

*Syllabic obstruents in Oowekyala**

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1. Introduction

- Nuxalk Salishan (a.k.a. Bella Coola), e.g. kxlqstcx^w ‘you struck a match for me’ (Ross Saunders, p.c.; see esp. Nater 1984, Bagemihl 1991, 1998)
- Oowekyala Wakashan, traditionally spoken only 30 miles SW of Nuxalk.¹

(1) Some obstruent-only words in Oowekyala

a. q ^w č ^w	<i>powder</i>	m. qčk ^w	<i>cut-up hair seal meat</i>
b. k ^w č	<i>leather, hide</i>	n. čk ^s	<i>sth. round/bulky on field</i>
c. k ^w s	<i>light (in weight)</i>	o. čpk ^w	<i>(sth.) closed</i>
d. tč	<i>thus (interjection)</i>	p. čk ^w čt	<i>short (said of a person)</i>
e. č ^w tk ^w	<i>(sth.) cut with a knife</i>	q. čxčs	<i>canoe thwart</i>
f. tpk ^w	<i>something squeezed</i>	r. ččk ^w	<i>plural of: short</i>
j. tk ^w k ^w	<i>(sth.) clawed; luggage</i>	s. q ^w sq ^w s	<i>low mountain blueberry</i>
h. k ^w p ^s	<i>loose dirt (not mud)</i>	t. k ^w sk ^w s	<i>mythical name of bluejay</i>
i. pk ^w s	<i>sasquatch</i>	u. k ^w p ^s ps	<i>nice fine dirt</i>
j. pčs	<i>bend down to ground</i>	v. k ^w čk ^w q ^s	<i>early dawn</i>
k. pq ^w č	<i>drowsy, sleepy</i>	w. tčtk ^w s	<i>fish hawk</i>
l. qčk ^w	<i>dried and pounded salmon eggs, "Indian cheese"</i>	x. čxčk ^s	<i>pl: round/bulky thing on field</i>

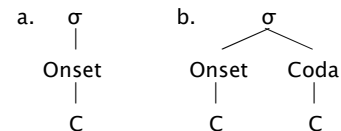
(2) Obstruent strings are potentially ‘limitless’ (cf. Lincoln & Rath 1980:31)

a. tpa	<i>to squeeze</i>
b. tpk ^w	<i>sth. squeezed</i>
c. tpx ^w ps	<i>sth. squeezed that is nice</i>
d. tpx ^w psč	<i>(ib. future)</i>
e. tpx ^w psčk	<i>(subject specified: the-one-here-with-me)</i>
f. tpx ^w psčkc	<i>(ib. invisible)</i>

¹ North Wakashan cut off Nuxalk from the rest of Salishan perhaps 1,000 years ago (Hobler 1990:304). Nater (1984:xvii) on Nuxalk: “Substantial lexical influence has been exercised by neighboring North Wakashan languages.”

- Trubetzkoy (1939:198), Chomsky & Halle (1968:354): obstruents are never “syllabic”, i.e. they cannot function as the nucleus of a syllable.
- Newman (1947): Nuxalk lacks syllabification.
- Bagemihl (1991, 1998): obstruent-only sequences are not at all syllabified in Nuxalk.
- Claim here: Oowekyala has syllables with just one or two obstruents.
- Assumption: obstruent-only syllables in Oowekyala constitute non-nuclear syllables (cf. Shaw 1993, 1995, 1996abc on Imdlawn Tashlhiyt Berber and on Semai, Temiar and Kammu Mon-Khmer)

(3) Obstruent-only syllables in Oowekyala



2. ‘Bare-consonant’ reduplication

- Prosodic Morphology Hypothesis (McCarthy & Prince 1986, et seq.): reduplicative templates are defined in terms of authentic units of prosody, such as the syllable.
- Bagemihl (1991:606-7) on Nuxalk:

“If the syllabicity of obstruents is phonologically significant, we would expect this to be reflected in the behavior of such words under reduplication. That is, we should expect to find syllables consisting only of obstruents to be copied, just as syllables containing sonorant nuclei can be copied. For example, a word such as kč- ‘fall’ consists of one syllable under the Obstruent Syllabicity Hypothesis (with k as onset and č as nucleus), so we would predict that it could undergo CV- reduplication to yield kčkč-. Similarly, we should expect to find single consonant reduplications ..., since in words such as tčt the first consonant constitutes a syllable all by itself and therefore should be able to be reduplicated as something like tčtč. ... Not only are bare consonant and stop-fricative reduplications unattested; the majority of obstruent-only words do not even participate in reduplication at all.”

(4) Some obstruent–obstruent reduplicants in Oowekyala

- a. k^wǰ–k^wq̄s *just about daylight, early dawn*
k^wqa *daylight, to dawn, to become light in the morning*
- b. t̄x–t̄k^ws *fish hawk*
t̄k^wa *to scrape, scratch, claw; to open a fish with the fingers*
- c. ʎx–ʎk̄s *pl.: sth. round and/or bulky thing in woods or field*
ʎka *to put sth. round and/or bulky thing somewhere*
- d. c̄t–c̄k^w *pl: short*
c̄k^w *short*
- e. p̄t–p̄ta *to blink repeatedly*
p̄ta *to blink*
- f. t̄x̄^w–t̄q^wačəwa *brain*
t̄q^wa *to eat the inside of sea eggs (urchins)*
- g. k̄s–k̄səyu *wrinkled forehead, to have a wrinkled forehead*
k̄sa *wrinkled*

(5) Some single–obstruent reduplicants in Oowekyala

- a. ʎ–ʎx̄^wəma *to stroke the face with the flat of the hand*
ʎx̄^wa *to rub, stroke, or press with the flat of the hand*
- b. t–txstu *bulging eyes, to have...*
txla *having the eyes open*
- c. c–cxstəwa *to wipe the eyes*
cka *to rub*
- d. q^w–q^wtəma *to scratch an itchy face*
q^wtə *to scratch (an itch)*
- e. t̄–t̄k^wəma *to mark the face with scratches, by or as if by clawing*
t̄k^wa *to scrape, scratch, claw, grab with the fingers or claws*
- f. q–ğənm *plural of: woman*
ğənm *woman*
- g. p̄–p̄akn *overworked*
p̄a:la *to work, to work on something, to fix, repair sth.*
- h. q^w–q^waskn *worn out with crying*
q^wasa *to cry, weep, wail (at a memorial potlatch)*
- i. t̄–t̄aulikn *passed out (as e.g. after drinking too much liquor)*
t̄ulixla *drunk, intoxicated*

3. Obstruent+obstruent = onset+coda ?

- Spirantization is a general process in Oowekyala phonology.
- On the one hand, noninitial obstruent stops and affricates normally deocclusivize preceding a consonant.

(6) [-cont] → [+cont] / X__C

- a. w̄anax̄əyasa *to change the roof of the house*
w̄anaka *to take over s.o.'s job*
- b. ləxsut *to peck a hole through stone*
ləka *to play the stone throwing game*
- c. ʎalx^wčəwa *to bleed heavily (as when a vein has been cut)*
ʎalk^wa *blood, to lose blood, to bleed (as when hurt)*
- d. tm̄x^w?it *to start to eat cured salmon eggs*
tm̄k^wa *to cure salmon eggs, to eat cured salmon eggs*
- e. malix̄sistala *to swing around*
maliqa *to swing in a circle*
- f. k^wn̄x̄p̄ala *to smell like mink*
k^wn̄ğaci *den of mink*
- g. ǰ^wulux̄^wnuk^w *to have tallow*
ǰ^wuluq^w *animal fat, suet, tallow*
- h. w̄əni^wsiwa *to scorch through*
w̄əniq^wa *to scorch*
- i. tl̄x̄^wčəwa *thing that is soft inside, sock, stocking*
tl̄q^w *soft*
- j. dabn̄t̄?it *become dark*
dabnt *dark (as the night)*
- k. mət̄kana *twitching of the hand and/or forearm, to have ...*
məta *to twitch, to suffer from twitching*
- l. x^wl̄p̄ala *smell of fire, smell of sth. burning*
x^wl̄ta *to burn (said of a fire, coals, offerings)*
- m. q̄l̄s̄nīa *to grease a pole*
q̄l̄ca *oil, gas, to oil, grease, to lubricate*
- n. ʎans̄?it *to start to move over (up) a bit*
ʎanca *to shove, to move towards sth. little by little*
- o. q̄nsk̄ana *to scald the hand, to have a scalded hand*
q̄nca *to scald*
- p. mīt̄čəwa *to miss the container*
mīʎa *to miss a shot, to dodge, avoid*

- q. n̄əlcista to bend over backwards
 n̄əʎa to lean back or to lie on one's back
- r. ǵaʎp̄iq pole for hooking
 ǵaʎa to gaff, to hook, to crochet
- On the other hand, obstruent stops and affricates variably deocclusivize word-finally.

(7) [-cont] → [+cont] / __#

- a. d̄l̄ɬk ~ d̄l̄ɬx long feather
 b. ǵʷəʎik ~ ǵʷəʎix spruce pitch, chewing gum made of spruce pitch
 c. n̄ik ~ n̄ix to say, to tell
 d. ʃa:q ~ ʃa:ʃ bone
 e. ǵʷuluqʷ ~ ǵʷuluʃʷ animal fat, suet, tallow
 f. qʷǵʷuqʷ ~ qʷǵʷuʃʷ swan
 g. k̄ibat ~ k̄ibaʎ red elderberry (*Sambucus racemosa*) fruit
 h. t̄l̄:c ~ t̄l̄:s high bush cranberry
 i. Nuxʷnc ~ Nuxʷns Neechanz River
- Howe (2000) argues that spirantization is the reflex of a prohibition on [-continuant] in coda position (cf. Shaw 1987, 1992 on Nisgha Tsimshianic; Bach 1991, 1997 on Haisla Wakashan).
- If so, spirantization arguably occurs in coda position of obstruent-obstruent syllables in reduplicants (4) and elsewhere:

(8) [-cont] → [+cont] / X__C

- a. d̄x.n̄a to keep sth. long between one's teeth
 d̄kəʎa holding in the mouth (dog)
- b. sx.ʔit to start spearing, harpooning
 ska to spear, harpoon
- c. k̄x.čəwala a fur on a stretch board
 k̄ka to stretch skins
- d. ʃiʃapxʷ.məniʃʷ little children
 ʃiʃapkʷ pl.: young; child
- e. čxʷ.sm sth. round and/or bulky and short
 čkʷ short
- f. ʃʷʎ.kana to have a cut or knife wound in the hand or forearm
 ʃʷta to cut with a knife

(9) [-cont] → [+cont] / __#

- a. ʃupkʷ ~ ʃupxʷ (sth.) barbecued on an open fire
 ǵaʎkʷ ~ ǵaʎxʷ sth. hooked or crocheted
 mačq ~ mačʃ two long and cylindrical things
 gacqʷ ~ gacʃʷ this invisible one here with me
 nəkʷt ~ nəkʷʎ salal berries

4. Single-obstruent syllables = onset only?

▷ No fricative C-reduplicants in Oowekyala

- The C-reduplicants in (5) are all obstruent stops or affricates.
- In the absence of evidence to the contrary, it is assumed that single fricatives cannot form C-reduplicants.
- This restriction is easier to understand if C-reduplicants are interpreted as 'onset-type' syllables (Hockett 1955:57).
- Prince & Smolensky (1993, chap. 8): obstruent stops/affricates constitute optimal onsets because they are the least sonorous segments; see especially Prince & Smolensky's (1993:155) "Onset Inventory Parameter Value".
- Perhaps only the best-formed onsets are tolerated in single-C reduplicants in Oowekyala (cf. Shaw 1987, McCarthy & Prince 1994 on the 'emergence of the unmarked' in reduplication)

▷ Onsets are obligatory in Oowekyala

- The onset appears to be an obligatory syllabic constituent in Oowekyala, such that there are no vowel-initial words.
- Evidence from epenthesis in loan adaptations, e.g. vowel-initial 'apples' is borrowed into Oowekyala as .ʔa.bls. (not *.a.pls.).
- The onset may be the only obligatory syllabic constituent in Oowekyala, if the reduplicants in e.g. (5) are construed as syllables.

▷ Onsets are simple in Oowekyala

- Oowekyala rejects the ideal type of branching onset, i.e. obstruent+resonant (e.g., *bla).² This suggests that Oowekyala rejects branching onsets *tout court*. In particular, we do not expect to find instances of the more marked type of onset —obstruent+obstruent.

² See Clements (1990:285) on the sonority sequencing principle. Interestingly, obstruent+resonant is the only type of branching onset allowed in neighboring Nuxalk (Bagemihl 1991:616; 1998).

- There is no upper limit on the number of prevocalic obstruents, e.g. tɣ^wsɣ̌λaqa ‘to jump over and beyond sth.’; λx̌sλki ‘this absent one will be a thwart’.
- There are no sequencing restrictions on prevocalic obstruents, e.g.:

	ťsa	to hit with a stone
	ťk ^w a	to scrape, scratch, claw
glott'+voiced	ťg ^w n	kind of canoe (probably a funeral canoe)
	ǩdľx̌əla	dizzy

(10)

- a. spa to flash, reflect, beam out, echo, reach (said of light or sound)
- psa to clean and soften by soaking
- b. p̌λa fin (of fish or sea mammal)
- λpa to spread out, unfold, open up, split apart
- c. λxa to put the crosspiece on (e.g. on the canoe)
- xλa to move to another place
- d. ťk^wa to slide something out (e.g. a drawer)
- k^wta to collapse (said of a pile), become separated, disintegrate
- e. p̌k^wu to borrow a boat
- kput to unbutton, unwedge, or untuck sth.

- Prevocalic obstruents needn't agree in terms of laryngeal features, e.g.:

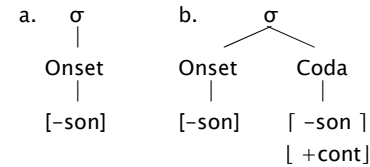
(11)

plain+voiced	pg ^w is	merman, mermaid
	cdəwlk ^w	dolphin
	ǩdau	form of address of one's female child (vocative)
	k ^w dəyn	goldeneye duck
	λg ^w it	thick (in girth)
	q ^w ǧuq ^w	swan
plain+glott'	q̌ǧiga	a species of white diving bird that says q̌q̌q̌q̌
	p̌čini	easy
	ťki	female with a big belly (as when pregnant)
	ťq ^w a	octopus
	ťq̌ani	lake trout
	cďq ^w lc	whetstone
	sǩauk ^w	five
	ťk ^w ani	old woman
	q̌čus	rack for drying things (e.g. seaweed, etc.)
	glott'+plain	p̌x̌əla
p̌sa		to dent, dent
p̌qa		to taste
ťpa		to fish with baited hook and sinker

4. Conclusion

- Syllables in Oowekyala may consist of just one or two obstruents; in the latter case the second obstruent must be a fricative.

(12) Obstruent-only syllables in Oowekyala



- Speaker judgments appear to support the notion of one-obstruent and two-obstruent syllables. When asked to “break up” all-obstruent words or to say them slowly, Mrs. Smith “syllabifies” them as in the following examples:

(13) Native speaker judgments on syllabification

- a. t.p.k^w something squeezed
- b. λ.x.χs canoe thwart
- c. čť.č.k^w plural of: short
- d. λ̌x̌.λ̌.ǩs pl.: sth. round and/or bulky thing in woods or field
- e. t.px^w.ps.λ̌.k.c something invisible here with me that is nice or pleasant will undergo squeezing

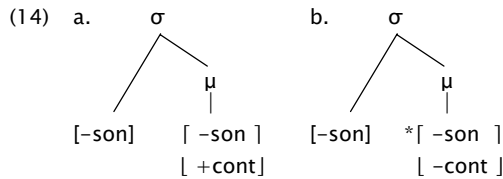
- When asked whether e.g. ťpk^w is “more like” a monosyllabic word (e.g. ta), a disyllabic word (e.g. tata), or a trisyllabic word (e.g. tatata), Mrs. Smith (admittedly hesitantly) chooses the trisyllabic form.
- More detailed and controlled experimentation along these lines is needed to verify the systematicity of speaker judgments.

Lingering weight problem:

- Shaw (1993, 1995, 1996a,b,c) claims that in any structure of the form (12b), the second consonant must be moraic.

“Obstruent-only syllables are maximally binary, non-nuclear, and monomoraic. Obstruent-only syllables are therefore constrained to occur only in languages where obstruents are moraic.” (Shaw 1995:11)

- Under this proposal, the fact that the second obstruent in (putative) obstruent-obstruent syllables must be a fricative in Oowekyala indicates that fricatives—but not obstruent stops and affricates—may be moraic.



- On this analysis, Oowekyala conforms nicely to a sonority-based markedness scale for weight (Zec 1995, Shaw 1996abc; cf. Kenstowicz 1994):

$[-\text{cons}, +\text{son}]_{\mu} > [+ \text{cons}, +\text{son}]_{\mu} > [+ \text{cons}, -\text{son}, +\text{cont}]_{\mu} > [+ \text{cons}, -\text{son}, -\text{cont}]_{\mu}$

E.g.:

- Nisgha (Tsimshianic): vowels, resonants may be moraic, but not obstruents, e.g. long vowels and tautosyllabic vowel+resonant attract stress but tautosyllabic vowel+fricative does not (Shaw 1992).
- Oowekyala (Wakashan): vowels, resonants, fricatives may be moraic, but not obstruent stops and affricates.
- Semai Mon-Khmer: any segment may be moraic, e.g. cp.ci:p ‘walk (indeterminate)’ (Shaw 1996c).

- BUT fricatives are presumed to be consistently nonmoraic in all Wakashan languages (e.g., Stonham 1994, Zec 1995).
- The moraic status of fricatives in Oowekyala is left unresolved here.

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