The Emergence of Determiner Clisis in Upriver Halkomelem

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Determiners in Upriver Halkomelem (Coast Salish) cliticize onto the previous element in connected speech, resulting in a prosody/syntax mismatch. This study, utilizing two recorded narrative texts by two speakers of Upriver Halkomelem, investigates the motivation for this process. Syntactic and phonological analyses are entertained, and rejected in light of further data which illustrates that there is a wider context that involves cliticization.

Keywords: clitics, determiners, connected speech, narrative, prosody

1. Introduction

Upriver Halkomelem (Coast Salish) exhibits a process of cliticizing determiners onto the previous element (typically a verbal complex) in spontaneous or connected speech contexts. The forms in (1) and (2) are two prime examples that illustrate this phenomenon. All Halkomelem examples presented in this paper are textual in nature, from the 'Sasq'ets' narrative, as told by Yamalot (the late Rosaleen George; cf. George 2004, Yamalot 2004) and the 'Cottonwood' narrative, as told by Ts'ats'elexwot (the late Dr. Elizabeth Herrling; cf. the Elizabeth Herrling Collection, Stó:lô Nation Archives).[1]

(1) osu   thíy-t-es=**te**   **sil-áwtxw**   s-kwtáxw   te   lálem
     and.then   build-TR-3S=**DET**   **cloth-house**   NOM-let.inside   DET   house
     'So he built the tent inside the house'   (Cottonwood, line 11)

(2) "oh my"   éwe   i-s   olu   qel=**ye**   **sásqets**
                NEG   AUX-3SG.S   as?   bad=**DET.PL**   **sasquatch**
     "Oh my" The sasquatch is not as bad.'   (Sasq'ets, line 73)

Waveforms of the relevant portions of (1) and (2) are presented in Figures 1 and 2, respectively, and help to illustrate this point. Noteworthy is the slight pause in the waveform between the determiner and the following nominal.

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[1] The Upriver Halkomelem forms are presented in the official orthography used by the St'ó:lô Nation. The key to the orthography of Upriver Halkomelem is as follows a = æ or ɛ; ch = č, ch' = č', e (between palatals) = ɪ, e (between labials) = ʊ, e (elsewhere) = ə, lh = ɬ, o = a, ó, = o, xw = xʷ, x̲ = χ, y = y, sh = š, th = θ, th' = tθ', tl' = tɬ', ts = c, ts' = c', x = x or xʸ, x̲w = χʷ, ' = ʔ, ´ = high pitch stress, ` = mid pitch stress (see Galloway 1980 for discussion). Morpheme glosses and translations are as in the original narratives. What we are considering to be the fast-speech cliticization of elements will be indicated with a "=", even though the process may not hold categorically in the phonology/morphology. Original data are used with permission of the Stó:lô Nation and the Stó:lô Shxweli Halq'eméylem Language Program.

Figure 1: Waveform of *osu thíytes te siláwtxw*. Time (in sec.) is indicated along the abscissa.

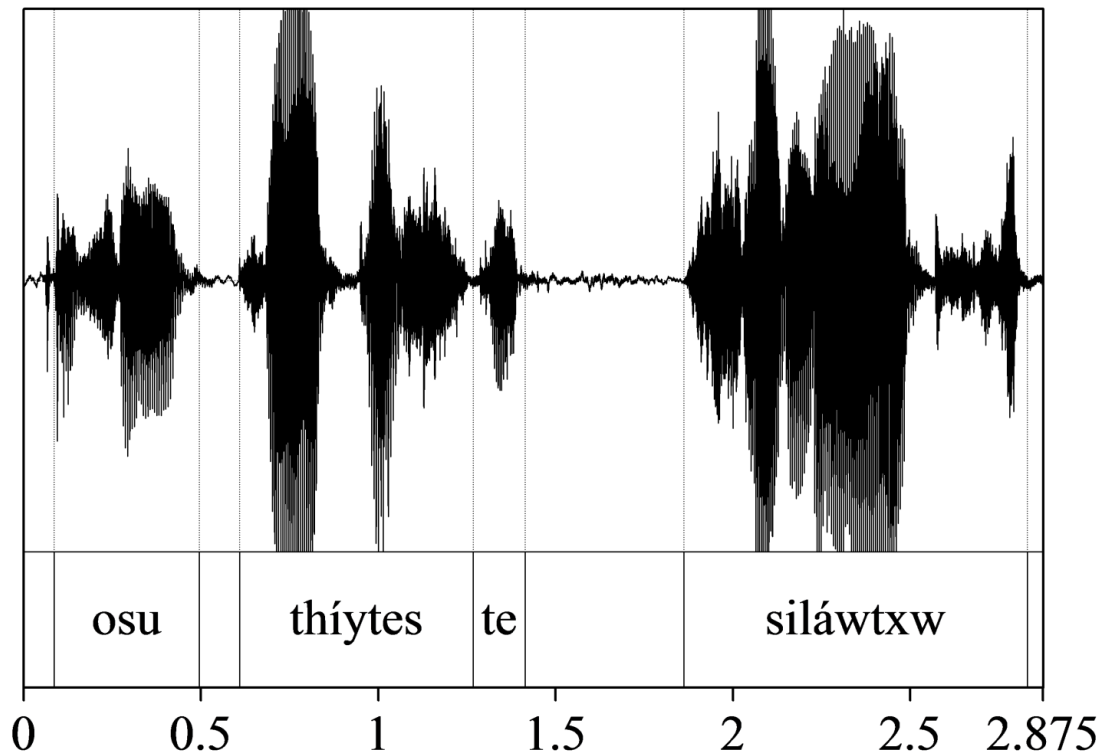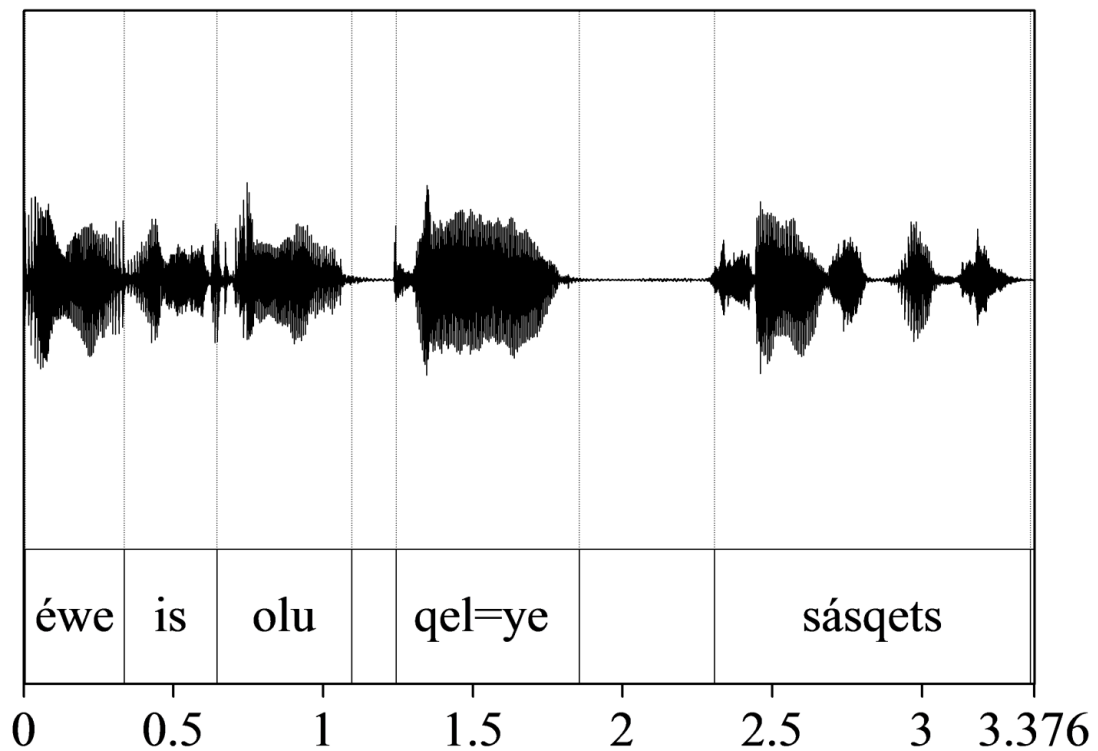| osu | thíytes | te | siláwtxw |

0   0.5   1   1.5   2   2.5   2.875

Figure 2: Waveform of *éwe is olu qel ye sásqets*. Time (in sec.) is indicated along the abscissa.

| éwe | is | olu | qel=ye | sásqets |

0   0.5   1   1.5   2   2.5   3   3.376

What results is a mismatch between prosody and syntax, given that the syntactic elements that form a constituent (determiner and noun phrase) are prosodically separated. While such a phenomenon is attested in certain other languages of the Pacific Northwest, such as Kwakw'ala (cf. Anderson 1985, 1992, 2005), the process is restricted in Upriver Halkomelem to connected-speech contexts, and displays a great deal of variability.

This study consists of an analysis of two narrative texts told by two speakers of Upriver Halkomelem. The goal of this paper is to explore possible accounts of the development of determiner clisis which assume a strictly syntactic or strictly phonological motivation. It will be shown that both of these analyses are inadequate in accounting for the data.

§2 gives a brief overview of determiners in Upriver Halkomelem, while §3 documents the behavior of determiners in narrative texts. In §4 two alternative analyses of clisis in Upriver Halkomelem are outlined and discussed: a syntactic account and a phonological account, and problems with both of these accounts are explained. In light of this, §5 explores a larger context that determiner clisis may fit into, and §6 concludes.

2. Upriver Halkomelem Determiners
There are 7 determiners in Halkomelem, shown below.

Table 1: Upriver Halkomelem determiners (Wiltschko 2002:160; originally adapted from Galloway 1993:387)

	Male/unmarked	Female
Present + visible	te	the
Near + not visible	kwthe	se, kwse
Distant	kw'e	kw'the, kwse
Plural	ye, (any of the above)	ye, (any of the above)

Determiners semantically encode features for gender, number, "visibility", and location (it should also be noted that while *ye* is a dedicated plural form, this does not imply that the rest of the determiners are dedicated singular forms). The prosodic behavior of these determiners has previously not been described in very much detail.

While there are numerous determiners available in the language, very few are used in spontaneous speech. For example, in the Sasq'ets text, only the determiners *te*, *ye*, and *kwe* are used. The following illustrates the frequency of use for each text analyzed:

Table 2: Textual frequency of Upriver Halkomelem determiners

Form	Frequency in texts
te	71
ye	8
kw'e	5

It can be pointed out here that *te* is used an overwhelming majority of the time in these texts, perhaps due to the fact that it is an unmarked form (cf. Gerdts 2013, who provides text counts for determiners).

3. Textual Cases of Determiner Clisis

It is observed that in texts, such as narratives, determiners exhibit unexpected behaviors. For instance, the examples below illustrate how determiners tend to encliticize onto a preceding element in these connected-speech contexts:[2]

(3)   su   me   xwí=**te**   swíyeqe
        and.then come wake.up=**DET**   man
        'And then the man woke up.'   (Sasq'ets line 5)

(4)   tewátes   kw'e tíl-t=**te**   teqtál-tset
        somebody DET   clear-TRANS=**DET** door-1PL
        'Somebody cleared our door.'   (Sasq'ets line 27)

(5)   xwem kw'e-s   xwemá-s=**te**   teqtál-tset
        possible COMP-NOM   open-3POSS=**DET**   door-1PL
        'It's possible to open our door again.' ("We can open our door")   (Sasq'ets line 28)

(6)   osu   lhxe::lexw te   swíyeqe li=**te**   skwchós-tel
        and.so stand   DET   man   PREP=**DET** window
        'So the man was standing by the window.'   (Sasq'ets line 62)

What results is a mismatch between prosody and syntax, given that the syntactic elements forming a constituent (determiner and noun phrase) are prosodically split. This situation is shown in examples (1) and (2), repeated below as (7) and (8) with brackets to illustrate the different groupings (square brackets indicate syntactic constituency, while curly brackets show prosodic constituency).

(7)   osu   {thíy-t-es=[**te**}   **{sil-áwtxw**]}   s-kwtáxw   te   lálem
        and.then   {build-TRANS-3ERG=[**DET**} **{cloth-house**]} NOM-let.inside DET house

(8)   "oh my" éwe i-s   olu   {qel=[**ye**}   **{sásqets**]}
                NEG AUX-3SG.S as?   {bad=[**DET.PL**} {sasquatch]}

        While such a phenomenon is attested in certain other languages of the Pacific Northwest, such as Kwakw'ala and languages in the Tsimshianic family, no mention has been made of the process in Salish languages. The Kwakw'ala case is well known (Anderson 1985, 1992, 2005), and examples are presented below:

(9)   Nep'id-i-**da**   gənanəm-x̣a   gukʷsa   t'isəm
        throw-SUBJ-**ART**   child-OBJ   house-INSTR rock
        'The child threw a rock at the house.'   (Anderson 1985:166)

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[2] There are clear superficial similarities with auxiliary reduction in English (for a detailed discussion, cf. Kaisse 1985); however, we will avoid any further discussion of this here.

(10) yəlkʷəmas=ida   bəgʷanəma=x̣-a   ʼwatsi=s-a   gʷax̣ƛux̣
      cause hurt-**DEM**   man-OBJ-**DEM**   dog-INST-**DEM** stick
      'The man hurt the dog with the stick.'   (Anderson 2005:16)

Anderson notes that although the determiner "provides case marking and deictic information about the nominal that follows, it attaches phonologically to the *preceding* word, regardless of that word's syntactic affiliation" (2005:16-17; emphasis in original). As Jackendoff (1997:112) has additionally noted, "This looks so strange because it is a massive violation of the overwhelming preference for syntactic words to correspond to phonological words." There is a similar phenomenon found in Tsimshianic languages. For instance, in Gitksan, the "connectives", which encode certain properties of noun phrases, are enclitic to the verbal complex rather than prosodically affiliated with the following noun phrase (Rigsby 1986):

(11) Had-ixs=hl   gat=gi
      swim=CNN   man=DIST
      'The man swam'   (Rigsby 1986:277)

     In contrast to these other cases, the process is restricted in Upriver Halkomelem to connected-speech contexts, and displays a great deal of variability. Furthermore, there are numerous cases where a determiner does *not* encliticize onto a preceding host. For example:

(12) su   le   tl'ékw'el   **te** **heyqw-s**   álhtel
      and.then AUX   go.out   **DET** **fire-3POSS** 3PRON
      'And then their fire went out.'   (Sasq'ets, line 3)

(13) s-pípew   **ye**   **thqát**
      STAT-freeze.DIM   **DET.PL** **tree**
      'The trees were frozen.'   (Cottonwood, line 2)

While at first glance this variability appears to suggest unconstrained optionality in rapid speech, the phenomenon is robust enough to warrant an explanation. We will therefore develop two accounts of potential sources of cliticization and test them against the available data.

4. Two Possible Analyses
In this section we outline two possible analyses for the determiner clisis phenomenon in the language. One possible account involves the determiner being grammaticalized as a part of the verbal complex, perhaps as an agreement morpheme. An alternative account would view the clisis as a phonological phenomenon, driven by the conditions on stress or prominence in the language and restricted to connected-speech contexts. Both of these analyses are outlined below.

4.1. A Morphosyntactic Account
A potential syntactic account of determiner clisis in Upriver Halkomelem would view the determiners as undergoing a diachronic change whereby they are being reanalyzed as components of the verb phrase, rather than as specifiers to the following noun phrase. This grammaticalization of the determiners would potentially result in something like an agreement marker on the predicate. This view would be somewhat consistent with the generally accepted

diachronic change that involves free forms gradually becoming clitic forms, which then gradually become affixes (cf. Jeffers & Zwicky 1980, Hopper & Traugott 2003).

There are, however, three broad criticisms to be leveled at this sort of account. The first complication comes from the existence of an agreement system with properties very much unlike those displayed by the elements under consideration here. For instance, while the determiner system encodes gender, number, and 'deictic' properties of noun phrases, the agreement system encodes only person and number features. The syntactic distributions are also quite different. Agreement morphology must be located on complementizers, auxiliaries, or predicates (cf. Galloway 1993, Wiltschko 2003), while, as we shall see, determiners are not so constrained. Finally, there are two series of agreement morphemes whose appearance depends on clause type. Determiners, on the other hand, do not vary from one clause type to the other. While it is still possible that, despite these marked differences, the determiners have in fact been subsumed into the agreement system (perhaps as an early stage of a process that would see the two sets ultimately fused), we think this is unlikely. Further reasons to doubt this are adduced below.

There are also clitic-host dynamics which cast doubt on the morphosyntactic account, as there are examples with preceding elements which are not verb phrases. For instance, (14) illustrates a determiner which has encliticized onto a preposition.

(14) | li | ye | silyólexwe | lolets'e | álhtel | lí=**te** | lálém
| AUX | DET.PL | old.people.PL | one.DIM | 3PRON | PREP=**DET** | house
'The old people, they were alone in the house.' (Sasq'ets line 2)

At this point it may be argued that the determiner will encliticize onto preceding elements which are predicative in nature, or that are case assigners. However, there is additional evidence which suggests that this is not the case. For example, in (15) the determiner is enclitic to a nominal complex. The nominal status of this element is confirmed by the possessive marker which is suffixed to it.

(15) | lepéxw | lí=**te** | axélesmel-s=**te** | xélh
| thump | PREP=**DET** | front.of.house-3POSS=**DET** | door
'It thumped in front of their door.' (Sasq'ets line 21)

Since there is no consistent syntactic category that serves as a host to enclitic determiners, it seems highly unlikely that determiner clisis is syntactically motivated in the language. We turn next to the possibility that the process is phonologically motivated.

4.2. A Prosodic Account

Having shown a likely syntactic account to be insufficient in characterizing Upriver Halkomelem clisis, we will attempt in this section to construct a plausible prosodic account. As is often the case with functional elements, the determiners in Upriver Halkomelem are phonologically weak, consisting of a single open syllable headed by a schwa. We will explore the hypothesis here that the process of determiner clisis in Upriver Halkomelem is a product of the word-level stress system of the language, which would be viewed as being extended to a larger prosodic and morphological domain in running speech. The effect of this extension is a pressure towards incorporating determiners into the computation of stress when it results in a preferred metrical structure.

In all of the cases seen thus far, a determiner has encliticized onto a preceding element when the preceding vowel was a full vowel. This is again illustrated in (16-18).

(16)   xwém   kw'e-s   xwemá-s=**te**   teqtál-tset
          possible   COMP-NOM   open-3POSS=**DET** door-1PL.POSS
          'It's possible to open our door again.' ("We can open our door")   (Sasq'ets, line 28)

(17)   le   kw'áts   lám=**te**   teqtál
          AUX   look   PREP=**DET** door
          'He looked out the door.'   (Sasq'ets, line 42)

In cases where a reduced vowel precedes, there are examples where no clear enclisis occurs; figure 3 illustrates.

(18)   me   kw'ets-l-óxw-es   **kw'e**   tewátes
          come   see-TRANS-1PL.O-3ERG   **DET**   somebody
          'Somebody has seen us'   (Sasq'ets, line 15)

(19)   "oh my " xete, su xwmá-x-es   **te**   xálh
                     say so open-TRANS-3ERG   **DET**   door
          ' "oh my", he said. So he opened the door.'   (Sasq'ets, line 26)

Figure 3: Waveform of *su xwmáxes te xálh*. Time (in sec.) is indicated along the abscissa.
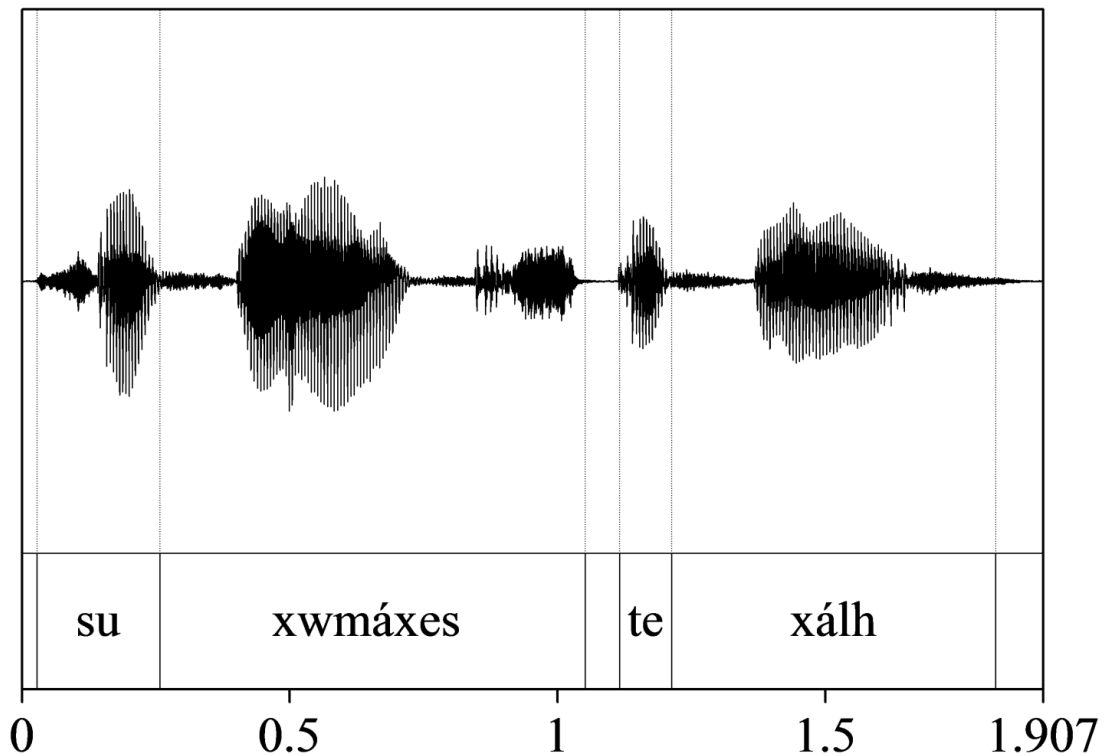
This pattern is mirrored by the stress pattern of the language, whereby full vowels receive primary stress; otherwise, *ceteris paribus*, a trochaic pattern emerges such that a series of

reduced vowels (or schwa, represented orthographically by unstressed *<e>*) will be footed as (ə́ ə).[3] Under this analysis, it is assumed that in the default case, syntactic constituency will be respected by prosodic constituency. However, there are two conditions under which this approach predicts enclisis to occur – a noun with a full vowel in the initial syllable will tend to repel the determiner, and a full vowel in the final syllable of the preceding word will tend to attract the determiner. The former case reflects a tendency to maintain a trochaic rather than iambic footing; the latter reflects a tendency to compose well-formed trochaic feet from full vowels and stray schwas. A further prediction is that a reduced vowel in the preceding word (which ends in a well-formed foot), and a full vowel in the following noun will derive ambivalent results. This is the case in examples such as (20-21).

(20) su qól-em   **te**   máqa
      so scoop-INTRANS   **DET**   snow
      'So they scooped up some snow.'   (Sasq'ets, line 35)

(21) xete **te**   swíyeqe   "ewete-l   lhq'é-l-exw"
      say **DET**   man   NEG-1SG.S   know-TRANS-3O
      'The man said: "I don't know.".   (Sasq'ets, line 32)

This "ambivalence" is illustrated in figure 4, where the determiner *te* does not exhibit a clear prosodic affiliation with either the preceding or following element.

Figure 4: Waveform of *xete te swíyeqe*. Time (in sec.) is indicated along the abscissa.

| xete | te | swíyeqe |

0   0.5   1   1.289

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[3] See Bianco 1998 and Shaw et al. 1999 for the stress patterns in other dialects, as well as Bar-El & Watt 1998 for a similar analysis of Squamish.

If this is indeed the mechanism behind Upriver Halkomelem clisis, we should expect clisis wherever the determiner follows a word ending with a stressed vowel, and variability after words ending with an unstressed vowel (where 'variability' should depend on the possibility of the preceding syllable forming an optimal foot with the immediately preceding syllable). This variability should reflect the possibility of clisis being employed as a strategy for optimal footing at the word level. These predictions are summarized in the table below.

Table 3: Predicted typology of clisis on prosodic account

Context			
Preceding	**Determiner**	**Following**	**Prediction**
stress	schwa	stress	clisis
stress	schwa	non-stress	clisis
non-stress	schwa	stress	variable
non-stress	schwa	non-stress	variable

As it happens, these clear-cut predictions are not borne out. The next tables give the numbers for the determiners in the two texts represented in this study. Both tables show the total number of determiners in each text, versus the number of determiners that are found as clitics. Table 4 presents the 'expected' cases – those where there is a preceding stressed vowel, and whereby clisis would be predicted as it would yield a well-formed trochaic foot. Table 5 presents the 'variable' cases; those where the preceding vowel is unstressed (and hence not forming a well-formed trochee).

Table 4: Clisis in 'expected' contexts

Text	Determiner Tokens	Clitics
Sasq'ets	17	10
Cottonwood	8	5
Totals	25	15

Table 5: Clisis in 'variable' contexts

Text	Determiner Tokens	Clitics
Sasq'ets	34	11
Cottonwood	13	5
Totals	47	16

It quickly becomes clear that the extended footing hypothesis does not make the correct predictions. There is a high degree of variability in the case that is meant to be most favorable for clisis, although those cases are predicted to be relatively invariant. While variability is expected when an unstressed syllable precedes the determiner, the variability that is displayed does not correlate with the predicted factors. Thus, the attempt to reduce Upriver Halkomelem determiner clisis to an extension of word level footing does not capture the attested patterns.

4.3 Summary
We have so far explored two potential analyses of Upriver Halkomelem determiner clisis – a morpho-syntactic analysis in which the determiner system is being absorbed into the agreement system, and a prosodic analysis in which the phonologically weak determiners are commandeered by the word level footing strategies of the language in connected speech contexts. Both of these accounts were found lacking in crucial respects. While this does not guarantee that there is *no* adequate account that appeals only to syntactic or prosodic mechanisms, we assume at this point that such is indeed the case. In the next section, we extend the domain of inquiry to the auxiliary system, where similar cliticizing behavior is exhibited.

5. A Larger Context?
Thus far, we have considered only the behavior of determiners in discourse contexts. Neither of the proposed solutions are capable of generating the type of behavior we have seen. It is possible, though, that the real generalization lies beyond the limited domain we have considered thus far. In this section we consider a further context in which similar behavior is exhibited, this one involving some of the auxiliaries in the language.

Upriver Halkomelem employs two separate sets of auxiliaries which have distinct syntactic distributions and semantic functions (see Galloway 1993 for a discussion). These are shown below:

(22) Upriver Halkomelem auxiliaries (from Galloway 1993:359)

me ~ mí	'come to'	(from the full form *emí ~ mí* 'come')
le	'go, go to, going to'	(from the full form *lam* 'go(ing) (to)')
í	'here'	
li	'there'	

While one auxiliary (*lam*) does not appear to participate in clisis, the others (*me, li, i*) seem to exhibit the same sort of gradient cliticization we have noted in the determiner system.

(23)

kwú-t-es	te	steliq'éyus=the	xwelítem	qesu=**me**
take-TRANS-3ERG	DET	horse=DET.FEM	white.person	and.then=**AUX**

má-x-es	te	thqát…
take-TRANS-3ERG	DET	tree

'He fetched the white person's horses and then he took the tree away…'
(Cottonwood, lines 14-15)

As shown in (23), auxiliaries that are following a sentential conjunction will in some instances encliticize. While it is certainly possible that the behavior of determiners and of auxiliaries is unrelated, we suspect that a unified account is in order. If this is so, it would seem that the pauses come 'in the wrong places'.[4] Rather than aligning the prosodic boundary up with a major syntactic constituent, the intonation unit includes the first element of the following constituent to the exclusion of the rest.

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[4]Thanks to Donna Gerdts for discussion around this point.

All speculation aside, clearly more work is needed to establish just what the generalizations are, and to determine if there is indeed something systematic about the behavior of determiners and auxiliaries at one or both of these levels.

6. Conclusion

This paper has illustrated some of the unexpected behaviors of determiners in Upriver Halkomelem spoken narratives. One of these behaviors is the tendency for a determiner to encliticize onto a preceding element. A syntactic analysis was offered that keyed in on the agreement-like properties of the determiner system, but it was shown to be inadequate. A prosodic account was also offered, one based on the word-level footing strategies of the language and the system that would emerge if the parsing mechanisms were able to co-opt the determiners as weak elements of feet. This too was shown to be inadequate. Further findings involving the auxiliary system were reported, a system which also takes part in the cliticization processes in discourse contexts. The connected-speech status of this process indicates that this may have to do with some higher-level mechanisms centered on information structure or discourse-level intonation units. While it is likely on such an account that this is a stable system, it may also be that such mechanisms could be motivating a diachronic change whereby determiners and auxiliaries will consistently be enclitics to a preceding element (as is the case in languages such as Kwakw'ala; cf. Anderson 1985).

Finally, it is a noteworthy discovery that other dialects of Halkomelem display similar properties, such as Island (Donna Gerdts, personal communication) and that the same is true for other closely related Coast Salish languages, such as SENĆOTEN (Benner, 2006), Lushootseed (Cook 1999), and an Island/Saanich bilingual (Cienski 2010). In fact, Watanabe (2010) notes that filler words serve as diagnostic evidence for determiners being proclitics (rather than affixes) in Sliammon, where there are many instances in running speech of determiners being separated from a following noun by a filler "as the speakers are looking for the next word" (Watanabe 2010:183). The result is that "the determiner is pronounced with the filler as a sequence, and there is often a considerable pause between the filler and the following word" (pg. 183). This is a significant description, in that it displays certain similarities as well as differences with the phenomenon described here. The patterns resemble each other in that we see the significant prosody-syntax mismatch involving determiners, one which Watanabe characterizes in morpho-phonological terms by classifying determiners as proclitics. However, the Sliammon cases appear crucially to involve the presence of a filler, which is altogether absent from the Halkomelem cases. Further, there is no mention of similar behavior on the part of Sliammon auxiliaries. Thus, while we may learn something useful from the Sliammon data concerning the Halkomelem enclisis, perhaps revolving around the prosodic weakness of the determiner-NP bond, we suspect that a full analysis for each language would look quite different.

We speculate that further investigation into determiner clisis within Upriver Halkomelem, as well as in these neighboring dialects and languages will provide further clues as to how clisis operates, what governs variability in certain contexts, and also whether this is a diachronic change in progress.

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