

Bella Coola Lexical Suffixes

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0.1 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.

1.0 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.¹ 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-lXs-c 'My nose hurts.'

kma ti maXsa-c tx
(/hurt Prox. 'nose'-my Art.)

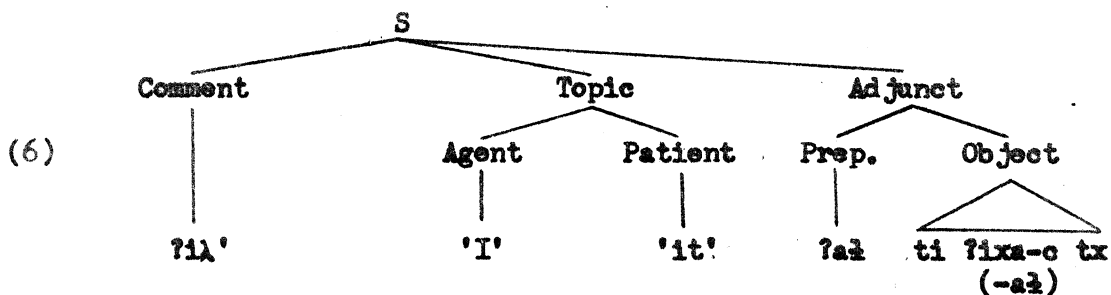
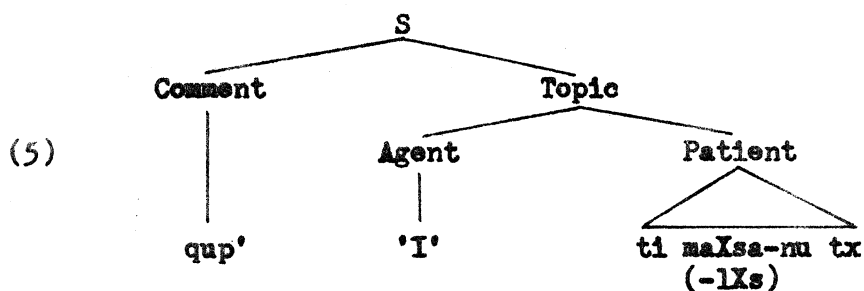
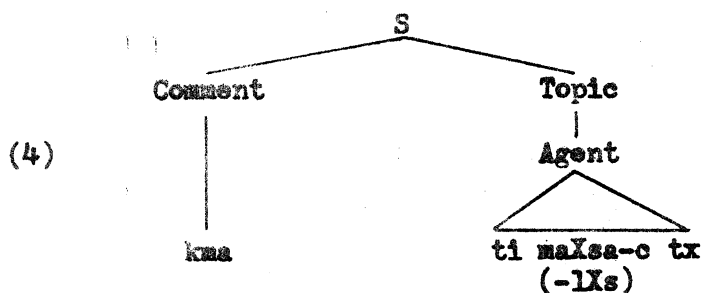
(2) qup'-lxs-ciru 'I am going to punch your nose.'

qup'-ic ti maXsa-mu tx
(punch-I-it Prox. 'nose'-your Art.)

(3) ?iλ'-aλ-m-ic 'I am going to move it with my foot.'

?iλ'-ic ?aλ ti ?ixa-c tx
(move-I-it 'with' Prox. 'foot'-my Art.)

Sentences (1)-(3) have the base structures:²



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.

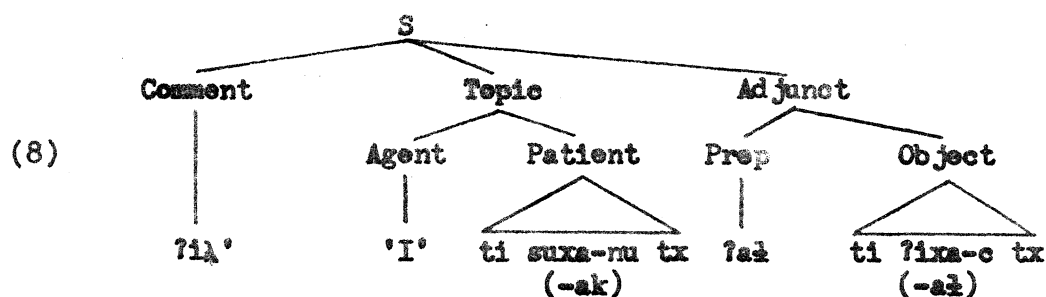
Lexical suffixes which consist of two or more suffixes can be differentiated as multiple simple lexical suffixes, complex lexical suffixes, and multiple complex lexical suffixes.

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

(7) ?iɬ'-ak-aɬ-m-cinu 'I am going to move your hand with my foot.'

?iɬ'-ic ti suxa-nu tx ?aɬ ti ?ix-a-c tx
(move-I-it Prox. 'hand'-your Art. 'with' Prox. 'foot'-my Art.)

Sentence (7) has the base structure:



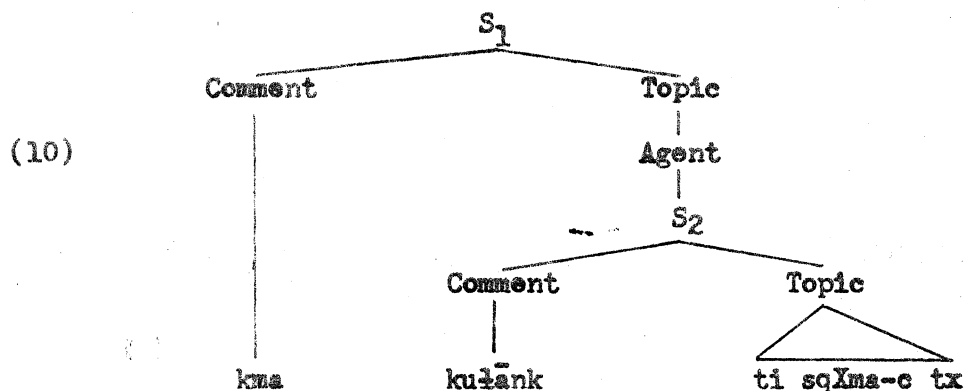
where LEXICAL COPY applies to the Patient term of the Topic and the Object term of the Adjunct.

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

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

kma ti kuɬank ti sqɬma-c tx
(hurt Prox. 'side' Prox. 'chest'-my Art.)

Sentence (9) has the base structure:



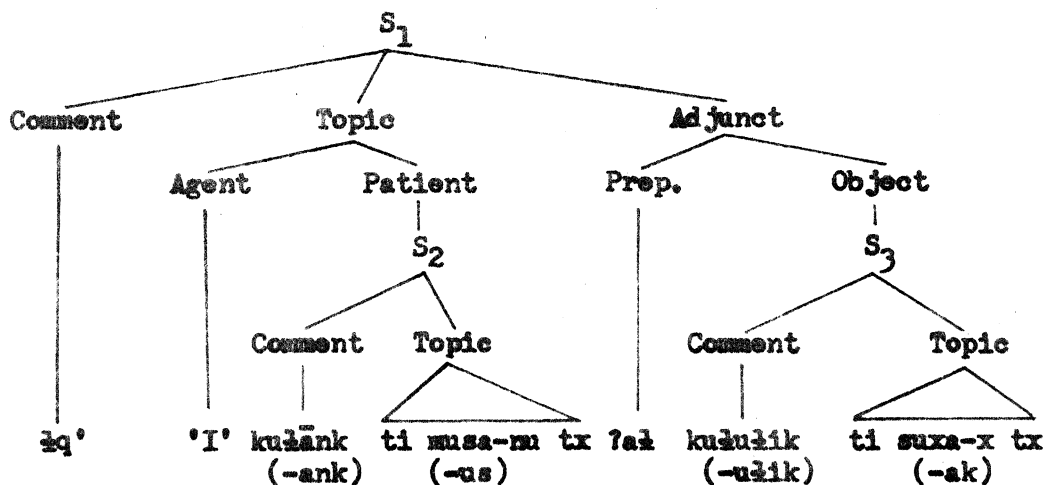
where LEXICAL COPY applies first to the Topic of S_2 and subsequently to the Topic of S_1 .

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) ḷq¹-ankus-ulik-ak-m-ciru 'I am going to slap the side of you face with the back of my hand.'

ḷq¹-ic ti kuḷānk ti musa-mu tx ʔaḷ ti kuḷuḷik ti suxa-c tx
 (✓slap-I-it Prox. 'side' Prox. 'face'-your Art 'with' Prox. 'back'
 Prox. 'hand'-my Art.)

Sentence (11) has the base structure:



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 skułankalus-c
(√hurt Prox. 'side of chest'-my)

and

- (14) iq'-ic ti skułankus-mu tx ʔaɪ ti skułulikak-c tx
(√slap-I-it Prox. 'side of face'-your 'with' Prox. 'back of hand'-my.)

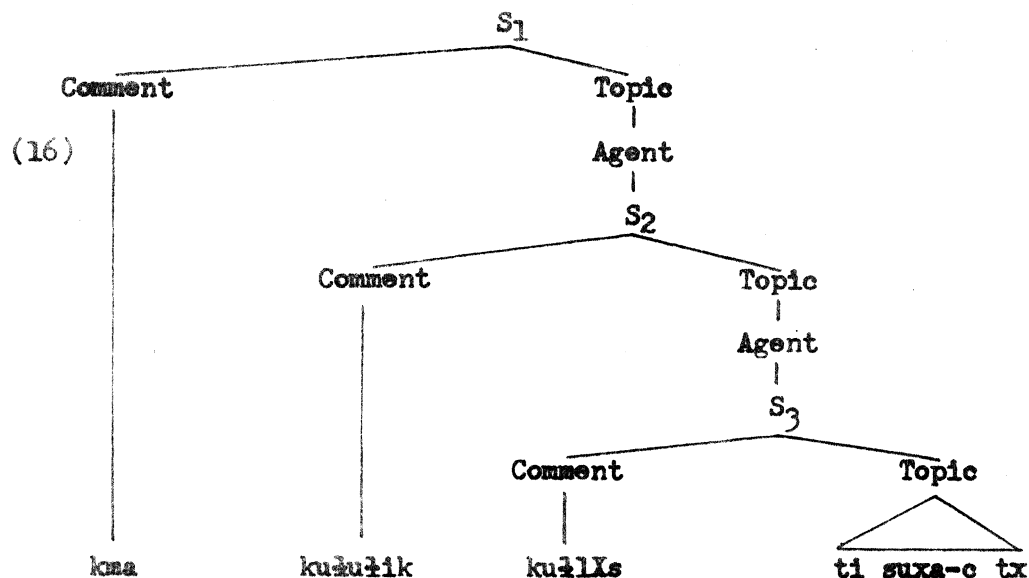
We view skułankalus 'side of the chest', skułankus 'side of the face' and skułulikak 'back of the hand' as derived nominals whose derivation is substantially the same as the application of LEXICAL COPY to S_2 of (10) and to the terms of S_2 and S_3 of (12).

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

- (15) kma-ulik-lXs-ak-c 'The back of my finger hurts.'

kma ti kułulik ti kułlXs ti suxa-c tx
(√hurt Prox. 'back' Prox. 'terminus/digit' Prox. 'hand'-my Art.)

Sentence (15) has the base structure:



where LEXICAL COPY applies first to S_3 , then S_2 and finally S_1 .³

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.⁴ 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.

In what extent might these be generalizations of corporeal suffixes? Topographic suffixes combine features relating to both shape and location. They occur as both primary and secondary suffixes. They are: -ixw <capital>, -uc <orifice>, -ixs <terminus>, -als <wall>, -ik <top surface>, -us <front surface>, and -nk <base>.⁵

Shape suffixes also occur as both primary and secondary suffixes. They are: -aq'ws <socket>, -alx <semi-circular> and perhaps -layx <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: -an

<corner>, -āī <behind>, -āī <under>, -ānk <in front of>, -ānk <next to>, -lic <exterior surface>, -anī <external surface>, -uī <exterior> and -(uī)ik⁶ <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: -āī <distributed>, -ik <middle>, -uī <around>, -nālus <between>, and -uc <lower>.

The final group of suffixes are the corporeal suffixes. With the exception of -īī, these suffixes occur only as primary suffixes. The corporeal suffixes are: -apsm <side of neck>, -ams <side of mandible>, -aīī <throat>, -(al)mx <breast>, -(al)ic <teeth>, -(al)īc <tongue>, -īī <genitals>, -aī <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 frame⁷; 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 -iXw (-iqw)

This topographic 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. ?asiXw- 'to be located at the top/head of something' as in: ?asiXw wa cimilt c 'It is at the head of the valley'; ?anayke s ka ʔ'apc fuʔ wa ?asiqw wa ?amuxum c 'I want to go to the head of the river.'; kuxiXw- 'to be the concrete head of something'; kuxiqw ti pac'sita 'head of a pin'; kuxiXw ti stn tx 'tree top'; ?iXwaw 'They are far away.'; ?ixwano 'I am going far away.'; and t'nXw '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 -iXw is the entire head as in: ?aʔip'iXw- 'to grab and hold someone's head'; piq'iXw- 'to have a broad flat head (cf. piq'iXwax 'Flatheads')'; pliXw- 'to be headless'; and quc'iXw- 'to wash someone's head.' In these forms, -iXw copies the semantic content <capital> of t'nXw, viewed here as a complex lexical item consisting of <capital> plus the remaining lexical matter required to specify 'corporeal head.' Cf. quc'-ic ti t'nXw-nu tx (wash-I-it Prox. 'head'-your Art.) > quc'-iXwcinu 'I am going to wash your head.'

In a number of stems, -iXw refers to the hair. Cf. c'wiXw 'gray hair'; msiXw 'fair hair'; ʔiXw- 'to cut someone's hair'; and also ʔiXwta 'scissors.' The semantic content <capital> is also copied from qayt 'hat' as in: qult'iXw- 'to borrow/use someone's hat'; ?itkic'iXw- 'to wash someone's hat for them';

ṭalq̃iXw- 'to steal someone's hat'; ṭayul̃iXw- 'to trade hats'; ṭalqaỹiXw- 'to urinate on someone's hat'; and ṭayank̃iXw- '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 sinaX̃iXw 'head dress' belongs to this group although it is independent of qayt.

The head of an animal is either analytic t'nXw ti 'name' or synthetic 'name'-iXw as in sak̃iXw 'fishhead' and nañiXw 'Grizzly head'. The steelhead is known as cap̃iXw 'literally 'bonehead' and a type of cooked fish is sl̃iXw (cf. sl- 'to slice'.)

Non-anatomical referents of -iXw are manifold. We find it in stems referring to the top or growing tip of plants: k'c̃iXw- 'to top a tree'; puḷ̃'iXwaw 'the seeds are sprouting'; nux̃m̃iXw- 'to break off the top of a plant'; ḷ̃'p̃iXw- 'to nip/pinch off the growing tip'; and sX̃w̃iXw- 'to set fire to the top of a bush/tree'. In some stems, the referent is the flower or the entire plant. Cf. c̃iXw- 'to pick flowers/pull weeds'; and ṭisogw̃iXw- 'to water plants.' Some apparently frozen forms connected with plants are t'm̃iXw 'stump' and c'iXwt 'wedge.'

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 ṭalt̃iXw literally, 'that which has had its top hammered.' Oolichan fishing is ṭalt̃iXwum- 'to use an oolichan net'; cf. also t̃iXw- 'to hammer the top of a pole'; st̃iXwumta 'hammer'; st̃iXwum 'the pole upon which the nets are strung'; and nuḷ̃t'iXw- 'to hook up an oolichan net.'

A productive referent of -iXw is the lid of a container as in: tp̃iXw 'lid'; tp̃iXw- 'to put a lid on something'; q̃w̃iXw- 'to open a container'; cp̃iXw- 'to

wipe the lid'; muqwiXw- 'to have a red lid'; and quāquāiXw- 'to decorate a lid.'

In addition, we have two numbers which contain -iXw: c'iXw 'five' and ?asiXwiliX(t) 'one hundred.'

As the primary suffix in a complex lexical suffix, -iXw 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: -nāiXw 'top of head'; -aXuiXw 'entire top of head'/'scalp'/'hair covering'; -ankiXw 'side of head'; -aXankiXw 'entire side of head'; nu-...vikiXw 'inside the head'; nu-...-ankiXw 'inside one side of the head'; and nu-...-alsiXw 'palate'. In addition, we found the following complex suffixes which did not occur in the test frame: -ikiXw as in ?asikiXw 'inside of the head'; -alsiXw as in ?asalsiXw 'palate' and scapalsiXw 'palatal bone'.

We have the following additional forms: sp'uāiXw- 'to hit someone on top of the head'; q'wpuāiXw- 'to be bald' (lit. 'bare on top', which refers to male pattern baldness in contrast to q'wpaXuiXw- 'to be completely bald'); matuāiXw- 'to sit on someone's head'; wiluāiXw- 'to pour something over someone's head'; tayuiXw- 'to throw something at someone's head'; pusuāiXw- 'to have a swelling head'; skuāiXw 'top of the head'; scapankiXw 'parietal bone'; skulankiXw 'side of the head'; napusmankiXw- 'to have a tumor in parietal region'; muslixikiXw- 'to have a head full of mucous'; and smutixonalsiXw 'uvula'.

As a secondary suffix in complex lexical suffixes, -iXw modifies the referent of six primary suffixes and three complex suffixes: -iXwak 'fingernail';

-ixwał 'toenail'; -ixwałst 'shoulder'; -ixwānk 'top of hip'/'iliac crest'; -ixwlayx 'knee'; -ixwił 'pubic bone'; -ixwlqsak 'tip of finger'; -ixwlqsał 'tip of toe'; and -ixwałstucak '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 (-ūc) ch -úcan, -ucan 'river' / cm -cūn '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 kułūc 'shoreline'/'hat brim'. In other words both <edge> and <orifice> are copied as in ʔasuc 'doorway'/'mouth of cave'/'entrance'. Various edges can be specified by addition of secondary suffixes as in: kułikūc 'top edge'; kułaqūc 'bottom edge'; ʔasalsūc 'inside top edge'; ʔasanūc 'corner edge'; ʔasalsanūc 'inside corner edge'; and ʔasalsaqūc '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. nanūc 'grizzly bear's mouth'; sałkūc 'fish mouth'; ʔaɪpussuc- 'to have a swollen mouth/lips'; cickumuc- 'to have a twitching mouth'; qup'uc- 'to punch someone in the mouth'; ksimuc- 'to pull one's mouth to the side'; nūmyuc- 'to have a wide mouth'/'to gossip'; nūmyuctuc 'to open someone's mouth'; nukluc- 'to drop something from one's mouth'; maluc- 'to bleed from the mouth'; ʔaɪtpuc- 'to hold something in one's mouth'; stɪpuc- 'to have a freckle on one's lip'; wik'uc- 'to have a chapped lip'; sk'iyuc 'lips'; t'umucm- 'to press one's lips together'; and numuqwuc- 'to have red lips.'

Semantic extensions related to corporal 'mouth' fall into two main categories: hair covering and oral functions. In the former, belong sqopuc 'beard'; kwsaXuc- 'to have a rough beard'; sXaXucm- 'to shave one's beard'; claXucm- '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'; nukalikuc 'to eat lunch'; lucm 'to quit eating'; ?a?aiXucm 'to eat quickly'; ?aykuc- 'to eat slowly'; ?anuxllaXuc- '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'; nukauc- '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: ?isc'uc 'to be a loudmouth'; nomyuc- 'to gossip'; k'iskuc- 'to mispronounce something'; nuyamuc- 'to hum'; ?a?ai?cimuctimut- 'to mumble'; sxucm- 'to say something bad to someone'; kaluc- 'to guess/say something correctly'; nun'ucm- 'to practice a song/speech'; nuqw ucm- 'to tell a lie'; λ'ukuc- 'to brag'; yayXuc- 'to be a facile talker'; nanamuc- 'to be mute'; ?anuk'wplXucnm- 'to translate something for someone'; nuk'yukuc- 'to recognize someone's voice'; nut'winuc and gomuc 'sisak whistle'. In addition, we have the following forms: sniniq'aūsucm- 'to have pertussis'; nuksaXucm- 'to inhale'; ?a?ip'ucm- 'to hold one's breath'; sp'ixuc 'visible water vapor from breath'; nusliq'uc- 'to slobber/dribble'; s'ūnquc 'yawn'. The drying of oolichan involves hooking a stick into the mouth of the fish and from this activity we have the words: tpuctic 'to put oolichan onto the drying sticks'; tpuclXsta 'drying sticks'; and tpucta 'the drying rack'.

Non-anatomical referents of -uc which copy <edge> include: kuiikūc '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'ūctuc 'to fill something to the brim'; c'ikukūc 'dirty ring around bathtub' or 'strip of debris on beach'; epikūc 'to wipe the top edge/rim of something'; qwtuc 'carver's hook'; q'puc 'to be dull'; tīq'ikūc 'to hem something'; tXaXlikūc 'upper end of village'; tXaqwlikūc 'lower end of village' and plūc '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 qnkūc 'low tide' / 'shallow water'; λ'ukūc 'high tide' / 'deep water'; mukūc 'to cross a stream'; sq'aXūc 'to jump across a stream'; puλ'uc 'flood'; q'wsmūc 'to be rising'; mntūc 'to dip water'; mntwūcta 'dipper'; mntwūcta 'cup portion of dipper'; ūc'ūc 'surface of a liquid'; stucm 'to soak dried fish in water'; ūsmntūc 'to skim something from the surface of a liquid'; and mūc 'to clear off the surface of a liquid.'

In the following stems, -uc copies <orifice>: ʔasuc 'doorway'; mūcta 'door'; mūc 'to close a door'; mūq'wyuc 'to open a door'; ʔalilūc 'to stand in/ block a doorway'; q'wpuc 'net'; mūxtūc 'to open the mouth of an eelichan net'; mūlūc 'to pass by someone's door'; tapūc 'to open a bag'; mūwixūc 'to pull open a bag'; mūXupūc 'to cork/plug a bottle'; and mūXūlikūcm '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 cūca 'mouth' and sk'iyuc 'lips'. The following complex lexical suffixes occur in our test frame: mī-...-uc 'entire external mouth'; -ilūc

'either or both lips' (for FW and SS, this suffix is equivalent to mu-...ūc ; for MS the referent is the front part of the lower lip); -ikuc 'top lip'(CS); -āXuc 'area of mouth behind the lips' (for FW and SS, this suffix refers only to the beard); -uāuc 'around the mouth'; -ankuc 'corner of the mouth' (SS); -ankāuc 'corner of mouth (SS and CS); -anklāXuc 'corner of mouth'; mu-...alsuc 'inside of mouth'; mu-...anklāXuc 'inside corner of the mouth'; and -ikaXuc 'area from top lip to base of nose.' (CS).

We have the following additional forms: rupalXuc- 'to have no feeling on the lips'; nugatkuc- 'to hold one's hand over one's mouth'; nuwixuc- 'to open someone's mouth'; nusixuc- 'to have a bloody mouth'; nupusmuc- 'both lips are swollen'; ʔasixuc 'lips'; stpaXuc 'freckle on mouth'; sā'imayāXuc 'buccinator'; sā'imayūXuc 'orbicularis oris'; c'ikmūXuc 'circle of dirt around mouth'; ʔasikuc 'top lip'; ʔasēXuc 'area of mouth behind lips'; ʔasanklāXuc 'corner of mouth'; ʔasalsuc 'inside of mouth'; sqūplikaXuc 'moustache'; mutupuc- 'to put something in one's mouth'; tuk'anklāXuc- 'to stretch one's mouth by pulling at the corners'; ʔaʔaʔaʔimanklāXucētīnut- 'to talk out of the corner of one's mouth'; ʔamatomalsūētīnut- 'to make a hollow click'; musixalsuc- 'to have blood inside one's mouth'; masqlayalsuc 'saliva'; and maque'alsuciqsaku- '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: -ucil 'suprapubic region'; -uclayx 'lower edge of rib cage'; -ūcalic 'margin of tongue'; -ucilXwalst 'lateral edge of shoulder'; -ucilXwak 'edge of fingernail'; and -ucilXwai '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: -ucaI 'buttock'; -uoaK 'forearm'; -uoaI 'lower leg'; and -ucuaŋk 'lower abdomen.

2.3 -lXs (-lqs) *Ch -qs 'nose, front end' / Cm -alqs 'nose, point'*

This lexical suffix copies <terminus> and <point> from the semantic content of lexical items. In such words as xwplXs as in xwplXs ti sūŋw 'end of the day' and kuŋlXs in kuŋlXs ti bakayala 'end of the box', only <terminus> is copied. In other forms, both <terminus> and <point> may be copied as in kuŋlXs ti naC'aŋta 'point of pin' or kuŋlXs ti quŋquŋta '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 -lXs is the nose. Cf. ʔaswplXs 'seal nose'; nanlXs 'grizzly's nose'; saklXs 'fish nose'; piq'lXs- 'to have a broad flat nose'; kic'lXs- 'to have a crooked nose'; ʔk'wlXs- 'to have a big nose'; muŋwplXs 'red nose'; ʔaŋwplXs 'broken nose'; ʔaŋpusaŋlXs 'swollen nose'; XwilmXs- 'to have an itchy nose'; q'iŋlXs- 'to scratch one's nose'; txlqsm- 'to cut one's nose'; ʔanucqlXs- 'to have a pierced nose'; nŋk'miklXscuttimut 'to talk with a plugged nose'; muŋlXs- 'to blow one's nose'; muŋlXsta 'handkerchief'; scaplXs 'nasal bone'; sXclXs 'nasal cartilage'; and s'iŋaylXs 'compressor narium'.

The suffix occurs in ninip'uculqs 'elephant'; ʔaŋk'mlXs- 'to hold something in it's beak'; ʔaslXs ti toms tx 'nipple'; and ʔaslXs ti xli 'head of penis'. In two stems, the referent is both the nose and mouth or the muzzle as in muŋlXs- 'to muzzle someone' and caqwlXs- 'to have a long muzzle'.

Non-anatomical referents of -lXs include: xwplXs 'end of a non-concrete object' such as the end of a day, month, feast, potlatch, dance, song, race; kuɬlXs 'tip or end of concrete object'; ʔaslXs 'to be at/in/on the end of something'; tplXs 'the other end'; tiplXs 'just one end'; nananlXs 'both ends'; qat'lXs 'to draw a plank from a pile by its end'; kuɬanɬlXs 'object on front end of boat'; kuɬalslXs 'one side of the front end of a boat'; tpuclXsta 'stick upon which oolichan are hung to dry'; and tqnklXs 'pointed end of dip net.'

As a primary suffix in a complex lexical suffix, -lXs copies the semantic content of maXsa 'nose'. The following complex suffixes occur in our test frame: -anklXs 'one side of the nose'; -uɬanklXs 'all over the side of the nose'; nu-...-anklXs 'inside one side of nose'; and nu-...-iklXs 'inside of nose' and 'nostrils'. In addition, we have the following complex suffixes which did not occur in our test frame: -aqlXs 'behind the nose' as in seqaqlXs 'posterior aperture (choana) of nasal cavity' and -iklXs 'median line of nose' as in muqwiklXs '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: smuɬqiklXs 'nostril'; scapiklXs 'nasal septum'; skuɬanklXs 'side of nose'; musixiklXs 'to have a bloody nose'; nuq'watiklqs 'to belch through the nose'; nɬmiklXs 'to have wide nostrils'; muksiklXsm 'to sniffle'; nip'iklXsm 'to hold one's nose'; nuɬick'lXsm 'to pick one's nose'; and skuɬanklXs 'side of the nose.'

As a secondary suffix, -lXs modifies the referent of four primary suffixes and six complex suffixes: -lXsak 'finger'; -lXsaɬ 'toe'; -lXsank 'anterior process of iliac spine'; -lXsank 'coccyx/sacrum'; -lXsalux 'nipple'; -lXsalus 'xiphoid process'; -lXsukik 'second thoracic vertebra'; -lXsaniɬ 'ischium'; -lXsalic 'tip of tooth'; and -lXsalic 'tip of tongue.'

2.4 -als (-alst) ch -flals 'side' / cm -ál's 'forehead'

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, kulals may be used to refer to any wall. If, however, kulūs and kulāI are used for the front and rear walls, then kulals 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'woals 'cheek'; stpals 'freckle on cheek'; nik'alam- 'to nick one's cheek'; and sa'imayals 'zygomatic major muscle.'

Non-anatomical referents of simple -als include: fasals 'interior walls including the ceiling'; kulals 'wall'/'side of mountain'; q'wpals 'bare mountain side'; tapals(t) 'exposed mountainside'; kūmāls 'water flowing down wall/mountainside'; k'icāls 'crooked wall'; q'wtals 'curved wall'; p'ītals 'thick wall'; tpiyals 'the other wall'; lals- 'to clear off a wall'; sXals- 'to scrape a wall'; que'als- 'to wash a wall'; opals- 'to wipe a wall'; t'cals- 'to tap on a wall'; and lisals- 'to push against a wall or the side of something'. The names of various containers are formed with -als as in: st'sals 'bottle'; qumals 'big round bottle'; sixals 'new pot'; and faɪɪxumals 'barrel.'

The formation of complex lexical suffixes with -als facilitates specification of particular walls as well as house types as in: nuqūpals 'smoke house'/ 'smoky house'; mukusiyals 'potato cellar'; muxumals 'ice house'; numalkals 'semisubterranean house with one level'⁸; mulwālkals 'semisubterranean house with two levels'; mutqnkals 'basement'/'downstairs'; mutʌ'ukals 'attic'/'upstairs'; fasankals 'inside front wall'; fasūcals 'outside front wall'; kulāXals

'inside rear wall'; muquc'aXals- 'to wash the inside rear wall'; muquc'als- 'to wash any inside wall'; nuḡqals 'wet inside wall'; nut'ausals 'damp inside wall'; nuḡ'qals- 'to rip off old wallpaper'; nuḡ'atals- 'to paint an inside wall'; nuḡqals 'hole in wall'; and nuḡ'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 skuḡiXwalst '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 -iXw. We treat -iXwalst below in a separate section. The following complex suffixes with -als as primary suffix occur in our test frame: -ikals 'top of cheek', i.e., on cheek bone; -uḡals 'all over the cheek'; and -aXals 'all over the cheek.' Another form which did not occur in the test frame is -licuḡals 'skin of cheek' as in ḡusqallicuḡals- 'to have a rash all over the cheek.'

We have the additional forms: scapikals 'zygomatic bone'; muxmikals 'broken cheek bone'; ḡuḡuḡals- 'to slap someone on the cheek'; cickumḡals 'a twitching cheek'; and quḡuḡals- 'to decorate one's cheek.'

The complex suffix -iXwalst 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 -iXwalstuḡik. 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 -iXwalst and the upper back -uḡik, the area thus described generally that of the scapula in humans. For quadrupeds, all references to this complex, namely scapula-shoulder-upperarm are based on -iXwalst. 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: -iXwalst 'shoulder. et al'; -iXwalstutik 'scapula'; -ankiXwalst 'side of shoulder' viewed in profile so that 'side' means front or back of shoulder when viewed face front; -uciXwalst 'lateral edge of shoulder'; and mu-...-iXwalst 'internal shoulder'. We have the following complex suffixes which did not occur in the test frame: -nalusiXwalstutik 'between the shoulder blades' as in cik'nalusiXwalstutik- 'to stab someone between the shoulder blades' and -nalusiXwalst 'shoulder joint' as in slip'nalusiXwalst 'shoulder joint.'

We have the additional forms: sa'imayiXwalst 'deltoid muscle'; scapiXwalst 'scapula of quadruped' but 'acromion process of scapula if human'; and scap-iXwalstutik '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'/'middle ear'/'inner ear'; mu-...alsakalic 'lingual surface of gums'; and mu-...alsiXw '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: ʔasalsamuc 'edge of inside corner'; ʔasalsuc 'inside edge of top'; ʔasalsaq 'inside bottom'; kuʔalsaq 'inside bottom'; and kuʔalsiXs 'inside of bow of boat/canoe.'

2.5 -ik *ch -ičən, -ičən 'back' / cm -(i)kən 'back'*

This suffix copies <visible>, <top> and <long horizontal axis> from the semantic content of lexical items, such as kuḷik 'table top'/'box top'/'roof'; tuc'ik 'crest of roof'; kuḷikam- 'to go to the top of something'; kuḷikaḷ- 'to walk on the top of something'; ʔntik- 'to sit on top of something'; quḶik- 'to cover the top of something'; quḶikta 'oilcloth'/'tablecloth'; quc'ik- 'to wash the top'; sp'ik- 'to hit the top of something'; sp'ikta 'upper cedar bark beater'; plikm 'to be without a top surface' / 'to capsize'; mucqik- 'to make a hole in the top of something'; and ḷik- '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 ɣwɔp'ip'k 'spine' or 'thoracic vertebrae' which is a reduplicated form of ɣwɔp'ik sometimes glossed as 'one vertebra'. (cf. xwp'- 'to tie, hook, link together').

As the primary suffix in complex lexical suffixes with anatomical referents, -ik is bound to the secondary suffix -uḷ-. 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: -uḷik 'upper back'; mu-...-ikuḷik 'internal upper back'; -ankuḷik 'one side of upper back'; -aḶankuḷik 'under the scapula'; -nalusankuḷik 'between the scapulae'; mu-...-nalusankuḷik 'between the scapulae (internal)'; -nalusḶikuḷik 'between scapulae at 2nd or 3rd thoracic vertebrae'; mu-...-nalusḶikuḷik 'between scapulae at 2nd or 3rd thoracic vertebrae (internal)'; and mu-...-uḷik 'middle of upper back'.

We have the additional forms: skuḷuḷik 'upper back'; skuḷankuḷik 'side of upper back'; sa'imayūḷik 'trapezius'; sa'imayankuḷik 'latissimus dorsi'; sa'imayaḷankuḷik 'teres major'; lisuḷik- 'to push someone's back'; lisuḷikm- 'to push something with one's back'; mupusmalik- 'to have a swelling in the middle of the upper back'; kwilinalusankuḷik - 'to itch between the shoulder blades'; and qup'nalusḷikuḷik- '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 -uḷ- and applied with reference to humans. Cf. kuḷike ṭaḷ ṭinu 'I am behind you,' and kuḷikam- 'to go behind someone' but as noted earlier also 'to go to the top of something'. In this regard see also kuḷaḷam- 'to go behind something.' There are a number of forms which suggest that the combination -uḷik is now completely independent of -ik. We find that the back of a chair is kuḷuḷik 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; -ikaḷ 'thigh' i.e., top of leg (cf. -ikaḷ 'shin' where -ik copies <middle>); -ikaḷs 'top of cheek'; -ikapsm 'mastoid process'; -ikucaliḷ 'top edge of tongue'; and -ikalaliḷ 'visible top surface of tongue' which contrasts with -uḷikalaliḷ 'dorsum of tongue.' This original content is copied in most non-anatomical references where -ik- occurs as secondary suffix. Cf. kuḷikū 'top edge'/brim of glass' etc. and kuḷiklḷs 'top of the end of a log' or 'top deck at bow of boat'.

pretty face'; yumalXus 'sour face'; qwllyus 'pale face'; ʔastnūs 'stiff/rigid face'; qlyuyus 'stupid looking face'; tk'wus 'sticky face'; sq'ūs 'scratched face'; ʔaipusmus 'swollen face'; paixus- 'to have no feeling in one's face'; stpus- 'to have a freckle on one's face'; ʔaɪq'uptustimut- 'to make one's face tense/rigid'; muqwlxus- 'to blush'; plus- 'to be faceless'; qat'us- 'to pull someone's face around'; quɪqūɪusm- 'to paint one's face'; slus- 'to bost out a face'; ʔaɪq'wXus 'a carved face'; ʔaɪʔat'ūs 'a painted face'; q'Xus- 'to copy a face in a painting or carving'; ʔasuk'ustimut- 'to catch the breeze in one's face'; ʔik'yūsm- 'to make faces rapidly'; ʔapsūs- 'to blow in someone's face'; sqwus 'facial wrinkle'; ʔɪrtūs- 'to spit in someone's face'; ʔipūsm- 'to hide one's face'; ʔaɪlXus- 'to look at someone's face'; ʔaɪʔ'apusm- 'to be face to face with someone'; k'yukūs- 'to recognize someone's face'; musxusm- 'to hate someone's face'; yumūs- 'to be ashamed of one's face'; and ʔask'lustimut- 'to fan one's face.'

The following have metonymic or synecdochic relation to -us as corporeal face: pik'ūs 'visor'; pāqrūsta 'face powder'; cpūnpusta 'towel'; mustipusta 'mirror'; ʔanustipus 'reflection'; stk'wuskwūsi 'gnats'; lulusta 'mask'; ʔulixusm- 'to pick a mask'; musXwikusm- 'to light a pipe'; stXwus 'enemy/opponent'; sɔ'Xusm 'hail'; ɪc'usm- 'to bend one's head'; Xupusm 'to stick one's head in the mud'; q'wacayusm- 'to shake one's head from side to side'; ʔūlXus- 'to be tipsy'; ʔūlXanmus- 'to be getting tipsy/dizzy'; ciyus- 'to hand something to someone'; ʔaɪʔip'usm- 'to keep one's mouth shut'; ʔasmayus- 'to tell a story'; kwtusm- 'to drink water directly from stream or pail'; c'umūs- 'to kiss someone'; nuʔaūs- 'to be stingy with food'; stxkusnm- 'to cook'; ʔasqusa- 'to take home food left over after a feast'; t'Xwus 'clover roots'; stiʔatnūs- 'to have half of the body paralyzed'; muqwūsi 'new born baby'; ʔilus- 'to pass by/go around someone'

nulik'usm- 'to turn away from someone'; ʔask'lusm- 'to take a ceremonial bath at dawn'; k'wmas- 'to show something to someone'; ʔit'mxwusm- 'to just miss meeting someone'; sq'wus- 'to ask parents for their daughter's hand in marriage'; k'us- 'to be calm'; ʔiptus- 'to close ones eyes'; ʔaikuus 'picture'; talaus- 'to be married'; suc'mus 'barnacles'/'pimple face'; and fusulus- '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: kulūs 'front surface of box/container'; ʔasus 'front wall of house'; wacūs 'face of watch or clock'; ʔuc'ikus 'side of river bank seen from river'; ʔilbus 'steep face of mountain'; q'wpus 'bare face of mountain'; and que'us- 'to wash the front surface of something.'

Forms with <flat surface>: tqnkus 'underside of lid, tabletop, car, chair seat, etc'; ʔasaqus 'bottom surface'; ʔa'ukus 'top surface of bed/log in water/tabletop'; Xilxustuc '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>: ʔasūs 'front of something such as a totem pole'; kukulūs 'front end of canoe or car'; ʔia'ukus- 'to move the front of a boat'; ʔallisus- 'to keep pushing the bow of boat away from dock or shore'; xilxulūs 'to clean barnacles from bow of boat'; qat'usm- 'to paddle towards the shore/forewards' and 'to hold one's face in one's hands.' The relationship of the following to the above semantic content remains opaque: st'qwlus 'bear snare'; suquptus 'mountain lion'; t'aūs- 'to be damp'; alaūs 'grass'; o'usm 'night'; fusc'usmi 'evening'; ʔnus 'two'; ʔasmūs 'three'; mūs 'four'; and k'ʔnus 'eight'.

As the primary suffix in a complex lexical suffix, -us- copies the semantic content of musa 'face' and sqXma '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'; -uXikus 'all over the forehead'; -ankus 'one side of the face'; -aXankus '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.'; -uXankus 'all over the one side of the face'; nu-...-ankus 'inside side of the face'; nu-...ikus 'middle of the forehead'; nu-...-ikikus 'inside the forehead'; nu-...-uXikus 'all over inside the forehead.' In addition, we found the following forms which did not occur in our test frame: -ūs 'all over the face' as in sqūpūs- 'to have hair all over one's face'; -uXūs 'all over the face' as in sqūpXūs- 'to have hair all over the face'; -llicūs 'skin of the face' as in ?ūsqallicūs- 'to have a rash on the face'; -liouXikus 'skin all over forehead' -licankus 'skin of side of the face' and -liouXankus 'skin all over the side of the face.'

We have the following additional forms: scapankus 'zygomatic arch', but 'ascending rami of mandible' for FW; scapaXankus 'Great wing of sphenoid and lateral pterygoid plate'; scapuXikus 'frontal bone'; sqimayulikus 'frontalis muscle'; skulikus 'forehead'; qwsmaXikus- 'to have a sweaty forehead'; muqwikus- 'to have a red stripe down middle of forehead'; caqwikus- 'to have a long forehead'; sqwcikus- 'to make vertical wrinkles in forehead'; sqwcuXikus- 'to make horizontal wrinkles in forehead'; qup'ankus- 'to punch someone on the side of the face'; skulankus 'side of the face'; sqūpankus 'one sideburn'; and sqūpXankus 'both sideburns'.

ch -inuwas, -inuʔs 'belly, stomach' / Cm -əlwás 'chest', 26

The combination -alus whose referent is the chest¹⁰ 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 -alic 'tooth' and -alie 'tongue'. In addition to -us:-alus 'face': 'chest', we have -ak:-alak(t) 'arm/hand': 'axilla'; -axaɬ:-alaXaɬ 'ankle': 'behind the knee'; -ax:-alax 'tribesman': 'breast'. There is also a positive contrast -alax:-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'; -ānkalus¹¹ 'one side of chest'; -lXsalus ~ -lXsikalus ~ -iklXsalus 'xiphoid process of sternum'; -ucankalus 'lower front of chest'; -ucānkalus 'lower side of chest, below breast but on rib cage'; -ulankalus 'entire front of chest below breasts'; nu-...-ikalus ~ nu-...-alus 'internal chest'; and nu-...-ānkalus 'internal side of chest.'

We have the additional forms: scapikalus 'sternum'; scapiklXsalus ~ scapilXsalus ~ scapilXsikalus 'xiphoid process of sternum'; sɔɬ'imayānkalus 'pectoralis'; nuxaikalus 'broken sternum'; sqūpikalus 'chest hair'; ʔasikalus 'median line of chest'; skuɬānkalus 'side of chest'; nupusmalus- 'to have a tumor in chest'; Xwilmalus- 'to have an itching chest'; and ʔusqalicalus- 'to have a rash on the chest.'

2.7 -nk *ch -n(a)č(i-)* 'hip, hind part' / [*čm - (a)nk* 'flat surface, stomach']

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 quXnk- 'to cover the bottom of something'; and ʔasunXk 'bottom of doorway'. Generally, kuXnk 'base' and kuXkXw 'top' refer to opposite ends of the same object as in kuXkXw ti stn 'treetop' and kuXnk ti stn 'base of tree', but they may refer to the same terminus as in kuXkXw ti nuqqaq and kuXnk ti nuqqaq 'non-pointed end of needle (kuXkXs)' 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 scapnk '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 ank 'feces'; nannk 'grizzly bear feces'; was'nak 'dog feces'; and ciccipinak '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'; ʔasnXk- 'to be located at the base of something'; kuXanknk- 'to be located alongside the base of something'; and ʔasnaluXnk- 'to be located between the bases of two objects.' Those which copy <bottom> sometimes include <downward> or <underneath> as in: tqnk- 'to be on the bottom' or 'to be underneath something'; xoic ʔuXnk 'I am going to push it down'; and sq'we ʔuXnk 'I am going to jump down.'

As a primary suffix in complex lexical suffixes, -nk is bound to the secondary suffix -lks-, the combination -lksnk (-lqsnk) refers to the tail or coccyx as in: ?aslXsnk 'coccyx/tail'; scaplXsnk 'coccyx'; spuXlXsnk 'tail feather'; ?asxwlXsnk 'seal tail'; smkklXsnk 'fish tail'; wac'lXsnk 'dog tail'; smulXsnk 'sacrum' (MS) skuɬlXsnk 'ischium' (FW); q'wacalXsnk- 'to wag one's tail'; kic'lXsnk- 'to have a crooked tail'; caqwlXsnk- 'to have a long tail'; caq'wlXsnk 'to have a straight tail'; ?amutɔwXnkllqsnk 'drooping tail'; ?asnalusaXlqsnk- 'to put tail between legs'; ?aɬfionaluslqsnk- 'to drag one's tail'; nutxwXlqsnk- 'to hold one's tail straight up in the air'; and nuxalXsnk- 'to break a tail.' Only one additional complex suffix occurs in our test frame: -anklXsnk '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 tɔnkams 'lower jaw' and tɔnkikus 'lower half of face'. In complex suffixes of non-anatomical reference, -nk- as a secondary suffix copies only <bottom> as in tɔnkus 'bottom of car'; tɔnklXs 'bottom end of dip net'; and gnkue 'bottom edge'/'low tide'.

2.8 -aq'ws ?Ch -uq'wa 'tears' / ?Ch -i(y)q 'berries, fruit'; -i(y(a)q 'water'
-i(y(a))q(i-) 'leg'

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.¹²

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

As a simple lexical suffix, -aq'ws refers to the eye as in: sq'wpaq'ws(1) 'right eye'; sx1aq'ws(1) 'left eye'; qlūq's 'eyeball' cickumaq'ws 'twitching eye'; sqūpaq'ws 'eyebrow'; nūmyaq'ws 'widespread eyes'; cf. nūmyulāq'ws 'wide open eyes'; c1aq'ws- 'to pluck eyebrows'; and Kūmaq'ws 'tear'.

Related to the above are a few stems involving visual perception as well as waking and sleeping: yayaq'ws- 'to be far-sighted'; sxaq'ws- 'to be near-sighted'; 1a111aq'ws- 'to peek through a hole'; q'wlasaq'ws- 'to be looking the wrong way'; pa1waq'ws- 'to be afraid to look'; 1aq'ws- 'to see something'; 1inaxwmaq'ws- 'to wake up early in the morning'; and 1amataq'ws ta 1'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. sixaq'ws- 'to look bloody'; q'wlasaq'ws- 'to be a different color'; 1ayawaq'ws- 'to change the color'; qwliyaq'ws- 'to be greenlike'; and mūqwaq'ws- 'to be reddish'/'almost red'. Perhaps related to 'eye' are references to nets as in: qulas(a1)aq'ws 'mesh of net' and 1'alāq'wsa- 'to dry a net.'

Non-anatomical referents whose relationship to 'eye' is opaque or non-existent include the branches of trees, the sea or river bottom, ashes or the stove itself, nails, veins and arteries, and fruits and berries. Cf. mū1aq'ws- 'to trim a tree of branches'; nuxmaq'ws- 'to break the stem of a plant or branch of a tree'; nuskysaq'ws 'branch split off from tree'; mū1qwaq'wsta 'sticks for

barbecuing fish heads'; yavaq'ws 'a cedar branch which splits easily';
mult'ag'ws- 'to hang something upon or over a branch'; ʔasaq'ws 'sea/river
 bottom'; miltmaq'ws- 'to overflow'; muyayaq'ws 'clear water'; nusxaq'ws muddy
 water'; musʔaq'ws- 'to scrape ashes from stove'; muskwʔaq'ws 'a fire which has gone
 to ashes and will not re-ignite with additional fuel'; tʔkwaq'wsta 'nail';
ʔip'ag'ws- 'to squeeze berries by hand'; mnsaq'wsnna- 'to press fruit or berries
 for juice'; mnsaq'wsta 'juice press'; nuʔoag'ws- 'to stop bleeding by pressing
 down on vein with one finger'; and nuʔip'ag'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:
-uʔaq'ws 'around the eye', but also the most common direct reference to the eye
 itself; nu-...-uʔaq'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'; nu-...-ikaq'ws 'internal region above the eye'/'frontal sinuses'; -ankaq'ws
 'corner of the eye'; nu-...-ankaq'ws 'inside the corner of eye'; -nalusaq'ws
 'between the eyes'; nu-...-nalusaq'ws 'internal region between the eyes'; and
nu-...-alsaq'ws 'under the eyelid'. In addition we have nu-...-aq'ws 'center of
 the eye' as in musʔalkaq'ws 'cataract' which does not occur in the test frame.

We have the following additional forms: scapuʔaq'ws 'base of bony orbit';
scapikaq'ws 'superciliary arch'; scapnalusaq'ws 'glabella'; sʔ'imayutaq'ws
 'orbicularis oculi'; sʔ'imanalusaq'ws 'procerus muscle'; musk'xkuʔaq'ws 'pupil';
nukikaq'ws- 'to be cross-eyed'; sʔnikuʔaq'ws 'fish eye'; numnsitnuʔaq'ws- 'to have
 pus in one's eye'; muswʔaq'ws- 'to have a cinder in one's eye'; sikuʔaq'ws- 'to
 have bloodshot eyes'; nūminalusaq'ws 'widespread eyes'; ʔasnalusaq'ws- 'to be

located between the eyes'; ʔasalsaq'ws- 'under the eyelid'; nuq'wXaq'ws- 'to have watery eyes'; nipulaq'wstimut- 'to squint'; ʔiculaq'wsm- 'to rub one's eyes'; ʔapsulaq'ws- 'to blow in someone's eye'; nuqwilaculaq'ws 'black eye'; soqulaq'ws 'orbit of eye'; and musk'x(t)nuḷaq'wsta 'eyeglasses.'

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

2.9 -allXi

This suffix is the diminutive of -alX. The exact nature of the semantic content copied by -alX is uncertain, but appears to be connected to <circular> or perhaps <semicircular> as in yalXaḷm 'to walk around an obstruction' as contrasted to yalouḷaḷm- 'to circle an object on foot.' In both of these, -alX occurs as part of the root yalX. As a lexical suffix, we find another diminutive variant in ʔasʔip'allqi 'handle'. There are a number of forms with the root yalX all of which involve the notion of circularity: ʔanuyalX 'circle'; yalḷqiḷ 'wheel/hoop'; ʔanuyallqwuḷci 'arc'/'semicircle'; and yalqoḷ '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 -allXi 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 -allXi as the occiput only.

There is only one semantic extension of the suffix and it occurs in two stems: cacqwallqi 'long hair' and ʔaḷʔiḷmallqi- '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' kuʔallXi 'nape'; ?astnmallXi- 'to have a stiff neck'; sʔ'imayallXi '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; -uclayx 'edge projection' which refers to the eyelashes; and -iXwlayx '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'; -uāqlayx 'all over the chin, heel'; -ānklayx 'one side of ribs'; -ucānklayx 'lower edge of ribs'; -nalusānklayx 'between the ribs'; -iXwlayx 'knee'; and -nalusiXwlayx 'knee joint'. One additional complex suffix -ikaqlayx 'median line of chin' as in mugwikaqlayx 'red stripe down middle of chin' did not occur in the test frame.

We have the additional forms: ?asāqlayx 'chin' or 'heel'; ?akxmaqlayx 'broken chin', 'broken heel'; scapaqlayx 'mental tubercle' or 'tuber calcaneus'; sʔ'imayaqlayx 'mentalis muscle'; q'wamsaqlayx 'chin dimple'; k'namaqlayx- 'to have a trembling chin'; muḡmānklayx 'broken rib'; qaXacxiyanklayx- 'to tickle someone's

ribs'; sā'imanalusānklayx 'intercostal muscles'; cik'nalusānklayx- 'to stab someone between the ribs'; sk'alucayx 'eyelash'; scapiXwlayx 'patella' or 'tibial tuberosity'; and c'XiniXwlayx- 'to kick someone in the knee.'

2.11 -an ch -án?, -áni- 'ear' / Cm -(á)na? 'ear, corner'

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.¹⁴ There are also a number of nominal forms for various body parts which are or contain corners: sq'wyan 'knee' and λ'aXwani 'elbow', but these are copied into Comments via -iXwlayx and -iXwalstucak respectively.

We have the following forms with simple -an: sqwlan 'from temple to clavicle', 'clavicle region' or 'neck'; seapan 'clavicle' or 'temporal bone'; sā'imayan 'temporal muscle'; sp'an- 'to hit someone on the temple'; sqūplan 'sideburns'; tanksta 'ear'; and muxman 'broken clavicle.'

Semantic extensions of -an based on its corporeal referents involve aural perception as in: tqan- 'to be deaf'; ?anuscayanm- 'to be listening'; ?axwsan- 'to know how to do something'(after having been told)' and ?axwssanta sea shell.' A second group of words appears to share a reference to the neck: λ'ūpana 'cormorant'; Xaq'ans 'crane'; sqwlan 'fish neck'; λuk'mani 'weasel'; and λ'aq'an 'snail'. The word pilXani 'abalone' could contain a reference to the neck or perhaps a more general and direct reference to its shape, such as is found in kannani 'shelf fungus.' For some, as yet inexplicable reason, -an occurs in forms referring to the menses as in kxlan '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'; ?anuXiyann- 'to look around a corner'; k'xan- 'to see a corner'; q'wXtan 'curved corner'; cāqwan 'long corner'; nuyalXsan 'sharp corner'; nuyalXan 'round corner'; ?uc'an 'corner of top surface'; and kannani 'shelf fungus.'

Complex suffixes containing -an as primary suffix which occur in our test frame are: nu-...-an 'internal temporal or clavicle area'; -ulan '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'; sxlīkan 'left ear'; mulikan- 'to pour something into someone's ear'; pismikan- 'to have a swelling ear'; ?asalsikan 'meatus', tympanum; musqūpalsikan 'ear hair'; ?ucikan 'rim of ear'; st'wkwalsikan 'ear wax'; mutalsikanm- 'to clean one's ear'; qup'aqikan- 'to punch someone behind the ear'; scapalsikan 'ear bones'; nūmālsikan- 'to have wide ear holes'; and oixōikunikantimut- 'to wiggle one's ears.'

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

2.12 -āX (-āq, -aX, -aq)

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 -āX 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 -āX, except that the old and new content coexist with lexical suffixes of identical phonological shape.

Examples of -āX <rear> include: kuāX 'rear wall of house'; txāX 'sāX' 'area behind the house'; paX 'stern of boat, rear end of car'; nuplāq- 'to have no stern/rear wall'; nanaXta 'dam'; muXwoaXm- 'to abandon/leave behind'; quo'āX- 'to wash a rear wall'; nu?imaX- 'to copulate from behind'; muYulmāX- 'to go back to get something'; kanaXmtimut- 'to bend over backwards'; musuk'yaX- 'to sail with a following wind'; ?amuXūlaX- 'to push a car from behind'; muXulaX 'to push the stern of a boat' or the end of a log in water'; and kuāXam- 'to go behind an object'.

Examples of -āX <bottom> include: ?asāq 'bottom of box, basket, bottle, keel of boat'; ?asaX- 'to be located on the bottom'; opāq- 'to wipe the bottom of something'; nīp'āq- 'to grab something from underneath'; plāq- 'to be bottomless'; ?asalsāq- 'to be located on the inside bottom'; kuālsāq 'the inside bottom of container'; limaX- 'to litter'; ?aīpuyaX- 'to be toppled'; ?mtaqi- 'to squat'; and naXcaX- 'to recline.'

Examples of -āX <distributed> are: stntnaX 'forest' cf. stn 'tree'; slalausaX 'meadow' cf. slaus 'grass'; taq'aX 'forest with dense underbrush'; and kalXlayaX 'swamp/marsh.'

Some stems, especially those involving object copying, are ambiguous. Cf.

nuqāq- 'to make a hole in the back wall' or 'to make a hole in the bottom';
quc'āX- 'to wash the rear wall or the bottom of something'; sp'āq- '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 kuāX 'rear wall' and kuāq 'external
 bottom', but the distinction is not consistent and not all speakers employ it.

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

There are a few stems with -āX which are related to anatomical bottom,
 namely ʔamataX 'chair'; ʔasankaX- 'to sit in front of someone'; ʔiā'āXm- 'to move
 one's chair'; q'wXaXm- 'to change seats'; tqkaX- 'to sit lower/below someone';
 and tʔhkaX- 'to sit higher/above someone.'

As the primary suffix of a complex lexical suffix, the anatomical referents
 of -āX are the lumbar and anal regions. The following complex suffixes occur in
 our test frame: ʔus-...-āX 'lumbar region'; -ikāX 'median line lumbar region';
nu-...-āX 'anus'; -ucaX 'buttock'; -ankucaX 'one side of buttock'; nu-...-ucaX
 'inside buttock'; nu-...-ankucaX 'inside one side of buttock'; -uānkucaX 'all
 over the surface of buttock'; and -nalusucaX 'sacrum'. We also have the following
 suffixes which did not occur in the test frame: -līcucaX 'skin of buttock' as
 in ʔusqalīcucaX- 'to have a rash on buttock' and -līcankucaX 'skin of side of
 buttock' as in ʔusqalīcankucaX- 'to have a rash on the side of the buttock.'

We have the following additional forms: scapāX ʔuscapāX 'sacrum'; sxp'ikaX
 lumbar vertebrae'; ʔussā'imayucaX 'gluteus maximus'; nuq'wnayāX 'anal hair';
nuXwilmaX- 'to have an itchy anus'; nuʔictāX- 'to give someone an enema'; ʔasucaX

'buttock'; ʔasnalusucaX- 'to be located between the buttocks'; and qXlamucāX- 'to have a blister on one's buttock.'

As a secondary suffix in complex lexical suffixes with anatomical referents, -āX 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: -āXankus 'squamosal region' i.e., 'behind the side of the face', but for FW 'all over the side of the face'; -āXikan 'under the ear' but FW 'behind the ear' and CS glossed it both ways; -āXikaɿ 'back of thigh' (CS, MS, SS) but FW equated this form with -uɿikaɿ 'top/back of foot' and 'front of thigh', and CS in 1971 made a partial equation glossing -āXikaɿ 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 -āXams is 'entire mandible' for all speakers except FW whose gloss is 'ascending rami of mandible'. Finally, -āXapsm 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 ʔasaXapsm to mean 'the entire neck.' It is apparent that all three pieces of semantic content are copied by -āX- 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

38
/cm.-(ā)nk 'flat surface, stomach'

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 ?asankc ?aʔ ?inu 'I am directly in front of you.'; nuʔqumankta 'toggle'/'button'; and nuqwa'ank- '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 tqnkankc ?aʔ ?inu '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 tqnkankus '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 -uʔ, the combination -uʔank referring to the abdomen. We have the following complex suffixes in our test frame: -uʔank 'abdomen'; -ucʔank 'lower abdomen'; nu-...-ucʔank 'inside the lower abdomen'.¹⁵ Other suffixes which did not occur in the test frame are: -ikuʔank 'median line of abdomen' as in sqūp-ikuʔank 'hair along median line of abdomen'; -ikucʔank 'median line of lower abdomen' as in sqūp-ikucʔank 'hair along median line of lower abdomen'; and -llicʔank 'skin of abdomen' as in Xwilmlicʔank- 'abdomen itches'.

We have the following additional forms: skuʔank 'abdomen'; cik'uʔank- 'to stab someone in the abdomen'; ?astrnuʔank- 'to laugh until one's belly gets tight'; ?usqallicʔank- 'to have a rash on one's abdomen'; ?usqallicucʔank- 'to have a rash on one's lower abdomen'; and sʔ'imayʔank 'rectus abdominis' or 'internal abdominal obliques.'

As a secondary suffix in complex lexical suffixes with anatomical referents, -ānk copies <front>. It is rare and not all speakers accept it. It occurs in our data in -ācānkālus 'lower front of the chest' (cf. 2.6) and bound to -u- in kūyūlānkālus - 'to have pain in the area of the xiphoid process'.

2.14 -ānk

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. kulānke ʔaʔ ʔinu 'I am beside you.'; ʔasānke ʔaʔ ʔinu 'I am off to the side in front of you', which contrasts with ʔasānke ʔaʔ ʔinu 'I am directly in front of you.'; lisic kulānkam 'I am going to push it off to the side.'; lisānkic 'I am going to push the side of something.'; and kulānk 'side of a non-container'. When used in conjunction with a container, kulānk 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 -ānk is the flank of an animal or the side of the human torso. We have the following examples of the simple suffix: sq'wāpānk 'right side'; pa'ānk 'left side'; pa'ānk- 'to have no feeling on one side of torso'; stiliatānk- 'to be paralysed on one side of torso'; stikmayānk- 'to have pain on just one side'; and sa'inayānk 'external abdominal obliques.'

As a primary suffix of a complex lexical suffix, -ānk occurs in the following forms found in the test frame: nu-...-ānk 'internal side'; -iXwānk 'top of hip'/'superior border of ilium'; nu-...-iXwānk 'internal top of hip'; -u'iXwānk 'all over the surface of hip'; -iXsānk 'lower hip'/'anterior projection

of iliac spine'; and nu-...-lXsānk 'internal lower hip.'

We have the following additional forms: skuŋlXwānk 'hip'; scaplXwānk 'superior border of ilium'; scaplXsānk 'anterior iliac spine'; sA'imaylXwānk 'gluteus medius muscle' and ŋusqalicuŋlXwānk- '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. -apsm '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 (-lic) ? Ch -ē'ca 'blanket' / Cm -(i)ca? 'blanket, skin, hide, outside'
 -ēi, -(ā)ŋēi 'body, flesh' // -(ā)ŋca? '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'atlic 'skin'; ŋusqalic- 'to have a rash'; Xwilmlīc- 'to itch all over'; spuŋpullic- 'to have lumps all over one's skin'; q'ismlīc- 'to have hives'; ŋiqwlic- 'to be sunburned'; nanlīc 'grizzly's pelt'; A'Xlicm- 'to groom'; ŋayawaqlīcm- 'to undergo seasonal change of plumage/pelt colour etc.'; spūXlic 'plumage'; pllic- 'to be featherless'; cālic- 'to pluck feathers'; limāqlīc- 'to molt'; sXlic- 'to scale a fish'; skuŋlic 'bark'; A'aq'wtlic 'bark'; ŋixŋlXtaŋplīc 'alder bark'; ŋaq'mlXaŋplīc 'cottonwood bark'; q'wplXlīc- 'to strip a tree bare of bark'; sik'wlic- 'to peel bark'; lullullīc- 'to strip bark with a tool'; and nucqlīc- '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: que'līc- 'to wash a pole'; ŋipolīc 'mossy tree/pole'; suc'mlīc 'barnacles on piling'; cik'mlīc 'dirty pole/pipecleaner'; līc- 'to clean off a

pole/tree'; qullic- 'to write on a pole/tree'; ?at'lic- 'to paint a pole'; qumlic 'big round tree/pole/log'; and muqwic '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, -lic 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 oq'lica 'torn pants leg.'

2.16 -ani

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. nanani 'grizzly pelt/blanket'; yakiyani 'mountain goat blanket'; sic'mani 'leather jacket'; kic'ani- 'to wash clothes'; ?it?ayawani- 'to change one's clothes'; t'kwanani- 'to brush one's clothes'; tiq'ani- 'to sew clothes'; iq'ani 'wet clothes'; and ʌ'ani- 'to dry clothes.'

Other referents include sails, nets, spider webs, and material possessions as in: tuk'ani- 'to stretch a sail'; q'sani- 'to tighten a sail'; sc'ani 'dew on a spider web/net/clothes'; t'aūsani 'damp sail/clothes'; kwsani 'rough material'; iq'wani- 'to bleach material'; nuɬkani- 'to be stingy with possessions'; and nuɬayani- 'to be generous with possessions.'

This suffix occurs primarily in simple suffixes.

2.17 -u₁ (-ū₁)

/? cm - (a) l x w 'skin, hide'

This suffix copies <round> and <exterior> from the semantic content of lexical items. Examples of the former are: yakū₁ 'ball'; samp'ū₁ 'baseball'; c'Xīrū₁ 'soccer ball'; spū₁ 'lump'; stpū₁ 'mole' cf. stp 'freckle'; yanū₁ 'toque'; lp'ū₁ 'bread'; sik'wū₁ 'to peel an orange'; q'Xū₁ 'to bite an apple'; Xilū₁ 'to gnaw on an apple'; t'aqū₁ 'to lick a lollipop'; and nixū₁ 'to saw firewood.' Perhaps related to the above are the following references to rocks: piq'ū₁ 'broad flat rock'; ?ipcū₁ 'mossy rock'; ?apsū₁ 'to defecate on a rock'; suc'mū₁ 'barnacle on a rock'; qwlū₁ 'to heat rocks'; kip'ū₁ 'to put hot rocks into oolichan rendering bin with tongs'; lū₁ 'to clean rock of moss or barnacles'; maxmuqwū₁ 'gold'; qwliyū₁ 'jadeite'; st'aū₁ 'whetstone'; tayankū₁ 'to throw a large rock'; and ?a₁qwlxū₁ 'a pile of stones.' Examples of forms where <exterior> is copied are: λ'aū₁ 'to wrap something'; tapū₁ 'to unwrap something'; sqXp'ayū₁ 'egg shell'; quc'ū₁ 'to wash the exterior of something'; muqwlxū₁ 'to paint the exterior red'; ?at'ū₁ 'to paint an exterior'; and kulū₁ '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 -ū₁ in simple lexical suffixes is the exterior of the body, although most references are in fact to the clothing as in: lu₁cū₁ 'a naked person'; ksū₁ 'to undress'; ?it?ayaū₁ 'to change clothes'; and x₁uptū₁ '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 nu-<center>. The combination nu-...-u₁ refers to the heart and the surface area around the heart while the combination nu-...-ū₁ refers solely to the navel.

We have a few additional forms: nupusmū₁ 'to have a swelling near the

heart'; nuq'wnayū 'navel hair'; and nuṭ't'mū '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 -uṭaq'ws 'around the eye', cf. sā'imayulaq'ws 'orbicularis oculi'; -uṭuc 'around the mouth' as in sā'imayūṭuc 'orbicularis oris'; and -uṭixwak 'around the fingernail' as in cik'muṭixwak 'dirt around the fingernail.' The second suffix copies <exterior> or perhaps more exactly <entire exterior> as in: -uṭankus 'all over the side of the face'; -uṭapsm 'all over one side of the neck'; and -uṭals 'all over the cheek'.¹⁶ The third use of -uṭ- occurs where it is bound to -ik, the combination -uṭik 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 -uṭikak 'back of the hand' -uṭiklqsak 'back of the finger'; and -uṭikalīc 'dorsum of tongue'. In this third usage, -uṭ- appears to act as a connector which signals that the original content copied by the primary suffix has been changed.

2.18 -nalus Ch -āṭaws, -āṭaws, -āṭawa-, -āṭus 'middle' / Cm -āw(a)s, -uʔs 'middle'

This suffix copies <between>. Except for some stems such as ʔasnalus- 'to be between' and ʔasnalusam- '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: -nalusucaX 'between the buttocks'; -naluslqsak 'between the fingers'; nu-...-naluslqsak 'finger joint'; -nalusaXak 'wrist joint'; -naluslqsai 'between the toes'; -nalusaXai 'ankle joint'; -nalusiXwalst 'shoulder joint'; -nalusiXwalstuiik 'between the scapulae'; -naluslXsutik 'between scapulae at second and third thoracic vertebrae'; -nalusalic 'between the teeth';

-nalusaqali 'between the teeth'; -naluslXsali 'between the tips of teeth';
 -naluslXsani 'hip joint'; -nalusanklayx 'between the ribs'; and -naluslXwlayx
 'between the ribs.'

2.19 -apsm 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 -āXapsm 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 -āXapsm. Both SS and FW consider that their -apsm is equivalent to the majority's -āXapsm. They claim -āXapsm to refer to the 'back of the neck.' It should be noted that FW restricts -allXi '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 -āXapsm. 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 -āX, 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: skulapsm 'one side of the neck'; ʔasapsm- 'to be located on one side of the neck'; sāʔinayapsm 'sternocleidomastoid muscle'; and pusmaps- 'to have a swelling on one side of the neck.'

The suffix does occur in one non-anatomical form qlapsmta 'scarf.'

The following complex suffixes occur in our test frame: -āXapsm 'both sides of neck including the throat'; -uāpsm 'all over one side of the neck' but also 'around the neck' (CS); nu-...-apsm 'inside one side of neck'; nu-...-ikapsm 'inside one side of the neck'; -ikapsm 'mastoid process'; and nu-...-āXapsm '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: skulāms 'one side of mandible'; knayams- 'one side of jaw hurts'; and ʔasams- 'to be located inside one side of mandible.' For these speakers, a complex lexical suffix, namely -āXams is required to refer to the entire mandible as in skulāXams. FW, however, uses -ams 'to refer to the entire mandible and -āXams 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 snuwac'ams 'canine teeth'; ʔasisams 'molars' and snut'kams 'wisdom teeth.' The incisors are ʔasikaqalic 'literally' middle teeth' with the usual lexical suffix referring to the teeth.

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

We have the additional forms: snikaXams 'fish jaw'; sqūpanams 'baleen'; scapaXams 'mandible'; ʔalk'mamsm- 'to clench one's jaws'; and ʔaləqmamsm- 'to hold one's jaws open.'

2.21 -aɪɪ ch -tnt, -tnáɪ-, -tnal(ɪ-) 'mouth'

This is a corporeal suffix which copies <throat>. It occurs as a simple suffix in one form Klaɪɪ 'to be hungry.' Elsewhere it serves as primary suffix in complex lexical suffixes.

We have in our test frame the following complex suffixes: mu-...-aɪɪ 'internal throat'; mu-...-ūɪɪkaɪɪ 'internal throat'; and -ūɪɪkaɪɪ¹⁷ 'external throat.' We have the following additional suffixes: -ikaɪɪ 'median line of throat' as in muqwikaiɪ 'to have a red stripe down middle of throat.' and -licūɪɪkaɪɪ 'skin of throat' as in ʔusqalicūɪɪkaɪɪ 'to have a rash on the throat.'

We have the following additional words: scapūɪɪkaɪɪ 'hyoid bone'; ʔasikaɪɪ 'median line of throat'; nuspuɪɪkaɪɪ 'thyroid cartilage'; spuɪɪkaɪɪ 'Adam's apple'; ʔasūɪɪkaɪɪ 'inside of throat'; muk'mnaɪɪ 'to choke'; nuɪɪlawaiɪm 'to gag'; muc'saɪɪ 'to speak loudly from the throat'; muquc'aɪɪm 'to gargle'; nuɪɪkaɪɪm 'to clear one's throat'; mulaiɪ 'to pour something down someone's throat'; nuɪɪwpaiɪ 'to force something down someone's throat'; muʔiɪxwaiɪ 'to have a burning throat'; and nut'kalxaiɪ 'to get something stuck in one's throat.'

2.22 -mx ch -ámš, -amš, -mš, -ámš, -umš 'person, people' / cm -ámx 'people'
-míx 'people'

As a simple suffix, -mx refers to a member of a tribe, group, profession, or a person who is habitually associated with some preoccupation as in: nuɪɪkalmx 'a Bella Coola'; suclmx 'a Kimsquit'; tallyūmx 'a Tallio'; ʔlq'wlasmx 'a Bella Bella'; staltmx 'chief'; nusnaɪūmx 'dancer'; nusc'kalmx 'artisan/carver'; and nusʔimmx 'a person preoccupied with sex.'

As a primary suffix in complex lexical suffixes, -mx occurs with two connectors -ul- and -al-. The combination -ulmx refers to the earth, ground, or floor in such forms as epulmx 'to wipe/mop the floor'; tɪxwulmx 'to sweep the floor'; t'ɪxwulmxta 'broom'; and kuɪulmx 'floor of house', 'earth', 'territory', etc. The combination -almx is contained in a specialized reference to the floor of a

cm - (á) ʔax~
'soil, earth'

valley or any flat area which is divided by a river as in ?asalmx wa cimilt c 'one side of valley bisected by a river' or ?asalmx 'one side of the tide flats.' The floor of a valley with no river would be kuzulmx.

The anatomical referent of -almx is the breast as in ik'walmx- 'to have large breasts'; caqwalmx- 'to have long pointed breasts'; λ'aXwūlalmx- 'to have firm round breasts'; piq'almx- 'to have broad flat breasts'; and puλ'almx the emerging breasts of a young girl.'

Cm - tsāmx
'breast'

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

We have the additional words: ?aslXsalmx 'nipple'; nuk'axwikalmx- 'to have empty breasts'; and muqat'almxta 'brassiere.'

2.23 -ic ? Ch - (a)ns 'tooth'

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 nukmayāqalic '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 ?ut'plxalic- 'to have a decaying tooth.' The more frequent suffix for references to the teeth is -āqalic 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 -alic 'tongue'. We have the following

2.24 -īc

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

There are a number of stems involving pronunciation difficulties which contain this suffix. Cf. t'saliċ- 'to substitute s for ṣ'; t'palīc- 'to substitute an ejective for a non-ejective'; t'laliċ- 'to substitute l for another sound, usually y and usually involving metathesis' as in *bakalaya for bakayala 'box'; t'naliċ- 'to substitute n for another sound, usually y as in *numalX for yumalX 'sour'; t'maliċ- 'to substitute m for another sound'; t'āliċ- 'to substitute a for another sound'; and ʔastnmalīc- 'to stutter', literally 'to have a stiff tongue.'

The following complex lexical suffixes occur in our test frame: -aliċ 'tongue'; -lXsaliċ 'tip of tongue'; -ānkaliċ 'inferior margin of tongue'; and -ikūcalīc 'edge of tongue.' The following occur outside the frame: -ikalīc 'visible top surface of tongue' as in muqwikaliċ- '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 -ūlikaliċ 'dorsum of tongue' as in muqwuūlikaliċ- 'dorsum of tongue is red.'

We have the following additional forms: nulik'waliċm- 'to twist one's tongue'; palxaliċ- 'to have no feeling in tongue.'; t'ḷaliċ- 'to have a strong tongue'; qXaliċayxnimut- 'to accidentally bite one's tongue'; qXlXsalicayxnimut- 'to accidentally bite the tip of one's tongue'; cqwlxaliċ- 'tongue is turning white'; and ʔaktq'aliċm- 'to stick one's tongue out.'

2.25 -iɬ (-iɬ)

/cɪ - ɔɪ nɪ/ 'pelvic region'

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. soqɪɬ 'vagina'; splɪɬ 'vulva'; pac'iɬ 'vagina of maiden'; and numɪɬ 'large vagina'. The nominals for male genitalia do not include the suffix and glosses for forms which have -iɬ with reference to males refer to the crotch. There are some exceptions such as kmayɪɬ 'My penis hurts' which derives from kma ti xlic, but the usual copy form of the analytic sentence is quɪkmac 'My penis hurts.' Perhaps -iɬ was originally a shape suffix with the meaning of <passage> such as suggested by McIlwraith, 1949 who glosses numɪɬ as "passage, especially the digestive tract".¹⁸ We were unable to obtain a lexical suffix which referred to the digestive tract except the form nuq'Xalsɪɬ 'to have bad air inside'.

The extensions of -iɬ pertain to the use of the genito-urinary tract as in: ?ayɪɬ 'to copulate' or 'to urinate'; yaɪkɪɬ 'to copulate/urinate too frequently'; oɪXɪɬ 'to copulate for the first time'; ?ɪnaxwɪɬ 'to copulate/urinate first thing in the morning'; nuʔunɪɬ 'to be the first one in a group to copulate'; and perhaps muɪayɪɬ 'to be eager'. The suffix occurs in a number of animal names such as qackɪɬ 'ant'; sɔwpanɪɬ 'deer'; and stantapɪɬ '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 test frame: nu-...-ɪɬ 'inside the genitals/crotch'; nu-...-alsɪɬ 'inside the vagina'; -ɪXwɪɬ 'pubic bone'; -ucɪɬ 'external pubic region'; -anɪɬ 'where leg joins crotch'; nu-...-anɪɬ 'inside where leg joins crotch'; -aq'wsanɪɬ 'inguinal region'; nu-...-aq'wsanɪɬ 'hip joint'; and -lXsanɪɬ 'ischial tuberosity'(?).

We have the following additional words: scapIXwił 'pubic bone'; scapIXsanił 'ischium'; scapaq'wsanił 'acetabulum'; ?asił 'genitals'; skułaq'wsanił 'inguinal region'; skułanił 'surface where leg joins crotch'; ?uc'ıl 'pubic region'; sqūplucił 'hair on pubic bone'; ?usqwnayucił 'pubic hair' (cf. qwna 'crotch hair'); sXwatił 'urine bladder'; qwsnił 'sweaty crotch'; Xwilmił 'itching crotch'; mupusmił- 'swelling in genito-urinary tract'; ?amu?ip'aq'wsaniłm 'to clamp legs together to prevent intercourse'; muck'maq'wsanił 'to have dislocated hip'; slip'nalus-aq'wsanił and slip'nalusIXsanił 'hip joint'; q'wpił 'hairless crotch'; tapil-m- 'to flash or expose one's genitals'; spliłta 'womanizer'; and mucqil- 'to deflower'.

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

2.26 -aɬ ch - áwt, -uwt, -út, -ut, -wít 'canoe, vehicle, container' / ⁵² Cm -wít, -wál 'canoe, conveyance'

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

The first copies <container> from the semantic content of lexical items as in: ɬk'waɬ 'large container/spoon/car/boat'; c'Xwaɬ 'white container, etc.'; cpaɬ- 'to wipe a container, etc.'; Xulalaɬ- 'to launch a canoe'; macaɬ- 'to launch a canoe for the first time'; and mawalam 'one spoon-/cupful.' A second suffix appears to copy <from heaven/sky> as in: wilaɬ 'rain' ('to pour straight down from heaven'); ?asc'aɬ 'waterfall'; cXmcXmāli 'random rain drops'; snXaɬ 'sunbeam'; ?astxwaɬ 'inside totem pole'; and ?asqayaɬ 'outside totem pole.'

The third homophonous lexical suffix is corporal and copies <leg/foot> from the semantic content of a set of lexical items. [cf. Cm -xən 'foot, leg' 'rain']

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 -aɬ is the entire leg or the foot as in: ɬk'waɬ- 'to have a big foot'; sq'wpaɬ 'right foot'; sxɬaɬ 'left foot'; cnalxaɬ- 'foot is going to sleep'; ?aXqnaɬm- 'to urinate on one's foot'; palxaɬ- 'to have no feeling in foot/leg'; qaXacxiyaɬ- 'to tickle someone's foot'; sp'aɬ- 'to hit someone's leg/foot'; q'maɬ- 'to step on someone's foot'; quc'aɬm- 'to wash one's foot'; t'aqwaɬ- 'to lick someone's foot'; ?anuk'wnaɬ- 'to point at someone's foot'; q'awallayx- 'to get one's foot caught'; plaɬ- 'to have no foot'; mulq'mikaɬm- 'to press something down with one's foot'; ?aɬk'maɬ- 'to be caught by the foot'; ?aɬkip'aɬm- 'to hold something clamped between the legs'; excaqwaɬ- 'to have long legs'; q'wtaɬ 'bowed legs'; scapaɬ 'femur'; and snucqixkaɬ 'leg bone marrow'.

Semantic extensions of -aɬ <leg/foot> include stems whose action involves the legs as: ?ayk'aɬ- 'to walk slowly'; k'yaɬ- 'to walk rapidly'; smawaXaɬ 'one pace'; maX'apaXaɬ- 'to take one step forward'; maX'apaXaɬ- ska lipcut- 'to take one step backwards'; maX'apaXaɬ- ?aɬ ti sq'wpānk- tx 'to take one step to the

right'; qnkaɪ- 'to take the low(er) trail'; ʔukaɪ- 'to take the high(er) trail';
caXwmaɪ- 'to wade'; nuk'awaɪ- 'to step up on something'; kuɪkaɪ- 'to walk
 on the roof'; ʔuc'aɪ- 'to walk on the top of a flat hill'; ʔasikaɪ- 'to walk
 in the middle'; ʔucikaɪ- 'to walk on a tabletop etc.'; ʔiXwanmakai- 'to take a
 long stride'; txwXnkaɪ- 'to come down a pole/mountain/tree'; sxsq'waɪ 'to
 jump up and down'; ʔassq'wāɪmi- 'to hop'; qulucamaɪX 'Go ashore'; XulacaɪX 'Come
 ashore'; kawaɪ- 'to escort/ take someone back home'; ʔasikūlaɪ- 'to stand
 in the middle'; pacaɪ- 'to walk before someone'; nuʔunaɪmi- 'to walk for the
 first time'; ʔinaxwmaɪ- 'to leave early in the morning'; yallXaɪm- 'to walk
 around something'; ʔasc'awikaɪ- 'to use snowshoes'; sk'laɪtam- 'to ice-skate';
ʔasiknalusaɪ- 'to walk between two objects'; cikwaɪm- 'to start to go'; Xwpaɪ-
 'to trip'; lixmaɪ- 'to slip'; sickwaɪm 'starting line'; paqwaɪ- 'to be afraid
 to step on something'; st'Xwmaɪta 'floor mat'; k'maɪta 'trap'; kawaɪta
 'foot rest'; and kuɪalaɪ- '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'maɪ 'leather moccasins'; sic'maqaiɪta
 'leather leg wrappings'; q'ūmsxiwayaɪ 'whiteman's shoes'; lq'maɪta 'shoelaces';
lq'maɪ- 'to tie someone's shoelaces.'; qulaɪ- 'to use someone's shoes'; ʔulqai-
 'to steal someone's shoes'; st'qwaɪqwaɪ- 'to have muddy shoes'; c'awikaɪ 'long
 snowshoes'; q'waqwaɪ 'short snowshoes'; kic'aɪ- 'to wash someone's socks';
ʔustqnksaɪanm- 'to put one's socks on'; ʔastqnksaɪ- 'to be wearing socks';
c'ikmaɪ ti sūmc tx 'My pants are dirty.'; ʔaɪcq'liɪcaɪ 'torn pants leg';
 and ʔaɪcq'ucaɪ 'torn lower pants leg.'

By metonymy, we find this suffix in stems referring to trails, roads and
 journeys as in: nuc'kaɪm- 'to cut a trail for oneself'; nukakaɪ- 'to follow a
 trail'; nuxmaɪnam- 'to break brush back from trail'; nuɪ'ayaɪ- 'to block

ch šswt 'trail'
 cm xawáɪ 'trail'

someone's way'; kic'ał wa mamnta c 'winding trail'; smtał 'mountain trail';
nūmyał 'wide trail'; nīpāłi 'narrow trail'; musqcał 'dirt road'; mut'xtał
 'gravel road'; caq'wał 'straight road'; ʔamlał 'summer trail'; sut'kał 'winter
 trail'; słXarmał 'hunting trail'; ʔasikūlał 'middle of the trail'; nanāł
 'grizzly tracks'; ciccipāłi 'bird tracks'; muqwnał- 'to track something';
smawaXałam 'one day's journey'; smawtił'ukałam 'one month's journey'; muslanXwałam
 'one year's journey'; ʔassulutał 'sea voyage'; sut'kał ti λ'ap 'winter trip';
 and ʔamlał ti λ'ap 'summer trip.'

As a primary suffix in complex lexical suffixes, -ał copies the semantic content of ʔixa 'foot'/'leg'. The complex suffixes occur in groups which reflect the division of the lower extremity into its component parts. Cf. -lqsał 'toe'; -iXwał 'toenails'; -aXał and -anał 'ankle'; -ucał 'lower leg'; and the foot and thigh, both of whose complex suffixes are directly based on the primary suffix -ał. The following complex lexical suffixes occur in our test frame: -lqsał 'toe'; mu-...-lqsał 'internal toe'; -ułiklqsał 'back/top of toe'; -naluslqsał 'between the toes'; mu-...-naluslqsał 'toe joint'; -ānklqsał 'one side of toe'; mu-...-ānklqsał 'inside the side of toe'; mu-...-iklqsał 'tip of toe'; -iXwał 'toenail'; mu-...-iXwał 'under the toenail'; -ankiXwał 'beside the toenail'; mu-...-ankiXwał 'internal area beside toenail'; -uciXwał 'edge of toenail'; -ułikiXwał 'top of toenail'; -āXał 'ankle' ('behind the foot'); mu-...-āXał 'inside the ankle'; -nalusaXał 'ankle joint'; -anał 'ankle'; -ułanał 'around ankle bump'; -ucał 'lower leg', but FW 'instep'; mu-...-ucał 'inside lower leg'; -ānkucał 'side of lower leg'; mu-...-ānkucał 'inside the side of lower leg'; -ułikucał 'back of lower leg'; mu-...-ał 'inside of foot/leg'; mu-...-āł 'sole of foot'; -ułikał 'top/back of foot' and 'front surface of thigh'; mu-...-ułikał 'inside top of foot or front surface of thigh'; -ānkał 'side of foot/thigh'; mu-...-ānkał

'inside the side of foot/thigh'; -āXikał 'back of thigh' but 'lower leg up to knee' (AS) and 'top of foot/ front of thigh' (FW); -ucikał 'edge of foot', but 'outside ankle area' (AS); -lisał 'calf'; but 'entire leg' (FW); -ikał 'shin', also 'median line entire leg' and 'thigh'; and -alaXałt 'back of knee' (CS,AS) but 'back of lower leg' (MS) and 'back of entire leg' (FW and SS).

We have the additional forms: scapikał 'tibia'; scapucał 'fibula'; scapał 'femur'; scapulikał 'metatarsals'; scapāXał 'tarsals'; ʔuscapikał 'femur'; scapłqsał 'phalanges'; scapulanał 'medial malleolus' or 'lateral malleolus'; slip'nalus-lqsałta 'toe joint'; slip'nalusāXałta 'ankle joint'; skułikał 'shin'; ʔasikał 'back of knee' but 'shin' (FW); skułucał 'lower leg'; skułānkał 'side of foot/thigh'; skułalaXał 'back of thigh'; skułānkiXwał 'area beside toenail'; skułūikiXwał 'top of toenail'; spulanał 'surface area above medial malleolus or lateral malleolus'; ʔusał'imayikał 'vastus lateralis'(?); sał'imayalaXałt 'ʔachilles' tendon' (MS); skułłqsał 'toe'; squnałXsał 'big toe'; o'młXsał 'second toe'; ʔasikłXsał 'middle toe'; slulałXsał 'fourth toe'; sk'italXsał 'little toe'; sqūpñūikłqsał 'hair on back of toe'; ʔusqalicułikłqsał- 'to have a rash on back of toe'; sk'atxiXwał 'toenail'; nuc'ikmłXwał- 'to have dirt under toenail'; ʔałxmaXał 'broken ankle'; pumaXał- 'to have a swelling ankle'; q'wplīcał 'hairless legs'; sqūplīcał 'hairy legs'; c'ikmłīcał 'dirty legs'; and c'Xłnikał- 'to kick someone in the shins.'

2.27 -ak ch -áća, -aća 'hand, arm' / cm - (á)kst, -(á)ks(əh) '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: pumak- 'arm/hand is swelling'; caqwak 'long arm'; palxak-

'to have no feeling in arm or hand'; sti?atmnak- 'hand/arm is paralyzed';
enalexak- 'hand/arm is going to sleep'; sixak- bloody arm/hand'; piq'ak 'wide
hand'; plak- 'to lack a hand or arm'; ?ip'ak- 'to grab someone's hand/arm';
?ipuwakm- 'to hide one's hand'; q'Xaktinik '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'; cimак- 'to have a bump on arm/hand'; staniquwak 'boil on arm/hand';
qXlamak 'blister on hand/arm'; cpakmic ti yakul tx 'I am going to wipe the ball
with my hand'; sq'wpaksɿ 'right hand'; sxlaksɿ 'left hand'; qat'akm- 'to beckon
to someone with one's hand'; t'ksnaktinik 'I was stung in the arm'; nuʔunak-
'first attempt at some manual task'; ?alɿq'akm- 'to clap'; paqwak- 'to be afraid
to touch something'; muksak- 'to take something away from someone'; siʔayak-
'to use something'; ?atmnakm- 'to beat to death'; and ?ixʔiq'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'; qulutak '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 ?ixʔiXtalpak
'aldер leaf' (FW), but 'aldер branch' (MS); ?aq'miXalpak 'cottonwood leaf/branch';
cactaūlpak 'cedar branch', etc. This suffix also occurs in: spusak 'leaf';
slipnakt 'branch'; slalimskak 'pine cone'; limaqak 'falling leaf'; clak- 'to
pluck a leaf from a branch'; sc'ɿlak 'dew on a leaf' and nixak- 'to saw off a branch.'

By metonymy, we find -ak in the following: cupakt 'gloves'; sic'mak 'leather
gloves'; ?ulqak- 'to steal someone's gloves'; qulak- 'to use someone's gloves';
kic'akm- 'to wash one's gloves'; ?asniXwak 'torch'; s'ip'amaksta 'handle'; and
cpak- '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 skuḭḭXwalst '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'; -uḭiklXsak 'back of finger'; nu-...-uḭiklXsak 'inside of back of finger'; -iklqsak 'tip of finger'; -ḭXwlqsak 'tip of finger' (SS); -uḭḭXwlqsak 'around the tip of the finger'; -uslqsak 'face of fingertip' i.e., opposite fingernail' (SS); nu-...-naluslXsak 'finger joint'; -ḭXwak 'fingernail'; nu-...-ḭXwak 'under the fingernail'; -ānkḭXwak 'beside the fingernail'; -uḭikḭXwak 'back of fingernail'; -ucḭXwak 'edge of fingernail'; -uḭḭXwak 'around the fingernail'; -āXak 'wrist'; nu-...-āXak 'inside the wrist'; -anak 'wrist'; nu-...anak 'inside the wrist'; -alākt 'axilla'; nu-...-alākt 'inside the axilla'; -ucak 'forearm'; nu-...-ucak 'inside the forearm'; -ānkucak 'side of forearm'; nu-...-ānkucak 'inside the side of forearm'; -uḭikucak 'back of forearm'; nu-...-uḭikucak 'inside the back of forearm'; -āXucak 'all over the forearm' (FW); -ḭXwalstucak 'elbow'; -lXsak 'end of forearm' (AS); nu-...-āk 'palm of hand'; nu-...-ikak 'inside of hand/upper arm' also 'elbow pit'; -ikak 'upper arm' but also -ikak 'median line of hand/arm'; -uḭikak 'back of hand'; nu-...-uḭikak 'inside the back of the hand'; -ānkak 'side of hand/entire arm'; nu-...-ānkak 'inside the side of hand/entire arm'; and -lḭcuḭḭikak 'skin on back of hand.'

The following complex suffixes occurred outside of our test frame: -naluslXsak 'between the fingers' as in ʔaḭʔip'naluslXsakm- 'to hold something between the

fingers'; -līclXsak 'skin of finger' as in ʔusqaliīclXsak- 'to have a rash on finger'; -līcuīliklXsak 'skin on back of finger', ʔusqaliīcuīliklXsak- 'to have a rash on back of finger'; -līoucak 'skin of forearm'; -līcuīlikucak 'skin on back of forearm'; -līcānkucak 'skin of side of forearm'; -līoikak 'skin of upper arm'; -nalusaXak 'wrist joint' as in slip'nalusāXak 'wrist joint'; and -ikucak 'median line of forearm' as in muqwikucak- 'to have a red stripe along median line of forearm.'

We have the additional forms: scaplXsak 'phalanges'; scapucak 'ulna'; scapucikak 'radius'; scapuīanak 'head of ulna or styloid process of radius'; scapikak 'humerus'; scapaXak 'carpals'; scapuīikak 'metacarpals'; sā'imayikak 'biceps'; sā'imayalakt 'serratus anterior muscles'; slip'naluslXsta 'finger joints'; slip'nalusāXakta 'wrist joint'; skuīucak 'forearm'; skuīāXak 'wrist'; skuīalākt 'axilla'; skuīūīikak 'back of hand'; skuīānkak 'side of hand'; skuīlXsak 'finger'; c'm(lqsak) 'index finger'; ʔasik(lqsak) 'middle finger'; ʔula(lqsak) 'ring finger'; k'ita(lqsak) 'little finger'; ʔasmuslqsak- 'three fingers high/wide'; kic'lqsak 'crooked finger'; ʔmk'mlqsakta 'ring'; pac'lqsak- 'to prick a finger'; lip'losakm- 'to fold something with the fingers'; qat'lqsakm- 'to beckon with finger'; skuīūīiklXsak 'back of finger'; sqūplūīiklXsak 'hair on back of finger'; sk'atxīXwak 'fingernail'; nanīXwak 'grizzly claws'; ʔaīxmīXwak 'broken fingernail'; XilīXwakm- 'to gnaw on one's fingernails'; nupac'īXwak- 'to have a splinter under one's fingernail'; nucik'mīXwak 'dirty fingernails'; nik'ucīXwakm- 'to nick someone with the edge of the fingernail'; txucīXwakm- 'to cut something with the edge of the fingernail'; muqwuīikīXwak 'red fingernails'; sqūplucak 'forearm hair'; sqūplalākt 'axillary hair'; nupusmalākt- 'to have a swelling in axilla'; spuXalakt 'feather from under the wing'; ʔassak 'palm of hand'; ʔasikak 'elbow pit'; and wik'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 -lic- 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 _____ c 'My _____ hurts'. We found this the most productive and reliable elicitation frame. The localization 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 _____ c 'My _____ is dirty'.

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

⁹ This suffix in conjunction with the prefix nu- <internal> is used to form the words denoting containers of various types such as: musq̄ikta 'sandbox'; must'sikta 'salt box'; muslūq'ikta 'oolichan grease box'; and mululūstnikta 'box for storing masks' among others.

¹⁰ The sequence -alus also means 'fire' in forms such as ?apswalus- 'to blow out a match/flame' and ik'walus wa niXw 'big fire'. With some stems, it means 'pieces' if followed by the causative pronouns. Cf. tx-ic 'I am going to cut

?ch-īlals 'together' / ?Cm-ālus 'stack, pile'
'property'

something.' but txalus-tuc 'I am going to cut it to pieces/into pieces with a knife.' and ʔ'pic 'I am going to snip it.', but ʔ'palus-tuc 'to snip it into pieces.' There is also a verbal suffix -alus which is a mild desiderative as in ʔaɬopakmalusc 'I feel like wiping my hand.' and ʔaɬqnalusc '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 -ānk <side> contrasted. Not all speakers accepted the forms with -ank <front>, either rejecting them outright or confusing them with -ānk <side>.

¹² We have one form nukmayag'ws 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 -allXapsm '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 nu- <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 nu- <internal> occurs with -uɬ as in -uɬapsm 'all over the exterior of one side of the neck' but nu-...-uɬapsm 'inside area of one side of the neck'.

¹⁷ Note here length of vowel in -ūlikall to distinguish -uɬ <around> -ik <median line> from -uɬik <back of>.

¹⁸ Cf. Mollwraith 1949, vol. II p597.

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