

# The contraction of the unmarked tense morpheme duplicated due to prosodic minimality<sup>1</sup>

Hiroki Koga

Saga University

hkoga@cc.saga-u.ac.jp

**Abstract:** The current paper will propose an Optimality Theoretic analysis, as a surface constraint, of the ‘non-past’ forms of the verbs in Japanese-Saga western dialect in the framework of Koga 2012, building on Hayata’s 1998 generative analysis. Without adopting such a surface constraint as this, we would need a non-modular phonological rule. The current study implies that the unmarked morpheme (in contrast with a marked morpheme) may be duplicated, for example, by prosodic minimality, and further contracts seeking for its most optimal length, and that the ‘conjugations’ apparently with many exceptions in standard Japanese, dialects and Old Japanese are well-explained in the morpheme-based morphology.

**Phenomenon:** 1) Each ‘non-past’ form of the so-called vowel /e/-final base verbs and the strong base verbs ends with the former part of the geminate consonant if immediately followed by a consonant, for example, of a head noun /toki/ ‘time’, and 2) that of the vowel /i/-final base verbs and the consonant-final base verbs ends with the latter part of the lengthened vowel in Japanese-Saga western dialect, as exemplified in the left-most column of Table 1.

m-class	S-western	S-Takeo	Saga	F-Yanagawa	Standard	
C-final	ukutoki	ukutoki	ukutoki	ukutoki	ukutoki	‘float’
	u:toki	uttoki	u{:t}toki	urutoki	urutoki	‘sell’
/e/-final	nuttoki	nuttoki	nu{:t/*}toki	nurutoki	nerutoki	‘sleep’
	tabuttoki	tabuttoki	tabu{:t/*}toki	taburutoki	taberutoki	‘eat’
/i/-final	ki:toki	kittoki	ki{:t}toki	kirutoki	kirutoki	‘wear’
	oki:toki	okittoki	oki{:t}toki	okirutoki	okirutoki	‘wake’
strong	kuttoki	ku{ttoki	ku{:t/*}toki	kurutoki	kurutoki	‘come’

Table 1: The ‘non-past’ forms of verbs plus /toki/ ‘when ...’

If you click ‘the sound data of the ‘non-past’ forms of two hundred sixty-six (266) verbs of Saga western dialect, March 2011’ at [http://theoreticallinglab.isc.saga-u.ac.jp/research\\_topics.html](http://theoreticallinglab.isc.saga-u.ac.jp/research_topics.html), you can hear the non-past forms of 266 verbs of the dialect. In Japanese-*Takeo* dialect, on the other hand, the former part of the geminate consonant occurs respectively whichever morphological type the verb is, as long as its standard counterpart ends with /ru/ (Hayata 1998) (the 2nd left-most column). The former part of each geminate consonant and the latter part of each lengthened vowel in Saga-western dialect and Saga-*Takeo* dialect, as underlined, correspond to /ru/ in standard Japanese and Fukuoka-*Yanagawa* dialect. Note that the final /ru/ of the non-past forms of the so-called ‘vowel /e/’-final base verbs and the strong base verbs can never be the latter part of the lengthened vowel in Saga dialects in general, and that all the vowels immediately before the geminate consonants, the Fukuoka-*Yanagawa* counterparts of which are /ru/, NOT the lengthened vowels, are /u/.

If the scope is extended beyond Japanese-Saga dialects and Japanese-Fukuoka-*Yanagawa* dialect, there will be several relevant facts in classical Japanese, standard Japanese and Japanese-*Yamaguchi* dialect. The last final /ru/ of each sentence-final ‘non-past’ form of the vowel /e/-final base verbs and

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strong base verbs is absent in contrast with its pre-nominal counterpart, which is the same as that in Fukuoka-Yanagawa dialect, as in the 2nd and 4th cells of the left-most column of Table 2.

Each sentence-final ‘non-past’ form of the the longer (or equal to or longer than two moras) vowel /i/-final base verbs like /oki/ ‘get up’ is the final /i/-absent stem plus /u/ like /ok-u/ ‘get up- /u/’ (cf. /oki-ru/ ‘get up-Non-past’ in standard) and /ru/ is added to this for its pre-nominal counterpart, as in the 3rd cell of the left-most column. The final /ru/ of the ‘non-past’ form of the polite form, which is analyzed as a kind of the strong base verb /s/ ‘do’, is absent, as in the first column of Table 3. The ‘non-past’ form of the /n/-consonant final base verb /sin/ ‘die’ has /ru/ added to its end as well as the /(r)eba/-conditional form, as in the third column of the table.

m-class	S-final	Prenominal
C-final	uku. uru.	ukutoki urutoki
/e/-final	nu. tabu.	nurutoki taburutoki
/i/-final	kiru. oku.	kirutoki okurutoki
strong	ku.	kurutoki

Table 2: The sentence-final and prenominal verbal ‘non-past’ forms in classical Japanese

V-forms	‘-Polite’	‘do’ [Saga]	Yamaguchi	Saga
Non-past	-masu	*su	*sinu	sinu
	*-masuru	suru	sinuru	*sinuru
Non-past-if	*-masureba	?sureba	*sineba	sineba
	*-maseba	*seba	sinureba	*sinureba
Past	-masita	sita	siNda	siNda
Neg	-maseN	seN	sinaN	sinaN

Table 3: The verbal forms of the polite style in standard and those of the verb /sin/ ‘die’ in Yamaguchi dialect

**A previous study:** Arguing that the underlying form of the ‘non-past’ affix is /ru/, but NOT the former segment of any geminate consonant, Hayata 1998 analyzes the former segment of the geminate consonant as deriving from /ru/ on the assumptions of stem final /e/ to /u/ change [1], verb final /u/ elimination ( $u \rightarrow \emptyset / r\_ \_\_\_\_\_\_ ]_{verb}$ ) [2], /r/ to C regressive assimilation [3], as in Table 4. Hayata 1998 would make an incorrect prediction since the vowel lengthening, but NOT the consonant gemination, occurs if the verb stem is vowel /i/-final or consonant-final in Japanese-Saga western dialect.

ne ru toki	oki ru toki	UR
nuru toki		[1]
nur toki	okir toki	[2]
nut toki	okit toki	[3]
nuttoki	okittoki	

Table 4: Derivation of the geminate consonant from the dental liquid

**Analysis:** We propose an Optimality Theoretic morpho-phonological analysis as a surface filter to explain the ‘non-past’ forms of Japanese-Saga western dialect, suggesting a leading idea for those of classical Japanese and other dialects. Assuming that the special sounds realizable in the coda position derive from the dental liquid in conjunction with Hayata’s 1998 verb final /u/ elimination, such a filter as formalized in Figure 1 explains why the segment at the coda position must be the former part of a geminate consonant on Koga’s 2012 assumption of the tense expletive repetition. Our explanation is that the more-deeply embedded tense expletive /u/ forces the duplicated tense expletive /ru/ due to the prosodic minimality to be the least heavy Q among the Japanese special sounds of R (the latter of the lengthened vowel), Q (the former of the geminate consonant) and N (the syllabic nasal). Here each lexeme of the so-called vowel /e/-final base verbs and the strong base verbs is assumed to be associated with another stem with the final vowel (/e/ or /o/) absent as well, as in /ne/ and /n/ ‘sleep’ (Koga 2012). The tense expletive /(r)u/ selects the shorter stem, and the stem plus the tense expletive as a whole is further selected by the tense expletive /ru/, as in  $[[[n]_{v[bse]} u]_{tense} ru]_{tense}$  ‘sleep-Non-past’ (Koga 2012). The change of  $r \rightarrow C_i$  (or the former part of the geminate consonant)

is independently motivated by the fact that the former part of each geminate consonant cannot be one syllable even in the slower speech, whereas the latter part of each lengthened vowel or the syllabic nasal can be one syllable in the slower speech (pc with Haruo Kubozono).

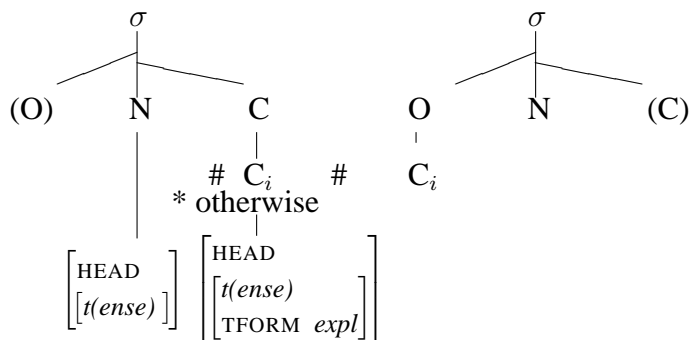


Figure 1: A surface constraint on syllables with special sounds at the coda position

relevant phonological rules would not be modular, keeping the analysis that the latter part of the successive occurrence of the tense expletive contracts, as in Figure 2.

$$r \rightarrow C_i / \dots[\sigma \dots [N \mathbf{V}_i] [C \_]] \# [\sigma [O C_i] \dots] \dots$$

Figure 2: Phonological rule (rejected)

be non-modular, as Baković 2013 points out the superiority of OT to rules. Furthermore, our proposal is independently motivated by the fact in the history of Japanese that the sequence /ru/, which we assume to be the tense expletive, was eliminated when it immediately follows the past tense /ta/, as the classic form /hanashi-taru/ ‘talked’ corresponds to the modern form [hanashita] ‘talked’.

**Summary:** We provided the phenomenon of the non-past forms of the verbs in Japanese-Saga western dialect in addition to Hayata’s 1998 observation of those Japanese-Saga Takeo dialect, in contrast with those of Japanese-Fukuoka-Yanagawa dialect and standard Japanese, and, furthermore, the phenomena of 1) the non-past forms (or the pre-nominal forms and the sentence-final ones) of verbs in classical Japanese, 2) the forms of the polite affix and 3) the non-past forms of the /n/-consonant-final base verb /sin/ in Japanese-Yamaguchi dialect. It was shown that Hayata 1998 cannot capture the difference in the obligatory or optional occurrence of the geminate consonant. We proposed a surface constraint on syllables containing the repetition of the tense expletive with special sounds at the coda position, comparing with phonological one. The tense expletive (or the unmarked tense morpheme in contrast with the past morpheme) is duplicated by prosodic minimality, as in  $[[[n]_{v[bse]} u]_{tense} \rightarrow [[[[n]_{v[bse]} u]_{tense} ru]_{tense}$  ‘sleep-Non-past’ (Koga 2012), and further contracts to be the lightest in Japanese-Saga western dialect, as  $[[[[n]_{v[bse]} u]_{tense} C_i]_{tense}$  immediately before the word beginning with a consonant  $C_i$  for this example. The prosodic minimality of the tensed forms in Japanese-Saga western dialect is one heavy syllable. The ‘conjugations’ apparently with many exceptions in standard Japanese, dialects and Old Japanese are well-explained by our analysis, which assumes the morpheme-based morphology.

The morphological framework of our analysis and Koga 2012 is the morpheme-based morphology, as has been assumed that the Item-and-Arrangement approach (or the morpheme-based morphology) fits agglutinative languages like Japanese. See Julien 2002 for an idea that the building blocks of syntax are individual morphemes, not words. If such an OT morpho-phonological surface constraint were not available but only rules were available, then relevant

The triggering context of  $r \rightarrow C_i$  contains not only phonological notions but also too many morphological notions, which is undesirable on the assumption of modular grammar. The proposed OT morpho-phonological surface constraint, as given in Figure 1, thus keeps grammar restrictive (or modular) on the assumption that surface constraints can

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