Salish Numeral Classifiers: A Lexical Means to a Grammatical End

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Summary

Of the over one hundred lexical suffixes in Halkomelem Salish, around thirty function as numeral classifiers. This paper details the classificatory system, discussing the meaning of each suffix and the nouns that it classifies. Specific classifiers reference key elements of Salish culture, including people, fish, waterfowl, plants, houses, and canoes. However, most inanimate objects are classified on the basis of their shape. Salish lexical suffixes have their origin as nouns, often as body parts. By comparing lexical suffixes in different Salish languages, we see that they derive their classificatory functions through semantic extension from concrete nominal meanings. Different suffixes are used as classifiers in various languages, yet the overall system is replicated throughout Salish.

1. Introduction[1]

The twenty-three Salish languages of the Pacific Northwest have well-developed systems of lexical suffixes. These are suffixes with substantival meaning that bear little or no resemblance to free-standing nouns of the same or similar meaning. Most Salish languages have 100 to 200 lexical suffixes denoting body parts ('hand', 'foot', 'heart', 'nose'), basic physical/environmental concepts ('earth', 'water', 'wind', 'tree', 'berry'), cultural items ('canoe', 'net', 'house', 'clothing') and human/relational terms ('people', 'child'). Comparative evidence shows that the lexical suffixes derive historically from nouns. However, today they are used on noun, verb, and adjective (including numeral) stems to create noun compounds and in verbal and adjectival expressions as classifiers. Following Gerdts and Hinkson (1996), we propose that the functions of lexical suffixes can be organized according to the following cline: compounding lexical suffix > classifying lexical suffix. The lexical suffix has the lexical and semantic properties of a noun when used in compounding functions, but it becomes acategorial and semantically bleached when used as a classifier. Thus the suffixes grammaticize from a lexical entity to a grammatical one.

This paper focuses on lexical suffixes used as numeral classifiers in Halkomelem, a Central Salish language.[2] Of the approximately 120 lexical suffixes in this language,

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[2] Halkomelem is spoken in the vicinity of Vancouver, British Columbia, and on Vancouver Island. Unless otherwise indicated, data come from our field research on the Island dialect of Halkomelem. We would like to thank the speakers who have helped us with this project: Wilfred Aleck, Leonard Edwards, Hazel Good, Arnold Guerin,

around thirty are used as classifiers. They attach to numerals and quantifiers ('how many', 'many'), but not to articles or demonstratives:

(1)   *łq̓ec̓s=əmət̓ᶿ*   *šeł*
        four=long   road
        'four roads'

(2)   *k̓ʷin=əqən*   *x̌θəm?*
        how.many=container   box
        'How many boxes are there?'

Section 1 briefly illustrates the range of functions of lexical suffixes, situating numeral classification with respect to other uses of the suffixes. Section 2 explores the system of numeral classification in Halkomelem. We discuss both the meaning of the suffix and the nouns that it classifies. Section 3 addresses the lexical semantics of classifiers in Halkomelem from an historical perspective, tracing their meanings to their lexical sources and looking at the comparative Salish data. We conclude our discussion with some brief remarks concerning classifiers as an areal phenomenon of the Pacific Northwest.

1. 1.   Halkomelem lexical suffixes

Lexical suffixes are bound forms with the meanings of nouns (KINKADE 1963:352). Today they usually bear little or no resemblance to free-standing nouns of the same or similar meaning:[3]

(3)   *=aləs*   'eye'   *qaləm*   'eye'
        =šən   'foot, leg'   *sx̌en̓ə*   'foot'
        =ex̌ən   'arm, wing'   *t̓eləw̓*   'arm, wing'
        =ew̓txʷ   'building, room'   *leləm̓*   'house'
        =eyəł   'baby, child'   *qeq*   'baby'

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[3] Each suffix appears in a variety of phonological shapes: with and without a full vowel (correlating with stress), with and without glottal stops or glottalization of resonants, with and without a connective morpheme between the stem and the suffix. In addition, there are sometimes truncated forms used in older, frozen contexts. So, for example, the suffix meaning 'mouth, edge, blade' variously appears as *=ay̓a?θ*, *=a?θ*, *=ayθən*, *=θən*, *=θin*, or *=θ*. We will represent the Halkomelem suffix by its simplest form, and we will not segment the connective elements—*Vy*, *Vl*, and *Vw*—when representing the Halkomelem data.

However, comparative evidence shows that lexical suffixes derive historically from nouns (EGESDAL 1981, MATTINA 1987b, CARLSON 1990, KINKADE 1998). Lexical suffixes developed from nominal roots used as the right-hand member of a compound. The historical picture in Salish is that the second element in a compound was phonologically shortened and eventually became a bound form. New, longer, free-standing forms were invented; these often themselves contain the original form, which is now a lexical suffix.

Some of the suffixes are very old and are common to all Salish languages. Others exist only in some branches or languages. We can see the process at work by examining one form *sqáx̌aʔ* 'horse, dog'. This exists only in Interior Salish languages. In some of the languages, it is a free-standing noun, in some it is a lexical suffix (as in (4)), and in others it is both.

(4)   Lillooet (VAN EIJK 1997:83)
        kʷan=-sqáx̌aʔ
        get=domestic.animal
        'get one's horse'

We conclude that the historical picture is clear. Although evidence for each form is not available, the overall pattern of historical change from free to bound forms is adequately motivated.

1.2.   Compounding and classifying lexical suffixes

The most transparent use of lexical suffixes today is when they are suffixed to a noun, verb, or adjective root to derive a noun.[4]

(5)   *t̓iw̓əyəɬ=ew̓txʷ*   'church'   (pray=building)
        qʷɬey̓=šən   'shoe'   (log=foot)
        p̓q̓=enxʷ   'a white flower'   (white=flower)
        xʷ-ƛ̓əqt=nəc   'cougar'   (PR-long=tail)

This use is still productive and is a common means for creating vocabulary to accommodate new items.

Lexical suffixes also commonly appear in complex predicates. That is, they are attached to a verb stem and the resulting compound functions syntactically as the main predicate of a clause. They can express a theme (6) or an oblique relation, such as locative or instrument (7).

(6)   *qʷs=ey̓ən*   'set a net'   (go.into.water=net)
        səw̓q̓=iw̓s   'search for a lost person' (seek=body)

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[4] Throughout this paper, we assume, following Suttles (in preparation), that Halkomelem has the categories noun, verb, and adjective. See CZAYKOWSKA-HIGGINS & KINKADE (1998:35-37) for a history of the debate concerning categories in Salish.

łc̓=əlqən	'shear wool'	(cut=hair)

(7)   *q̓t=aθən*   'walk along (a shore etc.)'   (go along=mouth)
       q̓ət=nəc   'go around end of lake'   (go along=bottom)
       q̓a=šin-t   'accompany him'   (add=foot-TR)

Lexical suffixation of the theme leads to an intransitive construction that parallels compounding noun incorporation (GERDTS 1998).

(8)   *niʔ*   *cən*   *šk̓ʷ=əyəł.*
       AUX   1SUB   bathe=baby.
       'I bathed the baby.'

Halkomelem person marking follows a split ergative pattern. First and second person subjects in main clauses are marked by clitics in Wackernagel's position while objects are marked by verbal suffixes. Third person subjects in transitive main clauses determine ergative agreement:

(9)   *niʔ*   *šak̓ʷ-ət-əs*   *łə*   *słeniʔ*   *łə*   *qeq.*
       AUX   bathe-TR-3ERG   DT   woman   DT   baby
       'The woman bathed the baby.'

Word order is usually VSO, though VOS is also possible. Subject and object noun phrases are not marked for case. Determiners mark deixis and gender.[5] Transitive verbs are marked with one of several suffixes: *-ət* 'control transitive', *-n(əxʷ)*'limited control transitive', *-st(əxʷ)* 'causative', etc. We see that the clause in (9) is surface-transitive since the verb is marked for transitivity, the two noun phrases appear without case, and the subject determines ergative agreement. The parallel clause with lexical suffixation is intransitive:

(10)   *niʔ*   *šk̓ʷ=əyəł*   *łə*   *słeniʔ.*
       AUX   bathe=baby   DT   woman
       'The woman bathed the baby.'

The verb in the above example lacks a transitive suffix and an ergative agreement suffix.

We will refer to the above uses of lexical suffixes as compounding. In each of the above cases, the lexical suffix stands in for a noun, either as a head of a compound, as in (5), or as a noun argument of the verb, as in (6). Lexical suffixes can also be used as classifiers. When lexical suffixes are used as classifiers on nouns or adjectives, the base, not the lexical suffix, is the head of the resulting word.

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[5] The determiners include: *tθə* 'general in view' *kʷθə* 'general out of view', *θə* 'feminine singular in view', *łə* 'feminine singular out of view', *k̓ʷ* 'indefinite', and *ƛ̓* 'proper noun' (oblique case only).

(11) *s-q̓ʷx̌ʷam=əws*   'body odor'   (PR-smell=body)
      ƛ̓əqt=eməťθ   'tall' (of people)   (long=long.object)
      xʷ-θi=qən   'loud'   (PR-big=throat)

Lexical suffixes can also be used as classifiers on verbs. In a classifying construction, the verb takes a transitive suffix, and a free-standing object that references the same entity as the lexical suffix.

(12) *niʔ*   *ťθəx̌=wil-t-əs*   *tθə*   *ləpat.*
      AUX   wash=vessel-TR-3ERG   DT   cup
      'She washed the cups.'

This is a surface-transitive construction, as evidenced by the third-person ergative agreement, and thus contrasts with the example of compounding lexical suffixation in (10) above. See Gerdts and Hinkson (1996) for further discussion on this construction.

In sum, we see that lexical suffixes are used in two types of constructions—compounding and classifying. Most lexical suffixes can appear in either type of construction, though a few suffixes are restricted to only one type or the other.

1.3. Numerals and lexical suffixes

Numerals are adjectives in Halkomelem. In noun phrases, they appear between determiners and head nouns, like other adjectives, and they do not head a noun phrase.

(13) *ʔəm̓i-stəxʷ*   *č*   *kʷθə*   *ɬixʷ*   **(x̌θəm)!*
      come-CS:3OBJ   2SUB   DT   three   box
      'Bring the three *(boxes)!'

(14) *ʔəm̓i-stəxʷ*   *č*   *kʷθə*   *θi*   **(x̌θəm)!*
      come-CS:3OBJ   2SUB   DT   big   box
      'Bring the big *(box)!'

Adjectives, including numerals, can take lexical suffixes. These can be used attributively, like plain adjectives, to modify a noun as in (13) and (14), but they can also be used anaphorically—without a head noun.

(15) *ʔəm̓i-stəxʷ*   *č*   *kʷθə*   *ɬixʷ=əqən*   *(x̌θəm)!*
      come-CS:3OBJ   2SUB   DT   three=container   box
      'Bring the three (boxes)!'

(16) *ʔəm̓i-stəxʷ*   *č*   *kʷθə*   *θe:=qən*   *(x̌θəm)!*
      come-CS:3OBJ   2SUB   DT   big=container   box

'Bring the big (box)!'

The question in (17) lacks a lexical suffix (and thus we see that numeral classifiers are often omitted in Halkomelem), while the reply in (18) uses the lexical suffix, but omits the head noun, which would be regarded as redundant in this context.

(17) ʔi   ʔə   lixʷ   k̉ʷəń   sənixʷəł ʔələp?
      AUX   Q   three   DT:2POS   canoe.PL 2PL
      'Do you all have three canoes?'

(18) ʔəwə, ʔəẃ   θəm=əxʷəł   ʔal̉.
      NEG   just   two-canoe   just
      'No, just two.'

The answer without the classifier is possible but less preferred.

Within the noun phrase, the numeral plus lexical suffix will appear between the determiner and the noun phrase, as in (13) above. The noun phrase can function in any syntactic position usually occupied by a noun phrase. For example, it can function as subject (19), object (13), or an oblique marked phrase (20).[6]

(19) niʔ   q̉ʷəyəl̉əš   kʷθə   x̌əθi:nə   q̉el̉əmiʔ.
      AUX   dance   DT   four.people girl.PL
      'Four girls danced.'

(20) ʔix̌əm   cən   ceʔ   ʔə   k̉ʷ   ʔəpan=əs.
      lend   1SUB FUT   OBL   det   ten=round
      'I will lend ten dollars.'

The head noun can be singular as in (21) or plural as in (19) above.

(21) teʔcs=elə   kʷθə   nə   sc̉aṁəqʷ.
      eight=people DT   1POS   great.grandchild
      'I have eight great-grandchildren.'

[Compare sc̉al̉əṁəqʷ 'great-grandchildren'; q̉emiʔ 'girl'.] Plural inflection, marked by the infix -l- (and glottalization of resonants) or by reduplication, is in general optional in Halkomelem, especially where the context makes number clear. For some frequently-

used nouns such as terms for people and the larger items of material culture, marking plurality is preferred to not marking it.

   Like other noun phrases, the counted noun can appear in a clause-initial focus position. The phrase serves as a predicate nominal in expressions of these sorts, followed by a determiner-headed relative clause:

(22) *ƙʷin=əqən*   *x̌θəm*   *ƙʷə*   *niʔ*   *ʔiləq-ət-əxʷ?*
      how.many=container box   DT   AUX   buy-TR-2SSUB
      'How many boxes did you buy?'

In addition, the numeral and lexical suffix alone can appear as a predicate adjective in clause initial position:[7]

(23) *x̌əθin=əwəł*   *kʷθə*   *nə*   *puʔəlt.*
      four=canoe   DT   1POS   boat.PL
      'I have 4 boats.'

Like other adjectives, numerals with lexical suffixes can undergo further derivation. For example, they can take the inchoative prefix *xʷə-* and they can become transitive predicates through the addition of the causative suffix *–st(əxʷ).*

(24) *xʷə-łxʷ=əmat-stəxʷ*   *č*   *ƙʷəns*   *łič-ət*   *tθə*   *sce:łtən.*
      become-three-part=CS:3OBJ 2SUB DT:2POS:NM   cut-TR DT   salmon
      'Cut the salmon into three chunks.'

   Our research has shown that most of the lexical suffixes that are used on verbs or adjectives can also be used on numerals, if a context can be provided to make sense out of the resulting combination. It is important to note, however, that the resulting constructions do not all constitute classifier expressions. Many of these combinations are simply compounds, that is, the polysynthetic equivalent of a phrase consisting of a numeral and a noun, which are then used as noun phrases, attributively as modifiers, or as quantifying expressions (often referred to as measure words). So our first task, before proceeding, is to set criteria for telling compound numeral suffixes from classifying numeral suffixes. AIKHENVALD (2000:114–120) provides the methodology for doing this.

   First, we can exclude all suffixes designating mathematical concepts and measure words: for example, *=əłšeʔ* 'ten', *=eł* 'time', *=ʔex̌ən* 'yard', *=teł* 'fathom', and *=əwu:nxʷ* 'year' (from 'fish run', 'season'). Second, we can exclude all suffixes that never appear in a sortal or mensural relation with a free-standing noun. By this criterion,

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[7] Halkomelem lacks a verb for 'have'; possessive expressions like (23) are a common means of expressing this notion.

we can exclude several somatic suffixes: =*cəs* 'hand', [8] =*aɬəw̓cəs* 'finger', =*šən* 'foot', =*əlqsən* 'nose' (used in counting points), =*əx̌ən* 'side' (used in describing shapes, e.g. a triangle), and =*ay̓aʔθ* 'mouth, edge' (used in counting prongs on spears). It is clear that these suffixes are used as compounding lexical suffixes. The thing being counted is the suffix itself and not the noun referred to by the suffix. For example, in (25), 'tires' (> 'feet') not 'cars' are being counted.

(25)   *txʷ-ɬixʷ=šən*   *ʔaɬ*   *t^θə*   *snəxʷəɬ.*
       only-three=foot   only   DT   canoe
       'The car only has three tires.'

A parallel construction in English would be one like 'four-legged animal'.
        True classifying lexical suffixes can appear, as discussed above, with a noun. In the case of a sortal classifier, the noun has the same referent as the suffix:

(26)   *ɬixʷ=əqən*   *x̌θəm*
       three=container   box
       'three boxes'

In many instances, the lexical suffix emphasizes one feature of the noun, but the construction nevertheless refers to the noun as a whole:

(27)   *ɬq̓ec̓s=əmət̓^θ*   *šeɬ*
       five=long   road
       'five roads'

Lexical suffixes can also be used in mensural expressions. Mensural classifiers are determined by the quantity of the object or the arrangement that it occurs in.

(28)   *ɬixʷ=əqən*   *sqewθ*
       three=container   potato
       'three sacks of potatoes'

In such examples, it is the head noun that is being counted, and thus true classifying lexical suffixes differ from compound ones such as the 'three-tired car' illustrated in (25) above.
        This leaves us with a core set of suffixes that function as numeral classifiers. These will be explored in the next section.

2.   Halkomelem numeral classifiers

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[8] The suffix for 'hand' is used in some Salish languages as a measure word indicating 'handful' or 'cupful'.

In this section we turn to an exploration of numeral classifiers in Halkomelem. In Table 1, we exemplify twenty-four classificatory lexical suffixes found to appear on numerals in Halkomelem.[9] We use the number *ɬixʷ* 'three' as the base. Suffixes are sorted by the the kinds of objects they classify and glossed with a typical noun that they classify. In subsequent sections, we discuss each group of suffixes.

HUMAN/ ANIMAL	NATURAL ENVIRONMENT	MATERIAL CULTURE	SHAPE/ SIZE	CONTAINERS, GROUPS
ɬxʷ=elə 'three people'	*s-ɬixʷ=əɬp* 'three trees'	*ɬixʷ=əẃtxʷ* 'three houses'	*ɬixʷ=əs* 'three dollars'	*ɬixʷ=əqən* 'three containers'
ɬxʷ=eẏɬ 'three children'	*ɬəxʷ=nec* 'three root plants'	*ɬxʷ=əwəɬ* 'three canoes'	*ɬxʷ=aləs* 'three loops'	*ɬixʷ=əĺeʔc* 'three loads'
ɬxʷ=iws 'three ducks'	*ɬxʷ=e:nxʷ* 'three plant parts'	*ɬxʷ=e:ĺwəs* 'three paddles'	*ɬixʷ=əẏəs* 'three coils'	*ɬxʷ=əmat* 'three pieces, piles'
ɬixʷ=aʔqʷ 'three fish (heads)'	*ɬxʷ=əɬcəp* 'three pieces of firewood'	*ɬxʷ=əlwət* 'three garments'	*ɬxʷ=als* 'three spheres'	
ɬxʷ= elqɬ 'three pieces of game'	*ɬxʷ=ənəp* 'three plots of land'		*ɬixʷ=əmət̓ᶿ* 'three long thin objects'	
			ɬixʷ=ət̓ᶿeʔ 'three strands'	
			ɬixʷ=aʔqʷ 'three heads'	

Table 1 Halkomelem Numeral Classifiers

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[9] There are three dialects of Halkomelem—Island, Downriver, and Upriver. This topic has been previously addressed in Island by LESLIE (1979), who briefly illustrates six suffixes, and HUKARI & PETER (1995a, 1995b), who give an extensive list of lexical suffixes and illustrate many of them with numerals. SUTTLES (in preparation) identifies seventeen suffixes in Downriver, and GALLOWAY (1993) identifies twenty suffixes in Upriver. However, this is the first systematic look at the topic from the point of view of a classificatory system.

2.1. Classifying humans and animals

For numbers three and higher, the lexical suffix =elə is used to classify people. The suffix is used to count people of all types—men, women, children, elders, friends, relatives, and professionals: [10]

(29) x̌əθi:nə   swaẃləs   tᶿə   xʷ-t̓ᶿ’x̌ʷ=wi:l-stəm.
      four:people   boy.PL   DT   PR-wash=vessel-CS:PAS
      'They had four boys do the dishwashing.'

First and second person pronouns are also be counted with =elə.

(30) ʔi   ct   ʔəẃ   txʷ-t̓x̌əm=ələ   ʔal̓.
      AUX   1PL.SUB   just   only-six=people   just
      'There are just six of us now.'

As has been noted by ANDERSON (1999), many Salish languages use reduplicated forms of numerals for counting people and animals. He reconstructs *CVC- , *CV-, and *-VC reduplication for counting people and *CV-diminutive reduplication for counting animals. This system of classification is prevalent in Interior Salish languages and also in some of the Central Salish languages, e.g. Squamish and Lushootseed. However, in Halkomelem, the only remnant of this system is with the numbers 'one' and 'two' when counting people.

(31) nəc̓aʔ   'one'   nan̓əc̓aʔ   'one person'   nəc̓na:nc̓a   'one person at a time'
      yəsel̓ə   'two'   yeẏsəl̓ə   'two people'   yəsyeẏsəl̓ə   'two people at a time'

As seen by comparison to the numbers for 'one' and 'two' in the first column, the forms for 'one person' and 'two people' show CV reduplication with a full vowel, and glottalization of a resonant. The meanings 'one person at a time' and 'two people at a time' are indicated with double reduplication.[11] These forms function as classifiers.

(32) niʔ   qʷals   tᶿeẏ   nan̓əc̓aʔ   swəẏqeʔ.
      AUX   speak   DT   one.person   man
      'One man spoke.'

One other lexical suffix is used on numerals to refer to people: =eyəɬ 'child' (see (10) above).

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[10] With numbers ending in /n/, like x̌əʔaθən 'four' and ʔapən 'ten', lexical suffixes show deletion of an /l/ or /n/. Also we sometimes see vowels of lexical suffixes being deleted with compensatory lengthening of the last vowel of the number.

[11] The doubly reduplicated forms show CVC reduplication of the root as the first prefix and then CV reduplication is infixed into the second position. See also Lushootseed (BATES, HESS, HILBERT 1994:79).

(33) *íx̌əm=eẏɫ*   *kʷθə*   *nə*   *sċaɫəm̓əqʷ*.
      six=child   DT   1POS   greatgrandchild.PL
      'I have six greatgrandchildren.'

We see though that this suffix can also be added to a form that already has the suffix *=elə*.[12]

(34) *íx̌əm=ələ=eẏɫ*   *kʷθə*   *nə*   *sċaɫəm̓əqʷ*.
      six=people=child   DT   1POS   greatgrandchild.PL
      'I have 6 great grandchildren.'

This is the only case we have seen of lexical suffixes used as numeral classifiers stacking in this fashion.
      Turning now to other animates, there are no generic words for 'animal', 'bird', 'fish', etc. and also there are also no general classifiers for non-human animates. Usually, animals and birds are counted without a classifier:

(35) *íeʔcəs*   *tᶿə*   *ṗəṗíᶿ=aɫməxʷ-təm*   *məlusməs*.
      eight   DT   squeeze=breast-PAS   cow.PL
      'There were eight cows to milk.'

Furthermore, Halkomelem, unlike many Salish languages (ANDERSON 1999) does not use reduplication for counting animals. However, three lexical suffixes are regularly used for counting certain types of animals. The suffix *=aʔqʷ* 'head' is used to count fish, fish heads, and round and cylindrical-shaped sealife such as chitons, clams, oysters, sea urchins, and sea cucumbers.[13]

(36) *niʔ*   *cən*   *xʷšam=əs-t*   *kʷθə*   *íx̌əm=aʔqʷ*   *sce:ɫtən*.
      AUX   1SUB   smoke=face-TR   DT   six=head   salmon
      'I smoked six fishheads.'

(37) *ɫixʷ=aʔqʷ*   *ƛ̓əx̌ʷƛ̓əxʷ*   *kʷθə*   *niʔ*   *nə*   *sʔəɫtən*.
      three=head   oyster   DT   AUX   1POS   food
      'Four oysters is what I had to eat.'

The suffix *=aʔqʷ* is also used for round objects and appears in the section on shape classifiers below.
      The lexical suffix *=iẇs* 'body' is used to count waterfowl and chickens.

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[12] HUKARI & PETER (1995a) also notes the form *yeẏsəɫeẏɫ* 'have two children', which shows the reduplicative form for 'two people' as well as the lexical suffix.
[13] Note on this example the suffix on the verb refers to 'face' while the suffix on the numeral refers to 'head'. This shows that verb classifiers and numeral classifiers diverge.

(38) *niʔ*   *cən*   *ləm-nəxʷ*   *kʷθə*   *ɬxʷ=iws*   *maʔaqʷ*.
      AUX   1SUB   look-LCTR   DT   three=body   duck
      'I saw three ducks.'

In addition, as SUTTLES (in preparation) notes, rabbits and other small game can be counted with *=iw̓s*. We have found that carcasses of larger game animals and domestic animals, such as elk, sheep, and horses can also be counted with this suffix.

(39) *ɬxʷ=iws*   *səmiyəθ*   *ʔiʔ*   *hən̓-cəw̓-nəxʷ-əs*   *kʷθə*   *swəy̓qeʔ*.
      three=body   deer.PL   and   go-down-LCTR-3ERG   DT   man
      'The man managed to bring down three deer form the mountains.'

One speaker told us that dogs when they were alive could be counted with *=elə*, the suffix used for counting people, but they would be counted with *=iw̓s* when they were dead. Dogs had special status in Coast Salish culture since their hair was used to make blankets. AMOSS (1993:26–27) points out that wool dogs were fed dried meat or fish, traveled with the family in the canoe, and were a measure of a woman's wealth. Other animals cannot be counted with *=elə*. So we see that, although there is no special classifier for dogs in Halkomelem, as there is, for example, in Jacaltec (CRAIG 1986), they nevertheless are treated distinctly from other animals.

SUTTLES (in preparation) mentions the use in Downriver Halkomelem of the suffix *=elqɬ* meaning 'catch, game' in words like *ɬəw̓-élqɬ* 'lose a fish, miss a shot, *qx̌=élqɬ* 'have a big catch', *k̓ʷín=əlqɬ* 'how many caught'. One Island speaker we worked with suggested that game could be counted with this suffix: *t̓xʷəm=elqɬ* means 'six pieces of game' and *ʔapənelqɬ* means 'ten pieces of game'. But she suggested that the suffix was old-fashioned and preferred using the suffix *=iw̓s* for caught birds and animals.

2.2.   Classifying the natural environment

Several lexical suffixes are used to count elements of the natural environment, including plants, firewood, and ground.
The suffix *=əɬp* refers to trees, bushes, and plants.

(40) *niʔ*   *cən*   *pən-ət*   *tθə*   *sx̌əθi:n=ɬp*   *x̌pey̓*.
      AUX   1SUB   plant-TR   DT   four=plant   cedar
      'I planted four cedars.'

Two other suffixes are used for counting plants. The lexical suffix *=nec* 'bottom' is used to count tubers such as potatoes, carrots, and camas, as well as tree roots.

(41) *ʔəpe:n=nec*   *tθə nə*   *spe:nxʷ*.
      ten=bottom`   DT 1POS   camas

'I got ten camas.'

Also, the suffix =*e:nxʷ* 'plant part' is used to count sprouts and shoots, as well as ears of corn or tomatoes when they are on the plant.

(42) *ʔəpe:nxʷ*   *tᶿə*   *sqewθ*   *niʔ*   *cisəm.*
      ten:plant.part   DT   potato   AUX grow
      'Ten potatoes sprouts grew.'

Firewood is counted with the lexical suffix =*əlcəp.*

(43) *ɬxʷ=əɬcəp*   *x̌peẏ* *niʔ*   *yəq̓ʷ-təm.*
      three=firewood   cedar AUX burn-pas
      'Three pieces of cedar were burned.'

(44) *ʔəpen=əlcəp*   *kʷθə* *nə*   *syaɬ*   *niʔ*   *xʷə-saẏ.*
      ten=firewood   DT   1POS firewood AUX become-ready
      'I have ten blocks of firewood ready.'

This suffix can refer to single pieces of wood for the fire as in (43) or to a chunk of a tree (a block) that is ready to be split into stove-sized pieces as in (44).
      The suffix =*ənəp* 'ground' refers to a plot in a garden or the things planted there.

(45) *niʔ*   *cən*   *pən-ət*   *kʷθə* *ɬxʷ=ənəp*   *šewəq.*
      AUX 1SUB plant-TR DT   three=ground carrot
      'I planted 3 plots of carrots.'

(46) *k̓ʷi:nəp*   *tᶿən̓*   *spən̓əm.*
      how.many:ground   DT:2POS planting
      'How many different things are you planting?'

2.3.   Classifying items of material culture

      Lexical suffixes are used on numerals to refer to four key items of material culture: =*ew̓txʷ* 'house', = *wəɬ* 'canoe', = *e:ĺwəs* 'paddle', and = *elwət* 'garment'. Other items of material culture may be classified according to shape or function, as discussed in sections 2.4 and 2.5 below.
      The suffix =*ew̓txʷ* 'house' is used when counting houses and buildings.[14]

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[14] An alternative form =*e:ltəxʷ* 'house' can be used as a compound lexical suffix to refer to spouses living together under one roof.

(47)　　*x̌əθin=əẃtxʷ*　　　*t^θə*　　*teleẃtxʷ.*
　　　　four=house　　　　DT　　bank
　　　　'There are four banks.'

　　　The suffix *=wəł (~xʷəł)* 'canoe' refers to canoes and boats of all kinds, including sailboats, warships, and ferries.

(48)　　*x̌əθin=əwəł*　　*snəxʷəł*　　　*ʔi*　　*tecəl.*
　　　　four=canoe　　canoe　　　　　AUX　arrive
　　　　'Four canoes arrived here.'

The general word for canoe *snəxʷəł* today also means 'car', and various canoe terminology has been transferred over to automobile culture.

(49)　　*k̓ʷin=əwəł*　　　　*snəxʷəł*　　*niʔ*　　*ʔəńexʷ*　　*niʔ*　　　*ʔə*　　*k̓ʷθəń*　　　　*leləm̓?*
　　　　how.many=canoe　canoe　　AUX　stopped　AUX　　OBL　DT:2POS　　house
　　　　'How many cars were parked in front of your house?'

This suffix is also used when counting other vehicles, including wagons, buggies, planes, trains, trailers, scooters, bicycles, and skateboards. Finally, we see that *=wəł* is used for counting plates and platters.

(50)　　*ʔəm̓i-stəxʷ*　　　*x̌əθin=əwəł*　*laʔəl̓θən*　*ʔiʔ*　　*θəm=əxʷəł*　　*q̓ʷθaləs!*
　　　　come-CS:3OBJ　　four=canoe　plate.PL　and　two=canoe　　platter
　　　　'Bring four plates and two platters!'

Pre-contact Salish dishes were long canoe-shaped wooden vessels used for holding food for a group of people. Plates and platters are the only household implements counted in this fashion. Other vessel-like objects are classified as containers, as discussed in section 2.5 below.
　　　The suffix *=e:l̓wəs* is used for counting paddles, as in:

(51)　　*łxʷ=əl̓weʔs*　　*k̓ʷθə*　　*nə*　　*sq̓əməl.*
　　　　three=paddle　　DT　　　1POS　paddle
　　　　'I have three paddles.'

_____

(i)　　*xʷ-ł̓ʷ=e:ltəxʷ*　　*k̓ʷθey̓*　*swəy̓qeʔ.*
　　　　PR-two=house　　　DT　　　man
　　　　'That man has three wives.'

For a man to take on two wives was not unusual in pre-contact times, and sometimes he would take three or four. A woman with two husbands was much rarer.

Items of clothing, such as shirts, skirts, dresses, coats, and pajamas, can be counted with the suffix =əlwət 'garment'.

(52) xaθin=əlwət   θə   nə   kəpu.
       four=garment   DT   1POS   coat
       'I have four coats.'

Blankets or pieces of cloth that are worn as ceremonial garments can also be counted with -əlwət.

(53) ɬixʷ=əlwət   tθə   nə   sil.
       three=garment   DT   1POS   cloth
       'I have three pieces of cloth.'

Other items of material culture do not have lexical suffixes of their own but rather are classified by shape or function, as discussed in the next two sections.

2.4.   Classifying by shape

Several lexical suffixes are used with numerals to count objects classified by their shape.

suffix	meaning	classifies the following:
=as	ROUND	dollars, small round objects, months
=aləs	LOOP, CYLINDER	meshes of net, stitches of knitting, campfires, pens, sticks, boards
=iẏəs	COIL	rings, bracelets, coils of rope, coiled baskets
=als	SPHERICAL	stones, eggs, berries, apples, oranges, potatoes. tomatoes, balls, balls of yarn
=aʔqʷ	HEAD, SPHERICAL	animals, fish, fish heads, sea life, cabbages, lettuce, garlic, berries, balls of yarn
=emət̓θ	LONG THIN OBJECT	poles, rods, logs, house posts, roads, water pipes
=it̓θeʔ	STRAND	ropes, roots, strands of fibre, strips of cloth

Table 2   Halkomelem shape-based classifiers

The first five suffixes refer to round objects of various sorts. The suffix =as classifies flat round objects. Its most common use is in reference to dollars, originally coins. In modern usage it refers to paper currency as well.

(54) ck̓ʷš=as   ʔiʔ   k̓ʷ   ɬq̓acs=əs   ʔə   tθən̓   teləʔ
       twenty=round and   DT   five=round   Q   DT:2POS   money
        'Do you have twenty-five dollars?'

Another common use of =as is to count months (i.e. 'moons').

(55) wawaʔ   niʔ   yəsaȽ=əs   Ƚqelc̓ ʔiʔ   x̌eʔ   wəȽ   nem̓   cam.
      perhaps   AUX   two=round   moon   and   again already   go   go.up.
      'It was maybe two months later and he again went up into the mountains.'

The suffix =aləs 'loop' refers to (rows of) stitches of knitting, meshes of net, and campfires.[15]

(56) tx̌ʷ-yəsəȽ=aləs-stəx̌ʷ   č   t̓θən̓   sya:ys   ʔiʔ   ʔəy̓.
      only-two=loop-CS:3OBJ   2SUB   DT:2POS   work   and   good
      'It will be better if you do two more rounds in your knitting.'

Halkomelem women are famous weavers and knitters. Coast Salish style sweaters (often referred to as Cowichan sweaters), vests, toques, and slippers are marketed world-wide. Many natives are commercial fishermen and are adept at gill netting. SUTTLES (in preparation) states that =aləs refers to tens of mesh, as would be used in giving the depth of a gill net, the length being given in fathoms. Speakers that we have worked with also use =aləs to count single mesh when mending nets.
      The loop shape when extended into three-dimensions yields a tube or cylinder. The Halkomelem suffix =aləs gets used with cylindrical-shaped objects, including pens and sticks.

(57) yəsəȽ=alə s   t̓θən̓   x̌əȽtən.
      two=loop   DT:2POS   pen
      'You have two pens.'

The long three-dimensional shape need not be round. Thus, boards (such as 2" x 4" lumber) can also be referred to by =aləs.

(58) k̓ʷin=aləs   t̓θə   ləplaš?
      how.many=loop   DT   board
      'How many boards are there?'

A third suffix referring to round shapes is =iy̓əs.[16] Like the previous suffix, it seems to refer to loops, including rings, bracelets, and coils of rope.

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[15]People sit around a campfire in a ring.
[16] The suffixes =aləs and =iy̓əs derive from the suffix =as plus the connectors =al and =iy̓ respectively. Until we know more about the form and function of connectors, we have opted to keep these suffixes distinct.

(59) *łixʷ=əy̓əs*   *θə*   *nə*   *šeləmcəs.*
      three=coil   DT   1POS   ring
      'I have three rings.'

Whereas the previous suffix -=*aləs* extends to oblong objects, =*iy̓əs* refers to loop-shaped objects elongated in height. For example, =*iy̓əs* is used for coiled baskets and sheaves of wheat that are wrapped with string and then stood vertically in the field.

 The suffix =*als* is used for small spherical objects, including stones, balls, eggs, berries, fruits, and vegetables.

(60) *q̓aʔ-t*   *č*   *t̓θə*   *yəsəl̓=als*   *t̓θət̓θəx̌als!*
      add-TR   2SUB   DT   two=sphere   egg
      'Add two eggs!'

 The suffix =-*aʔqʷ* 'head' , as noted in section 2.1, is used to count fish, fish heads, and sealife. It is also used to count vegetables that grow in 'heads', such as lettuce, cabbage, and garlic. Balls of yarn and berries can be counted either with this suffix or with the suffix =*als*. We surmise that historically the difference between the two suffixes may have been size, where =*aʔqʷ* referred to larger spherical objects and =*als* referred to smaller spherical objects. Future research may shed light on this issue.

 The last two suffixes in Table 2 refer to long thin objects. The lexical suffix =*emət̓θ* refers to rigid objects such as poles, rods, logs, boards, sticks, house posts, roads, and water pipes.[17]

(61) *x̌aθin=əmət̓θ*   *kʷθə*   *qeqən.*
      four=long   DT   house.post
      'There are four house posts.'

Not all rigid objects with a long thin shape are counted with this suffix. For example, trees are counted with =*əłp*, paddles with =*əlwəs*, and pencils (since they are perceived as cylinders) with =*aləs*, while brooms are counted without a suffix on the numeral.

 In contrast, =*it̓θeʔ* refers to long, thin, flexible objects like cedar roots, ropes, strands of yarn, or strips of cloth or bark.

(62) *kʷθə*   *łq̓ecs=ət̓θeʔ*   *k̓ʷaɬəxʷ*
      DT   five=strand   dog.salmon
      'five strips of dog salmon.'

(63) *t̓θaʔkʷs=it̓θeʔ*   *t̓θə*   *nə*   *x̌ʷix̌ʷləm̓.*
      seven=strand   DT   1POS   thread

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[17] GALLOWAY (1993:193) gives the suffix =*ə́məc̓* (prob. =*ə́mət̓θ*) 'upright, poles'. We have found in Island dialect that the suffix applies to horizontal as well as vertical objects.

'I had seven pieces of thread.'

In sum, Halkomelem has a large set of lexical suffixes that classify objects according to features of shape. The semantic parameters used in the Halkomelem system match the results of cross-linguistic research on classifiers by ALLAN (1977), and DENNY (1979), among others. The key parameters are dimension (e.g. flat vs. spherical) and consistency (rigid vs. flexible). Also Halkomelem uses secondary features involving size and elongation. The Halkomelem system allows for the accommodation of new items, which are added to the system according to their shapes or shared function with a core classified object.

2.5.   Classifying containers and groups

Three classifiers refer to objects that are put together and the containers that hold them. The lexical suffix *=əqən* is used to count items of material culture whose function involves containment of a substance, e.g. bowls, cups, teapots, pans, pots, pipes, and lanterns.

(64)   *nəc̓aʔ=qən*   *ʔal̓*   *t̓ᶿən̓*   *sq̓ʷal̓s.*
        one=container   just   DT:2POS   pot
        'You have just one pot.'

The suffix *=əqən* is also used to count containers of all sizes, including buckets, barrels, baskets, jars, cans, boxes, sacks, suitcases, and pillowcases. The noun associated with the numeral phrase can be the container (65) or the substance contained (66).

(65)   *k̓ʷin=əqən*   *k̓ʷən̓*   *skʷaw̓əs.*
        how.many=container DT:2POS   bucket
        'How many buckets do you have?'

(66)   *nem̓*   *kʷən-ət*   *ɬq̓ecs=əqən*   *sqewθ.*
        go   take-TR   five=container   potato
        'Go get five sacks of potatoes!'

The suffix *=el̓ec* is used to refer to a collection of items that constitute a load and to the packaging that effects this. This includes bales of hay, bundles of wood, barrels of fish, baskets of laundry, bundles of blankets, sacks of potatoes, boxes of fruit, and trunks of possessions.

(67)   *ɬixʷ=əl̓eʔc*   *sqewθ*
        three=bundle   potato
        'three packages of potatoes'

(68)   *nəc̓=əl̓eʔc*   *t̓ᶿə nə*   *sitən*

one=bundle   DT 1POS basket
'one basketful'

Large containers, since they often constitute a load, can be classified with either =əleʔc or =əqən. If the emphasis is on the amount of the item then =əleʔc is used. If the emphasis is on the type of container the item is in, then =əqən is used.

(69)   k̓ʷin=ə́leʔc   tᶿə́n̓   ƛ̓əməwƛ̓əč?
        how.many=bundle   DT:2POS   barrel
        'How many (loads of) barrels?'

(70)   k̓ʷin=əqən   tᶿə́n̓   ƛ̓əməwƛ̓əč?
        how.many=container   DT:2POS   barrel
        'How many barrels?'

It is also possible to use the suffix =ə́lec to refer to a quantity of an item that constitutes a load even if the item is not contained.

(71)   k̓ʷin=ə́ləʔc   tᶿə́n̓   ləx̌ʷtən?
        how.many=bundle   DT:2POS   blanket
        'How many stacks of blankets do you have?'[18]

(72)   ɬixʷ=əleʔc   x̌ʷiƛ̓əm
        three=bundle rope
        'three coils of rope'

The lexical suffix =mat is the most difficult of the numerical suffixes to gloss. SUTTLES (in preparation) defines this suffix as 'kind, part, piece' while GALLOWAY (1993:214) defines it as 'piles'. We see reflections of the first meaning in examples in (73)—(75), where the suffix means 'part', 'piece', or 'group.'

(73)   niʔ   cən   xʷə-ɬxʷ=əmat-stəxʷ   k̓ʷə-nə-s   ƛ̓ič-ət
        AUX   1SUB become-three=part-CS:3OBJ   DT-1POS-NM   cut-TR
           tᶿə   θəqiʔ.
           DT   sockeye
        'I sliced the sockeye (salmon) into three chunks.'[19]

(74)   yəsal̓=əmat   ceʔ   k̓ʷə   nem̓   həyeʔ-stxʷ-ət.

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[18] We were told that a stack consists of a bundle of ten blankets.

[19] The English word *sockeye* , referring to a variety of salmon, was borrowed from the Halkomelem.

two=part   FUT   DT   go   leave-CS:3OBJ-1PL.SSUB
'We are going to take two teams.'

(75)   *łixʷ=ma·t*   *sċała*ʔ
          three=part   leaf
          'three piles of leaves'

Blankets, mats, and rugs of all kinds are also counted with =*mat*.

(76)   *txʷ-łxʷ=əmat*   *ʔal*   *θə*   *nə*   *swəq̇ʷaʔł.*
          just-three=part   only   DT   1POS   goat.blanket
          'I only have three goat wool blankets. '

Traditionally, the dog wool and goat wool blankets were used for ceremonial purposes in the longhouse. The blankets were laid down on top of each other in a pile. The suffix =*mat* now applies to blankets even when they are not piled.

    AS AIKHENVALD (2000:115) notes: "Since the choice of a mensural classifier is often determined by the temporary state of an object (its quantity, or the arrangement it occurs in) there may be more freedom in choosing a mensural classifier than in choosing a sortal one." This is exactly what we find in Halkomelem. Choosing between the classifiers =*əqən*, =*eʔləc*, and =*mat* varies from situation to situation, depending on whether emphasis is being placed on the quantity, the arrangement, or the containment of the item. Also relevant is whether the item will be stored, carried, or used in that configuration.

2.6.   Summary: the Halkomelem system

    This section has discussed the form and function of lexical suffixes used as numeral classifiers in Halkomelem. The system includes both sortal and mensural classifiers. Sortal classifiers refer to a specific kind of entity or to a shape-based class of entities. A handful of specific suffixes refer to living things—flora, fauna, and people, but the majority of suffixes refer to inanimate entities. Some specific suffixes refer to key items of the natural environment and the material culture. The specific suffixes allow us to draw a picture of the most important items in the Halkomelem pre-contact lifestyle—people, waterfowl, fish, trees, plants, ground, firewood, houses, canoes, paddles, and garments. Most inanimates are classified based on their shape. Small round flat objects, loops, coils, spheres, long thin rigid objects, and long thin flexible objects seem to be the main categories of objects. Some are extended in length or height to include cylindrical objects. The mensural classifiers allow for several perspectives on a item based on its containment, its packability, its arrangement into piles or stacks, or its division into parts.

    The Halkomelem system easily accommodates new items. They fit into the system based upon their shape or manner of containment. In addition, classifiers can extend based on shared functions. For example, the suffix for small round flat objects, used first for coins, subsequently extended to paper money.

It may be the case that in earlier times all items were obligatorily classified. But today many nouns are counted without the use of lexical suffixes. These include mountains, bays, lakes, rivers, islands, points of land, and other large land forms. Hours, days, and weeks are not classified. In addition many of the larger items of material culture—tables, chairs, doors, desks, axes, brooms—are not classified. More abstract items, such as stories, words, languages, and work, are not classified, even though they are counted.

(77)　*niɫ*　　　　　*nəc̓aʔ*　*syays-s*　　*t^θə*　　*swaẁləs*　*t^θə*　　*syaɫ.*
　　　　3EMPH　　　one　work-3POS　DT　　boy.PL　　DT　　firewood
　　　　'The wood was one of the jobs for the boys.'

So a likely hypothesis is that only the most important and smaller items were obligatorily counted.

3.　Diachronic perspectives on Halkomelem classifiers

This section explores the historical development of classificatory lexical suffixes in Halkomelem. First, we explore this topic from a Halkomelem-internal viewpoint. We see that some lexical suffixes have different meanings according to whether they occur in nouns, as verbal classifiers, or as numeral classifiers. Assuming the grammaticization analysis proposed in GERDTS & HINKSON (1996), we can trace their semantic history. The meaning often extends from the concrete semantics of the source noun to a more abstract use as a classifier. Some aspect of the noun—its shape, function, or most prominent feature—is highlighted in the classifier semantics.

Next, we look at the history of classificatory lexical suffixes from a Pan-Salish perspective. The comparative evidence shows that only a few Halkomelem suffixes can be reconstructed for Proto-Salish with the same or similar meaning. Others appear in several branches. However, some are innovative in the Central Salish branch or even in Halkomelem itself. The picture that emerges from the comparative evidence is that categorizing nouns by means of lexical suffixes is a very old device. However, the actual suffixes that are used for this purpose change over time. Waves of innovation in usage yield a very complex pattern that varies from branch to branch, language to language, dialect to dialect, and even speaker to speaker.

We conclude the section with a brief look at some of the neighboring languages. The Wakashan and Chimakuan languages and the language isolate Kutenai have lexical suffixes. However, only Wakashan languages use them as numeral classifiers. Although lexical suffixes are an areal feature of the Pacific Northwest, their use as numeral classifiers is not. Only the Salishan and Wakashan languages exhibit this function. This provides further evidence for our claim that the numeral classifier system is a secondary use of the more general system of lexical suffixes.

3.1.　Older meanings of the classificatory suffixes

In the above discussion, we gloss the lexical suffixes using a label consistent with their classificatory meanings. In many cases, however, the same suffix is used with a different range of meanings in other environments. It is important to survey the occurrence of the lexical suffix in nouns and in verbs, as this allows us to ascertain an older meaning for the suffixes. Furthermore, these meanings are often validated by the comparative Salish data, as discussed in the next section.

In a few cases, the suffix has the same meaning in all environments. The suffixes for 'tree', 'firewood', 'paddle', 'garment', 'child', and 'sphere' illustrate this point. For example, the suffix *=əɬp* has the meaning of 'tree', 'bush', and 'plant' in the nouns in (78) and in the verbs in (79).

(78)   *qʷaʔəp*   'crabapple'   *qʷaʔəp=əɬp*   'crabapple tree'
        s-q̓əməl̓   'paddle'   *q̓əməl̓=əɬp*   'maple tree'
        təx̌ʷaʔc   'bow'   *təx̌ʷaʔc=əɬp*   'yew tree'

(79)   *ləkʷ=əɬp-t*   'break off plants'   (break=plant-TR)
        c̓əẏxʷ=əɬp   'to dry a tree, shrub, or plant'   (dry=plant)

This is the same meaning that the lexical suffix has when functioning as a numeral classifier.

In other cases, we see a narrowing of meaning. That is, when used in nouns or verbs, the suffix shows a larger range of meanings than when used as a classifier. We see this, for example with *=ew̓txʷ* 'house'. In forming nouns, this suffix can mean 'building' or 'room'.

(80)   *telə*   'money'   *tel=ew̓txʷ*   'bank'
        q̓aq̓i'   'sick'   *q̓aq̓iy=ew̓txʷ*   'hospital'
        kʷukʷ   'cook'   *kʷukʷ=ew̓txʷ*   'kitchen'
        sqewθ   'potato'   *qewθ=ew̓txʷ*   'root cellar'
        ʔitət   'sleep'   *ʔitət=əw̓txʷ*   'hotel, bedroom'

We also find this range of meanings when the suffix is used as a verb classifier. Example (81) can mean to visit someone in a different house or in a different room and (82) can mean to knock on the door of the house or on the door to a room.

(81)   *nec̓=əw̓txʷ-əm*
        different=house-MID
        'to visit'

(82)   *ƛ̓iq̓ʷ=əw̓txʷ-t*
        strike=house-tr
        'to knock'

On numerals, however, the suffix only refers to buildings and not to rooms: *x̌əθin=əẃtxʷ* *ʔitətəẃtxʷ* can only mean 'four hotels', not 'four bedrooms'. Plain numerals are used to count rooms:

(83) *ɫixʷ(*=eẃtxʷ)*   *kʷθə*   *kʷukʷ=əẃtxʷ*   *niʔ*   *ʔə*   *tθə*   *skʷul=eẃtxʷ*.
       three(*=house)   DT   cook=house   AUX   OBL   DT   school=house
       'There are three kitchens at the schoolhouse.'

The suffix *=iws* 'body' is another example of the narrowing of meaning in the classificatory use. On nouns and verbs it refers to the body of anything—living or dead:

(84) *s-ɫəl̓p̓=iws*   'wrinkled body'
       məlxʷ=iws-t   'rub it on his/her body'
       q̓ʷqʷ=iws-t   'hit him/her on the body'
       səwq̓=iws   'look for person (dead or alive)'

In addition, there are many words where the suffix clearly refers to waterfowl or game.

(85) *θiθ=əws*   'big bird'   [big(reduplicated)=body]
       q̓ʷəm=əws-t   'pluck it (a fowl)'   [pluck=body-TR]
       k̓ʷs=iws-t   'singe it (a fowl)'   [burn=body-TR]
       ɫp=iws-t   'strip it (a deer)'   [strip=body-TR]

Recall that as a numeral classifier *=iws* carries the meaning of 'waterfowl', 'game', or 'dead bodies'. This is a subset of the overall range of meanings that we see in other environments.

Another example of narrowing of this sort involves the lexical suffix *=as*. This suffix originally meant 'face'.[20] This core meaning is seen in many nouns and verbs:

(86) *š-ɫəl̓p̓=əs*   'facial wrinkles'   [PR-wrinkled=face]
       xʷ-ɫaq̓ʷ=əs-t   'slap him/her on the face'   [PR-slap=face-TR]
       š-yaɫq̓ʷ=əs-əm̓   'face cloth'   [PR-rub=face-middle]
       nəʔ=as   'facing away'   [*niʔ* 'be there']
       k̓ʷəʔ=as   'facing up'   [*k̓ʷiʔ* 'climb']

In addition, *=as* shows a development via shape extension to refer to round objects:

(87) *li:m=əs*   'April' [cf. *sli:m* 'sandhill crane']
       ləc̓=as   'full (round object, e.g. spool, spinning wheel)'
       ɫəmc̓=əs-t   'pick them (berries)'

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[20] In fact there is a noun root *ʔas* that appears in a denominal verb formed with the middle suffix: *ʔas-əm* 'to face (in a direction)'.

ƚ^θi x^w=əs-t	'douse it (the fire)'
θiθ=əs	'big rocks'
q̓^wəmx̌^w=əs-t	'wind it (wool) into balls'

As a numeral classifier, it refers to 'dollars', 'moons', and other flat round objects, and is not used to count faces. Also, it is not used to count small spheres; this is the domain of the suffix *=als* 'sphere'. So we see that the lexical suffix narrows, or specializes, its meaning when functioning as a numeral classifier.[21]

In some cases, the classificatory use of the lexical suffix has a totally different meaning from other uses. The suffix *=elə* is the most obvious instance of this. In noun compounds, the suffix transparently means 'container 'and is a very popular suffix for innovating vocabulary. With the instrumental prefix *š(x^w)-* it means 'thing used for containing X'.

(88)
lem	'liquor' (< *rum*)	*š-ləm=elə*	'bottle, jar'
s-p̓aƛ̓əm	'smoke'	*š-p̓əƛ̓əm=elə*	'pipe'
qaʔ	'water'	*š-qaʔ=elə*	'water container'
s-q̓^wəleš	'(small) bird'	*š-q̓^wəl̓eš=elə*	'bird's nest'

However, when this suffix appears on verbs and numerals, it has the meaning 'people', not 'container'. Its use on verbs (and adjectives) is extremely rare. A search of the Cowichan Dictionary (HUKARI & PETER 1995a) revealed only three forms: *s-q̓i^θ=elə* 'joined (people, e.g. siamese twins), *k̓^wš=elə=t* 'count people' and *ƚən̓=elə-t* 'line people up'.

The discontinuity in the meaning between the two uses might lead to the suspicion that there are two homophonous suffixes at play. However, our consultants had no difficulty associating the two meanings. One suggested that we think of people in terms of 'cavities to fill up', parallel to the English expression 'mouths to feed'. The word for 'belly', which is considered the site of the emotions for the Halkomelem, is the suspiciously similar *k̓^wəl̓ə*. We can speculate that there was a form that meant 'belly' that devoloped simultaneously into the meanings 'container' and 'person'. WILKINS (1996: 273) gives navel > belly > ... > person as a possible semantic path for classifiers meaning people. Comparative research may shed light on this issue.

We found no examples where the classifier is broader or more general in meaning than the suffix used in other environments. This supports our claim that the compounding use of lexical suffixes was historically prior to the classificatory use. Only some suffixes took on classificatory function. When they did so, one feature of the meaning of the source noun was highlighted leading to a bleaching of meaning. This is a normal path of grammaticization and equivalent to a semantic reduction. However, in acquiring a classificatory function, suffixes gain new meaning through their novel function (BYBEE et al. 1994:6).

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[21] Perhaps the faces of the Queen and others on dollars and the personification of the moon aided this extension.

3.2. The lexical suffix system

We turn now to an examination of the origin of Halkomelem numeral classifiers from a broader perspective. The large and diverse Salishan family extends over southern British Columbia, Washington, northern Idaho, western Montana, and northwestern Oregon. According to KINKADE (1992:360), the twenty-three languages of the family are grouped into five branches:

Bella Coola
Central Salish
  Comox/Sliammon, Clallam, Halkomelem, Lushootseed, Nooksack,
  Pentlatch, Sechelt, Squamish, Straits Salish, Twana
Interior Salish
 Northern Interior Salish
   Lillooet, Shuswap, Thompson
 Southern Interior Salish
   Coeur d'Alene, Columbian, Kalispel/Flathead/Spokane,
 Okanagan/Colville
Tsamosan
 Lower Chehalis, Upper Chehalis, Cowlitz, Quinault
Tillamook

Table 3 The Salishan Family

There are two outlier languages—Bella Coola in the north and Tillamook in the south. The Central Salish branch consists of a diverse chain of languages, including Halkomelem. These three branches and Tsamosan were spoken in the Northwest culture area, while Interior Salish was spoken in the Plateau culture area. SWADESH (1950) places the time depth for Proto-Salish at 6000 years. KROEBER (1999) states that the morphological diversity of the languages suggests a time depth of at least 3000 years. CZAYKOWSKA-HIGGINS & KINKADE (1998: 49–60) present a summary of historical and comparative research on the Salishan language family.

The lexical suffix system is one of the most salient traits of Salish. Studies comparing the suffixes across the languages of the family include HAEBERLIN (1974), NEWMAN (1968), KUIPERS (1976), and KINKADE (1998). In the course of time, historical processes have modified this system, increasing the number of lexical suffixes in some languages and decreasing it in others. Moreover, phonological change, semantic change, and morphological fusion have introduced variation in the details of the system. In spite of these changes, the major features of the system have been preserved and the lexical suffix system is strikingly similar throughout the Salish family.

3.2.1. The lexical semantics of numeral classifiers

All Salish languages have numeral classifiers. Boas first noted the classificatory properties of some lexical suffixes in 1898 (HAEBERLIN 1974:228). The question arose

then as to whether the classificatory function was primary or secondary. Since only a subset of lexical suffixes function as numeral classifiers in each language and the suffixes used for this purpose vary language to language, this use seems to be secondary.

Lexical suffixes in Salish are the sources for classifiers and subject to semantic extensions. These semantic extensions are to an extent determined by local culture (FRIEDRICH 1970:385). The influence of culture in the lexical suffix system is clearly illustrated by the non-somatic lexical suffixes, which reference concrete entities in the material world. They are attested in all branches of the family and go back to Proto-Salish. The table below shows the semantic paths of non-somatic lexical suffixes that have a classificatory function in Halkomelem[22]

PROTO -SALISH NON-SOMATIC SUFFIXES	PROTO-MEANING AND SEMANTIC PATH	HALKOMELEM CLASSIFIER
*=wiɫ ~ *=wil	CANOE > CONVEYANCE	=wəɫ
*=aw̓=txʷ ~ *=aɫ=txʷ	HOUSE	=ew̓txʷ
*=als	STONE > SPHERICAL SHAPE	=als
*=al=inup	GROUND > PLOT OF LAND	=ənəp
*=ikup	FIREWOOD	=əlcəp
*=aɫp	PLANT OR TREE	=əɫp

Table 4 Historical Lexical Semantics of Non-Somatic Suffixes

Whether they are used for compounding or classificatory purposes, these suffixes have very stable meanings across the languages throughout time. [23]

The somatic lexical suffixes present a much more complicated picture. They are very old and have a very wide distribution throughout the family. It is clear from the comparative evidence that they primarily denote body parts. However, they are polysemous in all the modern languages. HINKSON (1999) shows that somatic suffixes exhibit a complex semantic network extending the core meaning of the suffix to denote to other body parts via the Principle of Anatomical Adjacency and to non-body parts via Shape Abstraction. For example the suffix *=anak ABDOMEN has the following attested meanings in various Salish languages: *belly, hip, tripe, liver, rump, anus,bottom, tail, hillside, dome, sky, under, front, below*. In addition, it may denote positive and negative emotions, such as *kind-hearted* and *mean-spirited*, and it also grammaticizes into a desiderative modality marker (HINKSON 1999).

The table below shows the semantic paths of somatic lexical suffixes that have a classificatory function in Halkomelem

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[22] We make use of the reconstructions of KINKADE (1998:280-281). He gives the proto-forms of 64 lexical suffixes and has compared his reconstructions with those of KUIPERS (1976).

[23] Suffixes for 'paddle', 'garment', and 'group, piles' cannot at this time be reconstructed further back than Proto-Central Salish. Suffixes for 'game' and 'kind' are so far attested only in Halkomelem.

PROTO SALISH SUFFIXES	PROTO-MEANING AND SEMANTIC PATH	HALKOMELEM CLASSIFIER
*=al=ikin	BACK > PACK > LOAD/CONTAINER	=eĺeʔc
*=awas ~ *=iws	BODY > DEAD BODY > BIRD	=iẃs
*=anak	ABDOMEN > BOTTOM > ROOT	=nəc
*=aqin	HEAD > THROAT > CONTAINER	=qən
*=iqʷ	HEAD > ROUND THING	=aʔqʷ
*=us	FACE > SMALL ROUND OBJECT > DOLLAR	=as
*=al=us	EYE > LOOP > STITCH	=aləs
*=iċaʔ	HIDE > STRAND (CLOTHING)	=itᶿeʔ

Table 5 Historical Lexical Semantics of Somatic Suffixes

The middle column makes explicit the semantic chain connecting the proto-meaning of a suffix (the head of the chain) to its classificatory use in Halkomelem (the tail of the chain).

3.2.2. Classifiers: Distribution and innovations

There is a paucity of published data on classifiers and their uses in the modern Salish languages. Many grammars or dictionaries include a list of lexical suffixes with some indication as to which ones are used with numerals. Usually, a brief discussion ensues concerning the semantics of classifiers, with comments about prototypical nouns that they classify, but very few examples are given. However, we have begun, through the generous assistance of Salishan scholars who have provided their unpublished data, to construct a classifier database. Although we can give only a preliminary assessment at this time, there is sufficient data to make one general point: the actual suffixes used for classificatory purposes differ from language to language but the overall semantic system is quite parallel throughout the family.

The use of lexical suffixes as numeral classifiers is attested in all branches of the family, and both somatic and non-somatic lexical suffixes acquire classificatory functions. However, the distribution of classificatory suffixes varies from language to language. Individual languages show novel classificatory extensions for some suffixes, but these are not necessarily universal. Rather, innovations and extensions of the system are usually distinct to particular languages or branches of the family and probably correlate with extra-linguistic factors, e.g. the material culture, world-view, and general mythological concepts.

First, one suffix *=wil CANOE has reflexes in all the modern languages. We can infer that terms for watercraft belong to a very early level of Salish (NEWMAN 1968:19). Also, this suffix is attested as a numeral classifier throughout the family, see, for example, the data in Table 6.

LANGUAGE	NUMERAL CLASSIFIER	SOURCE
Bella Coola	*maw=aɬ* 'one car, canoe'	NATER 1984:86
Comox/Sliammon	*θaṁ=agəɬ* 'two boats'	J. DAVIS 1973.
Squamish	*cam=axʷiɬ* 'two canoes'	KUIPERS 1967:152
N. Straits (Sooke)	*ɬq̓éčs=əxʷɬ* 'five canoes'	EFRAT 1969:141
Lushootseed	*ɬixʷ=algʷiɬ* 'three canoes'	BATES et al. 1994:147
Upper Chehalis	*sali=wiɬ* 'two canoes'	KINKADE 1991:123
Lillooet	*ʔáṅwas=úl=wiɬ* 'two bottles, canoes'	VAN EIJK 1997:97
Columbian	*mus=aqn=wíl* 'four canoes'	KINKADE n.d.
Coeur d'Alene	*mus-il=igʷil* 'four canoes'	DOAK n.d.
Tillamook	*dzu=ahgíl=aɬ* 'two canoes'	EDEL 1939:26

Table 6 The lexical suffix *wil*

In addition, in Bella Coola, Squamish, Lillooet, Shuswap, and Okanagan, *=wil* is used to classify containers.[24] In Halkomelem, we see this function only for plates, as discussed in section 2.3 above. Also, in one language, Columbian, this suffix is used to classify loads.

Somatic suffixes provide a much richer array of historical sources for classifiers. Only certain somatic suffixes become numeral classifiers—a fact pointing to the primacy of the body-part meaning and to the fact that normally it is not necessary to count specific body parts, thereby freeing these suffixes for use as classifiers of more abstract concepts. Some somatic suffixes that reconstruct to Proto-Salish are used as numeral classifiers in several branches of the family. For example, the suffix *=ikin* BACK functions as a classifier in three branches of the family: Tsamosan, Central, and Interior. As a classifier, this suffix denotes loads and the containers in which the loads are carried, as seen in the Halkomelem examples like (69) and (70) above.

The metonymic shift BACK > PACK > LOAD represents a functional change probably originating in the practice of carrying food from outlying gathering areas and hunting grounds to permanent settlements. Since loads were carried by back in some kind of container, eventually the suffix came to denote the load and the container that carried it (HINKSON 1999).[25] The following examples show the anatomical use of the suffix:

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[24] This has led HINKSON (2001, 2002) to suggest that the core meaning of the suffix might be VESSEL rather than CANOE.

[25] The correspondence in the forms within and between languages is not obvious to those not familiar with Salishan historical phonology. The basic form of the suffix alternates

(89)   Central Salish: Halkomelem
          š-t̓ᶿə́m̓=əw̓iʔc
          PR-bone=BACK
          'backbone'

(90)   Central Salish: Lushootseed (BATES et al. 1994:66)
          x̌ʷ-čɫ=ič=ap
          PR-above=BACK=TAIL
          'small of the back'

(91)   Tsamosan: Upper Chehalis (KINKADE 1991:156)
          xʷam̓=ičn
          lump=BACK
          'hunchback'

(92)   Interior Salish: Thompson (L. THOMPSON & T. THOMPSON 1996:101)
          k̓eƛ̓=kṅ
          dirty=BACK
          'have a dirty back'

The next set of examples shows the shift BACK > PACK. The actual pack is the container of the load and translated into English as something wrapped, a basket, or a package.

(93)   Central Salish: Halkomelem
          ɫəc̓=əleʔc-t
          cut=BACK -TR
          'cut open bales'

(94)   Central Salish: Lushootseed (BATES et al. 1994:115)
          x̌q=íč-yi-d
          wrap=BACK-BEN-TR
          'wrap something for someone'

---

between =ik and =ikən throughout Salish. The glottalized resonant surfacing in Interior Salish is not reconstructed to the proto-language. The corresponding reflexes of the suffix in Central and Tsamosan have č or c, the reflexes of Proto-Salish *k. The Halkomelem suffix for '(anatomical) back' uses a -w connector, while the classifier for loads uses an -l connector.

(95)   Interior Salish: Thompson (L. THOMPSON & T. THOMPSON 1996:141)
        ʔəs-líʕʷ=kń
        ASP-untie=BACK
        'package is loose'

Used with numerals, the suffix classifies loads that, though originally carried by back, are now carried by other means. It denotes both the load and the container of the load.

(96)   Central Salish: Halkomelem
        łixʷ=əl̓=eʔc   st̓ʰeʔqən
        three=CON=BACK   cattail
        'three bundles of cattails'

(97)   Central Salish: Lushootseed (BATES et al. 1994:115)
        łixʷ=al=ič
        three=CON=BACK
        'three cords of wood'

(98)   Tsamosan: Upper Chehalis (KINKADE 1991:23) [26]
        cilčst=ál=ikn
        five=CON=BACK
        'five baskets'

(99)   Interior: Thompson (L. THOMPSON & T. THOMPSON 1996:130)
        ci(y)ks=ekń
        five=BACK
        'five bundles'

In summary, from the Halkomelem perspective, the relationship between BACK and the classifier for LOAD might seem like a coincidence. But seen from a wider Salishan perspective, it is part of a general Bearer/Burden schema (HINKSON 1999) that is well-attested in these three branches of the Salish family.

More commonly, lexical suffixes that reconstruct to Proto-Salish function as numeral classifiers only in a few languages of one or another branch of the family. For example, the Central Salish reflex of the suffix *=anak ABDOMEN functions as classifier for root plants in Halkomelem.[27]

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[26] The normal reflex of *k in Upper Chehalis is c. The classificatory form of the suffix is =ikn and it may be a fossil dating to a time before the change *k > c occurred, or a borrowing from a neighboring language where the change did not happen at all.
[27] The reflex of *=anak in Central Salish is =néc ~ =nəc, =néč~ =nəč, or =deč depending on the specific language.

(100) *yəseĺ=ənəc*   *šewəq*
two=BOTTOM   carrot
'two carrots'

Anatomical extensions of the suffix **=anak* ABDOMEN obtain through the Principle of Anatomical Adjacency and the Principle of Canonical Orientation (HINKSON 1999). In Central Salish the suffix has the semantic path BELLY (GUT) > ANUS/BOTTOM > TAIL/END POINT, as attested by examples below. The last link in this semantic chain, END POINT, is used as a numeral classifier in Halkomelem for roots.

(101) Lushootseed (HESS 1976:128)
    s-qʷəbáy=al=dəč   BELLY
    NM-dog=CON=BELLY
    'the belly of a dog'

(102) Lushootseed (HESS 1976:128)
    ṗəc̓=ál=dəč   BELLY/GUT > BOTTOM
    defecate-CON=BELLY
    'feces on anus'

(103) Saanich (MONTLER: 1986:81)
    xʷ-ƛ́éqt=néč   BELLY/ GUT > BOTTOM > TAIL
    PR-long=BELLY
    'cougar (lit. long tail)'

(104) Saanich (MONTLER: 1986:81)
    kʷəθ=néč-t   BELLY/ GUT > BOTTOM >
    tilt=BELLY-TR   TAIL > END POINT
    'He tilted it (lifted it at one end).'

We find that the classificatory function of the suffix **=anak* in Central Salish is an innovation so far attested only in Halkomelem.

In summary, a comparison of the two types of suffixes shows that non-somatic suffixes are more stable semantically and that their meaning extensions tend to be functionally motivated. For example, the suffix **=wil* CANOE is relatively stable in its meanings. The somatic suffixes, e.g. **=ikin* BACK, **=anak* ABDOMEN, and **=aqin* HEAD, show a wide range of extensions.

3.3.   Numeral classifiers as a functional system

Only a few Halkomelem numeral classifiers appear to have the same phonological shape and the same classificatory function throughout the Salish family. The suffix =*wil* CANOE discussed above is one example. Other suffixes are used as classifiers in only some branches. Rarely, we see that a suffix develops classificatory function in a single language. For example, the suffix =*anak* ABDOMEN surfaces as the suffix =*nec* used for classifying root plants in Halkomelem.

When we look at our database of numeral classifiers in Salish, we see that around twenty lexical suffixes acquire classificatory functions in each language. A comparison of numeral classifiers in the different Salish languages reveals that they all have the same type of system. The kinds of nouns classified are the following: [28]

Natural environment:	plants, land, water, stone
Material culture:	canoe, house, blanket, clothing, bundle, container
Shape:	round, loop, sphere, cylinder, oblong, long thin, flat
Time and other measurements:	hour, day, night, month, year, season, fathom

However, different suffixes are chosen to classify these meanings in different branches and sub-branches of the family.

We can illustrate this point with the concept 'container', which is expressed in all languages but by different lexical suffixes. Squamish, a Central Salish language, and the Interior Salish languages classify containers with the suffix * *wil* CANOE, as discussed above. In Halkomelem, however, only dishes are classified with *wil*. Other types of containers are classified with the suffix *aqin* HEAD

The suffix *=*aqin* is attested with the meaning HEAD in Central and Interior Salish.

(105)   Central Salish: Halkomelem (Suttles, p.c.)
          x̌ix̌əq̓=qín-əm
          scratch= HEAD-MID
          'be scratching one's head'

(106)   Central Salish: Lushootseed (Hess 1976:384)
          x̌ac̓=qíd-əb
          cover=HEAD-MID
          'cover your head'

(107)   Interior Salish: Okanagan (Mattina 1987a:182)
          s p̓áp̓=qn-əm
          be hit (reduplicated)=HEAD-MID
          'be hit on the head'

---

[28] The measurement words may not be classifiers, but rather quantifying expressions rendered as compounds, as discussed above.

This suffix denotes the entire head, including the neck and its inside, the throat. The semantic path of the suffix *=aqin in Halkomelem is HEAD > THROAT, and then THROAT > VOICE, as seen in the following examples.

(108)   Central Salish: Halkomelem (SUTTLES, p.c.)
          ƛ̓əx̌ʷ=qín-əm
          wash=HEAD-MID
          'wash one's throat (have a beer)'

(109)   Central Salish: Halkomelem
          xʷ-qəw̓əcən̓=qən
          PR-Cowichan=HEAD
          'the Cowichan dialect of Halkomelem'

(110) Interior Salish: Columbian (KINKADE n.d. #1710)
          n-pək̓ʷ=qín
          PR-deep= HEAD
          'he has a deep voice'

Though the semantic link HEAD > THROAT is common to Central and Interior Salish, the suffix is used as a classifier for containers only in Halkomelem. We propose that the source of this classificatory function stems from the conceptualization of the throat as a container.
        In the meantime, the suffix *=aqin HEAD developed in Southern Interior Salish as a classifier for tipis.

(111) Columbian (KINKADE n.d. #1665)
          n-məsa=qín
          PR-four=HEAD
          'four tipis put together'

Traditionally, tipis are built by superimposing layers of animal hides on a set of long poles tied together at the top end or head, as in *s-n-xʷay=qn* 'tipi (literally tied heads)' (MATTINA 1987a:182). Presumably the suffix denotes the tied heads of the poles that constitute the frame of the tipi.
        In sum, all Salish languages use lexical suffixes as numeral classifiers. Each language draws its classifiers from a set of around 200 lexical suffixes. We have discussed in this section how the system of numeral classifiers varies from language to language, but nonetheless the overall system of classification is remarkably similar in all the languages.

3.4.   Numeral classifiers as an areal feature

Among the languages of the Pacific Northwest, the Salishan, Wakashan, and Chimakuan families are known for having lexical suffixes. The number of lexical suffixes in individual Wakashan languages and in Quileute, the better documented Chimakuan language, exceeds the number of lexical suffixes found in any individual Salish language. Furthermore, the functions of the lexical suffixes seem to be somewhat different. For example, they include suffixes with verbal as well as nominal meanings. A cursory examination of two Wakashan languages, Kwak'wala and Nootka, shows that a subset of lexical suffixes functions as numeral classifiers in both languages.

Even though the numeral classifiers in Wakashan bear no resemblance phonologically to the Salishan numeral classifiers, we see that the same type of classificatory system exists in the two families. According to BERMAN (1990:37), shape classification is obligatory with almost all Kwak'wala expressions of quantity involving a nominal. Numeral classification in Kwak'wala can be sortal or mensural: sortal classification categorizes by shape class; while mensural classification categorizes by culturally relevant measurement units (BERMAN 1990:38). STONHAM (1998), using data from the 1939 Nootka Texts of Edward Sapir and Morris Swadesh and other unpublished Sapir manuscripts, also gives an analysis of numeral classifiers. He states that the classificatory suffixes are semantically based on certain characteristics of the objects they describe and typically occur with numbers and quantifiers (1998:386–388). Correlating their results, we arrive at the following system of classifiers for Wakashan.

Sortal: human, canoe, long, flat, bulky, hollow, hole, chunk, kind, group/tribe
Mensural: times, fingerwidth, fathom, day, year, direction, price, pair, unit

This system, though somewhat smaller, is quite parallel to the Salish system discussed above. It contains both specific classifiers such as 'human' and 'canoe' and also shape-based classifiers. A more thorough study of the nuances of the Wakashan system might help reveal whether the resemblance to the Salish system is due to areal forces or to universal cognitive and cultural pressures present in all classifier systems.

Salishan and Wakashan languages neighbor Quileute (Chimakuan), spoken in the Olympic peninsula in Washington State. Though having a large array of lexical suffixes that semantically compare to Salishan lexical suffixes, Quileute lexical suffixes apparently do not function as numeral classifiers (POWELL & WOODRUFF 1976:507–522). Kutenai, a language isolate, spoken in British Columbia and Montana, also has lexical suffixes. Kutenai may have been in contact with Salish languages for centuries—the correspondences between Kutenai roots and Salish lexical suffixes show evidence of this contact (MORGAN 1991:491). However, Kutenai lexical suffixes function as instrumental suffixes, not as numeral classifiers:

(112) Kutenai (MORGAN 1991:346)
           axaṅ=xu
           catch.up.to=BY.BODY
           'Catch up to it.'

The lack of classifiers in Kutenai is not surprising, given NICHOLS (1992:200) suggestion that the distributional area for the linguistic feature of classifiers is the Pacific Rim. The Cascades delineate the Pacific Rim, and Kutenai lies to the east of this mountain range.[29] Chimakuan and Kutenai exemplify languages with lexical suffixes that do not function as classifiers. This further supports the premise that the classificatory use of lexical suffixes in Salishan and Wakashan is a secondary function.

4. Conclusion

This paper explored the system of numeral classification in Halkomelem. Some countable concrete nouns are counted with simple cardinal numbers, but many nouns can be counted with classificatory lexical suffixes. We discuss both the meaning of the suffixes and the nouns that they classify. Classifiers refer to animate and inanimate entities. Suffixes for animates characterize the most salient feature of the entity. Some classifiers for inanimates originate in suffixes referring to specific elements of the natural environment or items of material culture. Most inanimates, however, are classified according to their shape or function. In sum, classification in Halkomelem is the sort of system that we are led to expect based on cross-linguistic typological research. (See AIKHENVALD 2000 and references therein.).

We have also briefly explored classifiers in Halkomelem from a diachronic perspective, tracing their meanings to their lexical sources. Classificatory suffixes derive their meanings from their sources as nouns, which have concrete semantics. For example, the suffix for 'face' when used as a classifier extends metaphorically via shape to refer to round objects, including coins, and then via function to refer to all money, including paper bills. Many of the twenty-four classificatory suffixes exhibit semantic extensions of this kind. Somatic suffixes are especially prone to abstraction. Although they have basic primary meanings, they are polysemous morphemes showing an elaborate network of semantic extensions (HINKSON 1999, 2002). In their range of extended meanings, somatic suffixes exhibit concrete, locational, and relational extensions in addition to classificatory functions. Due to their inherent polysemy, these suffixes are ideal sources for shape-based numeral classifiers. The non-somatic, culturally-based suffixes often have specific, transparent meanings that are stable across time. Suffixes of this sort are used with the same meaning in compounding and classifying uses within Halkomelem. Furthermore, some of these suffixes can be traced back to Proto-Salish. Other languages of the family use these suffixes for the same meanings and similar classificatory functions. These suffixes paint a picture of a shared culture.

All of the Salish languages, and the Wakashan languages as well, draw upon the inventory of lexical suffixes for their numeral classifiers. As the comparative evidence shows, some go back to Proto-Salish, while others are innovations of the Central Salish branch or even Halkomelem itself. The picture that emerges from the comparative evidence is that the concept of categorizing nouns by means of lexical suffixes is very old. However, the actual suffixes that are used for this purpose change over time.

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[29] The Interior Salish languages are spoken on the eastern side of the Cascades. However, the homeland for Proto-Salish was probably in the Fraser Canyon, on the Pacific Rim side of the Cascades.

Although branches or individual languages draw on different lexical suffixes for different classificatory purposes, the general system is paralleled in each language.

Abbreviations

ASP	aspect
AUX	auxiliary
BEN	benefactive
CON	connective
CS	causative
DT	determiner
EMPH	emphatic
ERG	ergative
FUT	future
LCTR	limited control transitive
MID	middle
NEG	negative
NM	nominalizer
OBJ	object
OBL	oblique
PAS	passive
PL	plural
POS	possessive
PR	prefix
Q	interrogative
SSUB	subordinate subject
SUB	subject
TR	transitive

References

AIKHENVALD, ALEXANDRA Y. (2000): *Classifiers: A typology of noun categorization devices.* Oxford Studies in Typology and Linguistic Theory. Oxford: Oxford University Press.

ALLAN, KEITH (1977): Classifiers, in: *Language* 53.2:285–311.

AMOSS, PAMELA T. (1993): Hair of the dog: Unraveling pre-contact Coast Salish social stratification, in: MATTINA, ANTHONY & TIMOTHY MONTLER, eds. *American Indian linguistics and ethnography in honor of Laurence C. Thompson.* University of Montana Occasional Papers in Linguistics No. 10, 3-36.

ANDERSON, GREGORY D. A. (1999): Reduplicated numerals in Salish, in: *International Journal of American Linguistics* 65.4, 405–48.

BATES, DAWN, THOM HESS, & VI HILBERT (1994): *Lushootseed dictionary*. Seattle: University of Washington Press.

BERMAN, JUDITH (1990): Notes on shape classification in Kwakw'ala, in: *ICSNL* 25: 37–60.

BYBEE, JOAN L., REVERE PERKINS, and WILLIAM PAGLIUCA (1994): *The evolution of grammar*. Chicago: University of Chicago Press.

CARLSON, BARRY F. (1990): Compounding and lexical affixation in Spokane, in: *Anthropological Linguistics* 32 .1–2:69–82.

CRAIG, COLETTE G. (1986): Jacaltec noun classifiers: A study in language and culture, in: CRAIG, COLETTE G. (ed.), *Noun classes and categorization: Proceedings of a Symosium on Categorization and Noun Classification, Eugene, Oregon, October 1983*. Amsterdam: John Benjamins, 263-294.

CZAYKOWSKA-HIGGINS, EWA, AND M. DALE KINKADE (1998): Salish languages and linguistics, in: CZAYKOWSKA-HIGGINS AND KINKADE (eds), *Salish languages and linguistics: Theoretical and descriptive perspectives*. Berlin: Mouton de Gruyter, 1-68.

DAVIS, JOHN H. (no date): Sliammon notes.

DENNY, J. PETER (1979): The 'extendedness' variable in classifier semantics: Universal features and cultural variation, in: MADELEINE MATHIOT, ed., *Ethnolinguistics: Boas, Sapir, and Whorf revisited*, pp. 97–119. The Hague: Mouton.

DOAK, IVY GRACE (no date): Coeur d'Alene notes.

EDEL, MAY M. (1939): The Tillamook language, in: *International Journal of American Linguistics* 10.1:1–57.

EFRAT, BARBARA (1969): A Grammar of non-particles in Sooke, a dialect of Straits Coast Salish. Ph.D. Dissertation, University of Pennsylvania.

EGESDAL, STEVEN M. (1981): Some ideas on the origin of Salish lexical suffixes, in:*University of Hawaii Working Papers in Linguistics* 13.2:3–19.

FRIEDRICH, PAUL (1970): Shape in grammar, in: *Language* 46.2:379–407.

GALLOWAY, BRENT D. (1993): *A grammar of Chilliwack Halkomelem*. University of California Publications in Linguistics 96. Berkeley: University of California Press.

GERDTS, DONNA B. (1988): *Object and Absolutive in Halkomelem Salish*. New York: Garland.

GERDTS, DONNA B. (1998): Incorporation, in *The Handbook of Morphology,* eds. ANDREW SPENCER and ARNOLD M. ZWICKY, 84–100. Oxford: Basil Blackwell.

GERDTS, DONNA B., & MERCEDES Q. HINKSON (1996): Salish lexical suffixes: a case of decategorialization, in: *Proceedings of the Conference on Conceptual Structure, Discourse and Language*, ed. ADELE GOLDBERG, 163–176. Stanford: CSLI.

GERDTS, DONNA B. & THOMAS E. HUKARI (to appear): *Halkomelem*. Munich: Lincom Europa.

HAEBERLIN, HERMAN (1974): Distribution of the Salish substantival [lexical] suffixes, in: ed. M. TERRY THOMPSON. *Anthropological Linguistics* 16.6:219–350.

HESS, THOM (1976): *A dictionary of Puget Salish.* Seattle: University of Washington Press.

HINKSON, MERCEDES Q. (1999): *Salishan lexical suffixes: A study in the conceptualization of space*. Ph.D. dissertation, Simon Fraser University.

HINKSON, MERCEDES Q. (2001): The semantics of the lexical suffix *wil,* in: *Proceedings of the Thirty-Six International Conference on Salish and Neighboring Languages,* Chilliwack, British Columbia, 155–174.

HINKSON, MERCEDES Q. (2002): The productivity of the suffix *wil* in Ucwalmicwts. Paper presented at the annual meeting of Linguistic Society of America: SSILA, San Francisco.

HINKSON, MERCEDES Q. (In preparation): *Salishan lexical suffixes: A study in the conceptualization of space.* Studies in the Anthropology of North American Indians Series. University of Nebraska Press and American Indian Research Institute, Indiana University.

HUKARI, THOMAS E., & RUBY PETER, eds. (1995a): *Hul'qumi'num' dictionary.* [Duncan, British Columbia]: Cowichan Tribes.

HUKARI, THOMAS E., & RUBY PETER (1995b): *Hul'q̓umi'num' grammar*. [Duncan, British Columbia]: Cowichan Tribes.

KINKADE, M. DALE (1963): Phonology and morphology of Upper Chehalis: II, in: *International Journal of American Linguistics* 29:345–356.

KINKADE, M. DALE (1991): *Upper Chehalis dictionary. Occasional Papers in Linguistics No. 7.* Missoula: University of Montana Press.

KINKADE, M. DALE (1992): Salishan Languages, in: *International Encyclopedia of Linguistics*. W. BRIGHT, ed. Oxford University 3: 359-363.

KINKADE, M. DALE (1998): Origins of Salishan lexical suffixes, in: *Papers for the 33rd International Conference on Salish and and Neighboring Languages*. Seattle: University of Washington, 266–295.

KINKADE, M. DALE (no date): Columbian lexical suffixes. Unpublished field notes.

KROEBER, PAUL D. (1999): *The Salish language family: Reconstructing syntax.* Lincoln: University of Nebraska Press.

KUIPERS, AERT H. (1967): *The Squamish language: Grammar, texts and dictionary.* The Hague: Mouton.

KUIPERS, AERT H. (1974): *The Shuswap language: Grammar, text, dictionary.* The Hague: Mouton.

KUIPERS, AERT H. (1976): On the phonological typology of Proto-Salish, in: *Actes du XLe Congrès International des Américanistes* 4:607–621.

LESLIE, ADRIAN (1979): *A grammar of the Cowichan dialect of Halkomelem Salish.* Ph.D. dissertation, University of Victoria.

MATTINA, ANTHONY (1987a): *Colville-Okanagan dictionary. Occasional Papers in Linguistics No. 5*. Missoula: University of Montana Press.

MATTINA, ANTHONY (1987b): On the origin of Salish lexical affixes. Paper presented at the 26th Conference on American Indian Languages, AAA, Chicago.

MONTLER, TIMOTHY (1986): *An outline of the morphology and phonology of Saanich, North Straits Salish. Occasional Papers in Linguistics No. 4*. Missoula: University of Montana Press.

MORGAN, LAWRENCE R. (1991): A description of the Kutenai language. Ph.D. Dissertation University of California Berkeley.

NATER, HANK F. (1984): *The Bella Coola language*. Mercury Series Paper 92. Ottawa: National Museum of Man, Canadian Ethnology Service.

NEWMAN, STANLEY S. (1968): A comparative study of Salish lexical suffixes. Paper presented at the 3rd International Conference on Salish Languages. Victoria, British Columbia.

NICHOLS, JOHANNA (1992): *Linguistic diversity in space and time*. Chicago: The University of Chicago Press.

POWELL J.V., & FRED WOODRUFF, SR. (1976): *Quileute dictionary*. Northwest Anthropological Research Notes, Memoir Number Three. Published as Northwest Anthropological Research Notes, Vol. 10, Part 2. Moscow, Idaho.

SAPIR, EDWARD (1911): The problem of noun incorporation in American languages, in: *American Anthropologist* 13:250–82.

STONHAM, JOHN (1998): Numerals and incorporation in Nootka, in: *Papers for the 33rd International Conference on Salish and Neighboring Languages,* University of Washington. pp. 384–394.

SUTTLES, WAYNE (In preparation): *A reference grammar of the Musqueam dialect of Halkomelem.*

SWADESH, MORRIS (1950): Salish internal relationships, in: *International Journal of American Linguistics* 16:157–167.

THOMPSON, LAURENCE C., & M. TERRY THOMPSON (1996): *Thompson River Salish dictionary. Occasional Papers in Linguistics No. 12*. Missoula: University of Montana Press.

WILKINS, DAVID (1996): Natural tendencies in semantic change and the search for cognates, in: Mark Durie and Malcolm Ross, eds., *The comparative method reviewed: Regularity and irregularity in language change*. New York: Oxford University Press, 264-304.

VAN EIJK, JAN P. (1997): *The Lillooet language: Phonology, morphology, syntax*. Vancouver: University of British Columbia Press.

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