

Alsea metathesis and syllable structure

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SSILA Annual Meeting
San Francisco, 4 January 2002

1. Alsea is a (possibly) Penutian language formerly spoken on the central Oregon coast. Data here are from Frachtenberg (1917, 1920), Jacobs (1935), and manuscript notes of Frachtenberg transcribed by Paul Kroeber; phonemicization follows the assumptions of Buckley (1988, 1989).

2. There are **three basic stem forms** found in different contexts. The exact nature of the contexts is unclear; it may relate to aspect (Frachtenberg 1918), but is highly correlated with suffix choice. It is robustly found with verbs, but also occurs with some nouns. Alternating stems have at least two forms, one **with a root vowel** and another **without that vowel**.

a. tap -sal	‘had jumped’	tp -ay	‘began to jump’
b. tap -tʰ	‘jumped’	tp -ay-nʰ	‘let it fly’
c. tap -al	‘habitually jump’		

3. Often the “missing” root vowel **surfaces in a suffix**, giving the appearance of metathesis, by which the root vowel seems to change order with the final consonant(s) of the root.

a. ʔ-tasn-ʰ	‘would point at him’	ʔ-tsn-a-ʔn	‘would be pointed at’
b. ʔ-tasn-ʔn	‘would be pointed at’	tsn-ay-nʰ	‘pointed at him’
c. ʔ-tasn-iyu	‘point at (him)!’	tsn-aʔa	‘will point at him’
d. sup̥-al	‘it is (always) dropping’	sp̥-uy-nʰ	‘drop it’
e. sup̥-sal	‘it dropped’	sp̥-uʔu	‘will drop it’
f. sup̥-ay	‘(don’t) drop it!’		
g. siqʷl-tʰ	‘are standing’	sqʷl-iy-m	‘will stand’
h. siqʷl-ʰ	‘stand up!’	sqʷl-iy-ʰ	‘stand up’
i. siqʷl-al	‘stand a long time’		

4. Sometimes, however, that vowel is **absent entirely**. As a result, this alternation cannot be treated as metathesis, but should rather be considered a combination of vowel **feature copying and deletion** of the (rightmost) stem vowel (see Buckley 1989 for evidence and discussion).

a. ʔ-qluqʷ-al-ʰ	‘was circling it’
b. qlqʷ-uy-nʰ	‘go around it’
c. qlqʷ-al-ʔ-ay-nʰ	‘began repeatedly circling it’
d. ʔawit-aw	‘is approaching’
e. ʔawt-iy-m	‘(will) approach’
f. ʔawt	‘near’
g. slaxʷ-sa-nʰ	‘was melting it’
h. slxʷ-a-ʔn-ʰ	‘has been melted’
i. slxʷ-tʰ	‘is melted’

5. The **true metathesis** of interest for this paper occurs wholly **within the stem**. Again, there are certain contexts that seem to require one stem-form, but the conditioning factors are at present unclear beyond a strong correlation with specific suffixes.

<u>VC ordering</u>		<u>CV ordering</u>	
a. tums-a	‘(don’t) close (it)!’	tmus-χ	‘is closed’
b. tums-t	‘close it!’	tmus-sa-nχ	‘had closed it’
c. ?imst-χ	‘be like that!’	?mist-χ	‘is like that’
d.		?mist-al	‘acts like that’
e. cuns-χ	‘lie down!’	cnus-χ	‘are lying in bed’
f. cuns-tχ	‘are sleeping’	cnus-al	‘always sleep’
g. qlinp-t	‘skin him!’	qlnip-sa-nχ	‘skinned him’
h. qlinp-ay	‘(don’t) strip him!’	qlnip-al-χ	‘strip him often’
i. stalk-t	‘slide it!’	stlak-sal-tχ	‘had been sliding’
j. stalk-χ	‘slide!’		
k. χilt-t	‘catch it with a stick!’	χlit-sa-nχ	‘had caught it’
l. χilt-ay	‘(don’t) catch it!’		
m. qilh-a	‘(don’t) get tired!’	qlih-sal-tχ	‘was tired’
n.		qlih-χ	‘feel tired’
o. payχ-χ	‘hide!’	pyaχ-χ	‘is hiding’
p. payχ-t	‘hide it!’	pyaχ-aw-tχ	‘is in act of hiding’
q.		pyaχ-sal-tχ	‘hid’
r. caws-χ	‘crawl!’	cwas-al-tχ	‘crawl around’

6. These verbs illustrate some of the more common **suffixes and the stem forms that they require**, summarized below. The suffix closest to the stem seems generally to determine its form.

<u>Suffixes with VC stems</u>		<u>Suffixes with CV stems</u>	
-χ	intransitive imperative	-al	habitual
-t	transitive imperative	-aw	progressive
-a(y)	prohibitive	-sal	distributive, past
		-χ, -i	completive (realis, irrealis)

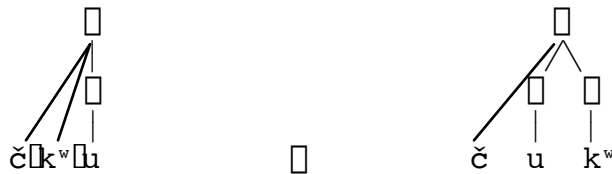
7. Stonham (1990) argues **against metathesis as a morphological process**, although superficially that seems to be what’s happening in Alsea. The non-participation of obstruents — discussed just below — strongly suggests it’s not metathesis per se but rather a **phonologically determined alternation**, in support of Stonham’s position.

8. I suggest that the driving force behind the alternation is a **prosodic requirement on the stem**, similar to that found in other languages. For example, McCarthy and Prince (1990) list a number of such cases, including the restriction of English *-er* and *-est* to stems no longer than a foot (*stupid-er*, **intelligent-er*).

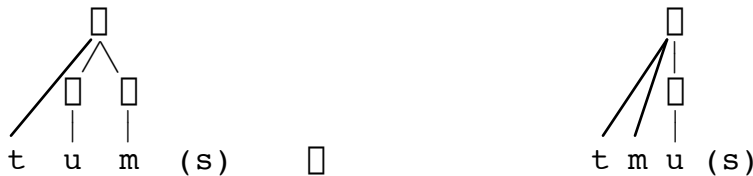
9. A particularly **close analogy** is found in Straits Salish. These Clallam verb forms illustrate a metathesis that differentiates actual and non-actual stems (Thompson and Thompson 1969).

<u>Non-Actual</u>	<u>Actual</u>	
čk ^w ú-	čúk ^w -	‘shoot’
χčí-	χíč-	‘scratch’
čq ^w á-	čáq ^w -	‘burn’

10. Stonham argues for a rule of **mora insertion**, which has various consequences on the verb depending on its phonological shape. (Equivalently, a requirement for a bimoraic stem.) For CCV verbs, the result is metathesis in order to achieve the **heavy syllable** CVC.



11. In Alesea, I treat the metathesis as operating in the opposite direction: Some suffixes (or morphosemantic contexts?) demand a **light preceding syllable**, and this is what **forces the consonant to move leftward** to onset position. For the final consonant, see below.



12. In the Alesea examples above, the consonant that is reordered with the vowel is **always a sonorant**, belonging to the set /m, n, l, y, w/. As the next examples show, an **obstruent** adjacent to the root vowel **does not undergo any reordering**, regardless of the suffix present.

a.	supl -t	‘slide it!’	supl -aw	‘is sliding’
b.	supl -a	‘(don’t) slide!’		
c.	cχ^wat -a	‘(don’t) fight!’	cχ^wat -sa-nχ	‘had a fight with him’
d.			cχ^wat -i	‘(always) fight’
e.	kist -ay	‘(don’t) leave him!’	kist -i	‘(will) leave (him)’
f.	kist -χ	‘leave (him)!’	kist -χ	‘left’
g.			ł- kist -al-χ	‘keep leaving him’
h.	siq^wl -χ	‘stand up!’	siq^wl -al	‘stand a long time’

13. A central question, then, is exactly why **sonorants alone** participate in this alternation. There are **two basic possibilities**, depending on assumptions about syllabification.

I. **Differential moraic status:** A sonorant bears a mora in the coda (thus making the syllable heavy), while an obstruent does not.

- a. tum.sa *heavy because closed by sonorant*
- b. sup.lɑ *light because closed by obstruent*

II. **Onset sonority profile:** An obstruent can form an onset cluster with a following segment, while a sonorant cannot.

- c. tum.sa *heavy because closed*
- d. su.pɫɑ *light because open*

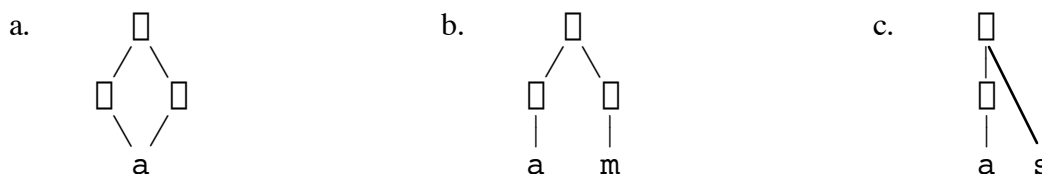
14. Suppose a **sonorant** following the root vowel occupies coda position and **renders that syllable heavy**, whereas a postvocalic **obstruent does not** make the syllable heavy. An example of the same distinction is Kwakwala, where stress is on the first heavy syllable, otherwise on the last (Bach 1978, Zec 1988).

- | | | | |
|---------------|-------------|-----------|-----------|
| a. qá: sa | ‘to walk’ | bə xá | ‘to cut’ |
| b. xé: mə | ‘to weep’ | mə kʷə lá | ‘moon’ |
| c. ʔax só: le | ‘hellebore’ | mə čə tá | ‘to heal’ |

15. A **vowel-sonorant** rime counts as **heavy**, while a **vowel-obstruent** rime counts as **light**.

- | | | | |
|-----------------|-------------------------|---------|-----------------------|
| a. mən sa | ‘to measure’ | gas xá | ‘to carry on fingers’ |
| b. səl ʔa | ‘to pick out’ | təʔ čá | ‘to warm oneself’ |
| c. dʒəm bə təls | ‘to bury in the ground’ | maxʷ čá | ‘to be ashamed’ |

16. The attraction of stress to both long vowels and sonorant-closed syllables is easily captured by assigning **moras to coda sonorants**, e.g. [am], but not to coda obstruents, [as]. Long vowels inherently have two moras, [a:].



17. An **obstruent**, on the other hand, won't contribute to syllable weight even in coda position; as a result, metathesis is unnecessary to achieve a light syllable. (Vowel length is not distinctive in Alesá, so a coda mora is the only source of weight.)



18. To a large degree, however, we don't need to worry about the behavior of obstruents in the coda, since they can form **onset clusters** in a following syllable made possible by the suffix.



19. Things are less certain in **strings of consonants**, such as *tums-t* and *kist-nx*. Epenthetic vowels written in the manuscripts, and apparent syllabic sonorants, suggest the following patterns for such words. For these, no coda obstruents are relevant.



20. In other cases, however, it does seem necessary to assume **light syllables with coda obstruents**, where no epenthetic vowel is written. Here *cnus* is the light form of 'sleep'.



21. For a word like *kisti* we can't be certain of the syllabification: Although [st] is a permissible word-initial onset cluster, it's possible that [s.t] is preferred in intervocalic position. But in *ɪcnust*, the final [...st] must be in the coda. Thus we must maintain that **only sonorants bear moras**.

22. It should also be noted that limits on **onset clusters** are not entirely clear. For example, the [ɪ] in *ɪcnust* might be **"appended" to the syllable** in some sense, i.e. not part of the core syllable (cf. Hoard 1978 for related issues). This topic requires further investigation, but may never be answered satisfactorily given that the language is no longer spoken.

23. The analysis involving a requirement for light syllables before some suffixes, which forces metathesis of sonorants, assumes that the underlying order is VC. For **obstruents**, there are clear **vowel-consonant ordering contrasts**, possibly because they are unaffected by the stem alternations to which sonorants are subject.

<u>VC roots</u>		<u>CV roots</u>	
a. supl-	'slide'	staq ^w -	'kick'
b. ɪɪkn-	'admonish'	tkas-	'break'
c. tasn-	'point at'	qsaw-	'send'

24. There is at present, however, **no clear evidence** to suggest that sonorant roots **contrast underlyingly** for VC versus CV. I assume underlying VC for two reasons. First, this ordering is **more**

common among the obstruent roots (Buckley 1989), and thus is a reasonable default choice for the sonorants. Second, the **inherent lightness of obstruent rimes** accounts more directly for the lack of metathesis in such stems (there's no need for it), whereas if CV is underlying we require a further account of why some secondary strategy is not exploited to make obstruent roots heavy where required (such as consonant epenthesis).

25. A complete formal analysis will make reference also to notions such as **anchoring** (McCarthy and Prince 1995), since, unlike in Clallam, metathesis **cannot affect a consonant at the edge** of the word. Such roots are unchanged in the two suffixal contexts.

a.	xim-a	'(don't) turn back!'	xim-sal-tx	'go back and forth'
b.	yul-a	'talking'	ł-yul-al-łx-x	'was talked about'
c.	wil-a	'reaching'	wil-al	'so far'

26. In sum, this analysis supports Stonham's claim that **morphological metathesis has a phonological basis**. It also serves as a valuable means of **understanding the syllable structure** of a language that is no longer spoken.

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