

# **On the absence of a grammaticized count/mass distinction in Halkomelem Salish**

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## **Abstract**

In this paper, I establish that in contrast to English, Halkomelem Salish has no grammaticized distinction between mass and count nouns. Nevertheless, in both languages there are nouns that denote substance and nouns that denote individuals. Consequently, I argue that this is not a grammatical property but purely based on ontological distinctions. I propose a formal analysis that captures this cross-linguistic difference between English and Halkomelem: Halkomelem lacks the functional category responsible for the count/mass distinction in languages like English. The data and analysis presented have two crucial implications: first the count/mass distinction is a grammatical and not a lexical distinction; second nouns do not have to be individuated in order to be counted.

**Keywords:** mass nouns, count nouns, number, classifiers, Halkomelem

## **1 The problem**

It is a well-known fact that the plural marker in English can attach to nouns that denote individuals (1) but not to nouns that denote substance (2):

- (1) a. There is a tree in my garden.  
b. There are tree-s in my garden.
- (2) a. There is wood in my garden.  
b. \*There are wood-s in my garden.

The distributional difference between these two kinds of nouns leads one to propose two subcategories of nouns: count nouns and mass nouns. The situation is strikingly different in Halkomelem Salish.<sup>1</sup> Here, the distribution of the plural marker does not seem to be sensitive to whether the noun it attaches to denotes an individual (3) or a substance (4) (see Davis and Matthewson 1999 for the same generalization in Lillooet Salish):<sup>2</sup>

- (3) a.      tsel   kw'êts-lexw   ye      theqtheqát  
                  1sg.s see-trans      det.pl    tree.pl  
                  'I have seen trees.'
- b.      tsel   kw'êts-lexw   te      swóweles  
                  1sg.s see-trans      det    boy.pl  
                  'I have seen boys.'

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<sup>1</sup> Halkomelem is a Central Coast Salish language, spoken around the Vancouver area in B.C. There are three dialects: Upriver, Downriver and Island Halkomelem. The data presented in this paper are from the Upriver dialect and appear in the official orthography of the language. I would like to thank the elders Dr. Elizabeth Herrling and the late Rosaleen George for teaching me about their language. Research on this paper was supported by a SSHRC grant (410-2002-1078) awarded to the author.

<sup>2</sup> Plural marking is associated with a number of allomorphs: reduplication (i), -l- infixation (ii), or vowel change (iii):

- |    |              |                 |     |             |              |      |            |            |
|----|--------------|-----------------|-----|-------------|--------------|------|------------|------------|
| i) | méle         | mámele          | ii) | q'ámi       | q'álemi      | iii) | swíweles   | swóweles   |
|    | <i>child</i> | <i>children</i> |     | <i>girl</i> | <i>girls</i> |      | <i>boy</i> | <i>boy</i> |

Galloway 1980: 14; 1993: 379f.

As far as I was able to determine, all three allomorphs behave identical with respect to the properties discussed in this paper and therefore I will not discuss them here. Extensive discussion of the properties of these allomorphs can be found in Galloway 1980, 1993; Hukari 1978, Suttles 2004, Urbanczyk 2004, among others.

- (4)
- a.   tsel   kw'êts-l-exw   te   th'exth'éxet  
       1sg.s see-trans-3o   det   gravel.pl  
       'I saw a lot of gravel.'
- b.   tsel   kw'êts-l-exw   te   syiqyíq  
       1sg.s see-trans-3o   det   snow.pl  
       'I've seen a lot of snow.'
- c.   tsel   kw'êts-l-exw   te   spepíw  
       1sg.s see-trans-3o   det   ice.pl  
       'I've seen a lot of ice.'
- d.   tsel   kw'êts-lexw   te   shweláthetel  
       1sg.s see-trans-3o   det   fog.pl  
       'I've seen a lot of fog.'
- e.   qex   te   spelháls li kw   lhqálets  
       Q   det   wind.pl P   det   Vancouver  
       'There is a lot of wind in Vancouver.'

The purpose of this paper is to provide answers to the following two questions which we are faced with in light of the data in (1)-(4).

- i) Why does plural marking in Halkomelem not distinguish between nouns denoting individuals and nouns denoting substance (i.e. count and mass nouns)?
- ii) What is the source of the cross-linguistic difference between English and Halkomelem?

In a nutshell, I will argue, that the count/mass distinction is not grammaticized in Halkomelem whereas it is in English. Consequently, Halkomelem does not show any of the grammatical effects associated with the count/mass distinction in English. This proposal and its consequences are discussed in section 2.

In section 3, I will develop a formal (structural) account that captures this insight using the framework of principles and parameters theory in its minimalist version. In particular, I will argue that Halkomelem lacks the functional category which is responsible for the count/mass distinction of Nouns in English (i.e. Num(ber)P). I will show that several further (seemingly unrelated) differences between Halkomelem and English fall out from this proposal. Thus, I argue that the Halkomelem pattern provides indirect evidence for the assumption that the count/mass distinction is structurally (and not lexically) conditioned.

In section 4, I take on the question as to why Halkomelem lacks such a category. In particular I will argue against the view that nouns without plural markers or classifiers cannot be counted (Borer 2004). Rather, I argue that the obligatoriness of plural marking or classifiers in languages like English or Chinese, respectively is a function of the presence of NumP and not a function of the denotation of the nominal root. I will contrast two potential analyses: i) roots are underspecified or ii) all roots are count nouns (cf. Davis and Matthewson 1999). Based on empirical evidence I will argue for the first option (in terms of underspecified roots). This discussion will shed some light on the issue of cross-linguistic variation in the denotation of nouns – a topic of much discussion in the recent literature (Chierchia 1998 and subsequent research).

## 2 Some notes on the nature of grammaticized categories

### 2.1 The count/mass distinction is grammaticized in English

The distinction between count and mass nouns in English is usually used as evidence for the existence of two *subcategories* in the nominal domain. That is, categories are defined by means of their syntactic and morphological distribution. For example, in English nouns follow definite and indefinite determiners, demonstratives, numerals and quantifiers and they take plural inflection:

- (5) a. the/a/this/that/one/every/each/no/ tree
- b. these/those/two/several/some/many/no/all tree-s

However, a subset of nouns (usually but not always denoting a substance rather than an individual) does not share quite the same range of distribution: they do not usually follow definite and indefinite determiners, numerals and combine with a different set of quantifiers

- (6) a. ?the/\*a/this/that/\*one/\*every/no wood
- b. \*these/\*those/\*two/\*several/\*some/\*many woods
- c. some/no/all/much/little wood

The difference in distribution leads one to postulate two *subcategories of nouns*: i) count nouns (5) and ii) mass nouns in (6) (see Gillon 1992 for extensive discussion). The division of nouns into two subcategories in English is supported by another distributional difference. Only

mass nouns, but not singular count nouns can be used without a determiner. In other words, English allows for bare mass nouns and bare plurals but not for bare singulars:

- (7)    a.     I saw wood.  
      b.     I saw trees.  
      c.     \*I saw tree.

Evidence that the count/mass distinction is indeed a matter of morpho-syntactic subcategorization as opposed to being semantic in nature is as follows. If it was purely a matter of lexico-semantic properties, one could argue that nouns differ as to whether they denote individuals (this could correspond to the class of count nouns) or substance which is not individuated (this could correspond to the class of mass nouns). Crucially, this semantic account cannot explain that there are certain (language-specific) mismatches between the semantic and the morpho-syntactic categorization. These ‘mismatches’ are often referred to as ‘object mass nouns’ because they denote individuated objects (as opposed to unindividuated substance). Nevertheless, these nouns behave like mass nouns in terms of their distribution:

- (8)    much furniture/clothing/fruit/silverware/mail/jewelry

Crucially, the grammatical categorization seems to be subject to (arbitrary) cross-linguistic variation in that different languages categorize equivalent words in different ways as illustrated in (9):

- (9) a. much furniture → mass N in English  
b. les meubles → count N in French

I take the existence of such mismatches between morpho-syntactically and semantically defined categories as the crucial motivation for the existence of a morpho-syntactic (i.e. grammatical) category. A crucial consequence of the existence of a grammatical category in a given language is that such categorization is forced upon the entire class of nouns. That is the decision as to whether a given noun is count or mass must be made for all nouns.

Before we proceed to Halkomelem which I argue lacks the count/mass distinction, let me briefly turn to a grammatical category English lacks, namely gender. Languages with grammatical gender usually possess nouns which display a mismatch between natural gender and grammatical gender:

- (10) a. das Mäd-chen → neuter female N  
the.neut girl-dim  
,the girl'  
b. das Männ-chen → neuter male N  
the.neut man-dim  
,the little man'  
c. der Mond → masculine neutral N  
the.mascmoon  
'the moon'



And again, the grammatical categorization seems to be subject to (arbitrary) cross-linguistic variation in that different languages categorize equivalent words in different ways as illustrated in (11):

- (11) a. i. die Sonne → feminine in German  
the.fem sun  
ii. il sole → masculine in Italian  
the.masc sun  
'the sun'
- b. i. der Mond → *masculine in German*  
the.masc moon  
ii. la luna → *feminine in Italian*  
'the moon'

In the realm of gender it is generally acknowledged that languages differ as to whether or not they possess grammatical gender. English is a language which does not have grammatical gender but nevertheless it has natural gender (that is we can talk about males and females, but this is purely a property of the ontology, not the grammar). As a consequence, there are no mismatches of the type found in German and gender is not expressed anywhere obligatorily.

An important lesson we learn from the gender example is that languages can differ in the inventory of the grammatical categories they use. Consequently, if the count/mass distinction is indeed an instance of a grammatical category, then we might expect languages to differ as to whether the count/mass distinction is grammaticized. And of course we would expect a number

of properties to follow from this difference. This is precisely what I propose for Halkomelem to which I turn in the next subsection.

## **2.2 The count/mass distinction is not grammaticized in Halkomelem.**

I propose that the difference between Halkomelem and English introduced in section 1 is best analyzed as a difference in grammatical category: whereas English has a grammaticized mass-count distinction, Halkomelem does not. Of course, just like it is the case that English speakers can talk about male and female individuals (i.e. it has a distinction for natural gender) we are not denying that we can talk about substance vs. individuals in Halkomelem. However, as with natural gender, the decision as to whether a noun is categorized as count or mass is not forced by the grammar. In fact, nouns are not subcategorized as such at all.<sup>3</sup> This of course predicts that all nouns share the same morpho-syntactic distribution. If so, we immediately understand the data mentioned in section 1: plural marking can equally target nouns which denote individuals as well as nouns which denote substance. From now on I will use the terms “substance” vs. “individual” for the ontological properties and reserve the terms “mass” vs. “count” for the grammaticized category distinction of nouns. In other words, substance vs. individual is to mass vs. count what natural gender is to grammatical gender.

Given this proposal, we predict that no determiner or quantifier is sensitive to the count/mass distinction. To the best of my knowledge, this prediction is borne out. The quantifier

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<sup>3</sup> A subcategory that one does need to recognize in Halkomelem is that between common nouns and proper names. The latter but not the former can be preceded by the determiner *tl'* which is itself restricted to “ergative”, possessive and oblique arguments.

*qex* (many/much) can be used with nouns denoting substance (12) as well as with Nouns denoting individuals (13).

- (12) a.   tsel      kw'éts-lexw    qex (te) syíts'em<sup>4</sup>  
          1sg.s    see-trans      Q    det    sand  
          'I saw lots of sand.'
- b.   tsel    kw'éts-lexw    qex (te) siyólh  
          1sg.s see-trans      Q    det    wood  
          'I saw lots of wood.'
- c.   tsel    kw'étslexw    qex (te) qó/qoqo  
          1sg.s see-trans-3o    Q    det    water/water.pl  
          'I have seen lots of water.'
- d.   el          stl'í    kw      qex (te)      mélk/memelk  
          1sg.poss want    det      Q      det      milk/milk.pl  
          'I want lots of milk.'
- (13) a.   tsel    kw'éts-lexw    qex (te) theqá/theqtheqát  
          1sg.s see-trans      Q    det    tree.pl  
          'I saw lots of trees.'

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<sup>4</sup> The optionality of the determiner (*te*) is independent of the 'mass-count' distinction. Furthermore, in all cases the determiner can also appear preceding the quantifier:

- i) tsel    kw'ets-lexw    te      qex    syítsem  
      1sg.s    see-trans      det    Q      sand  
      'I saw lots of sand'

- b.      tsel   kw'êts-lexw   qex   (te)   sth'ím/sth'eth'ím  
          1sg.s see-trans      Q      (det)      berry  
          'I saw lots of berries.'
- c.      tsel   kw'êts-lexw   qex   (te)   swíweles/swóweles  
          1sg.s see-trans      Q      (det)      boy/boy.pl  
          'I saw lots of boys.'

Similarly, the quantifier *mekw'* ('all') can also be used with nouns denoting substance (14) as well as with nouns denoting individuals (15).

- (14) a.      tsel   kw'êts-lexw   mekw'   (te)   siyíts'em  
          1sg.s see-trans      Q      det      sand  
          'I seen all the sand.'
- b.      tsel   kw'êts-lexw   mekw'   (te)   sqélep  
          1sg.s see-trans      Q      det      dirt  
          'I seen all the dirt.'
- c.      tsel   kw'ets-lexw   mekw'   (te)   siyólh  
          1sg.s see-trans      Q      det      wood  
          'I seen all the wood.'
- (15) a.      tsel   kw'êts-lexw   mekw   (te/ye)   theqát/theqtheqát  
          1sg.s see-trans      Q      det.pl      tree/tree.pl  
          'I seen all the trees.'

- b.      tsel   kw'êts-lexw   mekw' (te/ye)   sth'eth'ím  
           1sg.s see-trans      Q      det/det.pl   berry.pl  
           'I seen all the berries.'
- c.      tsel   kw'ets-lexw   mekw' (te/ye)   swíweles/swóweles  
           1sg.s see-trans      Q      det/det.pl   boy/boy.pl  
           'I saw lots of boys.'

Finally, both types of Nouns can co-occur with the negative predicate '*ewete*' in combination with the hypothetical determiner *kw*:

- (16) a.      ewéte   í-l              kw'êts-lexw   kw      syíts'em/siyíts'em  
           neg      aux-1sg.ss   see              det.hyp   sand/sand.pl  
           'I didn't see no sand'
- b.      ewéte-el      í      kw'êts-lexw   kw      sqélep  
           neg-1sg.ss      aux   see-trans      det.hyp   dirt  
           'I seen no dirt.'
- c.      ewéte   í-l              kw'êts-lexw   kw      siyólh  
           neg      aux-1sg.ss      see-trans      det.hyp   wood  
           'I never seen any wood.'
- (17) a.      ewéte   í-l              kw'êts-lexw   kw      theqát/theqtheqát  
           neg      aux-1sg.ss   see-trans      det.hyp   tree/tree.pl  
           'I didn't see no trees.'

- b.      éwe tsel      lí-l              kw' éts-lexw kw      sth' ím/sth'eth'ím  
              neg 1sg.s    aux-1sg.ss    see-trans      det.hyp berry/berry.pl  
              'I never seen any berries.'
- c.      éwe tsel      lí-l              kw' éts-lexw kw      swíweles/swóweles  
              neg 1sg.s    aux-1sg.ss    see-trans      det.hyp boy/boy.pl  
              'I never seen any boys.'

Finally, it is also possible to combine numerals with both types of Nouns:<sup>5</sup>

- (18) a.      tsel      kw' éts-l-exw    isále siyítsem  
              1sg.s    see-trans-3o    two    sand.pl  
              'I seen two pieces of/kinds of sand.'
- b.      tsel    kwé'ts-l-exw    isále siyólh  
              1sg.s see-trans-3o    two    wood  
              'I saw two pieces of wood.'
- (19) a.      tsel      kw' éts-l-exw    isále sth'ím/sth'eth'ím  
              1sg.s    see-trans-3o    two    berry/berry.pl  
              'I seen two berries.'
- b.      tsel    kw' éts-l-exw    isále theqát/theqtheqát

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<sup>5</sup> Some Nouns denoting substance were rejected in the context of a numeral. I assume that this has to do with ontological implausibility (just like it is weird to say *male woman* in English) rather than with ungrammaticality in the strict sense.

1sg.s see-trans-3o two tree/tree.pl

‘I seen two trees.’

In sum, to the best of my knowledge there is no determiner or quantifier that distinguishes between two subcategories of nouns akin to mass- and count Nouns in English. This is of course expected if the count/mass distinction is not grammaticized in Halkomelem.

Another way in which the count/mass distinction plays out in English is the possibility for bare mass nouns and bare plurals. Again, Halkomelem differs in this respect: in argument position all nouns must be preceded by a determiner, no matter whether they denote substance or individuals and no matter whether they appear in their unmarked or in the plural form (see Matthewson 1998).

(20) a. í:mex \*(te) swíyeqe

walking det man

‘The man is walking.’

b. \*tsel kw’êts-lexw \*(te/ye) sí:wí:qe

1sg.s see-trans-3o det/det.pl man.pl

‘I saw men.’

(21) a. tsel kw’êts-lexw (\*te) syíts’em

1sg.s see-trans det sand

‘I seen sand.’

b. tsel kw’êts-lexw (\*te) sqélep

1sg.s see-trans      det    dirt

‘I seen dirt.’

c.      tsel   kw’êts-lexw   (\*te) siyólh

1sg.s see-trans      det    wood

‘I seen wood.’

Finally, given that there is no grammaticized count/mass distinction it follows that there will not be any mismatches between an ontological category (denoting substance) and a grammatical category (mass). To the best of my knowledge this is indeed the case in Halkomelem.

## **2.3      Summary and remaining questions**

In this section we have started to answer the questions posited in section 1, repeated below for convenience:

- i) Why does plural marking in Halkomelem not distinguish between count and mass nouns.
- ii) What is the source of the cross-linguistic difference between English and Halkomelem.

I have argued that Halkomelem differs from English in that it does not grammaticize the count/mass distinction. Note that this claim does not imply that a Halkomelem speaker does not know whether a given noun denotes a substance or an individual. To the contrary, in Halkomelem the distinction is purely ontologically defined whereas in English we find certain



mismatches between the ontological and the grammatical category. The differences between the two languages which fall out from this claim are summarized below:

	English	Halkomelem
plural marking distinguishes mass vs. count	yes	no
certain determiner/quantifiers distinguish mass vs. Count	yes	no
mismatches between ontological and grammatical category	yes	no

Table 1: differences between English and Halkomelem

The question I would like to take on in the remainder of this paper concerns the source of this difference. In other words, even though from a descriptive point of view we have an understanding of the claim that a certain category is grammaticized or not, it is not immediately clear as to how to implement this in formal theory of grammar, such as the principles and parameters framework and its minimalist versions (Chomsky 1995) adopted in this paper. In what follows I will develop a formal account for this distinction which will allow us to derive various other seemingly unrelated empirical properties of Halkomelem from a single source. In addition, the properties of Halkomelem will help us shed light on a debate about the nature of the count/mass distinction that is found in the current literature.

### **3 A formal implementation and its consequences**

#### **3.1 The structural source of the count/mass distinction**

In the current literature dealing with the count/mass distinction, we find a variety of approaches regarding the source of this distinction – the main question evolving around whether or not the distinction is lexical or syntactic. In this paper, I will adopt the view that in languages with a grammaticized count/mass distinction, it is syntactically derived (see Allan 1980, Bosweld de Smelt 1997, Muromatsu 1998 among others for different versions of this idea). I will further assume in line with many recent proposals that "countability" can be derived in at least one of two ways: by means of classifiers or by means of plural marking. In other words I will assume that classifiers and plural marking serve the same function (Cheng and Sybesma 1999, Doetjes 1996, 1997, Peyraube 1998, Tang 1990, Wiese 2000) and can therefore be analyzed as occupying the head of the very same functional projection (Borer 2004), call it NumP as in (22):

- (22) a. [DP D [NumP **[plural]** Num [NP N]]] → English count N  
 b. [DP D [NumP **[Number]** Num [NP N]]] → Chinese count N

I will further assume that the mass interpretation derives from N to Num movement as in (23)

- (23) [DP D [NumP [Num **N**] [NP ~~N~~]]] → mass N

This approach captures the observation that there is a tendency for languages without grammatical number to have classifiers – in other words that grammatical number is in complementary distribution with grammatical classifiers (Cheng and Sybesma 1999, Greenberg 1966, 1974, Ikoru 1994, Sanches and Slobin 1973). This approach implies that the

grammaticization of the count/mass distinction depends on the presence of the functional category Num, which is responsible for deriving countability.

We will now turn to the formal analysis of Halkomelem. I propose that the absence of a grammaticized count/mass distinction derives from the absence of the functional category Num as in (24) (see Wiltschko 2004, to appear-a for exactly this claim based on the properties of plural marking in Halkomelem):

(24) [DP D [NP N]]

The remainder of this section is organized as follows. First I will show how the properties discussed in section 2 are to be analyzed structurally and then I will introduce several other predictions which fall out from the analysis.

### 3.2 Deriving the differences between Halkomelem and English

The first empirical difference between English and Halkomelem we have discussed above concerns plural marking: only in English, but not in Halkomelem plural marking distinguishes between mass and count nouns. This immediately follows from the postulated structural difference: Only English but not Halkomelem has a functional category Num which hosts number marking:

(25) a. [DP D [NumP **[plural]**Num [NP N]]] → English  
b. [DP D [NP N]] → Halkomelem

Of course this raises the question as to how to analyze the Halkomelem plural marker. Here I will simply adopt the claim that the plural marker in Halkomelem is best analyzed as a modifier adjoined to roots (see Wiltschko to appear-b for arguments).

Next, we have seen that only in English but not in Halkomelem certain quantifiers distinguish between mass and count nouns. Again, this follows straightforwardly from the present analysis in the following way. In English, Num can be occupied by either the plural marker (yielding a plural interpretation), the  $\emptyset$  singular marker (yielding a singular interpretation) as well as by the noun (via movement) yielding a mass interpretation. The head which selects Num, i.e. D (or Q) can be sensitive to the content of Num. In other words, Num can select for a specific instantiation of Num (just like certain complementizers can select for the content of T in English). Thus, the co-occurrence restrictions between determiner/quantifiers and different kinds of nouns can be analyzed as a matter of selection.

(26)  $[_{DP} D [_{NumP} [\text{plural/singular/"mass"}] [_{NP} N]]]$

In Halkomelem, which lacks Num, no such selectional restriction can be established since the difference between singular, plural, and mass nouns is not encoded in a functional head. Thus all determiners and quantifiers can co-occur with unmarked or plural marked nouns independent as to whether they denote a substance or individuals.

Finally, we have seen that in English we find mismatches between ontological and grammatical categories. That is certain nouns denote individuated objects but nevertheless pattern as mass nouns. This follows from the assumption the grammaticized count/mass

distinction is a matter of structure not of meaning. I will assume that such mismatches are idiomatically stored as obligatorily moving to Num. This is similar in spirit to Marantz 1997 claim that the obligatory nounhood of nouns (like *cat*) is idiomatic. No such mismatches can ever arise in Halkomelem due to the lack of Num.

### 3.3 Further predictions of the absence of NumP

In addition to deriving the properties introduced in section 2, the structural analysis for the count/mass distinction and the absence thereof in Halkomelem predicts a number of seemingly unrelated properties to which I will turn now.

#### 3.3.1 No obligatory classifiers

Above, I have argued that plural marking does not instantiate Num in Halkomelem. This in itself would not necessarily lead us to the conclusion that there is no Num. That is, Halkomelem could be a classifier language of the Chinese-type which obligatorily requires classifiers for counting:

- (27) a.    denwa     ni     dai  
          telephone two  cl  
          ‘two telephones’
- b.    denwa     ni     hon  
          telephone two  cl  
          ‘two telephone calls’

Borer 2004: (3)

This approach receives initial support from the fact that Halkomelem does in fact appear to have an elaborate system of classifiers. There are a number of so called lexical suffixes (i.e. bound morphemes with lexical meaning) which are used for counting different kinds of things. Below is a list of some of these classifiers (see Galloway 1993, Gerdtz and Hinkson 1996, Gerdtz 1999, Gerdtz et al. 2002, Gerdtz 2003, Suttles 2004 for extensive discussion):

(28) *Halkomelem classifiers*

- |    |         |  |
|----|---------|--|
| a. | -ále    | counting people  |
| b. | -íws    | counting birds   |
| c. | -íqw    | counting fish  |
| d. | -álhp   | counting trees (belonging to one person)               |
| e. | -òls    | counting fruit in a cluster                            |
| f. | -ó:llh  | counting young (in a litter)                           |
| g. | - ówelh | counting canoes (belonging to one person)              |
| h. | -ówes   | counting canoe paddles (in a single canoe)             |
| i. | -á:wtxw | counting houses (or buildings) of one person           |
| j. | -eqel   | counting containers                                    |
| k. | -ámeth' | counting poles (tied together), sticks, ropes, threads |
| l. | -élwet  | for counting garments                                  |
| m. | -áyiws  | for counting pants                                     |
| n. | -mó:t   | for counting kinds or parts of things                  |
| o. | -álh    | for counting times                                     |

However, what distinguishes the Halkomelem lexical suffixes from the Chinese classifiers is their optionality. That is, in the context of counting, classifiers can but need not to be used:

- (29) a.   tsel      kw'éts-lexw    isále    sth'im  
          1sg.s    see-trans      two    berry/berry.pl  
          'I seen two berries.'
- b.   tsel    kw'éts-lexw    isále    theqát  
          1sg.s see-trans    two    tree  
          'I seen two trees.'

This optionality is consistent with the present proposal according to which there is no functional category Num in Halkomelem. As a consequence, the syntax of Halkomelem “classifiers” is predicted to be different from the syntax of Chinese classifiers, which do instantiate Num and are therefore obligatory (Cheng and Sybesma 1999, Tang 1990).

### **3.3.2 Classifiers and plural markers are not in complementary distribution**

A related prediction to the one discussed above has to do with the co-occurrence restriction on classifiers and plural markers in languages with Num. For example, in Armenian classifiers and plural markers can never co-occur:

- (30) a. yergu hovanoc uni-m  
two umbrella have-1s  
'I have 2 umbrellas'
- b. yergu had hovanoc uni-m  
two cl umbrella have-1s  
'I have 2 umbrellas'
- c. yergu hovanoc-ner uni-m  
two umbrella-pl have-1s  
'I have 2 umbrellas'
- d. \*yergu had hovanoc-ner uni-m  
two cl umbrella-pl have-1s  
'I have 2 umbrellas' Borer 2004 (39)

The Armenian pattern follows from the assumption that both, plural markers and classifiers occupy the same position and as such are expected to be in complementary distribution. Again, the situation is different in Halkomelem which does not have the functional category Num. Here the plural marker which is modificational can co-occur with lexical suffixes:<sup>6</sup>

- (31) a. tsel kw'êts-l-exw lhwxále siyó:lexwe

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<sup>6</sup> Aikhenvald 2003 identifies a number of languages where classifiers and plural markers are not in complementary distribution, including Yik, Nootka, tlingit, Tucano, North Arawak, and South Dravidian. If the present analysis is on the right track, we predict that these languages either do not have Num as a grammatical category or else that either the plural marker or the classifier does not occupy Num.



1s.sg.s see-trans-3o three-cl old.people.pl

‘I saw three old people.’

b. iwólem lhq’áts-ále swóweles

play five-cl boy.pl

‘Five boys were playing.’

c. tsel kw’étslexw yéysele shelháli

1sg.s see-trans-3o two-cl woman.pl

‘I saw two women.’

### 3.3.3 No indefinite determiner in Halkomelem

A final prediction of the present analysis has to do with the syntax of singular indefinite determiners. It has been argued that the indefinite article in English is best analyzed as a singularizer occupying Num (Borer 2004, Davis and Matthewson 1999).

(32) [DP D [NumP [Num a] [NP tree]]]

This immediately accounts for the fact that the indefinite article in English is obligatory even in predicative contexts (33a), i.e., it does not serve the same function as a determiner which turns a predicate into an argument; see Longobardi 1994 among others. Consequently, it is not compatible with mass nouns because mass nouns must move to Num and are thus in complementary distribution with any other material occupying Num (33)b. Furthermore, the

indefinite determiner is restricted to singular nouns since plural marking occupies Num as well and is therefore in complementary distribution with the indefinite determiner.

- (33) a. Konrad is **\*(a)** boy.  
 b. Konrad drank **\*(a)** water.  
 c. Konrad saw **\*(a)** trees.

The situation is very different in Halkomelem. Given that there is no functional category Num, we expect there to be no indefinite determiner of the kind found in English. This is indeed what we find (see for example Matthewson 1998 for extensive discussion). The absence of indefinite determiners can most easily be seen on the basis of the fact that in predicative position, no determiner can precede a N.

- (34) a. (\*kw'/te) swíyeqe te í:mex  
           det           man       det   walking  
           'It is a man that is walking'  
 b. tsel (\*kw'/te) slhálì  
      1sg.s det       woman  
      'I am a women.'

Furthermore, as already noted, there is no determiner which is prohibited to co-occur with nouns denoting substance or nouns marked for plural.

### 3.4 Summary

In this section, I have developed a formal (structural) account for the lack of a grammaticized count/mass distinction in Halkomelem. In particular, I have argued that English, but not Halkomelem has a structural position associated with “countability”, namely NumP:

- (35)    a.     $[_{DP} D [_{NumP} \textbf{[plural]}_{Num} [_{NP} N]]]$      $\rightarrow$  English  
         b.     $[_{DP} D \quad \quad \quad [_{NP} N]]]$      $\rightarrow$  Halkomelem

With this account we were able to derive the properties discussed in section 2 as well as several further differences between the two languages. So far we have identified the following properties of Halkomelem which set it apart from languages with NumI.

(36)    *Properties of Halkomelem that follow from the absence of Num*

- a.    plural marking does not distinguish between mass and count nouns
- b.    no determiner/quantifier distinguishes between mass vs. count nouns
- c.    there are no mismatches between ontological and grammatical category
- d.    there are no obligatory classifiers
- e.    classifiers and plural marking are not in complementary distribution
- f.    there is no indefinite determiner of the type found in English

The question we still need to address concerns the implications of this generalization for the cross-linguistic behavior of nominal roots.

#### 4      **The interpretation of nominal roots**

In much of the literature which assumes a single functional category hosting classifiers and plural marking it is explicitly assumed that nominal roots denote undivided “stuff” (see for example Borer 2004). If undivided stuff is not individuated (i.e. classified, pluralized or singularized) the default interpretation is a mass interpretation. However, it is assumed that in order to *count* nouns they first have to be divided, a function fulfilled by Num. If we were to adopt this hypothesis then Halkomelem presents an interesting problem given that it lacks the category Num. In particular, since Halkomelem nouns can be counted without classifiers or plural marking one might be lead to the conclusion that Halkomelem nouns are inherently (i.e., lexically) count nouns. Such an analysis has been proposed for St’at’imcets by Davis and Matthewson 1999. In particular, they argue that all nouns in St’at’imcets denote (characteristic functions of) sets of (concrete) individuals. If correct, this analysis would support the view of Chierchia 1998 who argues that languages differ with respect to the denotation of nouns. In other words, this view would support the notion of a semantic parameter.

However, in this section I will show on empirical grounds that there are problems with such an analysis. Rather I will argue for an alternative, which makes such a semantic parameter obsolete. Suppose that nouns are never inherently (lexically) specified for either mass or count. It will still be the case that they can denote substances or individuals but this is a lexico-semantic property and not a grammatical property. Given that Num is missing in Halkomelem it follows that it is NOT a universal property that the denotation of nouns is not countable without being divided first. If so, we could argue that it is never a property of nouns that they cannot be

counted without being divided. Rather, I will assume that lexical entries (listemes) do not have **any** grammatical properties (Marantz 1997). Any apparent grammatical information is structural in nature. Inherent mass nouns (mismatches) are idiomatic, that is they are stored in the dictionary as obligatorily moving to Num. If this is on the right track it follows that it is not a property of the lexical category noun that it has to be divided to be counted. Rather it is a property of the functional architecture of languages like English and Chinese that they have an obligatory Num head which must be filled. This accounts for the appearance that nouns have to be divided before they can be counted. In Halkomelem, where the structure is missing, there is nothing that must be obligatorily filled (neither by plural marking nor classifiers). Consequently, there is no grammaticized count/mass distinction. This view implies that the existence of grammatical subcategories implies the existence of syntactic structure (cf. also Wilhelm, to appear).

In what follows I will present evidence to the effect that the denotation of nouns is not inherently count but rather unmarked. The evidence I will discuss includes the following:

- i) Halkomelem nouns can denote unindividuated substance without a “massifier”
- ii) Halkomelem nouns can denote individuated substance without a classifier
- iii) Halkomelem nouns can denote kinds without a “kindifier”

#### **4.1 Mass interpretation is possible without a massifier**

In previous sections we have already seen evidence that Halkomelem does have nouns which denote (undivided) substance (i.e. what would be a mass N in English):

- (37) a.      tsel   kw'éts-l-exw   te   syít'sem  
                  1sg.s see-trans-3o   det   sand  
                  'I saw sand.'
- b.      tsel   kw'éts-l-ewx   te   sqélep  
                  1sg.s see-trans-3o   det   dirt  
                  'I seen some dirt.'
- c.      tsel   kw'éts-l-exw   te   siyólh  
                  1sg.s see-trans-3o   det   wood  
                  'I seen some wood.'

Suppose for the moment that it was indeed the case that all nouns in Halkomelem denote (characteristic functions of) sets of concrete individuals (i.e. count nouns). If that was the case, we would not expect nouns like (37) at all. Instead, one might expect special marking in order to achieve a “mass” interpretation. This is certainly the case in languages like English, where count nouns can co-occur with so-called massifier (a special kind of classifier). Such massifiers create different units for counting and can co-occur both with mass nouns as well as count nouns:

- (38) a.      a group of boys                      a group of people  
          b.      a bucket of ants                      a bucket of sand  
          c.      a pile of chairs                      a pile of furniture

Given the existence of massifiers, we might expect that Halkomelem constitutes the mirror image of Chinese. That is, for Chinese it has been argued that all nouns are mass (Chierchia 1998),

based on the fact that they need to be obligatorily classified in order to count them. Given the logic of this argument we would expect that Halkomelem nouns need to be obligatorily massified in order to denote undivided substance. This is clearly not the case as shown in (37) which has no sign of a massifier.

Note furthermore that it is not the case that Halkomelem does not have ways to express the meaning of a massifier. That is, we find full nouns used as container nouns which can combine with either nouns that denote substance or individuals:

- (39) a. tsel kw'éts-l-exw isále sqwówes siyíts'em  
 1sg.s see-trans-3o two bucket sand  
 'I seen two buckets of sand.'
- b. tsel kw'éts-l-exw isále sqwówes sth'im/sthíthem  
 1sg.s see-trans-3o two bucket berries  
 'I seen two buckets of berries.'

Furthermore, we also find lexical suffixes which function as container phrases:

- (40) a. tsel kw'éts-l-exw isále-qel siyíts'em  
 1sg.s see-trans-3o two-container sand.pl  
 'I seen two buckets of sand.'
- b. tsel kw'étslexw isále-qel sqélep  
 1sg.s see-trans-3o two-container dirt  
 'I've seen two buckets of dirt.'

For completeness note that full container nouns can also co-occur with the corresponding lexical suffix:

- (41)   tsel   kw'éts-l-exw   isále-qel       sqwówes   sqélep  
          1sg.s   see-trans       two-container bucket   dirt  
          'I've seen two buckets of dirt.'

This suggests that container nouns in Halkomelem are not associated with a unique functional head.

The fact that Halkomelem allows for a mass interpretation without an obligatory massifier is unexpected if all nouns in Halkomelem were count nouns. Rather the above data supports the present claim according to which nouns in Halkomelem are underspecified for the count/mass distinction. Lexico-semantic features determine whether they denote a substance or individuals and a grammaticized count/mass distinction plays no role in the language.

## **4.2   Grains are just small amounts**

Another difference between languages like English (with a grammaticized count/mass distinction) and Halkomelem (which lacks this distinction) has to do with the set of classifiers which name the unit of natural occurrence of the substance the noun denotes. For example, in English *sand* and *water* are mass nouns:



- (42) a. I didn't see (much) water.<sup>7</sup>  
b. I didn't see (much) sand.

However, there are classifying (full) nouns which can turn a phrase containing these nouns into countable units by naming the natural occurrence of these substances:

- (43) a. I didn't see (many) **drops** of water.  
b. I didn't see (many) **grains** of sand.

The grammatical necessity for such classifiers to turn mass nouns into count nouns follows from the fact that the count/mass distinction is grammaticized in English.

The situation is again different in Halkomelem. I haven't been able to find any classifiers of the above type (*drop/grain*). As far as I can see there are two strategies available. First, there is a special word meaning 'drop of water' which is not at all related to the word for water:

- (44) a. th'q'ém/th'eq'ém  
        'drop of water'  
b. qo  
        'water'

---

<sup>7</sup> Note that the mass quantifier *much* behaves somewhat like a polarity item, i.e., it cannot be used in affirmative environments:

- i) \*I saw much water.  
ii) \*I saw much sand.

The second (productive) strategy involves modifiers meaning ‘small/little’. That is, when we talk about ‘small/little’ sand in Halkomelem it seems to be the case that individual grains satisfy the requirement of being small. In other words, grains are simply small amounts:

- (45) a. i’axwíl syíts’em  
           small sand  
           ‘grain of sand’
- b. tsel kw’êts-l-exw qex emémel syíts’em  
           1sg.s see-trans-3o Q small sand  
           ‘I saw many grains of sand.’
- c. tsel kw’êts-l-exw isále emémel syíts’em  
           1sg.s see-trans-3o two small sand  
           I saw two grains of sand

If the adjectives here are really just regular modifiers with the meaning of ‘small/little’ we expect a number of properties going along with this construction. First, we expect that it is not necessary to interpret ‘small sand’ as ‘grain of sand’. That is, any small amount of sand should satisfy the requirement imposed by the modifier. This is indeed the case as shown below:

- (46) tsel kw’êts-l-exw i’axwíl siyíts’em  
           1sg.s see-trans-3o small sand.pl  
           ‘I seen a little bit of sand.’

Note that this property provides evidence against the assumption that all nouns are count nouns in Halkomelem. Clearly, the mass interpretation is available.

Next, we predict that the modifier ‘small’ can also co-occur with nouns denoting substance that do not have a natural smallest unit of occurrence. This prediction is indeed borne out. For such nouns the modifier is best translated as either ‘piece of N’ or ‘little bit of N’:

- (47) a. I’axwíl siyólh  
piece of wood
- b. tsel kw’éts-l-exw (te) i’axwíl siyólh  
1sg.s see-trans-3o det small wood  
i) ‘I saw a piece of wood.’  
ii) ‘I saw a little bit of wood.’
- (48) a. tsel kw’éts-l-exw qex emémel siyólh  
1sg.s see-trans-3o Q small wood  
‘I saw many pieces of wood.’
- b. tsel kw’éts-l-exw isále emémel siyólh  
1sg.s see-trans-3o two small wood  
‘I saw two pieces of wood.’
- (49) a. tsel kw’éts-l-exw i’axwíl sqélep  
1sg.s see-trans-3o small dirt  
‘I seen a little bit of dirt.’

- b.     tsel   kw'étslexw   emémel sqélep  
           1sg.s see-trans-3o   small    dirt  
           'I seen a little bit of dirt.'

Finally, we predict that these modifiers are not restricted to nouns denoting substance. Rather, we also expect them to co-occur with nouns denoting individuals, in which case the most natural interpretation is for them to measure the size of the individual (just like *small* in English). Note that this seems to be independent of whether the nouns is marked for plural or not.

- (50) a.     tsel   kw'éts-l-exw   i'axwíl   sth'ím/sth'eth'ím  
           1sg.s see-trans-3o   small    berry/berry.pl  
           'I saw a small little berry/berries.'
- b.     tsel   kw'éts-l-exw   qex   emémel sth'ím/sth'eth'ím  
           1sg.s see-trans-3o   many small   berry/berry.pl  
           'I saw lots of small little berries.'
- c.     tsel   kw'éts-l-exw   isale   emémel sth'ím  
           1sg.s see-trans-3o   two   small   berry  
           'I saw two small berries.'
- (51) a.     tsel   kw'éts-l-exw (te)   i'axwíl    theqát/ theqtheqát  
           1sg.s see-trans-3o   (det) small    tree/tree.pl  
           'I saw a small little tree/small little trees.'
- b.     tsel   kw'éts-l-exw   qex   emémel theqát/theqtheqát

1sg.s see-trans-3o Q small tree/tree.pl

‘I saw lots of small little trees.’

c. tsel kw’êts-l-exw isále emémel theqát

1sg.s see-trans-3o two small tree/tree.pl

‘I saw two small trees.’

In this subsection we have seen further evidence that not all nouns denote (characteristic functions of) sets of (concrete) individuals. And furthermore the fact that the modifier meaning ‘small/little’ can equally combine with nouns denoting substance or individuals supporting the claim that there is no grammaticized count/mass distinction in Halkomelem.

#### 4.3 A kind interpretation is possible

Assuming that nouns in Halkomelem are unmarked (and not inherently count) we further predict that they can also denote kinds. (In fact, this might be the default interpretation of nouns cross-linguistically; see Carlson 1978.) That nouns can indeed refer to kinds without any special marking can be shown on the basis of the following data.

First, there is a modifier *letslótstel* which is used when talking about ‘different kinds of N’. Crucially, this modifier must pick out kinds and cannot pick out individuals. Note also, that this modifier combines both with nouns denoting substance (52) as well as nouns denoting ‘individuals’ (53):

(52) a. tsel kw’êts-l-exw te mekw’ letslótstel siyíts’em

1sg.s see-trans-3o det Q different.kind sand

i) 'I seen many different kinds of sand.'

ii) \*'I seen many different grains of sand'

b. tsel kw'éts-l-exw qex letslótstel siyólh

1sg.s see-trans-3o Q different.kind wood

i) 'I seen many different kinds of wood.'

ii) \*'I seen many different pieces of wood.'

(53) a. tsel kw'éts-l-exw qex letslótstel theqtheqát

1sg.s see-trans-3o Q different.kind wood.pl

i) 'I seen many different kinds of trees.'

ii) \*'I seen many different trees.'

b. tsel kw'é ts-l-exw qex letslótstel sth'ím/ sth'eth'ím

1sg.s see-trans-3o Q different.kind berry/berry.pl

i) 'I seen many different kinds of berries.'

ii) \*'I seen many different berries.'

Another piece of evidence for the unrestricted availability of the kind interpretation has to do with the interpretation of the lexical suffix *-mó:t*. This lexical suffix allows for a (sub)kind as well as a (sub)part interpretation for both nouns denoting substance (54) as well as nouns denoting individuals (55):

(54) a. tsel kw'éts-l-exw isále-mó:t siyí ts'em

1sg.s see-trans-3o two-part sand.pl

i) 'I seen two parts of sand.'

ii) 'I've seen two kinds of sand.'

b. tsel kw'éts-l-exw isále-mó:t sqélep

1sg.s see-trans-3o two-part sand.pl

i) 'I seen two parts of dirt.'

ii) 'I seen two kinds of dirt.'

c. tsel kw'éts-l-exw isále-mó:t siyólh

1sg.s see-trans-3o two-part sand.pl

i) 'I seen two parts of wood.'

ii) 'I seen two kinds of wood.'

(55) a. tsel kw'éts-l-exw isále-mó:t theqát

1sg.s see-trans-3o two-part tree

i) 'I seen two parts of trees.'

ii) 'I seen two kinds of trees.'

b. tsel kw'éts-l-exw isále-mó:t sth'ím

1sg.s see-trans-3o two-part berry

i) 'I seen two parts of berries.'

ii) 'I seen to kinds of berries.'

c. tsel kwél-lexw isale-mó:t sth'óqwi/sth'eth'qwoy

1sg.s catch-trans-3o two-part fish

'I caught 2 different kinds of fish.'

We have now provided evidence that the kind interpretation of nouns is available without any overt marking, that is there is no overt ‘kindifier’. This is consistent with our claim that the denotation of nouns in Halkomelem is unmarked.

## **5 Conclusion**

At the beginning of this paper we posited the two questions

- i) Why does plural marking in Halkomelem not distinguish between count and mass Nouns.
- ii) What is the source of the cross-linguistic difference between English and Halkomelem.

The answers we have provided in the course of this paper are as follows.

- i) Plural marking in Halkomelem does not distinguish between count and mass nouns because there is no count/mass distinction.
- ii) The source of this cross-linguistic difference between English and Halkomelem is the absence of the functional category Number. Following much recent research it is assumed that this category is responsible for hosting either number marking (in English-type languages) or classifiers (in Chinese-type languages).

The following properties of Halkomelem fall out from the absence of Num:

(56) *Properties of Halkomelem that follow from the absence of Num*



- a. plural marking does not distinguish between mass and count nouns
- b. no determiner/quantifier distinguishes between mass vs. count nouns
- c. there are no mismatches between ontological and grammatical category
- d. there are no obligatory classifiers
- e. classifiers and plural marking are not in complementary distribution
- f. there is no indefinite determiner of the type found in English
- g. classifiers do not distinguish between mass and count nouns

The data and analysis presented imply that the count/mass distinction is always a grammatical property but it is not universally instantiated. Nevertheless, it is probably universally the case that nouns can denote substance or individuals. But this is not a grammatical property but purely based on ontological distinctions.

Furthermore, the Halkomelem data suggest that it is not a property of nouns that they must be individuated in order to be counted. Rather I have proposed that if a language gives the impression that this is the case (like for example English or Chinese) it is a property of a grammatical (i.e., functional category): because English and Chinese have Number, it must be filled. Therefore, English nouns must be marked plural and Chinese nouns must be classified if they are counted.

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