

## Chapter 11 M-Words, P-Words, and Accent Phrases in Kashaya\*

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### Abstract

This chapter surveys the evidence for M-Words, P-Words, and accent phrases in Kashaya, a Pomoan language of northern California. It begins with a morphological overview, highlighting the most important features of the verb. The discussion then moves to the prosodic organization, based on left-to-right iambic footing. Optional phrasal accent motivates the accent phrase (AP) constituent, grouping together smaller M-Words and P-Words. The AP plays a different role in reduplicated verbs, however; these consist of two P-Words but one M-Word that cannot be split into two APs, so that the phrasal grouping is obligatory. I suggest that this forced grouping may be the source of broader phrasal stress in the language.

*Keywords: metrical phonology; extrametricality; iambic feet; phrasal accent; reduplication*

Footing and accent placement in Kashaya (Pomoan: Northern California) reveal several distinct relations among morphosyntactic (M-) and prosodic (P-) word domains. First, raised pitch is assigned in an accent phrase (AP) that often includes at least two M-Words, each of which is also one P-Word. This phrasing is common but not obligatory, so that individual M-Words can also serve as APs. Second, reduplicative structures are M-Words that contain two P-Words, much like

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The following abbreviations are used here: 1 first-person; ABS absolutive (a common category with infinitive and perfective functions); AGT agent; AUD auditory evidential; CAUS causative; DIST distributive; DS different subject (switch-reference); DUR durative; EVID evidential; FACT factual evidential; FREQ frequentative reduplication; FUT future tense; IMP imperative; INFER inferential; INTENT intentional; IPFV imperfective; ITER iterative reduplication; LOC locative; LCM locomotory ('while moving about'); MVT movement; NEG negative; NONFINAL nonfinal verb; PROH prohibitive; PST past; PURP purposive; RECIP reciprocal; REFL reflexive; REL relative; RESP responsive; SIM simultaneous; SS same subject (switch-reference); STAT stative; SUB subject (or agent); VIS visual evidential. For plurals, the abbreviation PLUR is used for the pluractional, whereas shorter PL is used for other kinds of plurality, including the plural agent (PL.AGT) and plural movement (PL.MVT). Verbs in the special classes of position ('stand', 'lie') and handling ('carry', 'pick up') often have suppletive plurals; they are similarly glossed with PL.

Transcriptions use the Americanist notation that is standard in the literature on Kashaya, except that the traditional length mark /·/ is here replaced by more familiar /:/ . Plain /t/ is lamino-dental and dotted /t̥/ is apico-alveolar; /c/ is phonologically a palatal stop but is realized as a palato-alveolar affricate /tʃ/; /y/ is a palatal glide. The obstruent inventory is /p p<sup>h</sup> p' b t t<sup>h</sup> t' t̥ t̥<sup>h</sup> t̥' d c c<sup>h</sup> c' k k<sup>h</sup> k' q q<sup>h</sup> q' ? s s' š h/; the sonorant inventory is /m n l w y/, all of which can occur with glottalization or aspiration as well. Some loanwords contain /f/ or /r/. Technically the voiced stops /b d/ are derived from /m' n'/, but they are included in the obstruent inventory since they usually surface that way. There are five vowels /i e a o u/, which contrast in length. Syllable structure is CV, CVC, CV: with instances of CVCC and CV:C in loanwords and one grammatical context. Initial /sC/ occurs in a few loanwords.

APs with two M-Words. Here, however, the grouping in one AP is obligatory, since they constitute a single M-Word. I suggest that the structures found in reduplication lie behind the origin of phrasal stress.

The chapter is organized as follows. Section 11.1 lays out the fundamentals of morphological structure in Kashaya, including the M-Word. Section 11.2 introduces foot structure and the P-Word in which feet are usually created. Section 11.3 moves on to optional phrasal stress and the accent phrases that are necessary to capture the phenomenon. Section 11.4 discusses reduplicated verbs, which have the special property of containing two P-Words within a single M-Word, as evidenced by their obligatory status as a single AP. Section 11.5 then compares these reduplicated structures to the optional phrasal groupings, and proposes a historical connection. Section 11.6 is a brief conclusion.

### 11.1. Morphological preliminaries

In this chapter, I use the term M-Word for a constituent based on morphosyntactic structure. Although the discussion here does not rely crucially on a specific theory of word structure and derivation, this term comes from Distributed Morphology, where it is defined as a potentially complex head, or  $X^0$ , that is not dominated by another head (Embick 2015: 68; Embick & Noyer 2001: 574). Other terms for the equivalent constituent include grammatical or lexical word; see Dixon & Aikhenvald (2002) and Gisborne (2015) for more general discussion of cross-linguistic issues and controversies in these definitions and terminologies.

There is very little formal work on the morphosyntax of Kashaya, of the sort that might motivate in detail the internal structure of the grammatical word. Research on other languages has suggested that the M-Word and P-Word most often correspond, so that phenomena such as stress placement help to diagnose both word units in most languages. This diagnostic is not as useful in Kashaya, where stress is quite often assigned to phrasal constituents that consist of more than one word at both the M and P levels of analysis. In defining an M-Word, I rely here on traditional distributional criteria; to quote Julien (2002: 3), “a word is a morpheme sequence that shows cohesion internally and has independent distribution externally.” These criteria coincide with the identification of word boundaries in Oswald (1961) and Buckley (1994), where affixes occur tightly bound to the root, most often in a rigid ordering, and undergo phonological processes that do not occur between less tightly bound elements.<sup>1</sup>

In Kashaya, some M-Words have no demonstrable morphological boundaries, or at least none that is synchronically apparent; this includes most nouns (1) along with adjectives and other non-verbs (2).

(1)	a. šot'	'lungs'	k <sup>h</sup> uy	'human bear'
	b. puʔšul	'tip, point'	ta:wi	'custom'
	c. ʔima:ta	'woman'	sulemaʔ	'rope'
(2)	a. q <sup>h</sup> o:	'two'	k'is	'red'
	b. baht <sup>h</sup> e	'big'	s'imun	'alive'

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<sup>1</sup> I leave open the possibility that an M-Word may contain more than one  $X^0$  constituent, a structure advocated by Julien (2002) but contrary to work such as Embick (2015). The reduplicative structures discussed in section 11.4 are, in particular, a potential case of a single M-Word that contains two  $X^0$  elements.

c. c'akali 'scattered' k'aye:ma 'alone'

One form of internal complexity found in nouns and adjectives is lexically restricted suffixing reduplication; typically this is a static pattern and the simple form does not occur alone, as in *pili:li* 'circle, wheel' and *s'u?nu?nu* 'huckleberry'. These forms with lexicalized (or purely historical) reduplication show no difference from prosodically similar words in their overall patterning, so that *pili:li* and *?ima:ta* are equivalent phonologically. Compounding is common in nouns, and is exemplified briefly in section 11.3.

Most of the M-Words to be seen below, however, are verbs containing a root and at least one but possibly many affixes. By far the majority of verb stems in Kashaya contain an instrumental prefix. There are twenty of these prefixes, and exactly one is always present for these verb roots.<sup>2</sup> They encode a range of meanings, as illustrated by the following examples (Oswalt 1961: 135ff, 2005). Here we see /ba-/ for actions by the mouth, including speech; /du-/ for actions by the finger, though also sometimes for more general activity; /hi-/ for something involving the bulk of the body or a whole object; and /qa-/ for action by opposing forces, most often the teeth.

- |     |                          |  |
|-----|--------------------------|--|
| (3) | a. ba-hc <sup>h</sup> a- | 'knock over with the snout or beak'                                    |
|     | b. ba-ʔt'a-              | '(speech or other sound) seem or feel; sound a particular way'         |
|     | c. ba-hnat-              | 'investigate by speaking; ask a question'                              |
|     | d. ba-ce-                | 'grab with the mouth'  |
| (4) | a. du-hc <sup>h</sup> a- | 'knock over with the finger'   |
|     | b. du-ʔt'a-              | 'seem or feel (when touching with the finger)'                         |
|     | c. du-hnat-              | 'investigate by touching; probe or feel with the finger'               |
|     | d. du-ce-                | 'grab with the fingers'  |
| (5) | a. hi-hc <sup>h</sup> a- | 'knock over with the shoulder or body (by bumping into)'               |
|     | b. hi-ʔt'a-              | 'seem or feel (when wearing on the body)'                              |
|     | c. hi-hnat-              | 'investigate an entire object; weigh'                                  |
|     | d. hi-ce-                | 'last, hold up'  |
| (6) | a. qa-hc <sup>h</sup> a- | 'knock over by holding with the teeth (as a dog might pull on a rope)' |
|     | b. qa-ʔt'a-              | 'seem or feel (when chewing); (solid food) taste a particular way'     |
|     | c. qa-hnat-              | 'investigate by biting; taste solid food, test for hardness'           |
|     | d. qa-ce-                | 'grab with the teeth'  |

Some prefixable verb roots are attested with only one of the available prefixes; some occur with any of them; and many fall in between these extremes.

The glottal segment /h/ or /ʔ/ that often follows the first vowel of the complex stem – especially as the first element of the root, in prefixed examples – is a LARYNGEAL INCREMENT (Buckley 1992, 1994; Oswalt 1961, 1998). Increments are dependent featurally on the following consonant and pattern together with the following syllable for many purposes, including

<sup>2</sup> In addition to the twenty CV- prefixes, there is a zero prefix (under Oswalt's analysis) that occurs with a small subset of these roots. It corresponds to the lack of a specific cause, such as /hc<sup>h</sup>a-/ meaning simply 'fall over'.

reduplication; but they ultimately surface as coda consonants, or will be deleted if not preceded by a vowel. As we see later in this section, certain morphological processes specifically delete the increment even when a vowel precedes it.

Although the majority of verbs in the lexicon contain instrumental prefixes, there are also many verbs that do not take a prefix. These are most often one or two syllables in size (before any suffixes are added).

- (7)
- |          |              |
|----------|--------------|
| a. ca-   | ‘be sitting’ |
| b. kel-  | ‘peer’       |
| c. ma:c- | ‘burn’       |
| d. hloq- | ‘fall’       |
- (8)
- |             |                         |
|-------------|-------------------------|
| a. nine-    | ‘learn’                 |
| b. dihqā-   | ‘give a nonlong object’ |
| c. šuʔu:m-  | ‘forget’                |
| d. qaʔc’aṭ- | ‘cry, mourn’            |

In monosyllabic stems (7), an increment can occur before the first consonant, as in /hloq-/; the small set of disyllabic stems with an initial increment, such as /hqowil-/ ‘group return home’, are systematic exceptions to extrametricality (section 11.2). Otherwise, in longer stems (8), any increment will occur after the first vowel, just as in prefixed verbs.

No verb, whether prefixed or not, is complete without a suffix chosen from a large set, exactly one of which must occur in every verb (so they never cooccur in the same word). These include evidentials, imperatives, future, and switch-reference. Notable among them is the very common absolutive suffix, which yields the citation and infinitive form of the verb, but also expresses perfective aspect as a finite form.

- (9)
- |                           |            |                           |
|---------------------------|------------|---------------------------|
| a. maʔá-y                 | eat-VIS    | ‘just ate (and I saw it)’ |
| b. maʔá-ʔk <sup>h</sup> e | eat-FUT    | ‘will eat’                |
| c. maʔa-tí                | eat-INTEN  | ‘in order to eat’         |
| d. maʔa-bína              | eat-INFER  | ‘because (it) ate’        |
| e. maʔa-bá                | eat-SS.PST | ‘after eating’            |
| f. maʔa-t <sup>h</sup> úʔ | eat-PROH   | ‘don’t eat!’              |
| g. maʔá-w                 | eat-ABS    | ‘to eat’, ‘ate’           |

The stem /maʔa-/ ‘eat’ illustrates another disyllabic verb that does not include an instrumental prefix, similar to those in (8). In the verb *maʔa-bína*, the suffix belongs to the obligatory set, none of which undergo iambic lengthening (discussed below in section 11.2). This observation motivates treating iambic lengthening as a lexical process, since there is a large class of exceptions to it.

Most often the M-Word verb ends in this obligatory slot; most other verb suffixes (some of which are discussed later in this section) occur closer to the stem. One common suffix that can follow, however, is /-e:/ for a NONFINAL VERB; this occurs if (i) the preceding suffix is either an evidential or a modal, and (ii) the verb is not final in its sentence. For example, these sentences have the same semantic content, but the nonfinal verb suffix appears only in the second ordering.

- (10) a. duwé? cohto:y  
 /duwec cohtoc-y/  
 yesterday leave-VIS  
 ‘I saw him leave yesterday’
- b. cohtó:ye: duwe?  
 /cohtoc-y-e: duwec/  
 leave-VIS-NONFINAL yesterday  
 ‘I saw him leave yesterday’

The other common suffix that follows the obligatory slot is the RESPONSIVE /-em/; it indicates that the statement is in response to what someone else has said. These are mentioned since they occur in examples later in the chapter and are somewhat unusual.

The basic structure of a verb in Kashaya is schematized in (11); the obligatory slots are outlined in doubled lines.

(11) <b>simple stem</b> <i>or</i> <b>instrumental prefix + root</b>	plurals	durative directionals causative reflexive <i>etc.</i>	<b>absolute</b> <b>evidentials</b> <b>imperatives</b> <b>switch-reference</b> <i>etc.</i>	nonfinal verb /-e:/ responsive /-em/ relatives /-m/, /-l/
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Person marking is only marginally present in the verb – for instance, a suffix /-wi/ indicates that a first person is affected by the action – so participants are indicated by independent pronouns. They are often omitted when the context makes the participants clear.

A number of suffixes have multiple allomorphs that are conditioned by the segmental or prosodic context. The absolute is /-w/ after a vowel and /-ʔ/ after most consonants, but /-u/ after /d/. The /-ʔ/ allomorph interacts with the preceding consonant in various ways; it surfaces as glottalization of a sonorant, disappears after a fricative, and surfaces instead of a preceding stop or affricate (leading to considerable neutralization). The effect can be seen by comparing surface and underlying forms, with the latter in phonemic slashes.

- (12) a. bahná?  
 /ba-hnat-ʔ/  
 with.mouth-investigate-ABS  
 ‘to ask a question’
- b. bahnatí?  
 /ba-hnat-ic’-ʔ/  
 with.mouth-investigate-REFL-ABS  
 ‘to ask for permission’

- (13) c<sup>h</sup>ik'ís  
 /c<sup>h</sup>i-k'is-ʔ/  
 with.handed.instrument-scratch-ABS  
 'to scratch with a tool; to write'

These two levels of representation are especially useful in presenting surface foot structure while identifying underlying forms, and will often be used in this chapter.

The other common suffix that shows considerable allomorphy is the durative, although a consistent property is that every form ends in /d/. This allomorphy is sensitive to whether the preceding segment is a vowel or consonant; whether the preceding consonant is palatal; whether a preceding /d/ is part of a root or suffix (including another durative suffix, yielding a habitual meaning); and whether the suffix occurs in the leftmost foot of the word.<sup>3</sup>

- (14) a. After a vowel, in the initial foot                    /-cid/  
       After a vowel, later in the word                    /-med/  
   b. After /c/ or /c'/, in the initial foot                /-id/  
       After /c/ or /c'/, later in the word                /-ed/  
   c. After suffixal /d/                                        /-uced/  
   d. Elsewhere, including after root /d/                 /-ad/

This list accounts for the great majority of cases, but there are additional factors as well; for example, a few roots ending in /d/ take /-uced/, and the allomorph /-wad/ optionally replaces /-med/ following the causative suffix. For more details, see Buckley (2017) and Oswald (1961).

Three types of plural marking occur in the verb. The most pervasive is a PLURACTIONAL (Oswald's PLURAL ACT) which is available for nearly all verbs; it indicates that the action occurs more than once with the same object (or theme), or one time with multiple objects. The exponence is highly lexicalized, although the allomorphs are to some degree restricted to particular phonological contexts. They mainly involve suffixation (15) or infixation (16), sometimes accompanied by loss of vowel length. Vertical lines | indicate an element infixated before the last consonant of the root; the gloss reflects the plural form in the second column.

- (15) a. da-hal-            da-hal-at-            'dig several holes'  
       b. ba-c'o:-        ba-c'o-t-            'start to sing or speak'  
       c. di-ʔk'ol-       di-ʔk'ol-aq-        'prune several branches'  
       d. šu-hwe:n-      šu-hwe:n-ma-       'shake several'
- (16) a. p<sup>h</sup>a-nem-        p<sup>h</sup>a-ne|t<sup>h</sup>|m-        'hit several with the fist; punch'  
       b. sina:m-         sina|ta|m-         'several drown'  
       c. šu-ʔat-         šu-ʔa|h|t-         'twist several'  
       d. ba-k'i:š-        ba-k'i|h|š-         'several be squeaky'

Relevant to the pluractional is a process that Oswald (1961) calls the DECREMENT. This refers to the deletion of a laryngeal increment from a stem that is followed by one of a large set

<sup>3</sup> Alternatively, the prosodic condition can be expressed as following a single light syllable CV, modulo initial-syllable extrametricality (see section 11.2).

of suffixes, most often a directional or a pluractional. Thus some pluractional forms show deletion of a laryngeal increment (17); for certain roots ending in /t/ or /t/, the loss of the increment and vowel length may be the only exponent of this category (18).

- (17) a. da-hc<sup>h</sup>a-      da-c<sup>h</sup>a-t-      ‘knock several over with the hand’  
 b. šu-ʔp’an-      šu-p’an-ta-      ‘pull several closed’  
 c. da-hle:m-      da-le|ta|m-      ‘several stripes extend across’  
 d. mahsac-      masa|h|c-      ‘several be damp-dry’
- (18) a. da-ʔt’ubut-      da-t’ubut-      ‘submerge several with the hand’  
 b. mu-hlak’at-      mu-lak’at-      ‘several sparks fly’  
 c. di-c<sup>h</sup>i:ʔ-      di-c<sup>h</sup>iʔ-      ‘several fall out of something’  
 d. hi-t’e:t-      hi-t’et-      ‘fix several in position’

The pluractional does not specify whether the action is performed by one or more individuals. A quite different category, the PLURAL AGENT, is used for this purpose. It consists of an unusual but regular change in most tokens of /d/ within the verb to /c’/ – roughly, /d/ at the end of a root and in most suffixes (including the duratives), but excluding the obligatory suffix slot, where just hearsay /-do/ has this segment. The effect can be dramatic, depending on the phonological content of the verb.

- (19) a. kelá:duce:du  
 /kel-ad-uced-u/  
 peer-DUR-DUR-ABS  
 ‘one to keep peering all the time’
- b. kelá:c’iyiʔ  
 /kel-ac’-iyic’-ʔ/  
 peer-DUR.PL.AGT-DUR.PL.AGT-ABS  
 ‘several to keep peering all the time’

Since the plural agent alters the /d/ of the durative, it leads to a somewhat different set of rules for the choice of allomorph (Oswalt 1961: 211-223). The major patterns are similar to those in (14); most are simply the transformed plural agent versions of basic forms, such as /-med/ which becomes /-mec’/.<sup>4</sup>

- (20) a. After a vowel, in the initial foot      /-yic’/  
 After a vowel, later in the word      /-mec’/  
 b. After /c/      /-ic’/  
 c. After suffixal /d/, which becomes /c’/      /-iyic’/  
 After /c’/ that is underlying      /-iwac’/, /-wac’/  
 d. Elsewhere, including after root /d/, which becomes /c’/      /-ac’/

<sup>4</sup> The forms /-yic’/ and /-iyic’/ derive by regular phonological processes from /-cid/ and /-uced/ once the transformation of /d/ to /c’/ occurs, if certain assumptions are made; see Buckley (1994) for analysis.





- b. móhtadu  
 /mo-ht-ad-u/  
 run-PL.MVT-along-ABS  
 ‘several to run along from a single impelling force’
- c. móhta?  
 /mo-ht-ac’-ʔ/  
 run-PL.MVT-along.PL.AGT-ABS  
 ‘several to run along by their own volition’

The verb in (24b) could refer, for example, to several marbles rolling along due to the actions of a single person, whereas (24c) describes several people running (Oswalt 1961: 154).

## 11.2. Foot structure

The P-Word is a domain in which most phonological processes in the language occur; it is sometimes called the prosodic word or phonological word (see Hildebrand 2015 for an overview). The P-Word is especially important in Kashaya as a minimal domain of foot construction. A basic feature of Kashaya prosody is that certain processes, especially iambic lengthening, depend on footing within the P-Word and do not cross word boundaries; but as discussed in section 11.3, placement of pitch accent frequently applies to larger domains, in which an accent phrase (AP) encompasses more than one P-Word. In that case, new footing applies within the larger AP domain, following the same principles but without iambic lengthening or other P-Word bound processes.

In the default case, the M-Word corresponds to a P-Word; as expressed by Shwayder (2015: 12), “the M-Word structure is the signal to the Phonology that it has received all the material to build a phonological word.” I argue in section 11.4, however, that this usual equivalence does not hold in Kashaya reduplicated verbs. Depending on one’s theoretical assumptions and specific analysis, it may be possible to analyze seeming mismatches between M-Words and P-Words by morphosyntactic configurations that affect the interleaving of vocabulary spellout and phonological rule application, such as multiple phases of rules in Distributed Morphology (see, for example, Newell 2008). My purpose is not to reject such an analysis, but rather to highlight instances in which the phonological domain does not line up with the morphosyntactic constituent.

Kashaya metrical structure is complex but highly regular. Feet are iambic, i.e. right-headed and quantity-sensitive, and are constructed from the left edge of the domain (Buckley 1994; Oswalt 1961, 1988). In the lexical phonology analysis of Buckley (1994), extrametricality is assigned to the first syllable of the word after prefixation but before most suffixation; it is blocked by the Non-Exhaustiveness Condition if the root of the word is monosyllabic and unprefixated. In an Optimality Theory analysis (Buckley 1997), a constraint FOOT-ROOT requires that the root of the word be dominated by a foot. To simplify the presentation here, most words exemplified have an initial extrametrical syllable, which will also be the case for the reduplicated forms considered in section 11.4.

In (25) and (26), stress falls on the second syllable if it is /CVC/, and otherwise on the third syllable. Iambic lengthening in (25b) creates a long vowel in a short open stressed syllable, in roots and in all suffixes up to a certain point in the word. Later suffixes, including those in the

obligatory slot illustrated in (9), do not undergo lengthening. This is a fixed property of those suffixes, which can be treated in a level ordering model of the grammar (Buckley 1994) or as a diacritic property of the non-lengthening suffixes (Buckley 1997).

(25) a. <ba>(tíh)(qabiw)  
 /baʔi-hqa-bi-w/  
 lie.on.ground.PL-CAUS-EVID-ABS  
 ‘he/she apparently laid them on the ground’

b. <ba>(títá:)du  
 /baʔi-t-ad-u/  
 lie.on.ground.PL-PLUR-DUR-ABS  
 ‘several are lying on the ground’

(26) a. <qoh>(q<sup>h</sup>óm)(t<sup>h</sup>umeʔ)  
 /qohq<sup>h</sup>óm-t<sup>h</sup>u-meʔ/  
 stand.PL-NEG-IMP.PL  
 ‘don’t stand still!’ (to several)

b. <qoh>(q<sup>h</sup>omáʔ)(t<sup>h</sup>umeʔ)  
 /qohq<sup>h</sup>óm-ac<sup>ʔ</sup>-t<sup>h</sup>u-meʔ/  
 stand.PL-DUR.PL.AGT-NEG-IMP.PL  
 ‘don’t keep standing still!’ (to several)

As seen in (25b), a final light syllable that does not fit into the preceding foot is considered to be unfooted. When, however, such a syllable is the only one available to receive the accent, a degenerate (monomoraic) foot is created, as illustrated below in (31).

The leftmost foot is normally the location of primary stress, defined here as an abstract metrical prominence that correlates with the foot head. The main cue for this prominence is a pitch accent, i.e. a raised F0. Although iterative metrical feet are well motivated by the location of lengthened vowels, there is not clear evidence of secondary phonetic prominences beyond the main stress, so only the pitch accent is transcribed.

If the leftmost foot is nonbranching /CV:/, accent is shifted to the following foot.<sup>5</sup> As a result, accent then falls on the third syllable if heavy, otherwise the fourth. The long vowel that causes this shift may be underlyingly long (27) or may be the outcome of two short vowels (28).

(27) a. <ma>(s<sup>ʔ</sup>a:)(méc<sup>ʔ</sup>)(meʔ)  
 /ma-s<sup>ʔ</sup>a:-mec<sup>ʔ</sup>-meʔ/  
 with.foot-break-DUR.PL.AGT-IMP.PL  
 ‘keep breaking it by stomping!’ (to several)

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<sup>5</sup> See Buckley (2019) for discussion of whether the primary stress itself has shifted (by a metrical process), and the accent is simply assigned to that location; or whether the accent moves from the primary stress location to which it was originally assigned (by a tonal process).

- b. <ma>(s'a:)(t<sup>h</sup>umé?)  
 /ma-s'a:-t<sup>h</sup>u-me?/  
 with.foot-break-NEG-IMP.PL  
 'don't stomp on it and break it!' (to several)
- (28) a. <cah>(no:)(dún)(ne:)  
 /cahno-ad-unna-e:/  
 speak-DUR-AUD-NONFINAL  
 'he/she is speaking (and I hear it)'
- b. <cah>(no:)(delá)  
 /cahno-ad-ela/  
 speak-DUR-IPFV.1  
 'I am speaking'

If a long vowel ends up in a closed syllable, it is short on the surface, but the accent nevertheless shifts to the next foot. This closed-syllable shortening introduces some opacity to the accent pattern; note the identical surface syllable structures of (25a) and (29a), with accent shift only in the latter due to the long underlying vowel.

- (29) a. <šu>(s'ah)(qabíw)  
 /šu-s'a:-hqa-bi-w/  
 by.pulling-break-CAUS-EVID-ABS  
 'seems to have broken (the rope) by having (the horse) pull it'
- b. <cah>(non')(mú?)(t<sup>h</sup>ela)  
 /cahno:d-muc'-t<sup>h</sup>-ela/  
 talk-RECIP-NEG-IPFV.1  
 'I don't talk with him'

In another source of opacity, accent can arise on the fifth syllable of the word by a process that Buckley (1994) terms FOOT FLIPPING, since it gives the appearance of an underlying sequence /CV:CV/ shifting vowel length internally to create the regular iambic foot /CVCV:/. More precisely, if the first syllable encountered during metrification – that is, after any extrametrical syllable that may be present – consists of /CV:/ followed by /CV/, they surface together as regular iambic (CVCV:). This is similar to what would be expected from iambic lengthening, but in this context accent shifts to the next foot.

- (30) a. <da>(s'aci:)(duwá:)du  
 /da-s'a:-cid-uwad-u/  
 with.hand-break-DUR-DUR-ABS  
 'to keep breaking with the hand'



d. <hi?>(bayá)(naṭa)                      ‘boy’ (variant form) : “man-child”  
 /hi?baya/ + /naṭa/

When a simple noun is accented in isolation or separately from other parts of a sentence, that single word is also an accent phrase.<sup>7</sup> But when multiple M-Words are grouped into one AP, footing is applied across the AP domain. The various constituencies are laid out explicitly here.<sup>8</sup>

(33) M-Word	[            ]	[    ][            ]
P-Word	(            )	(    )(            )
Accent Phrase	(            )	(                    )
Feet	(. x)	(. x) (. x)
Syllables	hi? ba ya	na ṭa hi? ba ya

For clarity, I use square brackets [ ] for morphosyntactic categories and parentheses ( ) for phonological categories. Extrametricality is indicated by exclusion of the first syllable from the footing.

There is no evidence that the AP is actually a newly created and larger P-Word, which can be seen in particular the phrasal forms given below. Although the same principles of footing are used, there is no iambic lengthening within the accent phrase; this occurs only for the footing that is assigned to individual P-Words at a lexical stage of the derivation. At the postlexical or phrasal stage, AP domains are created, and iambic lengthening no longer applies. The new AP footing may be the same as the P-Word footing in the lexicon – if words are not grouped together – or it may require overwriting of the foot structure where two or more words form a new constituent.

These complex AP structures are most often a verb preceded by a complement or adjunct, the sort of configuration that could involve noun incorporation in some languages. In Kashaya, however, there is no evidence of incorporation into a single M-Word. Phonologically, the grouping as one accent phrase is optional, unlike the reduplicated structures in section 11.4. Morphologically, there is no difference in form between these pre-verbal elements and the same elements that occur in other contexts. Syntactically, there is no close connection between the first word and the following verb; they can be separated by other elements such as pronouns or adverbs, and they can occur in the opposite order (although verbs are usually final).

For comparison, the next sets of examples show grouping of one M-Word (a noun or adverb) with two different following M-Words (a verb, or a derivative of one). The main stress foot is either nonbranching (a) or branching (b). The footing that occurs for the constituent words in isolation, or when otherwise footed separately, is shown in (c).

<sup>7</sup> Another term for this constituent is the phonological phrase (Nespor & Vogel 1986) or minor phrase (Selkirk & Tateishi 1988).

<sup>8</sup> The existence of footing within an AP that spans a P-Word boundary indicates that CRISPEGE(PrWd) is not strictly observed among layers of the prosodic hierarchy in Kashaya (see Ito & Mester 1999). But a similar conclusion is already made necessary by the fact that a laryngeal increment /h, ʔ/ occurring at the start of one P-Word will resyllabify into the coda of a syllable in a preceding P-Word, even when they are not in the same AP; examples of this can be seen below in (34a) and (35a).

- (34) a. <si>(máh)(cow)  
 /sima/ + /hco-w/  
 asleep + lie.in.container.on.ground-ABS  
 ‘(the water) lay still without spreading’
- b. <si>(mabá)(ṭitaʔ)li  
 /sima/ + /baṭi-t-ac’-ʔ=li/  
 asleep + lie.on.ground.PL-PLUR-DUR.PL.AGT=LOC  
 ‘where they lay down to sleep on the ground’
- c. *Isolation forms*  
 <si>(má) ... (ców)  
 <si>(má) ... <ba>(ṭitáʔ)li

- (35) a. <ʔah>(q<sup>h</sup>áʔ)(q’oti)(yihe)  
 /ʔahq<sup>h</sup>a/ + /ʔq’o-ti=yihe/  
 water + drink-INTENT=PURP  
 ‘in order to get a drink of water’
- b. <ʔah>(q<sup>h</sup>acó)(do:)du  
 /ʔahq<sup>h</sup>a/ + /codo-ad-u/  
 water + move.in.container-hither-ABS  
 ‘bring water here’
- c. *Isolation forms*  
 <ʔah>(q<sup>h</sup>á) ... (q’otí)(yihe)  
 <ʔah>(q<sup>h</sup>á) ... <co>(do:)(dú)

Two of these examples illustrate that enclitics (preceded by an equal sign) group with the preceding P-Word in the same AP domain. Clitics in Kashaya can be diagnosed by their placement after a phrase, rather than the head word; and by the application of word-final phonological patterns in the preceding word.

The next examples include a /CV:/ foot that shifts the accent to the following foot within the phrase.

- (36) a. <q’a>(si:)(síʔ)(yowam)  
 /q’asi:si/ + /=ʔ-yow-a-m/  
 elk =COP-former-FACT-REL.SUB  
 ‘the former elk’
- b. <q’a>(si:)(simá:)(duʔ)  
 /q’asi:si/ + /ma:duc-ʔ/  
 elk + arrive-ABS  
 ‘the elk arrived’

c. *Isolation forms*

<q'a>(si:)(sí) ... (yowám)  
 <q'a>(si:)(sí) ... (ma:)(dúʔ)

(37) a. <ʔih>(ya:)(qáh)(samʔ)  
 /ʔihya:/ + /qa-hsa-m-ʔ/  
 bone + between.teeth-move.PL-STAT-ABS  
 ‘held the bones in its mouth’

b. <ʔih>(ya:)(baʔi)(ta:)du  
 /ʔihya:/ + /baʔi-t-ad-u/  
 bone + lie.on.ground.PL-PLUR-DUR-ABS  
 ‘the bones are lying on the ground’

c. *Isolation forms*

<ʔih>(yá:) ... <qah>(sámʔ)  
 <ʔih>(yá:) ... <ba>(ʔitá:)du

The two elements in each of these configurations – an adverb or noun followed by a verb – are distinct M-Words for the reasons discussed above. They are also distinct P-Words, at least insofar as they undergo separate footing that determines the location of iambic lengthening. For example, the verb /baʔita:du/ in (37b) has iambic lengthening on the third syllable, due to the lexical footing shown in (37c), not on the second syllable that is accented in this phrasal example. But since the two words are a single domain for the placement of accent (including footing at the phrasal level), this indicates the following overall structure.

(38) (AP [M (P ʔihya: ) ] [M (P baʔita:du ) ] )

In phrases with multiple accent domains, a variety of configurations can be found, but each AP will have one or more M-Word and P-Word within it. Where M-Words have not been grouped into a single AP, the notation + is retained in the first line. Consider the following sentences.

(39) a. <ʔih>(c<sup>h</sup>edí)(bucʔk<sup>h</sup>e)  
 /ʔihc<sup>h</sup>e/ + /dibuc-ʔk<sup>h</sup>e/  
 rain + precipitate-FUT  
 ‘it will rain’

b. <ʔih>(c<sup>h</sup>e) + <di>(bucí:)(dem)  
 /ʔihc<sup>h</sup>e/ + /dibuc-id-em/  
 rain + precipitate-DUR-DS.SIM  
 ‘whenever it rains’

c. <ʔih>(c<sup>h</sup>emíh)(saʔ) + <di>(bucínʔ)k<sup>h</sup>e  
 /ʔihc<sup>h</sup>e/ + /mihsac/ + /dibuc-id-ʔk<sup>h</sup>e/  
 rain + heavy + precipitate-DUR-FUT  
 ‘heavy rain will be falling’

In (39a) and (39b), there are two M-Words, and they can group together in one AP or as two separate APs; this reflects the optionality involved in grouping a verb with the noun or other element that precedes it, as well as the greater frequency of treating a verb as a single AP as its syllable count increases (Buckley & Gluckman 2012). In (39c), there are three M-Words; the first two group in one AP, while the third forms an AP of its own.

- (40) a. (AP [M (P ?ihc<sup>h</sup>e ) ] [M (P díbuc<sup>h</sup>'k<sup>h</sup>e ) ] )  
 b. (AP [M (P ?ihc<sup>h</sup>e ) ] ) (AP [M (P dibucí:dem ) ] )  
 c. (AP [M (P ?ihc<sup>h</sup>e ) ] [M (P míhsa? ) ] ) (AP [M (P dibucín<sup>h</sup>'k<sup>h</sup>e ) ] )

A short AP, such as the first in (39b), typically surfaces without a pitch accent, which Oswald (1961) calls ACCENT SUPPRESSION; we might also term it DEACCENTUATION. For the short sentence in (41), a speaker gave the two pronunciations shown in (b) and (c), in immediate sequence.

- (41) a. /haʔda/ + /mu-hye:-y/  
 clock + with.energy-stop-VIS  
 ‘the clocked stopped’  
 b. (AP [M (P haʔda ) ] ) (AP [M (P muhyé:y ) ] )  
 c. (AP [M (P haʔda ) ] [M (P múhye:y ) ] )

The first utterance, parsed as two APs, reflects a more deliberate and careful pronunciation, as when a sentence is being translated or formulated.<sup>9</sup> The second, with a single AP, is more natural and typical of fluent speech. This has happened on a number of occasions during the author’s fieldwork. It is quite another issue when a longer, unaccented string occurs following an M-Word that has a pitch accent. In that case, the two domains might be grouped into a single AP, with the accent assigned toward the beginning of the large AP; or there might be two AP’s with deaccentuation in the second AP, in which case it is impossible to distinguish the analyses.

An important observation is that, although a pre-verbal element that is an independent M-Word can group with the verb in a single AP (40a), this is by no means required. A short word may form its own AP, possibly unaccented (40b); or a multiple M-Word phrase will often be treated as a separate AP from the verb (40c). We see next that this stands in contrast to the patterning of verb reduplication, where elements of similar size are obligatorily included in the AP of the longer element that follows.

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<sup>9</sup> An accent on the first word in (40b), as *haʔdá*, is possible, but this reflects unusually deliberate speech. It would often come with a short pause between the words, suggesting a phrasal boundary above the AP level in that case.



## 11.4. Reduplication

Kashaya verbs show two common types of reduplication, either a syllable or a foot in size. Both apply to a disyllabic stem; it may be a single morpheme, or more often a CV- instrumental prefix plus a monosyllabic root. Oswalt (1961: 155f) uses the term ITERATIVE for reduplication of a syllable, which indicates that “the action is repeated a few times”; and FREQUENTATIVE for foot-sized reduplication, meaning that “the action is repeated in quick succession” (and normally a larger number of times). The iterative occurs with a significant but fixed set of stems; the frequentative is more productive, and can also function as the pluractional form of a verb that is iterative in the singular. Some verbs occur with and without reduplication, while others are always reduplicated; since the main interest here is in the reduplication itself, I will not treat these cases differently.

The following examples illustrate the forms of verbs that can occur in both types of reduplication; the gloss provides the basic meaning of the stem without regard to the repetition encoded in the derived forms. Those in (42) have morphologically simple stems; those in (43) consist of an instrumental prefix plus a monosyllabic root.

(42) a.	behla- s’uhmi-	behlá-hla- s’uhmí-hmi-	behla-béhla- s’uhmi-s’úhmi-	‘flicker’ ‘glitter, shine’
b.	k’oʔyo- saʔt’a-	k’oʔyó-ʔyo- saʔt’á-ʔt’a-	k’oʔyo-k’óʔyo- saʔt’a-sáʔt’a-	‘shake (of a rattle)’ ‘sting, tingle’
(43) a.	hi-hyu- šo-hp <sup>h</sup> o-	hihyú-hyu- šohp <sup>h</sup> ó-hp <sup>h</sup> o-	hihyu-híhyu- šohp <sup>h</sup> o-šóhp <sup>h</sup> o-	‘quiver the body’ ‘scatter by shaking’
b.	ba-ʔlo- mu-ʔk’i-	baʔló-ʔlo- muʔk’í-ʔk’i-	baʔlo-báʔlo- muʔk’i-múʔk’i-	‘stammer; speak brokenly’ ‘narrow by burning’

Although these are not complete words – they require at least one suffix – the reduplicated forms are long enough for the location of accent to be certain, and it is marked. If just the absolutive suffix is added to the reduplicated forms, the following foot structures will occur; all the other verbs are parallel.

(44)	ITERATIVE	FREQUENTATIVE
	<beh>(láh)(law)	<beh>(labéh)(law)
	/behla-hla-w/	/behla-behla-w/

Nearly all verbs that undergo iterative reduplication have laryngeal increments (section 11.1); in fact, iterative bases overwhelmingly follow the strict pattern CVHCV- as seen here, where an increment H is present with no consonant at the end of the stem, so that the iterative is regularly CVHCV-HCV-. In a number of cases, it seems clear that an iterative verb has been derived from a simple verb by truncation of the final consonant, as in *qa-hsu-hsu-* and *qa-hsut-* that both mean ‘cut into little pieces’. In other cases it appears that an increment has been added, or at least it has been lost only in the non-iterative form, as in *s’ahlu-hlu-* ‘shine, sparkle’ versus *s’alu:m-* ‘shine on something’. Both factors can be seen in *šo-bo:k’-* alternating with *šo-ʔbo-ʔbo-* ‘belly rise and fall from heavy puffing’.

Frequentative reduplication does not have these shape restrictions; the stems often lack an increment (45), and may end in a consonant (46).

- |         |         |              |                               |
|---------|---------|--------------|-------------------------------|
| (45) a. | s'ula-  | s'ula-s'úla- | 'be slick and slippery'       |
|         | c'itu-  | c'itu-c'ítu- | 'move with short quick steps' |
|         | kumu-   | kumu-kúmu-   | 'be wadded up'                |
| b.      | ba-c'e- | bac'e-bác'e- | 'speak fast'                  |
- 
- |         |            |                    |                                      |
|---------|------------|--------------------|--------------------------------------|
| (46) a. | k'opoš-    | k'opóš-k'opoš-     | 'bob up and down in water'           |
|         | sikal-     | sikál-sikal-       | 'flicker, fade away'                 |
|         | banem-     | baném-banem-       | 'bounce up and down'                 |
| b.      | ma-ʔk'uṯh- | maʔk'úṯh-maʔk'uṯh- | 'make crunching noise while walking' |

Vowel length is normally lost from the left member of the reduplicated structure, due to a morphologically triggered shortening rule (47). A long vowel already shortens phonologically in a closed syllable, but the presence of that underlying long vowel can be inferred from the placement of accent, as in (29). Here the loss of length by morphological means can be determined from the accent on the second syllable, which does **not** shift to the next foot.

- |         |           |                 |                                      |
|---------|-----------|-----------------|--------------------------------------|
| (47) a. | c'oto:m-  | c'otóm-c'oto:m- | 'spill over and drip'                |
| b.      | šo-bo:k'- | šobók'-šobo:k'- | '(belly) rise and fall from puffing' |
|         | di-ka:n-  | dikán-dika:n-   | '(animal) keep head raised'          |
|         | qa-be:l-  | qabél-qabe:l-   | 'chew while working the lips'        |

Iterative reduplication is clearly suffixing, since it is the rightmost syllable of the stem (including the increment) that is copied. The edge at which frequentative reduplication occurs is less obvious since it is a full segmental copy of the disyllabic stem,<sup>10</sup> except that underlying vowel length is lost in the left but not right member. Based on this evidence, Buckley (1994) treats it as prefixing reduplication, so I will follow that assumption in the glosses here.

As shown by Buckley (2001), the left member of a reduplicated structure – whether it is the base, in the iterative; or the reduplicant, in the frequentative – is excluded from the footing domain that begins with the right member of the structure. That left member will be footed on its own, of course, but this domain is too short to show effects such as iambic lengthening. We can observe this most effectively in the actual location of iambic lengthening in frequentative verbs. Notice that the first syllable of the root /q'olo/ (in the right-hand member) does not undergo lengthening, as would be expected in a single P-Word domain (48b); but the lack of length is entirely expected in two domains (48a), where /q'o/ is not the head of a foot, and in fact is extrametrical.

- |         |                            |
|---------|----------------------------|
| (48) a. | <q'o>(lo) + <q'o>(lota:)du |
| b.      | * <q'o>(loq'o:)(lota:)du   |

<sup>10</sup> Longer stems, such as /da-ʔt'ubut-/ in (18), do not undergo reduplication, so they do not contribute evidence of directionality.

- (49) <q'o>(loq'ó)(lota:)du  
 /q'olo-q'olo-t-ad-u/  
 FREQ-gurgle-PLUR-DUR-ABS  
 'gurgle in several places'

When we put these together, we arrive at the full footing in the AP shown in the first line of (49), with the accent in the correct location. The length in /ta:/ would be the same under either parsing.

A related point can be made with a stem that ends in a consonant, but in this case the lengthening would shift. In (50a) the syllable /ma/ is lengthened, which follows if there are two separate footing domains; since /banemadadu/ is a distinct domain, it undergoes syllable extrametricality and the first foot is /nema/, and its second vowel lengthens. But if there is a single footing domain (50b), only the first syllable of this larger domain would be eligible for extrametricality, and a different foot structure predicts lengthening of /ne/ and /da/, which is incorrect.

- (50) a. <ba>(nem) + <ba>(nema:)(dadu)  
 b. \* <ba>(nem)(bane:)(mada:)du

- (51) <ba>(ném)(bane)(ma:)(dadu)  
 /banem-banem-adad-u/  
 FREQ-bounce-LCM-ABS  
 'bounce while moving along (in a car)'

In (51) we see the footing of the entire AP as one domain, which yields the correct accent, but relies on the separate footing of the two domains in (50a) to generate the right distribution of length.

It can be noted that certain configurations yield the correct distribution of vowel length under either footing. Specifically, a stem of the common shape CVHCV-, reduplicated as CVHCV-CVHCV-, has a closed third syllable that is not eligible for iambic lengthening, even if there were a single P-Word as the domain of footing (52b).

- (52) a. <bah>(cu) + <bah>(cuwa:)(dun)  
 b. (\*) <bah>(cubah)(cuwa:)(dun)

- (53) <bah>(cubáh)(cuwa:)(dun)  
 /bahcu-bahcu-wad-in/  
 FREQ-jump-DUR-SS.SIM  
 'while continuing to jump up and down'

Nevertheless, such examples are compatible with the two-domain structure that is explicitly required in other situations (52a). In addition, they require two domains under other criteria discussed in Buckley (2001). These include allomorph selection and the outcome of vowel elision, both of which are sensitive to distance from the left edge of the P-Word; and the fate of the laryngeal increment, which I illustrate here.

The deletion of a laryngeal increment from a stem (see section 11.1) occurs within the prosodic word that contains the triggering suffix; the increment in the preceding copy of the stem is unaffected. Here the triggers are the directional *-alamec'* and the plural *-t*.

(54) <hih>(yuhí)(yula:)(me?)  
 /hihyu-hi-hyu-alamec'-ʔ/  
 FREQ-with.body-quiver-down.away-ABS  
 'quiver the body while moving downward (in a dance)'

(55) <biʔ>(yobí)(yota:)du  
 /biʔyo-bi-ʔyo-t-ad-u/  
 FREQ-encircling-gather-PLUR-DUR-ABS  
 'gather several bunches in the arms'

These decremented forms are noteworthy because they result in a /CVCV/ shape for the second copy of the stem, giving additional evidence for two footing domains. Without the increment in the second copy, iambic lengthening would be overgenerated in a single-domain analysis.<sup>11</sup>

(56) a. <hih>(yu) + <hi>(yula:)(me?)  
 b. \* <hih>(yuhi:)(yula:)(me?)

(57) a. <biʔ>(yo) + <bi>(yota:)du  
 b. \* <biʔ>(yobi:)(yota:)du

These reduplicative structures with two P-Words are in fact the same prosodically as those found in some phrasal configurations, such as (39). I turn now to a more detailed comparison.

### 11.5. Parallel prosodic structures

Recall the structure found in a phrasal accent domain in (39a); the two independent M- and P-Words are optionally combined into a single AP for accent placement.

(58) (AP [M (P ʔihc<sup>h</sup>e ) ] [M (P díbuc<sup>h</sup>e ) ] )  
 'it will rain'

In frequentative reduplication, there is similarly a disyllabic constituent grouped accentually with a following element that is an independent domain for the purposes of iambic lengthening – that is, a separate P-Word. In this case, however, the initial disyllabic constituent is a reduplicant. The fact that it cannot be accented separately from the following element can be explained if we assume that they are part of the same M-Word. I illustrate with (54).

<sup>11</sup> See also (50b). The long vowel in /hihyuhíyula:meʔ/ is not actually the result of iambic lengthening, although it has the same distribution; the vowel length originates from the merger of the vowels /ua/ in /hiyu-alamec'-/, as /hiyu:lamec'-/, but foot flipping yields /hiyula:mec'-/. This derivation would cause accent shift if it occurred at the beginning of an accent phrase, as <hi>(yula:)(méʔ), but in this AP-internal context that effect is unrealized.

- (59) (AP [M (P hihyu ) (P híyula:meʔ ) ] )  
 ‘quiver the body moving downward’

It is a basic property of the reduplicative structure that the reduplicant and base are grouped into distinct P-Words, as shown by iambic lengthening. But because they belong to the same M-Word, they are necessarily grouped into a single AP; it is impossible for the following structure to arise, where the base and its suffixes are accented independently of the prefixed reduplicant.

- (60) \* (AP [M (P hihyu ) ] ) (AP (P hiyulá:meʔ ) ] )

The property that makes (60) impossible is the placement of accent relative to the second element, as expected if it were an independent AP. Although this a hypothetical form, I assume accent suppression in the short left element, since that is a typical outcome in similar structures.

The WRAP constraint of Truckenbrodt (1995, 2007), though developed for phrasal XP categories, would be a suitable means of ensuring this result if applied to the M-Word of Kashaya reduplicated verbs. This constraint would require that every M-Word be fully contained within some accent phrase, thereby prohibiting the structure in (60) where a single M-Word is split across two APs. Note that WRAP does not prohibit more than one M-Word from appearing in an AP.

Contrast this situation with the variation in the grouping of independent M-Words into one or two APs, where the following are both possible accentual realizations of the same phrase.

- (61) a. (AP [M (P ?ihc<sup>h</sup>e ) ] [M (P díbuc<sup>h</sup>k<sup>h</sup>e ) ] )  
 b. (AP [M (P ?ihc<sup>h</sup>e ) ] ) (AP [M (P dibú<sup>h</sup>c<sup>h</sup>k<sup>h</sup>e ) ] )

Because these two elements are separate M-Words, they are not required to occupy the same AP, unlike the single M-Word in reduplication. To generate the variation, we need only posit variable ranking of two constraints: BINMIN, requiring that AP domains be branching, or minimally binary at the P-Word level (Inkelas & Zec 1995; Selkirk 2011); and MATCH, which requires that a single prosodic constituent correspond to a single syntactic constituent (Selkirk 2011).

This observation is true also for iterative reduplication; the suffixed monosyllabic reduplicant cannot be accented independently of the disyllabic base that precedes it.

- (62) <qah>(móh)(mowe)la  
 /qa-hmo-hmo-wela/  
 between.teeth-break.up-ITER-IPFV.1  
 ‘I’m working it around in my mouth’

- (63) a. (AP [M (P qahmó ) (P hmowela ) ] )  
 b. \* (AP [M (P qahmo ) ] ) (AP (P hmowéla ) ] )

Admittedly, there is no positive evidence that syllable reduplication consists of two P-Words; this assumption is made by analogy with foot-sized reduplication. If one chooses to treat (63) as one P-Word, then the crucial evidence for two P-Words comes from foot reduplication.

A syllabically comparable phrasal structure is the following, which again can vary in accent placement where the reduplicated verb cannot.

(64) <bih>(šéh)(c<sup>h</sup>oyiʔ)  
 /bihše/ + /hc<sup>h</sup>oyicʔ-ʔ/  
 deer + die-ABS  
 ‘the deer died’

(65) a. (AP [M (P bihšé ) ] [M (P hc<sup>h</sup>oyiʔ) ] )  
 b. (AP [M (P bihše ) ] ) (AP [M (P hc<sup>h</sup>oyiʔ) ] )

Just as in (61), since these elements are separate M-Words, placing them in the same AP is optional; but this is not the case for the reduplication in (63), which is a single M-Word and cannot be split across two APs.

The restriction against splitting a single M-Word into multiple APs holds as well for long verb forms that lack an internal P-Word boundary, since they have no reduplication.

(66) <q<sup>h</sup>a>(mací:)(duwa:)(duce:)du  
 /q<sup>h</sup>ama-cid-uwad-uced-u/  
 follow-DUR-DIST-DUR-ABS  
 ‘continually follow all around’

(67) a. (AP [M (P q<sup>h</sup>amací:duwa:duce:du ) ] )  
 b. \* (AP [M (P q<sup>h</sup>amací:du ) (AP wa:ducé:du ) ] )

There are no long words of this type that bear multiple accents, consistent with the claim that every M-Word is fully contained within a single accent phrase. It is also true in this case that a single P-Word cannot be broken into multiple APs, which can be attributed CRISPEDGE(AP); see footnote 7.

Because the grouping into one AP is obligatory for reduplication but optional for phrases, I suggest that reduplicative structure is a likely diachronic source of the phrasal grouping of two M-Words into one AP that is so characteristic of modern Kashaya. That is, the reduplicative grouping [PP]<sub>M</sub> in one AP with two P-Words may have facilitated the development of two-word [P]<sub>M</sub>[P]<sub>M</sub> as one AP as well. Of course, this structure is also compatible with a general preference for binary groupings of prosodic constituents (see above in this section).

This proposed historical ordering has some support from the fact that Kashaya is the only one of the seven Pomoan languages that has phrasal stress of this kind, indicating that it is an innovation in the language. At the same time, there is strong evidence for multiple P-Words in reduplication in Southeastern Pomo (Buckley 2013; Moshinsky 1973), with suggestive evidence for Eastern Pomo as well (McLendon 1975); these two languages are the most distant from Kashaya in the family, so that prosodic structure may reflect an old pattern.<sup>12</sup> Such a prosodification may, however, have arisen independently, since disyllabic reduplicants often pattern as prosodic words (McCarthy & Prince 1986). The condition in Kashaya that might

<sup>12</sup> In Southern Pomo (Walker 2020), cognate forms of the Kashaya reduplicative affixes exist, but there is not enough information to claim an effect on phrasal grouping.

especially encourage the less common AP grouping is the presence of accent shift; this can place the accent as far in as the fifth syllable, exceeding the length of most non-verbs in the language.

A notable consequence of phrasal stress placement in Kashaya is that it disrupts the common role of stress in demarcating word boundaries (Hyman 1977). Since, however, even word-bound accent in Kashaya falls by default on the second or third syllable, word demarcation would appear to be of relatively low importance. But interestingly, in a common phrasal stress configuration – where the first word is a disyllable ending in an open syllable – the accent ends up falling on the first syllable of the second word, as shown by numerous examples in section 11.3. Somewhat ironically, in these situations an accent that is determined from the start of the first word has the effect of demarcating the start of the second word in the accent phrase.

## 11.6. Conclusion

In this chapter I have shown that Kashaya builds multi-word accent phrases in two distinct ways. First, elements that are “words” in a fairly easy sense – simultaneously M-Words and P-Words – are frequently though optionally grouped together into a single accent domain, the AP. Second, verbs containing frequentative reduplication are a single M-Word, but contain two P-Words; these obligatorily join a single AP because the M-Word to which they belong cannot be split across two APs. This indicates that Kashaya prosodic structure permits multiple M-Words in one AP, but not the reverse relationship. Since the two P-Words in reduplicative structures are required to occur in one AP, this may have set a precedent for the optional grouping of multiple M-Words in one accentual domain that characterizes phrasal stress.

This analysis contains lessons for the application of stress theory to other polysynthetic languages. It is easy to assume that the stress domain is a “word” that correlates with both an M-Word and a P-Word, though perhaps with the occasional clitic at the beginning or end. But languages with complex morphological structure – of which Kashaya is by no means the most extreme example – present a trickier case. Indeed, it has been argued that a single M-Word can consist of multiple P-Words in polysynthetic languages (see Miller 2018 for an overview), and even that there may not be a single coherent notion of prosodic word cross-linguistically (Schiering, et al. 2010; Tallman 2019).

The latter authors, however, do not make use of tools such as strata or levels in Lexical Phonology (Kiparsky 1982, inter alia) or Stratal OT (Kiparsky 2015; Bermúdez-Otero 2018). In the Kashaya case, iambic feet are constructed across the entire P-Word domain – necessary for the placement of stress – but only in the third lexical stratum (in the analysis of Buckley 1994) does iambic lengthening occur. Indeed, primary stress can fall on a syllable in a later stratum without producing a long vowel, as in the verb *maʔa-bína* ‘because (it) ate’ from (9), where /-bina/ belongs to the non-lengthening set of obligatory suffixes. Similarly, the resistance to changes in vowel length by the suffix /-ela/ is also responsible for its non-participation in foot flipping in *cahno:d-elá* ‘I am speaking’, rather than *\*cahnod-e:lá*, in (28). These patterns can be treated in Lexical Phonology or Stratal OT by means of a rule, or constraint ranking, that holds early in the derivation but not later, without proposing abandonment of the P-Word. I am hopeful that more careful consideration of languages that seem to challenge a universal category P-Word will yield to analysis in such terms.

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