

Alsea Reduplication and Phonological Opacity

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This paper examines stem alternations in the reduplication patterns of Alsea (central Oregon coast, possibly Penutian), and certain theoretical issues that arise. Data are from Frachtenberg (1910, 1913, 1917, 1920) and Jacobs (1935), phonemicized as described in Buckley (2007). *Please note that some aspects of the phonemicization and morphological analysis are tentative.*

Stem forms. Independent of reduplication, nearly all Alsea verb stems and many noun stems have at least the following forms, which retain or lack the stem vowel (Buckley 1989, 2007). The semantic and morphological conditions for the stem choice are only partly understood, but it is certain that the vowel deletion is not determined by phonological context.

(1)	<u>FULL</u>		<u>SHORT</u>	
	cɣ^wat-iyu	‘fighting’	cɣ^wt-ay-ɣ	‘began to fight’
	ɬan-ɣ-ay	‘keep looking back!’	ɬn-aɣa	‘look back!’
	q̄il-tɣ	‘would hang’	q̄l-iʔi	‘(will) tie it up’
	cix^wt-a-nɣ	‘pushed him’	cɣ^wt-t	‘push him!’
	lut-sa-nɣ	‘is scaring him’	lt-uy-nɣ	‘scared him away’
	msk-tɣ-nɣ	‘is sucking poison’	ɬ-msk-al-t	‘to be sucking poison’

Reduplication. Alsea reduplications can be classified in four categories, according to how much of the stem is retained in the left and right members. Note that only in the final type is the full stem, in this case /ciḱ/, completely absent from the surface realization.

(2)	<u>FULL + FULL</u>	ɬux-	ɬux	‘bark’
	<u>FULL + SHORT</u>	pit-	pt-	‘settle a fight’
	<u>TRUNCATED + FULL</u>	ck^wa-	ck^wahal-	‘walk on stilts’
	<u>TRUNCATED + SHORT</u>	ci-	ck	‘arrow’

Full + Full. A handful of nouns consist of two identical sequences, i.e. complete reduplication. These are not based on a known unreduplicated root.

(3)	ɬux-ɬux	‘(tree) bark’
	ɬpaɣ-ɬpaɣ	‘scapula; shoulder bone at back’
	ɣ^wi-ɣ^wi	‘paddle’
	pluh-pluh	‘hair, beard, feathers’
	h^wlu-h^wlu	‘halibut’

Full + Short. In the next pattern, the right member of the reduplication lacks the stem vowel. Many of these are similarly not attested in unreduplicated contexts.

(4)	q^wic-q^wč	‘brains’	cap-cp-t̄	‘button, fastener’
	tam-tm	‘hand’	m-can-cn-t	‘pelican’
	t̄ul-t̄l	‘fish backbone’	ck^wul-ck^wl-aw	‘hoop game’
	čan-čn-a	‘slime’	kaɬ-kɬ-aw	‘salmon basket trap’

Other forms are attested as an unreduplicated stem, either full or short. (Note $c \rightarrow s$ in /ctq^w/.)

(5)	ɬun-ɬn	‘a tide; high tide’	ɬun-tɰ	‘it’s high tide’
	ɬup-ɬp-aw	‘fire drill’	ɬup-al-ɬn-ɰ	‘was usually rubbed’
	pit-pt-itt^ʔ-ɰ^ws	‘(will) settle the fight’	pit-cus-t^ʔ	‘gift, settlement’
	cta^w-stq^w-itt^ʔ-ɰ	‘kicked each other’	ctq^w-ay-nɰ	‘trampled it’

In still others, both the full and short stems can be found independently in the corpus.

(6)	ɬim-ɬm-aw	‘whirls around’	ɬim-al-tɰ-a	‘whirls around often’
			ɬm-iy-m	‘(will) turn around’
	ɬ-cam-cm-aw-sɰ	‘practice often’	cam-tɰ-sɰ	‘practices’
			cm-ay-nɰ	‘tried it’
	ɬ-kam-km-aw-sɰ	‘exposes himself’ [?]	kam-ɰ-sɰ-ay	‘keep dodging!’
			km-ay-ɰ-sɰ-m	‘(will) dodge it’
	qat^ʔ-qt^ʔ-a	‘chain’	qat^ʔ-iyu	‘a hook’
			qt^ʔ-ay-nɰ	‘hooked it’

Truncated + Full. In two types of reduplication, the left member is truncated to a single vowel-final syllable, potentially with a complex onset (cf. Steriade 1988, McCarthy & Prince 1994). In one of these patterns (“Type A” in Buckley 1989), the right member is the full stem. Once again, some are attested only in reduplications, but the presumed unreduplicated full stem is found concretely within the surface string.

(7)	ck^wa-ck^wahal-aw	‘stilts’	/ck ^w ahal/
	ɬk^wi-ɬk^wink-aw	‘bucket’	/ɬk ^w ink/
	ɬɰa-ɬɰawy-aw-t	‘spinning tops’	/ɬɰawy/

A few such roots occur as independent verbs. The last verb (‘cry’) is attested differently by Frachtenberg and Jacobs; for /tqayɬ/ one would expect prefixed /tqa/ so it may be irregular or influenced by variation in the full stem. All of these verbs seem to lack a distinct short stem.

(8)	pɰi-pɰilcus-ɰ-sɰ	‘asked each other’	pɰilcus-ay-nɰ	‘asked him’
	cqi-cqiw-ɬt-itt^ʔ-ɰ	‘approached each other’	cqiw-ɬn-ɰ	‘was approached’
	tqi-tqiɬ-i-tɰ	‘are crying’ [Jacobs]	tqiɬ-iy-m	‘they (will) cry’
	tqi-tqayɬ-i-tɰ	‘are crying’ [Fracht]	tqayɬ-iy-m	‘they (will) cry’

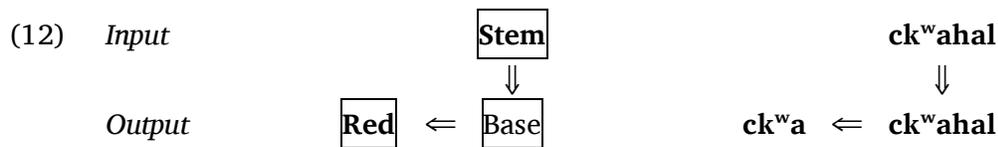
Truncated + Short. A final pattern shows the same open-syllable truncation for the left member, but a short stem for the right member (“Type B” in Buckley 1989). As a result, the full stem does not appear on the surface. For some roots, the full stem is not attested at all in the existing data, but its hypothetical form is clear (shown at right); the presence of the common /aw/ suffix supports interpretation as a reduplicated structure.

(9)	pa-psɰ-aw	‘cat’s cradle (string game)’	/pasɰ/
	ta-tk-aw	‘deadfall trap’	/tak/
	ci-cq-aw	‘target in spearing game’	/ciq/
	ka-kmkt-aw	‘story’	/kamkt/
	si-snq-aw	‘Salmon River’	/sinq/

In other cases, the full stem is attested independently, but still does not occur as a string in the reduplicated forms. The short stem is additionally attested for some verbs. (The phonemicization of ‘wrestling’ is uncertain; it may contain the full stem, $c\dot{x}^w a-c\dot{x}^w at-aw-t$, as in (8).)

(10)	ci-cq^w-i	‘always laughing’	ciq^w-iy-x	‘began to laugh’
	ki-kst-xan	‘inheritance’	kist-ay	‘(don’t) leave him’
(11)	ci-ck	‘arrow’	ci-k-iyu	‘sound of a shot’
			ck-iy-tx	‘shoots’
	tu-t-sx-aw-t	‘swimming, diving’	tu-t-sx-a	‘swims (often)’
			t-uy-m	‘(will) dive’
	ha-hayn-it^t-x	‘look at each other’	t-hayan-i-x	‘sees him’
			hayn-a-sa-nx	‘had seen it’
	c^wa-c^wt-aw-t	‘wrestling’	c^wat-iyu	‘fighting’
			c^wt-a?a	‘(will) fight with him’

Correspondence Theory. As analyzed by McCarthy & Prince (1995), reduplicants (R) normally derive their properties from the surface form of the base (B), which itself derives from the underlying form (or input, I). This works in Alesa when the full stem is present.



Opacity. This BR correspondence approach cannot account for opacity in the TRUNCATED + SHORT form: The quality of the stem vowel in the reduplicant, as well as the presence of an onset cluster, is not predictable from the surface base, which lacks the stem vowel. The other forms shown might be equally expected under BR correspondence.

(13)	ki-kst-	*ka-kst-	*ksi-kst-
	c^wa-c^wt-	*c^wi-c^wt-	*ca-c^wt-

The same opacity actually exists in the FULL + SHORT pattern, if the left member is considered to be the reduplicant, since the short right member, as the base, lacks the stem vowel.

(14)	ck^wul-ck^wl-	*ck^wal-ck^wl-	*cuk^wl-ck^wl-
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Here a suffixing analysis is conceivable, although inconsistent with the truncating patterns.

Derivational analysis. In a theory that permits intermediate representations, the opacity can be handled by rule ordering. However, an approach such as Optimality Theory does not accommodate intermediate steps in its standard form.

(15)	<i>Underlying Form</i>	kist-
	<i>Reduplication</i>	ki- kist-
	<i>Vowel Deletion</i>	ki- kst-

would require direct Input-Reduplicant correspondence or a similar solution. In addition, an onset-markedness approach fails to relate the absence of a sonorant (but not an obstruent) to the existence of heavy stems for sonorant-medial (but not obstruent-medial) roots.

Attestation of obstruent clusters. A final point: The evidence of obstruent clusters in the TRUNCATED + SHORT context is thin; one example is ‘wrestle’ (11) but that may actually have a full stem. There is good attestation of a cluster in the TRUNCATED + SHORT (and + FULL) context for the apparent root /ɬx^wi/ ‘spear (fish)’, but vowel-final stems are highly unusual in Alsea.

(25)	ɬx ^w i-ɬx ^w i-aw-tx	‘habitually spear’	ɬx ^w i-ts-i	‘(will) spear it’
	ɬx ^w i-ɬx ^w -t [ʔ]	‘spearing’	ɬx ^w i-ay	‘(don’t) spear it!’

This root is a challenge to a potential analysis — mentioned here for completeness — in which onset clusters are preserved in the reduplicant only when the right member of the reduplicant is FULL, with an explicit vowel after the onset cluster, perhaps by CONTIGUITY-BR >> *COMPLEX. Under this view, short /ka-kyamx/ would contrast with full /kya-kyamx/, but no pair showing this dual realization is attested.

Conclusions. Reduplication in Alsea presents opacity, especially in the case of truncated stems followed by a short stem, with regard to the stem vowel and the onset cluster. In a surface-constraint approach such as Optimality Theory, the stem vowel issue can be handled by Input-Reduplicant correspondence (or by some more general approach to opacity such as Output-Output correspondence), while the onset cluster issue might be treated by onset markedness (or, again, as opacity more generally). Both aspects of opacity are easily accommodated in a theory such as Morphological Doubling that permits stepwise representations.

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