure. We find mu-...-als- in: mu-...-alsuc 'buccal cavity'; mu-...-alsikan 'meatus'/'middleear'/'inner ear'; mu-...-alsaliek 'lingual surface of gums'; and mu-...-alsİk 'palate.' We have one use of mu-...-als- which refers to the inner wall of the eyelid, mu-...-alsaq'ws.

In complex suffixes with non-anatomical referents, -als- occurs as secondary suffix with and without the prefix mu- . In all cases, it directs the reference to an inner wall or surface as in: ?asalsame 'edge of inside corner'; ?asalsu 'inside edge of top'; ?asalsaq 'inside bottom'; kuşalsaq 'inside bottom'; and kuşalsalxs 'inside of bow of boat/canoe.'
This suffix copies <visible>,<top> and <long horizontal axis> from the semantic content of lexical items such as kušik 'table top'/'box top'/'roof'; ūušik 'crest of roof'; kušikan- 'to go to the top of something'; kušikaž- 'to walk on the top of something'; ?atik- 'to sit on top of something'; qūšik- 'to cover the top of something'; qūšikta 'oilcloth'/ 'tablecloth'; quešik- 'to wash the top'; sp'ik- 'to hit the top of something'; sp'ikta 'upper cedar bark beater'; plíkan 'to be without a top surface' / 'to capsize'; nuqik- 'to make a hole in the top of something'; and šik- 'to clear off the top surface'.

This suffix occurs in simple and complex lexical suffixes and as primary and secondary suffix in the latter.

As a simple suffix, the anatomical referent of -ik is the entire spinal column for some speakers (MS, FW), but only the thoracic vertebrae for others. It is found in suwp'ip'k 'spine' or 'thoracic vertebrae' which is a reduplicated form of suwp'ik sometimes glossed as 'one vertebra'. (cf. xwp'ik - 'to tie, hook, link together').

As the primary suffix in complex lexical suffixes with anatomical referents, -ik is bound to the secondary suffix -un-. The combination serves as the base for all complex suffixes which refer to the upper back. The following complex suffixes occur in our test frame: -unik 'upper back'; nu-...-ikušik 'internal upper back'; -ankušik 'one side of upper back'; -ažankušik 'under the scapula'; -nalusankušik 'between the scapulae'; nu-...-nalusankušik 'between the scapulae (internal)'; -naluslšušik 'between scapulae at 2nd or 3rd thoracic vertebrae'; nu-...-naluslšušik 'between scapulae at 2nd or 3rd thoracic vertebrae (internal)'; and nu-...-ulik 'middle of upper back'.
We have the additional forms: skudulik 'upper back'; skudulukik 'side of upper back'; a'imayulik 'trapezius'; a'imayankukik 'latissimus dorsi'; a'imayalankukik 'teres major'; lisulik- 'to push someone's back'; lisulikka- 'to push something with one's back'; nu'usulik- 'to have a swelling in the middle of the upper back'; a'ranuluskukik - 'to itch between the shoulder blades'; and gup'nalusulkik- 'to punch someone at the 2nd or 3rd thoracic vertebra.'

The re-orientation of the spine from the horizontal axis of quadrupeds to the vertical of bipeds has resulted in a dislocation of the original content copied by -ik. Whereas it originally copied only <visible> and <top> it now copies <behind> when bound to -ik- and applied with reference to humans. Cf. kušišem fašiš 'I am behind you.' and kušikam- 'to go behind someone' but as noted earlier also 'to go to the top of something'. In this regard see also kušikam- 'to go behind something.' There are a number of forms which suggest that the combination -ukik is now completely independent of -ik. We find that the back of a chair is kušulik and the same form may be applied to the rear aspect of a totem pole.

As a secondary suffix, there appear to be three distinct pieces of semantic content copied by the sequence -ik. The original content <visible> <top> occurs in such anatomical references as: -ikan 'ear'; -ikus 'forehead', i.e., top of face; -ikaš 'thigh' i.e., top of leg (cf. -ikaš 'shin' where -ik copies <middle>); -ikals 'top of cheek'; -ikaspem 'mastoid process'; -ikusulik 'top edge of tongue'; and -ikale 'visible top surface of tongue' which contrasts with -ulikale 'dorsum of tongue.' This original content is copied in most non-anatomical references where -ik- occurs as secondary suffix. Cf. kušikuc 'top edge'/brim of glass' etc. and kušikuk 'top of the end of a log' or 'top deck at bow of boat'. 
The second piece of semantic content copied by -ik- as a secondary suffix is <back>. In this case it is bound to -u- as in: -uːkkak 'back of the hand'; -uːkaːk 'back/top of foot/thigh'; -uːkasak 'back of forearm' and many others.

The third content copied by -ik is <middle>. This appears to be a homophonous secondary suffix with no relation to original -ik. It occurs in such forms as -ikūnum 'middle of the chest', e.g., sternum; -ikūnum 'median line of abdomen'; -ikūnum 'median line of lower abdomen'; -ikum 'shin'; and -ikum 'median line of nose'. This suffix occurs with the prefix nu-, the combination nu- -ik internalizing the reference as in nu- -ikīvu 'inside the head'; nu- -ikūnum 'inside the breast'; and nu- -ikum 'inside the nose.'

2.6 -us (−us) cu- -us, -us, -is, -s 'face' / cu--(u)s 'face, eye' 'fine', 'head'

This lexical suffix copies <front> and <flat surface> from the semantic content of lexical items. In such words as kūus as in kūus ti bakayala 'facing/front surface of box', both <front> and <flat surface> are copied; in kūus ti bot tx 'front end of boat', only <front> is copied. Finally, in tankus 'underside of table, etc.' we see only <flat surface> copied.

This suffix occurs in simple and complex lexical suffixes. Only one speaker (SS) employed it as a secondary suffix.

As a simple lexical suffix, the anatomical referent of -us is the face. The superior limit is the coronal suture, the lateral limits are the sphenosquamosal sutures and the inferior limit is the mandible. We have the following stems with simple -us: pig'uus- 'to have a broad flat face'; kwsus- 'to have a rough face'; wiktus- 'chapped face'; o'ikus- 'dirty face'; equs 'hairy face'; caqus 'long face'; XuXulūsi 'short face'; Xus 'fat face'; yayus 'happy/
pretty face'; yumal'us 'sour face'; qwil'us 'pale face'; ñastrnus 'stiff/rigid face'; qä'wus 'stupid looking face'; tk'wus 'sticky face'; sq'us 'scratched face'; ñak'p'amus 'swollen face'; paixus- 'to have no feeling in one's face'; stpus- 'to have a freckle on one's face'; ñak'üptumus- 'to make one's face tense/rigid'; mmaq'wuxus- 'to blush'; plus- 'to be faceless'; qat'us- 'to pull someone's face around'; quq'us- 'to paint one's face'; alus- 'to bost out a face'; ñak'wus 'a carved face'; ñat'us 'a painted face'; q'hus 'to copy a face in a painting or carving'; ñasq'ustimut- 'to catch the breeze in one's face'; ñik'yus- 'to make faces rapidly'; ñap'us- 'to blow in someone's face'; sq'us 'facial wrinkle'; ñurt'us- 'to spit in someone's face'; ñip'us- 'to hide one's face'; ñall'us- 'to look at someone's face'; ñal'ap'us- 'to be face to face with someone'; k'yunus- 'to recognise someone's face'; nusxus- 'to hate someone's face'; yumus- 'to be ashamed of one's face'; and ñask'ustimut- 'to fan one's face.'

The following have metonymic or synecdochic relation to -us as corporeal face: pik'us 'visor'; ñiqm'usta 'face powder'; ñip'ustam 'towel'; must'usta 'mirror'; ñamuq'us 'reflection'; stk'wuskwusi 'gnats'; ñulust'a 'mask'; ful'us 'to pick a mask'; musq'us 'to light a pipe'; stxwus 'enemy/opponent'; sa'xus 'hail'; ic'us- 'to bend one's head'; xup'us 'to stick one's head in the mud'; q'wasqayusi 'to shake one's head from side to side'; ñul'us- 'to be tipsy'; ñullamus- 'to be getting tipsy/dizzy'; cius- 'to hand something to someone'; ñallip'us- 'to keep one's mouth shut'; ñasm'us- 'to tell a story'; kw'us- 'to drink water directly from stream or pail'; q'unus- 'to kiss someone'; nusa- 'to be stingy with food'; stk'usnm 'to cook'; ñaq'us- 'to take home food left over after a feast'; t'xwus 'clover roots'; stilat'us- 'to have half of the body paralyzed'; mmaq'usi 'new born baby'; ñil'us- 'to pass by/go around someone'
nullik'us– 'to turn away from someone'; ?ask'lus– 'to take a ceremonial bath at dawn'; k'wus– 'to show something to someone'; Ñtmūus– 'to just miss meeting someone'; sq'us– 'to ask parents for their daughter's hand in marriage'; k'us– 'to be calm'; ?iptus– 'to close one's eyes'; ?æquæus 'picture'; talaus– 'to be married'; suc'mus 'barnacles'/'pimples face'; and Ñusulus– 'to wager.'

Non-anatomical referents of -us divide into those from which both <front> and <surface> are copied; those from which either <front> or <surface> are copied; and a set of forms with no discernible relation to either.

Forms with semantic content <front flat surface> are: kuclusão 'front surface of box/container'; íasus 'front wall of house'; wāsus 'face of watch or clock'; Ñuc'ikus 'side of river bank seen from river'; Ñlkmus 'steep face of mountain'; q'wpus 'bare face of mountain'; and quc'sus– 'to wash the front surface of something.'

Forms with <flat surface>: tunkus 'underside of lid, tabletop, car, chair seat, etc'; ?asægus 'bottom surface'; tāl'kus 'top surface of bed/log in water/tabletop'; Xilmustac– 'to push something through until it emerges from the opposite surface'; qwA'us– 'to pile things'; and tapus– 'to unfold something'. Forms with semantic content <front>: íasus 'front of something such as a totem pole'; kuclusão 'front end of canoe or car'; Ñih'udus– 'to move the front of a boat'; Ñalimus– 'to keep pushing the bow of boat away from dock or shore'; xìl渡us 'to clean barnacles from bow of boat'; qat'usm– 'to paddle towards the shore/forwards' and 'to hold one's face in one's hands.' The relationship of the following to the above semantic content remains opaque: st'qulus 'bear snare'; sugquptus 'mountain lion'; t'sus– 'to be damp'; slaus 'grass'; Ñus'sum 'night'; Ñus'usmi 'evening'; lamus 'two'; atsamus 'three'; æus 'four'; and k'limus 'eight'.
As the primary suffix in a complex lexical suffix, -us- copies the semantic content of nusa 'face' and sušma 'chest'. In the former case, the secondary suffixes immediately precede -us-; in the latter, they are separated from -us- by a connector -al-. (cf. below). The following complex lexical suffixes whose referent is a part of the head were found to occur in our test frame: -ikus 'forehead'; -ulikus 'all over the forehead'; -ankus 'one side of the face'; -alankus 'behind the side of the face' i.e., the squamosal area although FW disputes this and glosses the form as 'all over the side of the face'; -užankus 'all over the one side of the face'; mu-...-ankus 'inside side of the face'; mu-...-ikus 'middle of the forehead'; nu-...-ikikus 'inside the forehead'; nu-...-ulikus 'all over inside the forehead'. In addition, we found the following forms which did not occur in our test frame: -us 'all over the face' as in sqūpús- 'to have hair all over one's face'; -ušus 'all over the face' as in sqūpžús- 'to have hair all over the face'; -licús 'skin of the face' as in tásgálíkus- 'to have a rash on the face'; -licušlikus 'skin all over forehead' -licankus 'skin of side of the face' and -licušankus 'skin all over the side of the face'.

We have the following additional forms: scapankus 'zygomatic arch', but 'ascending rami of mandible' for FW; scapažankus 'Great wing of sphenoid and lateral pterygoid plate'; scapušlikus 'frontal bone'; škimašulikus 'frontalis muscle'; škušlikus 'forehead'; qwasulikus- 'to have a sweaty forehead'; mušwikus- 'to have a red stripe down middle of forehead'; qwakwikus- 'to have a long forehead'; qwščikus- 'to make vertical wrinkles in forehead'; qwšćušlikus- 'to make horizontal wrinkles in forehead'; šupušankus- 'to punch someone on the side of the face'; škušankus 'side of the face'; šqupankus 'one sideburn'; and šqupžankus 'both sideburns'.
The combination -alus whose referent is the chest consists of the sequence -al- plus the primary suffix -us. A similar or cognate sequence occurs in other Salish languages where it appears to be untranslatable (Kinkade 1963); treated as a connector (Pidgeon 1970) or as a particularizer (Thompson & Thompson 1971 and 1973). We have six primary suffixes which occur with -al-. All are bound to -al- for their specific anatomical meaning, but only two of the primary suffixes do not have a contrast between the presence and absence of -al-, namely -all- 'tooth' and -all- 'tongue'. In addition to -us:alus 'face': 'chest', we have -ak:alak(t) 'arm/hand': 'axilla'; -aXa:alak 'ankle': 'behind the knee'; -aX:alax 'tribesman': 'breast'. There is also a positive contrast -aX:ulax 'breast': 'earth/ground/floor'. In this paper, we adopt a temporary position that -al- is an untranslatable connector which particularizes the referent of the primary suffix it precedes.

The following complex lexical suffixes based on -alus 'chest' occur in our test frame: -ikalus 'median line of chest';-änkalus 'one side of chest'; -ikkus - ikkusikalus - -ikkusikalus 'xiphoid process of sternum';-ukkalus 'lower front of chest';-ukkalus 'lower side of chest, below breast but on rib cage'; -uXkalus 'entire front of chest below breasts'; -u-...-ikalus - -u-...-alus 'internal chest'; and -u-...-änkalus 'internal side of chest'.

We have the additional forms: scapikalus 'sternum'; scapikläusalus - scapikläusalus - scapikläusalus 'xiphoid process of sternum'; sa'ímayänkalus pectoralis'; numikalus 'broken sternum'; squikalus 'chest hair'; 'asikalus 'median line of chest'; skuänkalus 'side of chest'; nupusalus- 'to have a tumor in chest'; skwilalus- 'to have an itching chest'; and -usqalicalus- 'to have a rash on the chest.'
2.7 -nk

This suffix copies the semantic content <base> used here to refer to the bottom terminus of an object with a vertical long axis. Of some words, however, only <bottom> appears to be the copied content as in quünk- 'to cover the bottom of something'; and ñamunk 'bottom of doorway'. Generally, kuënk 'base' and kuëlxw 'top' refer to opposite ends of the same object as in kuëlxw  tśi stn 'tree top' and kuënk tśi stn 'base of tree', but they may refer to the same terminus as in kuëlxw tśi macqan and kuënk tśi macqan 'non-pointed end of needle (kuëlxw)' the former when the point is downward and the latter when the point is upward.

This suffix occurs in simple and complex lexical suffixes and as both primary and secondary suffix of the latter.

As a simple lexical suffix, the anatomical referent of -nk appears to be the base of the spine. Aside from one word snapnk 'sacrum' (itself a variant), we never find this suffix as a simple lexical suffix with an anatomical referent.

There is a group of words which exhibit the alternation -nk- -nak and may be related to this suffix. The referent here is to feces as in unk 'feces'; ñamnak 'grizzly bear feces'; wac'nak 'dog feces'; and siccipinak 'bird feces' and many others.

Non-anatomical referents divide into the two groups mentioned earlier. Those which copy all the features of <base> include: plnk- 'to have no base'; ñasnk- 'to be located at the base of something'; kuëankan- 'to be located alongside the base of something'; and ñasanusk- 'to be located between the bases of two objects'.

Those which copy <bottom> sometimes include <downward> or <underneath> as in: tqunk- 'to be on the bottom' or 'to be underneath something'; xoic ñünk 'I am going to push it down'; and sq'we ñünk 'I am going to jump down.'
As a primary suffix in complex lexical suffixes, -nk is bound to the secondary suffix -lx-, the combination -lxnk (-lsnk) refers to the tail or coccyx as in: ?asxlnk 'coccyx/tail'; scaplnk 'coccyx'; spulllnk 'tail feather'; ?asxwlnk 'seal tail'; smklxnk 'fish tail'; wac'lxnk 'dog tail'; smxlxnk 'sacrum' (MS) skulxnk 'ischium' (FW); q'wacalxnk- 'to wag one's tail'; kic'lxnk- 'to have a crooked tail'; osqwlxnk- 'to have a long tail'; osq'wllxnk 'to have a straight tail'; lamutxoulnklqnk- 'drooping tail'; lasnalusaXlnqk- 'to put tail between legs'; basicionalusiglnk- 'to drag one's tail'; mutxaluk-lnk- 'to hold one's tail straight up in the air'; and mixalxnk- 'to break a tail.' Only one additional complex suffix occurs in our test frame: -anklxnk 'side of the coccyx.'

This suffix does not occur in our test frame as a secondary suffix. It does occur in several nominal forms of body parts such as tqnkams 'lower jaw' and tqnkikus 'lower half of face'. In complex suffixes of non-anatomical reference, -nk- as a secondary suffix copies only <bottom> as in tunkus 'bottom of car'; tqnk1lx 'bottom end of dip net'; and qnkuu 'bottom edge'/'low tide'.

2.8 -aq'ws

\[ \text{Ch} - u\hat{a}w^{u} 'fruits' / \text{Ch} - i(y)\hat{a} 'berries, fruit'; -i(y)\hat{(a)} 'wetten', -i(y)\hat{(a)}(i-) 'log' \]

The range of lexical items whose semantic content is in part copied by this suffix is such that we cannot establish what piece of semantic content is copied by the suffix and is common to all items. The referents divide into two groups. In the first group, we find the anatomical referents of -aq'ws and a number of related non-anatomical referents. The second group consists of a number of non-anatomical referents which appear to be unrelated to each other or to the anatomical referent of the suffix.

This suffix appears to copy <socket> from the semantic content of lexical
items which relate to the body. In particular, it refers to the orbit or eye socket when a primary suffix.

This suffix occurs in simple and complex lexical suffixes and as primary and secondary suffix of the latter.

As a simple lexical suffix, -sq'ws refers to the eye as in: sq'wpsaq'ws(ə) 'right eye'; axiaq'ws(ə) 'left eye'; qinq'a 'eyeball' cikumaq'ws 'twitching eye'; squpaq'ws 'eyebrow'; muiyaq'ws 'widespread eyes'; cf. muqyu'asq'ws 'wide open eyes'; cııaq'ws- 'to pluck eyebrows'; and Xıımaq'ws 'tear'.

Related to the above are a few stems involving visual perception as well as waking and sleeping: ayaq'ws- 'to be far-sighted'; sxııaq'ws- 'to be near-sighted'; ?alııaq'ws- 'to look through a hole'; q'wııaqaq'ws- 'to be looking the wrong way'; pakwaq'ws- 'to be afraid to look';  qaq'ws- 'to see something'; ?ınaxwaq'ws- 'to wake up early in the morning'; and ?amaq'ws te ḡ'a 'That is where the black bear sleeps.'

Non-anatomical referents which are related to 'eye' include a number of stems concerned with the appearance of an object. Cf.  sııaq'ws-'to look bloody'; q'wııaqaq'ws- 'to be a different color'; ?aywaq'ws-'to change the color'; qwliyaq'ws- 'to be greenlike'; and muqwaq'ws- 'to be reddish'/'almost red'. Perhaps related to 'eye' are references to nets as insııqııus(aa)aq'ws 'mesh of net' and  ḡ'alııaq'wsa- 'to dry a net.'

Non-anatomical referents whose relationship to 'eye' is opaque or nonexistent include the branches of trees, the sea or river bottom, ashes or the stove itself, nails, veins and arteries, and fruits and berries. Cf. mıııaq'ws- 'to trim a tree of branches'; mııımaq'ws- 'to break the stem of a plant of branch of a tree';mıııkaq'ws 'branch split off from tree'; mıııqwag'wsta 'sticks for
barbecuing fish heads'; yapaq'ws 'a cedar branch which splits easily'; 
itak'aq'ws- 'to hang something upon or over a branch'; ?asaq'ws 'sea/river bottom'; mitmaq'ws- 'to overflow'; mayaqaq'ws 'clear water'; mukaq'ws muddy water'; mulaq'ws- 'to scrape ashes from stove'; mukaq'ws 'a fire which has gone to ashes and will not re-ignite with additional fuel'; tixwaq'wsta 'nail';  
?ip'aq'ws- 'to squeeze berries by hand'; mnsaq'wsm- 'to press fruit or berries for juice'; mnsaq'wsta 'juice press'; mi'qaq'ws- 'to stop bleeding by pressing down on vein with one finger'; and m?ip'aq'ws- 'to stop bleeding by pressing on vein with thumb and index finger straddling the wrist/arm etc.'

As the primary suffix in a complex lexical suffix, -aq'ws copies <eye> or <eye socket>. The following complex lexical suffixes occur in our test frame:

-ulaq'ws 'around the eye', but also the most common direct reference to the eye itself; mu-...ulaq'ws internal region around the eye'; -ikaq'ws 'top of' above the eye', which refers to the upper eyelid or the surface of the superciliary arch'; mu-...ikaq'ws 'internal region above the eye'/frontal sinuses'; -ankaq'ws 'corner of the eye'; mu-...ankaq'ws 'inside the corner of eye'; -nalusaq'ws 'between the eyes'; mu-...nalusaq'ws 'internal region between the eyes'; and mu-...alsaq'ws 'under the eyelid'. In addition we have mu-...aq'ws 'center of the eye' as in mukaq'wsta 'cataract' which does not occur in the test frame.

We have the following additional forms: scapanuaq'ws 'base of bony orbit'; scapikaq'ws 'superciliary arch'; scapanulaq'ws 'glabella'; sa'imaq'wsm 'orbicularis oculi'; sa'imanulaq'ws 'procerus muscle'; mukaq'wsta 'pupil'; mukicoq'ws- 'to be crossed-eyed'; sa'ikuq'ws 'fish eye'; nunnuq'waq'ws- 'to have pus in one's eye'; mukaq'wsm- 'to have a cænder in one's eye'; si'ukaq'wsm- 'to have bloodshot eyes'; malaq'wsm 'widespread eyes'; ?asnalusaq'ws- 'to be
located between the eyes'; ?asalasaq'wa- 'under the eyelid'; muq'wilq'wa- 'to have watery eyes'; nipulasaq'wstut- 'to squint'; ?acuulasaq'wsm- 'to rub one's eyes'; ?apsuulaq'ws- 'to blow in someone's eye'; muqwilacuulaq'ws -'black eye'; soculaq'ws 'orbit of eye'; and masx(x(t)uq'wsta 'eyeglasses'.

As a secondary suffix, -aq'ws copies <socket>. It occurs only before another complex suffix, namely -ani. The combination -aq'wsani is used to refer to the acetabulum of the hip joint or the inguinal region.

2.9 -allX

This suffix is the diminutive of -allX. The exact nature of the semantic content copied by -allX is uncertain, but appears to be connected to <circular> or perhaps <semicircular> as in yallxaam 'to walk around an obstruction' as contrasted to yalqüxaam- 'to circle an object on foot.' In both of these, -allX occurs as part of the root yallX. As a lexical suffix, we find another diminutive variant in ?asq?ip'allqgi 'handle'. There are a number of forms with the root yallX all of which involve the notion of circularity: ?amyallX 'circle'; yallqiai 'wheel/hoop'; ?amyallqwiçci 'arc'/ 'semicircle'; and yallq?i 'ball/sphere'.

This suffix occurs in simple lexical suffixes, but can occur with the prefix nu- <internal>. 13

As a simple lexical suffix, the anatomical referent of -allX is the region including the occiput and the back of the neck. We gloss this region as 'nape'. There was some variation among speakers with FW consistently maintaining the referent of -allX as the occiput only.

There is only one semantic extension of the suffix and it occurs in two stems: caccqwallqi 'long hair' and ?ad?i'xmalqgi- 'to have one's hair stand on end.'
In our test frame we find: -allXi 'nape' and nu-...-allXi 'internal nape', but 'junction of Atlas and skull' (MS).

We have the following additional forms: ?asallXi 'nape' kušallXi 'nape'; ?astrmallXi- 'to have a stiff neck'; mš'imavallXi 'occipitalis muscle'; and scapallXi 'occipital bone.'

2.10 -layx

This suffix never occurs as a simple lexical suffix. It appears to copy <projection> or <tubercle> from the semantic content of lexical items. It is bound to four secondary suffixes: -āqlayx 'bottom projection/tubercle' which accounts for references to the chin or the heel; -ānklayx -ānklayx 'side projection' which refers specifically to the free ribs; -uqlayx 'edge projection' which refers to the eyelashes; and -īwlayx 'capital projection' which refers to the knee as either the patella or tibial tuberosity.

We have the following complex lexical suffixes in our test frame: -āqlayx 'chin', 'heel'; nu-...-āqlayx 'internal chin', internal heel'; -uqāqlayx 'all over the chin, heel'; -ānklayx 'one side of ribs'; -ucānklayx 'lower edge of ribs'; -nalušānklayx 'between the ribs'; -īwlayx 'knee'; and -naluśiīwlayx 'knee joint'. One additional complex suffix -īkāqlayx 'median line of chin' as in nucwikāqlayx 'red stripe down middle of chin' did not occur in the test frame.

We have the additional forms: ?asāqlayx 'chin' or 'heel'; ?āšxāqlayx 'broken chin', 'broken heel'; scapāqlayx 'mental tubercle' or 'tuber calcaneus'; šš'imayāqlayx 'mentalis muscle'; g'wamsāqlayx 'chin dimple'; k'namāqlayx- 'to have a trembling chin'; nuxānklayx 'broken rib'; g'alasriyanklayx- 'to tickle someone's
ribs; šā'imanulasānklayx 'intercostal muscles'; oik'nalusānklayx- 'to stab someone between the ribs'; šk'alusclayx 'eyelash'; sešāsīklayx 'patella' or 'tibial tuberosity'; and qa'xāsīklayx- 'to kick someone in the knee.'

2.11 -an (-an?,-an- 'can' / čm -(á)na? 'can, canuŋ'

This suffix copies <corner> from the semantic content of lexical items. It occurs in simple and complex lexical suffixes and as both primary and secondary suffix of the latter.

As a simple lexical suffix, the anatomical referents of -an are those items located on an angle described by a line extending from the temple down the neck to its base and across the shoulder to the acromial end of the clavicle. There are also a number of nominal forms for various body parts which are or contain corners: sq'wan 'knee' and ša'ahwani 'elbow', but these are copied into Comments via -šāsīklayx and -šāsīklayx respectively.

We have the following forms with simple -an: sq'wan 'from temple to clavicle', 'clavicle region' or 'neck'; sešāsīk 'clavicle' or 'temporal bone'; ša'iman 'temporal muscle'; šp'ān- 'to hit someone on the temple'; šq'ūšān 'sideburns'; štankasa 'ear'; and nukušān 'broken clavicle.'

Semantic extensions of -an based on its corporeal referents involve aural perception as in: tqa'n- 'to be deaf'; ?amacayama- 'to be listening'; ?aṣṣwaša- 'to know how to do something' (after having been told) and ?aṣṣwašanta 'sea shell.'

A second group of words appears to share a reference to the neck: ša'qupa 'cormorant'; šaq'ana 'crane'; sq'wan 'fish neck'; ṣak'mani 'weasel'; and ša'q'ana 'snail'. The word nukana 'abalone' could contain a reference to the neck or perhaps a more general and direct reference to its shape, such as is found in kana 'shelf fungus.' For some, as yet inexplicable reason, -an occurs in forms referring to the menses as in kana 'menses' and k'can 'girl at time of first menses.'
Non-anatomical referents of simple -an include: ?asan 'corner'; ?asan- 
'to be located at a corner'; nu?ilan- 'to go/come around a corner'; ?am?ilwan-
'to look around a corner'; k'xan- 'to see a corner'; q'wxtan 'curved corner';
çaqwan 'long corner'; múyallæan 'sharp corner'; múyallæan 'round corner'; ?uc'an
'corner of top surface'; and kænan 'shelf fungus.'

Complex suffixes containing -an as primary suffix which occur in our test
frame are: mu....-an 'internal temporal or clavicle area'; -uzan 'around temple';
-ikan 'ear'; -aqikan 'behind the ear' but also for some speakers 'under the ear';
and nu...-alsikan 'meatus', middle ear, inner ear.'

We have the following additional forms: sq'wpikan 'right ear'; sqxikan
'left ear'; mulikan- 'to pour something into someone's ear'; pusikan - 'to have
a swelling ear'; fæalsikan 'meatus', tympanum'; musquspalsikan 'ear hair'; ?ucikan
'rim of ear'; st'wikalsikan 'ear wax'; nisalsikan- 'to clean one's ear';
gup'aqikan- 'to punch someone behind the ear'; scapalsikan 'ear bones'; nisalsikan-
'to have wide ear holes'; and sixoikumikantimut- 'to wiggle one's ears.'

As a secondary suffix in complex lexical suffixes, -an occurs before
three primary suffixes: -aník 'corner of crotch', i.e., where leg joins hip;
-anak 'corner/pivot of hand', i.e., 'wrist'; and -anak 'corner/pivot of foot' or
'ankle.'

2.12 -èk (-ék, -èk, -èk)

This suffix copies <rear>, <bottom>, or <distributed> from the semantic
content of lexical items. Of these three pieces of semantic content, <distributed>
appears to be independent of the others. We claim that <rear> and <bottom> are
related. It is our view that the original piece of semantic content copied by
èk was <rear> just as the original content copied by -ik was <visible top
surface>. We have already discussed in 2.5 how the switch in orientation from quadrupedal to bipedal reference changed the content copied by -ik as a primary suffix to <back>. In the case of -ik, this shift in copied content was accompanied by or manifested by the bonding of a secondary suffix to -ik forming -uik which is obviously phonologically distinct from -ik <top surface>. We claim the same shift to have occurred with -ax, except that the old and new content coexist with lexical suffixes of identical phonological shape.

Examples of -ax <rear> include: kuFax 'rear wall of house'; txaFx <ax -rear wall'> 'area behind the house'; pak< -stern of boat, rear end of car'; mpla< -to have no stern/rear wall'; nam< -place'; mww< - to abandon/leave behind'; qua< - 'to wash a rear wall'; muim< - to copulate from behind'; muul< - 'to go back to get something'; msw< - 'to bend over backwards'; mus< - 'to sail with a following wind'; amu< - 'to push a car from behind'; mu< - 'to push the stern of a boat' or the end of a log in water'; and kula< - 'to go behind an object'.

Examples of -ax <bottom> include: ?asa< -bottom of box, basket, bottle, keel of boat'; as< - 'to be located on the bottom'; gpa< - 'to wipe the bottom of something'; n< 'to grab something from underneath'; pla< - 'to be bottomless'; asals< - 'to be located on the inside bottom'; kul< 'the inside bottom of container'; lim< - 'to litter'; ki< - 'to be toppled'; mta< - 'to squat'; and na< - 'to recline'.

Examples of -ax <distributed> are: sttn< - 'forest' cf. stn 'tree'; slala< - 'meadow' cf. slau 'grass'; ta< - 'forest with dense underbrush'; and kall< - 'swamp/marsh.'

Some stems, especially those involving object copying, are ambiguous. Cf.
nuqÁq- 'to make a hole in the back wall' or 'to make a hole in the bottom';
que'áx- 'to wash the rear wall or the bottom of something'; sp'áq- 'to hit the back or bottom of something'. Some words appear to be disambiguated by the manner of the final consonant of the suffix as in kuiÁx 'rear wall' and kuqÁq 'external bottom', but the distinction is not consistent and not all speakers employ it.

As a simple lexical suffix, -áx occurs in only two words which refer to the body: ?ucÁx 'lumbar region' and scÁx 'anus'. Both words are incorporated into Comments by complex suffixes, however, and thus, the majority of anatomical referents containing -áx involve complex suffixes.

There are a few stems with -áx which are related to anatomical bottom, namely ?amataÁx 'chair'; ?asankÁx- 'to sit in front of someone'; ?jÁxÁx- 'to move one's chair'; q'wÁxÁx- 'to change seats'; tqaÁxÁx- 'to sit lower/below someone'; and tákÁxÁx- 'to sit higher/above someone'.

As the primary suffix of a complex lexical suffix, the anatomical referents of -áx are the lumbar and anal regions. The following complex suffixes occur in our test frame: ?us-, . . .-áx 'lumbar region'; -ikáx 'median line lumbar region'; nu- . . .-áx 'anus'; -uqÁx 'buttock'; -ankucÁx 'one side of buttock'; nu- . . .-ucÁx 'inside buttock'; nu-. . .-ankucÁx 'inside one side of buttock'; -umankucÁx 'all over the surface of buttock'; and -nalusucÁx 'sacrum'. We also have the following suffixes which did not occur in the test frame: -lÁcuqÁx 'skin of buttock' as in ðusqalÁcuqÁx- 'to have a rash on buttock' and -lÁcankucÁx 'skin of side of buttock' as in ðusqalÁcankucÁx- 'to have a rash on the side of the buttock.'

We have the following additional forms: scapÁx ?uscápÁx 'sacrum'; swvp'ikÁx lumbar vertebrae'; ?uqÁxÁx 'gluteus maximus'; nuq'wnyÁx 'anal hair'; nuÁxwilmÁx- 'to have an itchy anus'; nuÁxÁxÁx- 'to give someone an enema'; ?asucÁx
"buttock"; \(\text{?asnalusueax}\) - 'to be located between the buttocks'; and \(\text{qXamucax}\) - 'to have a blister on one's buttock.'

As a secondary suffix in complex lexical suffixes with anatomical referents, \(\text{-aX}\) modifies the referent of 13 primary suffixes. There was substantial disagreement as to whether <distributed>, <rear/behind>, or <bottom/under> was the copied content in a number of forms. The disagreements were unsystematic and in some cases several speakers gave contradictory glosses from session to session as well as from time to time in the same session. Below are some of the disputed suffixes: \(\text{-aXankus}\) 'squamosal region' i.e., 'behind the side of the face', but for FW 'all over the side of the face'; \(\text{-aXikan}\) 'under the ear' but FW 'behind the ear' and CS glossed it both ways; \(\text{-aXikak}\) 'back of thigh' (CS, MS, SS) but FW equated this form with \(\text{-udikak}\) 'top/back of foot' and 'front of thigh', and CS in 1971 made a partial equation glossing \(\text{-aXikak}\) once as 'back of foot' but not as 'front of thigh'. AS complicates the matter further by glossing this complex suffix as 'lower leg' i.e., 'under the thigh'. The complex suffix \(\text{-aXams}\) is 'entire mandible' for all speakers except FW whose gloss is 'ascending rami of mandible'. Finally, \(\text{-aXapsm}\) is 'entire neck' for all except FW and SS who gloss this suffix as 'back of the neck.' SS differs from FW in that he will accept the nominal \(\text{?asaXapsm}\) to mean 'the entire neck.' It is apparent that all three pieces of semantic content are copied by \(\text{aX}\) as a secondary suffix and that the speakers depend almost entirely on the context of the situation to disambiguate the referents of the various complex suffixes.
2.13 -ank

This suffix copies <front> or <under> from the semantic content of lexical items. It appears to be the obverse of -ik and subject to the same shift in orientation we discussed in 2.5. As a simple non-anatomical lexical suffix, -ank copies only <front> as in ?asank ?al ?iimu 'I am directly in front of you.'; reikumankta 'toggle'/'button'; and reikumank- 'to set food in front of someone.' However, as the primary suffix of a complex non-anatomical lexical suffix it is bound to -nk-(cf. 2.7) and copies only <under> as in tonkanko ?al ?iimu 'I am under you.' As a secondary suffix in complex non-anatomical lexical suffixes, the suffix copies either <front> as in ?asankals 'inside front wall' or bound again with -nk it copies <under> as in tonkankus 'underside of tabletop.'

As a simple anatomical suffix, the referent of -ank is the entire front of the torso as in ?asank 'front of torso.'

As the primary suffix in a complex anatomical lexical suffix, -ank is bound to -ul, the combination -ulank referring to the abdomen. We have the following complex suffixes in our test frame: -ulank 'abdomen'; -uculank 'lower abdomen'; -ulank 'inside the lower abdomen.' Other suffixes which did not occur in the test frame are: -enkank 'median line of abdomen' as in ?asank 'abdomen'; -ikulkank 'hair along median line of abdomen'; -ikuculank 'median line of lower abdomen' as in ?asank 'hair along median line of lower abdomen'; and -ikulank 'skin of abdomen' as in ?asank 'abdomen itches'.

We have the following additional forms: kskulank 'abdomen'; sik'ulank- 'to stab someone in the abdomen'; ?astmulank- 'to laugh until one's belly gets tight'; ?usqaliqulank- 'to have a rash on one's abdomen'; ?usqaliuculank- 'to have a rash on one's lower abdomen'; and š'imayulank 'rectus abdominis' or 'internal abdominal obliques.'
As a secondary suffix, in complex lexical suffixes with anatomical referents, -ank copies <front>. It is rare and not all speakers accept it. It occurs in our data in -mekankalus 'lower front of the chest' (cf. 2.6) and bound to -ul in kamankalus - 'to have pain in the area of the xiphoid process'.

2.14 -änk

This suffix copies <aside> or <flank> from the semantic content of lexical items. This content is shared by several words, which with additional semantic content are employed to refer to the sides of non-containers as well as location beside an object or person. Cf. kulänko tfi?im 'I am beside you.'; asänko tfi?im 'I am off to the side in front of you', which contrasts with asänko tfi?im 'I am directly in front of you.'; litic kulänkam 'I am going to push it off to the side.'; litänk 'I am going to push the side of something.'; and kulänk 'side of a non-container'. When used in conjunction with a container, kulänk refers to an object standing next to it.

This suffix occurs in simple and complex lexical suffixes and as both primary and secondary suffix of the latter.

The anatomical referent of -änk is the flank of an animal or the side of the human torso. We have the following examples of the simple suffix: sq'wpänk 'right side'; šunänk 'left side'; pänänk- 'to have no feeling on one side of torso'; stütsänk 'to be paralyzed on one side of torso'; stikmänk 'to have pain on just one side'; and ešimänk 'external abdominal obliques.'

As a primary suffix of a complex lexical suffix, -änk occurs in the following forms found in the test frame: mu-...änk 'internal side'; làwänk 'top of hip'/superior border of ilium'; mu-...išwänk 'internal top of hip'; mänänk 'all over the surface of hip'; išwänk 'lower hip'/anterior projection
of iliac spine'; and mu-...-lxsänk 'internal lower hip.'

We have the following additional forms: skulāwān̄k 'hip'; soapāwān̄k 'superior border of ilium'; asaplixsänk 'anterior iliac spine'; sā'imayāwān̄k 'gluteus medius muscle' and tusqalīcāwān̄k- 'to have a rash on hip.'

As a secondary suffix in complex lexical suffixes, -ānk- is the most frequent. It occurs with every primary suffix except those which in themselves refer to one side of a structure. Cf. -apem 'one side of neck' and -ams 'one side of mandible.' As a secondary suffix it often loses the length of its vowel.

2.15 -līc (-līc) / Cn - ēcā 'skinner' ; ēcā? 'skinning, skin, hide, outside' / -ēcā? 'side, body (inside)'

This suffix copies <exterior covering> from the semantic content of lexical items. It is used to refer to the skin, the pelts of living animals, the plumage of birds, scales of fish and the bark of trees as in: sk'stlic 'skin'; tusqalic- 'to have a rash'; xwilmīc- 'to itch all over'; spūlpulīc- 'to have lumps all over one's skin'; q'īsmīc- 'to have hives'; ḫowlīc- 'to be sunburned'; manlīc 'grizzly's pelt'; ḫlīc- 'to groom'; ḥāwqalīc- 'to undergo seasonal change of plumage/pelt colour etc.'; spūlīc 'plumage'; plīc- 'to be featherless'; cālīc- 'to pluck feathers'; līmālīc- 'to molt'; sālīc- 'to scale a fish'; skulīc 'bark'; q'amulīc 'bark'; lldqalīc(a) 'alder bark'; ?aq'mīlalīc 'cottonwood bark'; q'wplīc- 'to strip a tree bare of bark'; sik'wālīc- 'to peel bark'; lullullīc- 'to strip bark with a tool'; and nucqālīc- 'to make a hole in the bark of a tree.' In a number of stems, the suffix appears to refer not only to the bark of trees, but also to the exterior of poles and other shaft like objects as in: quclīc- 'to wash a pole'; ?ipolīc 'mossy tree/pole'; suc'mlīc 'barnacles on piling'; sik'mlīc 'dirty pole/pipecleaner'; ḥlīc- 'to clean off a
pole/tree'; guillito- 'to write on a pole/tree'; ?at'liło- 'to paint a pole';
guillito 'big round tree/pole/log'; and mguillito 'red pencil/pipe cleaner/pole/ dowel/banister'.

This suffix occurs in both simple and complex lexical suffixes. It is somewhat unusual in that it occurs only as a secondary suffix in complex lexical suffixes.

As a secondary suffix in complex anatomical lexical suffixes, -liło may occur with any primary suffix or complex suffix which refers to the exterior of the body. It is also used as a secondary suffix with reference to items of clothing as in gu'llicoł 'torn pants leg.'

2.16 -anä

This suffix copies <external covering> from the semantic content of lexical items. It refers to the pelts of animals after they have been divested of them. Today, it refers to blankets and all man-made clothes as well as material of all kinds. Cf. nananä 'grizzly pelt/blanket'; yakiyänä 'mountain goat blanket'; sic'manä 'leather jacket'; kic'anä- 'to wash clothes'; fit'ayawanän- 'to change one's clothes'; t'awanän-'to brush one's clothes'; tig'anä- 'to sew clothes';

ig'anä 'wet clothes'; and A'adanä- 'to dry clothes.'

Other referents include sails, nets, spider webs, and material possessions as in: tuk'anä- 'to stretch a sail'; q'sanän- 'to tighten a sail'; so'lanä 'dew on a spider web/net/clothes'; t'ausanän 'damp sail/clothes'; kwasanän 'rough material';

ig'wanän- 'to bleach material'; núyawanän- 'to be stingy with possessions'; and núyawanän- 'to be generous with possessions.'

This suffix occurs primarily in simple suffixes.
This suffix copies <round> and <exterior> from the semantic content of lexical items. Examples of the former are: yakū ‘ball’; samp’ūl ‘baseball’; q’xmūl ‘soccer ball’; spū ‘lump’; stpū ‘mole’ cf. stp ‘freckle’; yamū ‘toque’; 3p’ū ‘bread’; sik’wū ‘to peel an orange’; q’xū ‘to bite an apple’; qilū ‘to gnaw on an apple’; t’aquū ‘to lick a lollipop’; and nixū ‘to saw firewood.’ Perhaps related to the above are the following references to rocks: pik’ū ‘broad flat rock’; ?ipsū ‘moosy rock’; ?apsū ‘to defecate on a rock’; snc’wū ‘barnacle on a rock’; qwū ‘to heat rocks’; klp’ūm ‘to put hot rocks into oolichan rendering bin with tongs’; jū ‘to clean rock of moss or barnacles’; nuxmuqwu ‘gold’; qwiyū ‘jadeite’; st’a’ūt ‘whetstone’; tayamkū ‘to throw a large rock’; and ?akqwmu ‘a pile of stones.’ Examples of forms where <exterior> is copied are: j’a’ū ‘to wrap something’; tāqu ‘to unwrap something’; sqxp’ayū ‘egg shell’; quc’ū ‘to wash the exterior of something’; muqwlū ‘to paint the exterior red’; it’aquū ‘to paint an exterior’; and kuqū ‘the exterior’.

This suffix occurs in simple and complex lexical suffixes and as both primary and secondary suffix of the latter.

The anatomical referent of -ū in simple lexical suffixes is the exterior of the body, although most references are in fact to the clothing as in: juxu ‘a naked person’; kxūm ‘to undress’; xit’taymu ‘to change clothes’; and xkuptu ‘to stink.’

As the primary suffix in a complex lexical suffix, we find that the long and short variants become distinctive. Both are bound to the prefix mu-<center>. The combination mu-...-ū refers to the heart and the surface area around the heart while the combination mu-...-ū refers solely to the navel.

We have a few additional forms: nuxmusu ‘to have a swelling near the
heart'; nuq'wnayūm 'navel hair'; and nuq't'mu 'umbilical hernia.'

There are three distinct secondary suffixes with this phonological shape. The first is related to the above suffix and copies <around> as in -uṣaq'ws 'around the eye', of. ə̃'i'mayulaq'ws 'orbicularis oculi'; -uṣuc 'around the mouth' as in ə̃'i'mayuluc 'orbicularis oris'; and -uṣixwak 'around the fingernail' as in cik'muiixwak 'dirt around the fingernail.' The second suffix copies <exterior> or perhaps more exactly <entire exterior> as in: -uṣanks 'all over the side of the face'; -uṣesem 'all over one side of the neck'; and -uṣales 'all over the cheek.'

The third use of -uṣ- occurs where it is bound to -ik, the combination -uṣik serving both as the basis for other complex suffixes referring to the upper back as well as constituting a two part secondary suffix which modifies other primary suffixes and complex suffixes such as -uṣikak 'back of the hand' -uṣiklqisak 'back of the finger'; and -uṣikalîc 'dorsum of tongue'. In this third usage, -uṣ- appears to act as a connector which signals that the original content copied by the primary suffix has been changed.

2.18 -nalus

This suffix copies <between>. Except for some stems such as ?asnalus- 'to be between' and ?asnalusum- 'to go to a spot between two objects' this suffix occurs only as a secondary suffix in complex lexical suffixes. It modifies only one primary suffix directly, -nalusaq'ws 'between the eyes' but occurs before 15 complex suffixes: -nalusucāx 'between the buttocks'; -naluslqisak 'between the fingers'; nu-...-naluslqisak 'finger joint'; -nalusāxak 'wrist joint'; -nalulqisak 'between the toes'; -nalusāxal 'ankle joint'; -naluslwalst 'shoulder joint'; -naluslwalstuux 'between the scapulae'; -naluslssūx 'between scapulae at second and third thoracic vertebrae'; -nalusalix 'between the teeth';
-nalusalgik 'between the teeth'; -nalusalgik 'between the tips of teeth';
-nalusaxalik 'hip joint'; -nalusaxalik 'between the ribs'; and -nalusaxalik
'between the ribs.'

2.19 -apem  Ch. (á)ps 'neck' / Cm. (á)ps 'back of neck'

This is a corporeal suffix. All speakers agree that it refers to the neck.
For the majority, it refers specifically to one side of the neck. For SS, it refers to the throat; for FW, it referred one time to the throat and subsequently to the tonsils. The majority consider -apem to refer to both sides of the neck including the throat, but specifically exclude the back of the neck as part of the referent of -apem. Both SS and FW consider that their -apem is equivalent to the majority's -apem. They claim -apem to refer to the 'back of the neck.'

It should be noted that FW restricts -apem 'nape' to the occiput, whereas the other speakers include the back of the neck in its referent. However, FW exhibited an unusual inconsistency with regard -apem. At a later date, she indicated that it referred to the mastoid region of the neck and skull and at a still later date used the suffix with reference to the condyle of the mandible. The confusion appears to stem from the ambiguity of the sequence -apem, a situation we discussed in 2.12.

This suffix occurs in both simple and complex lexical suffixes, but only as a primary suffix in the latter.

As a simple lexical suffix, we shall take the anatomical referent to be one side of the neck as in: skulapem 'one side of the neck'; ?asapem 'to be located on one side of the neck'; skulimayapem 'sternocleidomastoid muscle'; and pusmapem 'to have a swelling on one side of the neck.'

The suffix does occur in one non-anatomical form qlapemta 'scarf.'
The following complex suffixes occur in our test frame: -ālxams 'both sides of neck including the throat'; -ulams 'all over one side of the neck' but also 'around the neck' (CS); nu...-ams 'inside one side of neck'; nu...-ikams 'inside one side of the neck'; -ikams 'mastoid process'; and nu...-ālxams 'inside both sides of the neck.'

2.20 -ams

This is a corporeal suffix which for most speakers refers to one side of the mandible as in: skulams 'one side of mandible'; kmayams- 'one side of jaw hurts'; and ?asams- 'to be located inside one side of mandible.' For these speakers, a complex lexical suffix, namely -ālxams is required to refer to the entire mandible as in skulams. FW, however, uses -ams 'to refer to the entire mandible and -ālxams for the ascending rami of the mandible. No other speaker makes this distinction. MS uses -ams to refer to the gums. Of interest in this light is the fact that of the four different teeth types for which there are nominal forms in Bella Coola, three of these, all located along the side of the mouth or jaw, contain -ams, namely snuac'ams 'canine teeth'; ?asisams 'molars' and smut'kams 'wisdom teeth.' The incisors are ?asikalamic 'literally'middle teeth' with the usual lexical suffix referring to the teeth.

The following lexical suffixes occur in our test frame: -ālxams 'entire mandible', but FW 'ascending rami'; -ulams 'all over one side of jaw'; and nu...-ams 'inside of jaw', but also 'gums'(MS). In addition the complex suffix -licālxams 'skin of jaw' as in ?usqalicałxams- 'to have a rash on jaw' did not occur in the frame.

We have the additional forms: smākālxams 'fish jaw'; sqūpamams 'baleen'; socalałxams 'mandible'; ?aik'mamsa- 'to clench one's jaws'; and ?aicquamams- 'to hold one's jaws open.'
This is a corporeal suffix which copies <throat>. It occurs as a simple suffix in one form \textit{xllalla} 'to be hungry.' Elsewhere it serves as primary suffix in complex lexical suffixes.

We have in our test frame the following complex suffixes: \textit{mu-...-alll} 'internal throat'; \textit{mu-...-nikall} 'internal throat'; and \textit{-uulika} 'external throat.' We have the following additional suffixes: \textit{-ikall} 'median line of throat' as in \textit{muwikall} 'to have a red stripe down middle of throat.' and \textit{-likullka} 'skin of throat' as in \textit{nasquiloulikall} 'to have a rash on the throat.'

We have the following additional words: \textit{scuplikall} 'hyoid bone'; \textit{askall} 'median line of throat'; \textit{muupulikall} 'thyroid cartilage'; \textit{spulikall} 'Adam's apple'; \textit{-asikall} 'inside of throat'; \textit{muqunakall} 'to choke'; \textit{mu'lawall} 'to gag'; \textit{mu'sala} 'to speak loudly from the throat'; \textit{muqusal} 'to gargle'; \textit{muqalikall} 'to clear one's throat'; \textit{mulall} 'to pour something down someone's throat'; \textit{muupall} 'to force something down someone's throat'; \textit{muqikall} 'to have a burning throat'; and \textit{mul'kall} 'to get something stuck in one's throat.'

As a simple suffix, \textit{-mx} refers to a member of a tribe, group, profession, or a person who is habitually associated with some preoccupation as in \textit{mu'kalmx} 'a Bella Coola'; \textit{gulmex} 'a Kimsquit'; \textit{taulymex} 'a Tallic'; \textit{qualnslomex} 'a Bella Bella'; \textit{stallomex} 'chief'; \textit{nusnalumex} 'dancer'; \textit{musclomex} 'artisan/carver'; and \textit{nus'umex} 'a person preoccupied with sex.'

As a primary suffix in complex lexical suffixes, \textit{-mx} occurs with two connectors \textit{-ul} and \textit{-al}. The combination \textit{-ulmex} refers to the earth, ground, or floor in such forms as \textit{opulmex} 'to wipe/mop the floor'; \textit{t'xulmex} 'to sweep the floor'; \textit{t'xulmex} 'broom'; and \textit{kuulmex} 'floor of house', 'earth', 'territory', etc. The combination \textit{-alux} is contained in a specialised reference to the floor of a
valley or any flat area which is divided by a river as in ?asalmx wa similt o
one side of valley bisected by a river. The floor of a valley with no river would be kušalmx.

The anatomical referent of -almx is the breast as in āk'walmx- 'to have
large breasts'; caq'alamx- 'to have long pointed breasts'; ā′alwšalmx- 'to have
firm round breasts'; pix'alamx- 'to have broad flat breasts'; and pušalmx the
emerging breasts of a young girl.

The following complex lexical suffixes occur in our test frame: -iskalmx
'nipple' and mu...ikalmx 'inside the breast.' In addition we have -licalmx
'skin of breast' as in ṭusqalicalmx- 'to have a rash on the breast.'

We have the additional words: ?aslsalmx 'nipple'; nuk'axwikalamx- 'to have
empty breasts'; and nusqat'alumxta 'brassiere.'

2.23 -1o

This is a corporeal suffix which copies <tooth>. Although the phonological
sequence is found in ?ica 'tooth', this suffix never occurs as a simple suffix.
The connector -al-is always present and all other complex lexical suffixes are
based on -alic .

Our test frame was not very productive in this area. Apparently only
nukmayāgalic 'toothache' is acceptable. We did find a number of complex suffixes
outside the test frame. The complex suffix -alic is not the most frequent suffix
for references to the teeth. We have only suptalic- 'to whistle-lisp'; plalic-
'to be toothless; and ṭut'pātic- 'to have a decaying tooth.' The more frequent
suffix for references to the teeth is -galic which is glossed as 'the entire
tooth', 'teeth' or simply 'tooth'. It appears that this longer form is preferred
because of the closeness of -alic 'tooth' to -ālic 'tongue'. We have the following
examples containing -ägalic: mägalic- 'to break a tooth'; nut'plägalic- 'to have decaying teeth'; sertägalic- 'to accidently whistle through the teeth'; sälk'mayägalic- 'to hold something clamped in the teeth'; gueägalic- 'to clean one's teeth'; iölägalic- 'to scrub/brush one's teeth'; cik'tägalic- 'to pick one's teeth'; mänägalic 'wide spread teeth'; pul'ägalic 'baby teeth'; gülünägalic 'beaver teeth'; nanägalic 'grizzly teeth'; nixmägalic 'saw teeth'; t'vinägalic 'bite/teeth marks'; lälägalic- 'to drill teeth'; ok'wänägalic- 'to pull teeth'; limägalic- 'to have a tooth just fall out'; pul'lnägalic- 'to have a loose tooth'; sälk'mägalicistimut- 'to talk through clenched teeth'; fașiägalic- 'to bare one's teeth'; nañmägalic- 'to have just two (non-opposing) teeth'; and nanam-ägalic- 'to have two opposing teeth.'

The complex suffix -lalägalic 'point/tip of tooth' occurs in sälk'mlägalic- 'to hold something by the tips of teeth' but also to hold the tip of something between the teeth'. The complex suffix -naluslägalic 'between the tips of the teeth' occurs in muqnaluslägalic- 'to have a hole/gap between the teeth' and sälk'maluslägalic 'wide spread teeth'. Finally, the complex suffix nu-...-iklägalic occurs in muwëmkładgalic- 'to break off the tip of one's tooth.

The complex suffix which refers to the gums is -ägalic literally 'bottom /base of tooth/teeth'. This has a variant -ägalic which is homophonous with -ägalic 'teeth'. For the most part, the selectional constraints of the verb disambiguate the suffixes as in t'qwägalic- 'to have bleeding gums' and püsmaägalic- 'to have swelling gums.'

Our test frame was more productive of complex suffixes referring to the gums. We have: -uänägalic 'all over the external surface of gums'; -änkägalic 'buccal side of gums'; and nu-...-alsägalic 'lingual side of gums.'
2.24 -\text{al}

This corporeal suffix copies \text{<tongue>}. It is always preceded by the connector \text{-al-}.

There are a number of stems involving pronunciation difficulties which contain this suffix. Cf. \text{t'salīc- 'to substitute \text{s} for \text{t}'}; \text{t'pallīc- 'to substitute an ejective for a non-ejective'}; \text{t'lällīc- 'to substitute \text{l} for another sound, usually \text{y} and usually involving metathesis' as in \text{bakalaya} for \text{bakayala 'box'}}; \text{t'nalīc- 'to substitute \text{n} for another sound, usually \text{y} as in \text{numalīx} for \text{yumalīx 'sour'}}; \text{t'malīc- 'to substitute \text{m} for another sound'}; \text{t'läīc- 'to substitute \text{a} for another sound'}; and \text{?astalīc- 'to stutter', literally 'to have a stiff tongue'}.'

The following complex lexical suffixes occur in our test frame: \text{-alīc 'tongue'}; \text{-līxalīc 'tip of tongue'}; \text{-änkalīc 'inferior margin of tongue'}; and \text{-ikūcalīc 'edge of tongue.' The following occur outside the frame: \text{-ikalīc 'visible top surface of tongue' as in \text{muqwikalīc- 'visible portion of tongue is red'} (note that the exact amount of tongue referred to by this form depends on the protrusion of tongue from mouth) and \text{-alīkalīc 'dorsum of tongue' as in \text{muqwiwulīkalīc- 'dorsum of tongue is red.'}}

We have the following additional forms: \text{nulik'wulīcm- 'to twist one's tongue'}; \text{p'allīc- 'to have no feeling in tongue'}; \text{t'lällīc- 'to have a strong tongue'}; \text{q'alīcayxnīmut- 'to accidently bite one's tongue'}; \text{q'wilīcalīcayxnīmut- 'to accidently bite the tip of one's tongue'}; \text{cgwilīcayyxalīc- 'tongue is turning white'}; and \text{läliq'ilīcm- 'to stick one's tongue out.'}
2.25 -iž (-îž)

This is a corporeal suffix which is employed to refer to the genitals or the crotch region. Most nominal forms for female genitalia include this suffix, cf. scoiž 'vagina'; spliž 'vulva'; paciž vagina of maiden'; and numiž 'large vagina'. The nominals for male genitalia do not include the suffix and glosses for forms which have -iž with reference to males refer to the crotch. There are some exceptions such as kmayiž 'My penis hurts' which derives from kma ti xlič, but the usual copy form of the analytic sentence is quâkmâc 'My penis hurts.' Perhaps -iž was originally a shape suffix with the meaning of <passage> such as suggested by McIlwraith, 1949 who glosses numiž as "passage, especially the digestive tract". We were unable to obtain a lexical suffix which referred to the digestive tract except the form nuq'Xalsiž 'to have bad air inside'.

The extensions of -iž pertain to the use of the genito-urinary tract as in: ?aviž- 'to copulate' or 'to urinate'; vaikiž- 'to copulate/urinate too frequently'; cililž- 'to copulate for the first time'; ?inaxwiž- 'to copulate/urinate first thing in the morning'; mununž- 'to be the first one in a group to copulate'; and perhaps muvayiž- 'to be eager'. The suffix occurs in a number of animal names such as qeckiž 'ant'; oxwpasiž 'deer'; and stantapiž 'bat' literally 'the one who keeps exposing his genitals.'

This suffix occurs in both simple and complex lexical suffixes, and as primary and secondary suffix of the latter.

The following complex suffixes occur in our text frame: nu-...-iž 'inside the genitals/crotch'; nu-...-alsiž 'inside the vagina'; -ľeržiž 'pubic bone'; -uciž 'external pubic region'; -aniž 'where leg joins crotch'; nu-...-aniž 'inside where leg joins crotch'; -aq'wsaniž 'inguinal region'; nu-...-aq'wsaniž 'hip joint', and -lxsaniž 'ischial tuberosity'(?).
We have the following additional words: `soapIwii' 'pubic bone'; `soapIxsani' 'ischium'; `soapaq'wsani' 'acetabulum'; `asi' 'gentials'; `skuq'wsani' 'inguinal region'; `skuani' 'surface where leg joins crotch'; `uq' 'pubic region'; `squpIucii' 'hair on pubic bone'; `nsaqwmati' 'pubic hair' (cf. `qwa' 'crotch hair'); `squati' 'urine bladder'; `qwa' 'sweaty crotch'; `xwili' 'itching crotch'; `nupsi' 'swelling in genito-urinary tract'; `amqipaq'wsani' 'to clamp legs together to prevent intercourse'; `mok'maq'wsani' 'to have dislocated hip'; `slip'nalusaq' 'hairless crotch'; `tapil' 'to flash or expose one's genitals'; `splita' 'womanizer'; and `mucii' 'to de-flower'.

Unlike most corporeal suffixes, -i does occur as a secondary suffix in complex suffixes. It modifies two primary suffixes, -uc 'mouth' and -lx 'nose'. This again points out the possible shape suffix origin of the suffix. It appears to mean <slit> in the complex suffix -ilx as in `amqikidax 'nose ring'. In conjunction with the primary suffix -uc it refers to the lips, in particular: -luc 'both lips' (or the 'mouth slit'??) where there may be semantic identification or oral and genital labia. (Newman's gloss for `splita' 'labia' suggests this.) The two remaining complex suffixes are troublesome, -lx -luc 'should mean something like 'top of both lips' but actually is consistently glossed by all speakers as 'lower lip.' The complex suffix nu-...-lx is accordingly 'inside the lower lip.' We have no explanation for this.
2.26 -a1

There appear to be three lexical suffixes with this phonological shape.

The first copies <container> from the semantic content of lexical items as in: ilk'wa1 'large container/spoon/car/boat'; o'Xwa1 'white container, etc.'; sqa1- 'to wipe a container, etc.'; Xulala1- 'to launch a canoe'; maca1- 'to launch a canoe for the first time'; and mava1a1am 'one spoon-/cupful.' A second suffix appears to copy <from heaven/sky> as in: wil1a1 'rain' ('to pour straight down from heaven'); ?asc'a1 'waterfall'; ?acmXa1al 'random rain drops'; ?aXa1 'sunbeam'; ?astXwa1 'inside totem pole'; and ?asgaya1 'outside totem pole.'

The third homophonous lexical suffix is corporal and copies <leg/foot> from the semantic content of a set of lexical items.

This third suffix occurs in simple and complex lexical suffixes. It occurs only as a primary suffix in complex lexical suffixes.

As a simple lexical suffix, the anatomical referent of -a1 is the entire leg or the foot as in: ilk'wa1- 'to have a big foot'; sq'wpai 'right foot'; sxal 'left foot'; cnalxai- 'foot is going to sleep'; ?aXgna1am- 'to urinate on one's foot'; palxai- 'to have no feeling in foot/leg'; gaxacxiyai- 'to tickle someone's foot'; sp'ai- 'to hit someone's leg/foot'; q'ma1- 'to step on someone's foot'; quc'ai1m- 'to wash one's foot'; t'aqwa1- 'to lick someone's foot'; ?anuk'wma1- 'to point at someone's foot'; q'awa1layx- 'to get one's foot caught'; pla1- 'to have no foot'; muq'mika1am- 'to press something down with one's foot'; t'ak'ma1- 'to be caught by the foot'; ?aXkip'ai1m- 'to hold something clamped between the legs'; excaqwa1- 'to have long legs'; q'wa1 'bowed legs'; scapa1 'femur'; and anuqMXka1 'leg bone marrow.'

Semantic extensions of -a1 <leg/foot> include stems whose action involves the legs as: ?ayk'ai1- 'to walk slowly'; a'ya1- 'to walk rapidly'; smava1a1 'one pace'; ma1apaxai- 'to take one step forward'; ma1apaxai- ska lipcut- 'to take one step backwards'; ma1apaxai- ?ai ti sq'wpänk- tx 'to take one step to the
right': dga'- 'to take the low(er) trail'; ḏu'ka'- 'to take the high(er) trail'; sgiwa- 'to wade'; muk'awai- 'to step up on something'; ku'lika'- 'to walk on the roof'; ḏu'ca'- 'to walk on the top of a flat hill'; asika'- 'to walk in the middle'; ḏu'ikaa'- 'to walk on a tabletop etc.'; ḏu'wamaka'- 'to take a long stride'; ḏu'nkaa'- 'to come down a pole/mountain/tree'; sxq'waal- 'to jump up and down'; sxq'waami- 'to hop'; qulucama- 'Go ashore'; Xulaca'- 'Come ashore'; kawa'- 'to escort/take someone back home'; aikulaa'- 'to stand in the middle'; paca'- 'to walk before someone'; mukunaami- 'to walk for the first time'; inaxwaal- 'to leave early in the morning'; wullkaam- 'to walk around something'; asc'awikal- 'to use snowshoes'; sk'laatam- 'to ice-skate'; asiknalusa]- 'to walk between two objects'; cikwai- 'to start to go'; Xwpa'- 'to trip'; lixma'- 'to slip'; sck'wam- 'starting line'; paqwaal- 'to be afraid to step on something'; st'awmaa- 'floor mat'; k'maata- 'trap'; kawata- 'foot rest'; and ku'laalaa- 'to stand on a ladder'.

The suffix also occurs in a number of stems referring to items of clothing found on the legs or feet as in: sic'ma'- 'leather moccasins'; sic'maata- 'leather leg wrappings'; g'iq'mxiwaya- 'whiteman's shoes'; iq'maata- 'shoelaces'; la'- 'to tie someone's shoelaces'; gula- 'to use someone's shoes'; rdq'i- 'to steal someone's shoes'; st'qwaalqwaal- 'to have muddy shoes'; c'awikal- 'long snowshoes'; g'waqwaal- 'short snowshoes'; kic'ai- 'to wash someone's socks'; ustqnskaam- 'to put one's socks on'; ustqnsaai- 'to be wearing socks'; c'ikmai ti sūmc tx 'My pants are dirty.'; aq'q'iicaal- 'torn pants leg'; and aq'q'ucucaal- 'torn lower pants leg.'

By metonymy, we find this suffix in stems referring to trails, roads and journeys as in: muk'kai- 'to cut a trail for oneself'; mukakai- 'to follow a trail'; mukxaam- 'to break brush back from trail'; muk'ataal- 'to block

ch 'street'; ch 'trail' /
ch kawaal- 'trail'
someone's way'; kic'a'ak wa mauntz 'winding trail'; smtaak 'mountain trail';
numyaak 'wide trail'; nipase 'narrow trail'; musqaak 'dirt road'; mut'xtaak
'gravel road'; cawwaaak 'straight road'; ?amlaak 'summer trail'; sut'kaak 'winter
trail'; sikamzal 'hunting trail'; ?asikuzaak 'middle of the trail'; nanzaak
'grizzly tracks'; cicicpeak 'bird tracks'; nuqnaakaak 'to track something';
smawalaam 'one day's journey'; smawtal 'ukaaam 'one month's journey'; muslanwalaam
'one year's journey'; ?assulutaak 'sea voyage'; sut'kaaz ti ?ap 'winter trip';
and ?amlaak ti ?ap 'summer trip.'

As a primary suffix in complex lexical suffixes, -aak copies the semantic
content of ?iwaak 'foot'/leg'. The complex suffixes occur in groups which reflect
the division of the lower extremity into its component parts. Cf.-lgsaaak 'toe';
-iwaak 'toenails'; -aal and -anaak 'ankle'; -ucaak 'lower leg'; and the foot and
thigh, both of whose complex suffixes are directly based on the primary suffix
-aak. The following complex lexical suffixes occur in our test frame: -lgsaaak
-lgsaaak 'toe'; mu...-lgsaaak 'internal toe'; -uakilgsaaak 'back/top of toe'; naluksaak
'between the toes'; mu...-naluksaak 'toe joint'; -ankilsaaak 'one side of toe';
mu...-ankilsaak 'inside the side of toe'; mu...-iklsaaak 'tip of toe'; -lwaak
'toenail'; mu...-lwaak 'under the toenail'; -anklwaak 'beside the toenail';
mu...-anklwaak 'internal area beside toenail'; -uolwaak 'edge of toenail';
-uakilwaak 'top of toenail'; -aak 'ankle' ('behind the foot'); mu...-aal inside
the ankle'; -naluksaak 'ankle joint'; -anaak 'ankle'; -uanaak 'around ankle bump';
-ucaak 'lower leg', but FW 'instep'; mu...-ucaak 'inside lower leg'; -ankucaak
'side of lower leg'; mu...-ankucaak 'inside the side of lower leg'; -uakkucaak
'back of lower leg'; mu...-aak 'inside of foot/leg'; mu...-aak 'sole of foot';
-uakkaak 'top/back of foot' and 'front surface of thigh'; mu...-uakkaak 'inside
top of foot or front surface of thigh'; -ankaak 'side of foot/thigh'; mu...-ankaak
'inside the side of foot/thigh': -a'ikat 'back of thigh' but 'lower leg up to knee' (AS) and 'top of foot/ front of thigh' (FW); -ucikat 'edge of foot', but 'outside ankle area' (AS); -lissak 'calf'; but 'entire leg' (FW); -atka 'shin', also 'median line entire leg' and 'thigh'; and -alalaat 'back of knee' (CS, AS) but 'back of lower leg' (MS) and 'back of entire leg' (FW and SS).

We have the additional forms: scapikat 'tibia'; scapucat 'fibula'; scapal 'femur'; scapulikal 'metatarsals'; scapal 'tarsals'; ?uscapikat 'femur'; scapliqat 'phalanges'; scapulanaat 'medial malleolus' or 'lateral malleolus'; slip'nalus-lgsakat 'toe joint'; slip'nalusalaat 'ankle joint'; skušikat 'shin'; ?asikat 'back of knee' but 'shin' (FW); skušucat 'lower leg'; skušanaka 'side of foot/thigh'; skušalakat 'back of thigh'; skušanikat 'area beside toenail'; skušulikat 'top of toenail'; spušanaat 'surface area above medial malleolus or lateral malleolus'; ?ul'imašikat 'vastus lateralis' (?); ša'imayalaat 'achilles' tendon' (MS); skušlqkat 'toe'; squnalikat 'big toe'; c'ml ISA 'second toe'; ?asikl ISA 'middle toe'; skušalISA 'fourth toe'; škitalISA 'little toe'; squpšalikqkat 'hair on back of toe'; ?usqalisaqklatat 'to have a rash on back of toe'; škatšalikwaat 'toenail'; ?ušikmatišat 'to have dirt under toenail'; ?akmalaat 'broken ankle'; pushmakat 'to have a swelling ankle'; q'wplišat 'hairless legs'; squpšišat 'hairy legs'; c'ikmilašat 'dirty legs', and c'šinašat 'to kick someone in the shins.'

2.27 -ak ch -ača, ač (a) 'hand, arm' / cm - (a) kst, -(a) ks (on) 'hand, arm'.

This is a corporeal suffix which copies <appendage> from the semantic content of lexical items. It occurs in simple and complex lexical suffixes, but only as primary suffix of the latter.

As a simple lexical suffix, the anatomical referent of -ak is the entire arm or the hand as in: pushmak 'arm/hand is swelling'; caqmak 'long arm'; palxak-
'to have no feeling in arm or hand'; sti?atanak- 'hand/arm is paralyzed'; onaixak- 'hand/arm is going to sleep'; sixak- 'bloody arm/hand'; pilg'ak- 'wide hand'; plak- 'to lack a hand or arm'; tip'ak- 'to grab someone's hand/arm'; tipuwaqak- 'to hide one's hand'; q'xaktinic- 'My hand was bitten'; t'aqwak- 'to lick someone's hand'; q'wacayakm- 'to wave one's hand'; kic'liktnak- 'to twist someone's arm'; simak- 'to have a bump on arm/hand'; staniqwak- 'boil on arm/hand'; q'llamak- 'blister on hand/ arm'; opakmic ti yakûx tx 'I am going to wipe the ball with my hand'; sq'wpsak- 'right hand'; sq'aksak- 'left hand'; qat'akm- 'to beckon to someone with one's hand'; t'ksaktinic- 'I was stung in the arm'; mu?unak- 'first attempt at some manual task'; t'a?iq'akm- 'to clap'; paqwak- 'to be afraid to touch something'; mukxak- 'to take something away from someone'; si?ayak- 'to use something'; ?atnakaq- 'to beat to death'; and ?ix?q'mak- 'to walk around on one's hands.'

When -ak is suffixed to animal names, it refers to their front appendages as in nanak 'front paw of grizzly'; knsak 'sperm whale flipper'; ?asxwak 'seal flipper'; qûlûtak 'porpoise flipper'; and wac'ak 'front paw of dog.' When suffixed to plant and tree names, it refers to either the branch or leaf as in ?ix?ix'ta?qak 'alder leaf' (PW), but 'alder branch' (MS); ?aq'mâlîq'akpam- 'cottonwood leaf/branch'; cacta?âqak 'cedar branch', etc. This suffix also occurs in: spusak 'leaf'; slipnakt 'branch'; slâlîmsak 'pine cone'; limaqak 'falling leaf'; cîlak- 'to pluck a leaf from a branch'; se?lak 'dew on a leaf' and nixak- 'to saw off a branch.'

By metonymy, we find -ak in the following: qupakt 'gloves'; sic'mak 'leather gloves'; ?ulqak- 'to steal someone's gloves'; qulak- 'to use someone's gloves'; kic'akm- 'to wash one's gloves'; ?asnîxwak 'torch'; s'ip'amaksta- 'handle'; and opak- 'to wipe the arm of a chair.'
As the primary suffix in a complex lexical suffix, -ak copies the semantic content of suxa 'arm from elbow to and including the hand' and skwxíwalst 'upper arm'. The complex suffixes occur in groups which reflect the subdivision of the arm into its components. The divisions are parallel to those of the lower extremity.

We have the following complex lexical suffixes which occur in our test frame: -lqsak 'finger'; nu--lxsak 'inside of finger'; -uálkíxsak 'back of finger'; nu--uálkíxsak 'inside of back of finger'; -iklqsak 'tip of finger'; -ǐwxílqsak 'tip of finger' (SS); -uálwxílqsak 'around the tip of the finger'; -uslqsak 'face of fingertip' i.e., opposite fingernail' (SS); nu--nalusíxsak 'finger joint'; -ǐwxak 'fingernail'; nu--ĩwxak 'under the fingernail'; -ánkíwxak 'beside the fingernail'; -uálkíwxak 'back of fingernail'; -ucíwxak 'edge of fingernail'; -uálwxak 'around the fingernail'; -āwxak 'wrist'; nu--ākak 'inside the wrist'; -anak 'wrist'; nu--anak 'inside the wrist'; -alíkt 'axilla'; nu--alíkt 'inside the axilla'; -ucak 'forearm'; nu--ucak 'inside the forearm'; -ánkucak 'side of forearm'; nu--ánkucak 'inside the side of forearm'; -uálkucak 'back of forearm'; nu--uálkucak 'inside the back of forearm'; -ālucak 'all over the forearm' (FW); -ǐwxálstucak 'elbow'; -lxsak 'end of forearm' (AS); nu--ak 'palm of hand'; nu--ikak 'inside of hand/upper arm' also 'elbow pit'; -ikak 'upper arm' but also -ikak 'median line of hand/arm'; -uálkak 'back of hand'; nu--uálkak 'inside the back of the hand'; -ánkak 'side of hand/entire arm'; nu--ánkak 'inside the side of hand/entire arm'; and -lçuálkak 'skin on back of hand.'

The following complex suffixes occurred outside of our test frame: -nalusíxsak 'between the fingers' as in ?ái?ip'nalusíxsak- 'to hold something between the
fingers'; -lícíchísak 'skin of finger' as in ṭusqaliciónísak- 'to have a rash on finger'; -lículílísak 'skin on back of finger', ṭusqaliciónulílísak- 'to have a rash on back of finger'; -lícucak 'skin of forearm'; -lícúlučukucak 'skin on back of forearm'; -lícánkučak 'skin of side of forearm'; -lícíkak 'skin of upper arm'; -nalusák 'wrist joint' as in slíp'nalusáltak 'wrist joint'; and -čukucak 'median line of forearm' as in muqíkucak- 'to have a red stripe along median line of forearm.'

We have the additional forms: scaplíísak 'phalanges'; scapucak 'ulna'; scapucíkak 'radius'; scapálínísačak 'head of ulna or styloid process of radius'; scapíkak 'humerus'; scapálak 'carpals'; scapulíkak 'metacarpals'; sa'ímayíkak 'biceps'; sa'ímayálak 'serratus anterior muscles'; slíp'nalúsísísta 'finger joints'; slíp'nalúsísálakta 'wrist joint'; slíp'nalusáičukucak 'forearm'; slíp'nalusak 'wrist'; slíp'nalusálak 'axilla'; slíp'nalusíkak 'back of hand'; slíp'nalúsíkak 'side of hand'; slíp'nalúsísak 'finger'; c'm(lqsak) 'index finger'; fásík(lqsak) 'middle finger'; züla(lqsak) 'ring finger'; k'íta(lqsak) 'little finger'; a'musílqsak- 'three fingers high/wide'; kicílqsak 'crooked finger'; ñak'mílqsaktæ 'ring'; pácílqsak- 'to prick a finger'; lıp'lqsak- 'to fold something with the fingers'; gat'lqsak- 'to beckon with finger'; slíp'nalúčílísak 'back of finger'; sqúplálíkísak 'hair on back of finger'; sk'attríkwak 'fingernail'; naníkwak 'grippy claws'; ?akwíkwak 'broken fingernail'; xílíkwak- 'to gnaw one's fingernails'; muqúc'íkwak- 'to have a splinter under one's fingernail'; mucík'míkwak 'dirty fingernails'; nik'ucíkíkwak- 'to nick someone with the edge of the fingernail'; tune'íkwak- 'to cut something with the edge of the fingernail'; muqúngúkíkwak 'red fingernails'; sqúphucak 'forearm hair'; sqúplalát'axillary hair'; muqúpsmalát- 'to have a swelling in axilla'; spúxalakt 'feather from under the wing'; ñasak 'palm of hand'; ñasíkak 'elbow pit'; and wík'ak- 'to have chapped hands.'
NOTES

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1 Our terminology differs from that of Friedrich 1969 who employs the terms 'simple' and 'complex' with reference to the semantic simplicity or complexity of the spatial suffixes of Tarascan.

2 The base structures are presented here in their barest outlines. For details and discussion, cf. Davis and Saunders 1972 and 1973.

3 The order of the suffixes in a complex lexical suffix such as is found in (15-16) is identical to the order in the base structure of the lexical items part of whose semantic content is copied by the suffixes. Thus the 'meaning' of a complex suffix is the sequential accretion of meaning corresponding to the physical sequence of suffixes. Kinkade (1973) calls such complex suffixes 'layered derivations' and finds them the exception in Columbian. It appears that in Bella Coola, such layered derivations constitute the rule.

4 Newman (ca. 1934-7) lists 47 lexical suffixes relating to the body. The list does not differentiate simple and complex suffixes. Our corpus yielded 50 different lexical suffixes which refer alone to parts of the arm. The total number (267) of lexical suffixes with anatomical referents found in this
paper is not the complete list of all such possible or extant suffixes. There
are a number of lacunae. For example, a number of primary suffixes have no
listed complex suffix which refers to the skin -líc- of whatever anatomical
item they copy. If these were included, the total would surpass 300 different
lexical suffixes.

5 Both -us <front surface> and -nk <base> serve primarily as primary
suffixes. Only one speaker (SS) employed -us- as a secondary suffix.

6 The parentheses enclose secondary suffixes or connectors which are bound
to a primary suffix. Cf. 2.5,2.6,2.22, and 2.23.

7 The test frame where appropriate was kma ______ o 'My ______ hurts'. We
found this the most productive and reliable elicitation frame. The localisation
of pain has a high survival value. Some areas of the body did not lend themselves
readily to this frame, either because pain does not normally occur there (say,
in the fingernails) or it does not occur in a particular configuration (say,
along median line of some anatomical item.) In these instances, we used the
frame cik'm ______ o 'My ______ is dirty'.

8 This and the following form are from Mollwraith 1949. We found no speaker
who recognized the words or remembered the structures.

9 This suffix in conjunction with the prefix m- <internal> is used to
form the words denoting containers of various types such as: musqícíkta 'sandbox';
mút'síkta 'salt box'; mswluqIkta 'oolichan grease box'; and múllulúsnikta 'box
for storing masks' among others.

10 The sequence -alus also means 'fire' in forms such as ?apaswalus- 'to blow
out a match/flame' and ḳ'valuus we níxw 'big fire'. With some stems, it means
'pieces' if followed by the causative pronouns. Cf. tx-ıo 'I am going to cut
?čh -lálí 'tegelten' /?čm -alus 'stack, pile'
'property'.
something., but *txalus-tuc* 'I am going to cut it to pieces/into pieces with a knife.' and *â'pio* 'I am going to snip it.', but *â'palus-tuc* 'to snip it into pieces.' There is also a verbal suffix *-alus* which is a mild desiderative as in *?â'cpakmaluse* 'I feel like wiping my hand.' and *?â'qmaluse* 'I feel like urinating.' At the present time, we view these as independent but homophonous suffixes.

11 Only with reference to the chest, did we elicit forms where *-ank-* <front> and *-â'nk* <side> contrasted. Not all speakers accepted the forms with *-ank* <front>, either rejecting them outright or confusing them with *-â'nk* <side>.

12 We have one form *nukmawaq'we* glossed as 'it hurts down to the core' said to be good for any anatomical item.

13 We have an apparent nonce form from CS *-allkapsm* 'back of neck' where this suffix occurs as a secondary suffix.

14 Lest this appear somewhat far-fetched, we cite a similar suffix for Tarascan *-ndi*, cf. pl4 Friedrich 1969.

15 The internal abdomen is referred to by means of a prefix alone. Thus *nukmao* with *mu-* <internal> means 'My stomach/abdomen hurts.'

16 In some cases, the <exterior> portion of the semantic content appears to be lost and what is left is a simple extent suffix which copies <all over>. We see somewhat the same thing when the prefix *mu-* <internal> occurs with *-uâ* as in *-uâapsm* 'all over the exterior of one side of the neck' but *mu-*...*-uâapsm* 'inside area of one side of the neck'.

17 Note here length of vowel in *-â'ikâli* to distinguish *-uâ* <around>*-ik* <median line> from *-uâik* <back of >.

REFERENCES


