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On the Alternation between CVCVC and CVCC Forms in Nivkh

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1. Introduction

A domain (word) final consonant often behaves differently from a domain-internal (syllable) final consonant (Hayes 1982, 1995, Harris 1994, Piggott 1999, etc.). This is exemplified, for instance in Estonian in which a medial CVC patterns with CVV in attracting (secondary) stress (*vá**lusàt**tele*, *vára**sèi**mattele*) whereas a final CVC fails to do so (*lú:let**tài*** but *pála**val***) (Prince 1980, Hayes 1995: 316–329, data from Hint 1973). Thus in this language "[a] word-final CVC is treated as CV and thus counts as light" (Hayes 1995: 317). Another example comes from the phonotactics of English. In English, there is a strong ban on the appearance of a second consonant in a post-nuclear position word-medially (Borowsky 1986: 189, 208, Clements 1990: 301). Exceptions are either foreign (*Salz.burg*) or archaic remnants of compounds (*Charles.ton*), or words which contain multiply linked segments (a homorganic nasal/liquid+obstruent sequence like *pump.kin*). In contrast, there is no such restriction word-finally: *harp, elk, golf, task, prince, apt*, etc. Accordingly, a syllabification which assigns a coda status to both word-medial and word-final consonants fails to account for the observed asymmetry. As Harris (1994: 72) notes, "The failure of consonants in absolute word-final position to demonstrate coda-like behaviour has led many phonologists to the conclusion that they are not integrated into the preceding rhyme."[1] But if a word-final consonant does not belong to a preceding rhyme, the question remains as to where it belongs to.

There are two hypotheses in the literature on the prosodic status of a word-final consonant. On one hypothesis, a word-final consonant may lie outside the domain of syllabification (extra-syllabic or extra-prosodic) and therefore it is invisible to phonotactic restrictions or weight distinctions (Harris 1983, Hayes 1985, 1995, Goldsmith 1990: 107–108, Spaelti 1994, etc.). An alternative hypothesis assigns it to the onset position of a degenerate syllable, i.e. a syllable with an empty nucleus (Giegerich 1985, Borowsky 1986, McCarthy and Prince 1988, Kaye 1990, Harris 1994, etc.). Being part of an onset, it is expected that such a consonant does not contribute to syllabic weight since it no longer belongs to the rhyme. The structural assumptions of the two hypotheses are illustrated below.

1 "…the prevailing wisdom is that English final consonants are not codas." (Piggott 1999: 144)

(1) a. Extra-prosodic b. Final-onset

The aim of this paper is to provide material from Nivkh (isolated, Russia) that bears on the issue of the status of word-final consonants.

2. The data[2]

This section sets out the phonology of the Amur dialect of Nivkh with special emphasis on the structure of roots. The consonant and vowel inventories of this dialect are displayed in (2) and (3), respectively (see Shiraishi 2006 for details).

(2) Consonants

	labial		alveolar		(alveolo)-palatal		velar		uvular		laryngeal
	fort.	len.	fort.	len.	fort.	len.	fort.	len.	fort.	len.	
plosives	pʰ	p	tʰ	t	tʃʰ	tʃ	kʰ	k	qʰ	q	
fricatives	ɸ	β	s	z			x	ɣ	χ	ʁ	h
nasals	m		n		ɲ		ŋ				
lateral			l								
trills			r̥	r							
glide					j						

(3) Vowels: i, u, ɨ, e, o, a

Monosyllabic roots prevail in the Nivkh lexicon. Clusters may arise up to two in root-initial position and up to three in root-final position.

(4) (C)V : *e* ‘comb’, *ma* ‘dried fish’, *ki* ‘footwear’
(C)VC : *putʃ* ‘kelp’, *oq* ‘coat’
CCV(C) : *kʰsa* ‘skewer’, *mra* ‘crime, sin’, *kʰnɨx* ‘peninsula’
(C)VCC : *tɨmk* ‘hand’, *honɸ* ‘spring’, *hatx* ‘cover’, *tʰoɣs* ‘pine cone’, *hisk* ‘stinging nettle’

2 The examples of the Amur dialect of Nivkh are from the following literature: Savel’eva and Taksami (1970), Pukhta (2002) and Shiraishi and Lok (2002, 2003, 2004, 2007, 2008).

(C)VCCC: *hontk* ‘sack’

Polysyllabic roots are confined to disyllabic ones.

(5) Disyllabic roots
(C)VCV : *ʧaqo* ‘knife’, *liɣi* ‘salmon’
(C)VCCV : *qoŋɣa* ‘nettle’, *umgu* ‘woman’ *uski* ‘corridor’, *ŋarma-*[3] ‘wait’, *k^{h}imli-* ‘think’, *aɣri* ‘spit’
(C)VCVC: See below.
(C)VCCVC: See below.

Disyllabic roots which end in a consonant are fewer than those which end in a vowel. Some of them are loanwords.[4]

(6)	(C)VCVC		
	a. βiβus	‘belt’	
	b. tɨkɨŋ	‘nail’	
	c. kikun	‘owl’	
	d. arak	‘alcohol’	Uilta[5] *arakki*
	e. peres	‘pepper’	Russian *perets*
	f. karel	‘Korean’	Evenki *korej*[6]

(7)	(C)VCCVC		
	a. kɨmlɨx	‘fin’	
	b. pirŋɨr̥	‘Amur carp’	
	c. t^{h}ɨtŋɨs	‘roof’	
	d. kalbas	‘sausage’	Russian *kolbasa*
	e. orbot	‘work’	Russian *rabota*
	f. olɣoŋ	‘pig’	Uilta *orgee*
	g. qondal	‘fetters’	Russian *kandaly*

Some of the consonant-final disyllabic roots have a monosyllabic variant. The two forms appear in free variation but the monosyllabic one seems to be preferred in

3 A final hyphen indicates verbal morphology which is omitted in the examples.
4 It is not my intention to show that Nivkh borrowed these words directly from the listed Tungusic languages. Rather, these examples should be regarded as mere illustrations of analogous forms of which the direction of borrowing is presumably from Tungusic to Nivkh.
5 The Tungusic forms (Evenki, Nanai, Udehe) are from Tsintsius et al. (1975, 1977) with the exception of Uilta, which is from Ikegami (1997).
6 I owe this example to Dr. Aleksandr Mikhailovich Pevnov.

colloquial speech.[7]

(8)	a. ŋaɣɨs~ŋaɣs	‘wall’	b. nonoq~nonq	‘puppy’
	c. oroŋ~orŋ	‘wooden bowl’	d. mamas~mams	‘wooden pestle’
	e. aβɣas~aβɣs	‘glue’	f. t^{h}oɣβas~t^{h}oɣβs	‘censer’
	g. uɲɣi̥r~uɲɣr̥	‘star’	h. orŋar̥~orŋr̥	‘Uilta’
	i. kɨlmi̥r~kɨlmr̥	‘plank’	j. amraq~amr̥q	‘louse’

The alternation between the monosyllabic (C)V(C)CC and disyllabic (C)VC(C)VC can be observed elsewhere in the (morpho-) phonology of Nivkh. For instance, in some cases a CVCVC form in the source language is adapted to Nivkh as CVCC.

(9)	a.	sizm	‘Japanese’	Ainu *sisam*
	b.	lams	‘east wind’	Evenki *lamus*
	c.	ŋaqr̥	‘snow’	Nanai *nekere*

Similarly, when a third person singular pronominal clitic *i-*/*e-* attaches to a case marking suffix of the form CVC, the latter truncates to CC.

(10)	a.	e-roχ > e-rχ (3^{rd} pers.SG-allative)	‘to him/her/it’
	b.	i-ɣi̥r > i-ɣr̥ (3^{rd} pers.SG-instrumental)	‘with him/her/it’

Finally, there are dialectal variations which exhibit a similar pattern of truncation.

(11)		Amur dialect	Sakhalin dialect[8]	
	a.	ɨtɨk	ɨtk	‘father’
	b.	iɲnik	iɲk	‘food’
	c.	nanak	nanq	‘elder sister’
	d.	fitis	fitʃr̥	‘blanket, quilt’

As evidenced by the examples above, the alternation between (C)V(C)CC and (C)VC(C)VC is a widely observed phenomenon in the Nivkh phonology. Note that of these two forms, the monosyllabic one is preferred over the disyllabic one, as the adaptation pattern in loan phonology and the morphophonological truncation patterns tell. The question is why this should be the case. What is the reason of the preference of (C)V(C)CC over (C)VC(C)VC?

7 Since the quality of the deleting vowel is not predictable, I assume that it is not epenthetic but underlyingly present.

8 These examples are taken from Tangiku (2008).

3. Foot binarity as a driving force behind vowel truncation

As demonstrated in section 2, a Nivkh root is maximally disyllabic. This restriction is imposed on loanwords as well. For instance, trisyllabic Russian forms are adapted to Nivkh as disyllabic by the truncation of a final vowel.

(12)	a. kalbas	'sausage'	Russian *kolbasa*
	b. lepʲo̥rk	'roasted bread'	Russian *lepioshka*
	c. putɨlk	'bottle'	Russian *butylka*
	d. balnits~bolnits[9]	'hospital'	Russian *bol'nitsa*
	e. polgod	'half a year'	Russian *polgoda*

According to Paradis and Béland (2004), such a shortening in loanword adaptation appears typically in languages which impose a metrical constraint on the maximal length of words.[10] The examples in (12) reveal that loan phonology of Nivkh restricts the number of syllables per root to two. This restriction can be deduced from a general constraint on the canonical prosodic shape of a phonological constituent namely, Foot binarity.

(13) Foot binarity (McCarthy and Prince 1993: 569)
A foot must be bimoraic or disyllabic.

While the forms in (12) obey Foot binarity, they are still disyllabic and therefore at odds with the Nivkh preference for CVCC forms. Note, however, that they are all recent borrowings from Russian. In contrast, loanwords which exhibit truncation to a monosyllabic form (9) are borrowed from Ainu or Tungusic. These are languages which have been in contact with Nivkh for a longer time than Russian. Accordingly, the difference in the adaptation pattern might be due to different historical stages in which loanword adaptation took place. Presumably, loanwords from Ainu or Tungusic are old borrowings and therefore they are more nativized than those from Russian. Such an asymmetry in the phonological behavior between more and less nativized loanwords is well-documented cross-linguistically. Ito and Mester (1995) propose to account for such an asymmetry in the core–periphery model of the lexicon (see also Paradis and Lebel 1994). According to this model, lexical items which are closer to the native items are subject to stricter phonological restrictions than those which are

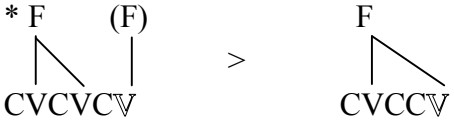
9 The form *bolnits* may be a case of spelling-pronounciation, as is pointed out to me by Prof. Toshiro Tsumagari.

10 Paradis and Béland (2004) report Moroccan Arabic and Gere (a Kru language spoken in Ivory Coast) as such languages.

located at the periphery of the lexicon.[11] The difference in the adaptation pattern of (9) and (12) is in suit with this prediction; recent borrowings from Russian exhibit a structure (CVCVC) which is not allowed in loanwords from Ainu or Tungusic.[12]

The restriction on CVCVC, which is observed in the native vocabulary and nativized loanwords follows if we assume that a domain (root) final consonant is followed by an empty nucleus, along the assumptions of the final-onset view. The postulation of such an empty nucleus makes consonant-final disyllabic forms trisyllabic in violation of Foot binarity. In order to circumvent this violation, the vowel in the weak member of the foot is deleted.

(14)



ma ma s ma ms ‘wooden pestle’

I assume that this final empty nucleus is not visible to metrical computation in recent loanwords from Russian. In such words only nuclei with a melodic content count. This assumption explains why in the forms in (12) CVCVC is allowed but not CVCVCV.

4. Support of the final-onset view: No (C)VV̲C

Nivkh has forms which contain a diphthong (all falling): *i̯u̯* ‘voice’, *ki̯i̯* ‘sail’, *iu̯* ‘duck’ etc. In most such forms, the syllable containing a dipthong may not be closed by a consonant. Exceptions are few: *hui̯k* ‘sea trout’, *hi̯i̯k* ‘hare’, *iu̯s* ‘pike’. Again, many such (C)VV̲C forms are loanwords.

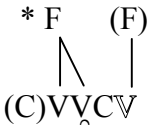
(15)	a.	mau̯t	‘harness’	Uilta *maatu*
	b.	ai̯s	‘gold’	Uilta *aisi*
	c.	ti̯u̯s	‘copper’	Udehe *te̯u̯si*

Following the discussion so far, the reason for the ban on (C)VV̲C should be obvious; the final consonant is followed by an empty nucleus with which it forms a degenerate syllable. Again, this constitutes a violation of Foot binarity.

11 “…the less nativized an item, the more it is exempt from lexical constraints, i.e., the more it is located toward the periphery, falling outside of various constraint domains.” (Ito and Mester 1995: 824)

12 “…a stratum like Foreign in Japanese is not a homogeneous class of lexical items, all behaving alike with respect to phonological alternations and constraints, but rather covers a whole range of items at different stages of nativization, from the almost fully assimilated to the barely integrated.” (Ito and Mester 1995: 821)

(16)



5. Summary

In this paper I discussed the prosodic status of a word-final consonant in light of phonological phenomena from the Amur dialect of Nivkh. In particular, I showed that Nivkh exhibits a tendency to shorten CVCVC forms to CVCC. An apparently related tendency in the Nivkh lexicon is the scarcity of CVV̂C forms. While at first glance it is unclear why CVCVC and CVV̂C are disfavored, I argued that we can make these forms violate Foot binarity, if we postulate an empty nucleus after a domain-final consonant alongside the final-onset view. The alternative view, which regards a domain-final consonant as being extra-prosodic fails to capture this generalization. In order to account for the marked status of both CVCVC and CVV̂C, the extra-prosodic view would have to stipulate that extra-prosodicity is allowed in monomoraic forms (CVC or CVCC) but not in bimoraic forms (CVCVC or CVV̂C). Such a stipulation, however, cannot be phonologically motivated and it is therefore totally descriptive. For this reason, I conclude that the final-onset view is superior to the extra-prosodic view in accounting for the observed data.

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References

Borowsky, Toni (1986) *Topics in the lexical phonology of English*. Ph.D.thesis, University of Massachusetts at Amherst.

Clements, G.N. (1990) The role of the sonority cycle in core syllabification. In: John

Kingston and Mary Beckman (eds.), *Papers in laboratory phonology I: between the grammar and physics of speech*. Cambridge: Cambridge University Press.

Giegerich, Heinz (1985) *Metrical phonology and phonological structure*. Cambridge: Cambridge University Press.

Goldsmith, John (1990) *Autosegmental and metrical phonology*. Oxford: Blackwell.

Harris, James (1983) *Syllable structure and stress in Spanish*. Cambridge, Massachusetts: MIT Press.

Harris, John (1994) *English sound structure*. Oxford: Blackwell.

Hayes, Bruce (1982) Extrametricality and English stress. *Linguistic Inquiry* 13, 227–276.

Hayes, Bruce (1985) Iambic and trochaic rhythm in stress rules. In: M.Niepokuj et al. (eds.) *Proceedings of the Berkeley Linguistics Society* 13, 429–446.

Hayes, Bruce (1995) *Metrical stress theory: principles and case studies*. Chicago: University of Chicago Press.

Hint, Mati (1973) *Esti Keele Sonafonoloogia* I. Talinn: Eesti NSV Teaduste Akadeemia

Ikegami, Jiro (1997) *A dictionary of the Uilta language spoken on Sakhalin*. Sapporo: Hokkaido University Press.

Ito, Junko and Armin Mester (1995) Japanese phonology. In: John Goldsmith (ed.) *The handbook of phonological theory*, 817–838. Cambridge: Blackwell.

Kaye, Jonathan (1990) 'Coda' licensing. *Phonology* 7, 301–330.

McCarthy, John and Alan Prince (1988) Prosodic morphology and templatic morphology. In: Mushira Eid and John McCarthy (eds.), *Perspectives on Arabic linguistics II: papers from the second annual symposium on Arabic linguistics*, 1–54. Amsterdam: John Benjamins.

McCarthy, John and Alan Prince (1993) Generalized alignment. In: Geert Booij and Jaap van Marle (eds.) *Yearbook of Morphology 1993*, 79–153 Dordrecht: Kluwer Academic Publishers.

Paradis, Carole and Renée Béland (2004) Syllabic constraints and constraint conflicts in loanword adaptations, aphasic speech, and children's errors. In: Jacques Durand and Bernard Laks (eds.) *Phonetics, Phonology and Cognition*, 191–225. Oxford: Oxford University Press.

Paradis, Carole and Caroline Lebel (1994) Contrasts from segmental parameter settings in loanwords: Core and periphery in Quebec French. In: Carrie Dyck (ed.) *Toronto Working Papers in Linguistics* 13. 75–94.

Piggott, Glyne (1999) At the right edge of words. *The Linguistic Review* 16(2), 143–185.

Prince, Alan (1980) A metrical theory for Estonian quantity. *Linguistic Inquiry* 11, 511–562.

Pukhta, Marina (2002) *Nivkhsko–russkij razgovornik i tematicheskij slovar'*. Publication of the international project by the Japanese Ministry of Education: Endangered Languages of the Pacific Rim.

Savel'eva, Valentina and Chuner Taksami (1970) *Nivkhsko–russkii slovar*. Moscow: Sovetskaia Enciklopediia.

Shiraishi, Hidetoshi (2006) Topics in Nivkh phonology. Ph.D. thesis, University of Groningen.

Shiraishi, Hidetoshi and Galina Lok (2002) *Sound materials of the Nivkh language 1: Folktales of V.F.Akiliak-Ivanova*. Publication of the international project by the Japanese Ministry of Education: Endangered Languages of the Pacific Rim.

Shiraishi, Hidetoshi and Galina Lok (2003) *Sound materials of the Nivkh language 2: Songs and folktales of the Amur dialect*. Publication of the international project by the Japanese Ministry of Education: Endangered Languages of the Pacific Rim.

Shiraishi, Hidetoshi and Galina Lok (2004) *Sound materials of the Nivkh language 3: Pygsk*. Publication of the international project by the Netherlands Organisation of Scientific Research (NWO): Voices from Tundra and Taiga.

Shiraishi, Hidetoshi and Galina Lok (2007) *Sound materials of the Nivkh language 4: Leonid Ivanovich Iugain*. Ebetsu: Sapporo Gakuin University.

Shiraishi, Hidetoshi and Galina Lok (2008) *Sound materials of the Nivkh language 5: Galina Fiodorovna Ialina*. Ebetsu: Sapporo Gakuin University.

Spaelti, Philip (1994) Weak edges and final geminates in Swiss German. *Proceedings of NELS* 24, 573–588.

Tangiku, Isuji (2008) *Basic vocabulary of the Sakhalin dialect of Nivkh language (Nogliki dialect)*. Tokyo: Institute of Languages and Cultures of Asia and Africa, Tokyo University of Foreign Studies.

Tsintsius, Vera et al. (eds.) (1975) *Sravnitel'nyi slovar' tunguso–man'chzhurskikh iazykov, Materialy k etimologicheskomu slovariu* I. Leningrad: Nauka.

Tsintsius, Vera et al. (eds.) (1977) *Sravnitel'nyi slovar' tunguso–man'chzhurskikh iazykov, Materialy k etimologicheskomu slovariu* II. Leningrad: Nauka.

ニヴフ語における CVCVC 語形と CVCC 語形の交替について

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ニヴフ語の CVCVC 語形は自然発話においてしばしば第二母音が脱落し CVCC に縮約される。CVCC 語形は地名や植物名、物品名などあらゆる語彙分野に豊富に存在することから

ニヴフ語においては無標の語形と考えられる。本稿は CVCC 語形の CVCVC 語形に対するこうした優位性を説明するために、語末子音を空の音節核をもつ音節の頭子音と見なす提案をする。これにより CVCVC 語形は全体で 3 モーラから構成されることになり、McCarthy and Prince (1993)が提案する Foot binarity 制約により排除することができる。同様にニヴフ語において希少な CVV̯C 語形も 3 モーラから構成されると仮定でき同じ制約で排除できることからこれを本稿の提案を支持する論拠と見なす。