

Surface constraints on multiple occurrences of the tense expletive

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The current paper proposes a constraint-based syntax-optimality-theoretic (CBS-OT) alternative to the conventional assumption or to a plausible phonological analysis of the ‘non-past’ tense morpheme and the verbal base forms, which performs a division of labor among linguistic components. The analysis of the so-called ‘non-past’ morpheme as the default morpheme of tense, or the tense expletive, is the key of the proposal.

1. The conventional assumption and a plausible phonological analysis and their inadequacy: If the conventional assumption for the strong base verbs in standard Japanese, as assumed in, for example, Hayata (1998:32), were extended to Yamaguchi dialect, we would end up with stipulating that each of the ‘/n/ consonant-final base’ verbs (/sin/ ‘die’ and /in/ ‘leave’ only) has another base form with the vowel /u/ added to the end of the usual one in the dialect. This is because the verbs use the longer ‘base forms’ in the ‘non-past’ and /(r)eba/-conditional forms, as in, for example, (1a-i), similarly to the cases of the strong base verbs (e.g., (1b-i)). And yet, they use the shorter base forms in the negative, present participle and passive forms, as in, for example, (1a-ii), similarly to the cases of the standard strong base verbs (e.g., (1b-ii)). The ‘non-past’ and /(r)eba/-conditional forms of the /n/ consonant-final base verbs in Yamaguchi dialect and those in standard are distinct, as in, for example, between (1a-i) and (1c-i) in contrast with an identity in the other verb forms, for example, between (1a-ii) and (1c-ii).

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|----------------------|--------------|---|---------------|
| (1) a. i) sinu ru | cf. *sin u | ii) sin are ru | [Y(amaguchi)] |
| die Non-past | die Non-past | die Pass Non-past | |
| ‘i) (He) dies.’ | | ‘ii) Lit., (She) will suffer (his) passing away.’ | |
| b. i) su ru | | ii) s are ru | [S(tandard)] |
| do Non-past | | do Pass Non-past | |
| ‘i) (He) does (it).’ | | ‘ii) Lit., (She) will suffer (his) doing (it).’ | |
| c. i) sin u | cf. *sinu ru | ii) sin are ru | [S] |
| die Non-past | die Non-past | die Pass Non-past | |
| d. i) tabe ru | | ii) tabe rare ru | [S/Y] |
| eat Non-past | | eat Pass Non-past | |

Here it is assumed as follows: The ‘non-past’ morpheme is /ru/, but NOT /u/, and the passive morpheme is /rare/, but NOT /are/. The affix-initial dental liquid will delete if it immediately follows a consonant, i.e., is the latter consonant of a consonant cluster in the affixation, as in (1c-i), (1a-ii), (1b-ii) and (1c-ii) in contrast with (1d), in which it immediately follows a vowel. It would be desirable if we could avoid different assumptions of the base forms of the /n/ consonant-final base verbs across dialects.

A plausible phonological analysis is that the phoneme /u/ phonologically intervenes between the base form, for example, /n/ ‘sleep’ and /s/ ‘do’, on one hand, and the ‘non-past’ morpheme /ru/, on the other, by such a rough rule as in Figure 1.

The dental nasal is added in the context of the rule only for Yamaguchi dialect. This rule incorrectly predicts that the epenthetic vowel /u/ occurs between the final /k/, /s/ and /n/ of consonant-final base forms and the ‘non-past’ morpheme /ru/, as in (2).

$$\emptyset \rightarrow \begin{bmatrix} +back \\ +high \end{bmatrix} / \left\{ \begin{matrix} (n[Y\text{only}]) \\ k \\ s \end{matrix} \right\} - \# \begin{bmatrix} dental \\ liquid \end{bmatrix}$$

Figure 1: Epenthetic vowel /u/ between (/n/ [Yamaguchi dialect only]), /k/, or /s/ and the affix initial /r/

- (2) *kuras u ru cf. kuras u [S/Y]
 live Non-past live Non-past ('(He) will live.')

The discussion suggests that the epenthetic vowel occurs only when the base form consists only of one consonant, that is, the context should be not /k/ and /s/, but #/k/ and #/s/. If the context were revised this way, it would make the rule not phonological any more.

In addition, such a (rough) phonological rule as in Figure 1 incorrectly predicts that the epenthetic vowel occurs between the final /n/, /k/ and /s/ of the base forms and the (indirect) passive morpheme, as in */sinurare/ in the dialect and */surare/ in standard, as given in Table 1, since the affix begins with the dental liquid.

/sin/ /ru/	/sin/ /rare/ [Y]	/s/ /ru/	/s/ /rare/ [S/Y]	UR
sinu#ru	sinu#rare	su#ru	su#rare	/u/-insertion
[sinuru]	*[sinurare]	[suru]	*[surare]	
= (1a-i)	cf. [sinare]	= (1b-i)	cf. [sare]	
	(as in (1a-ii))		(as in (1b-ii))	

Table 1: The hypothetical vowel /u/ insertion

The intermediary phoneme /u/ of the ‘non-past’ forms of the strong base verbs, e.g., /suru/ ‘do [Non-past]’, and the /n/ consonant-final base verbs in Yamaguchi dialect, e.g., /sinuru/ ‘die [Non-past]’, is thus neither an epenthetic vowel resulting phonologically nor a part of the base form of the verb. The remaining possibility is that the phoneme /u/ is a kind of morpheme, and the difference in the number of syllables or moras of the ‘non-past’ forms between those of the strong base verbs, e.g., (1b-i), and the /n/ consonant-final base verbs in Yamaguchi dialect, e.g., (1a-i), on one hand, and those of the other consonant-final base verbs, e.g., (2), is relevant to its occurrence.

2. Proposal and predictions: The assumed architecture is: A grammar as a whole is a function mapping a given meaning (as the given input) (m) to such an optimal candidate ($f(m)$), or output, which is pronounced as ϕ_2 , that its meaning (γ_2') can be equivalent to the input (m), as schematically represented in Figure 2. The core components, consisting of lexicon, phonology, morphology, syntax and semantics, map the given meaning to its candidates, as the ‘generator’ does, for example, in Lee 2004. Here each candidate is a quadruple of a list of phoneme strings, a morpho-syntactic structure of the string, the semantic content of the string, and their correspondence function. Some candidates (candidates #1 and #3 in the picture), then, are excluded as inappropriate, and some will be optimal one (candidate #2) that invites the least serious violations of violable surface constraints, ranked in the dialect/language-specific hierarchy, in competition with others.

The morpho-syntax of the alternative further analyzes Kasuga’s (1973:129) ‘non-past’ morpheme /uru/ (e.g., the latter part of /s# uru/ ‘do# Non-past’ for (1b-i)) as a complex consisting of two default morphemes of tense (or tense expletives) (DftMTs) /u/ and

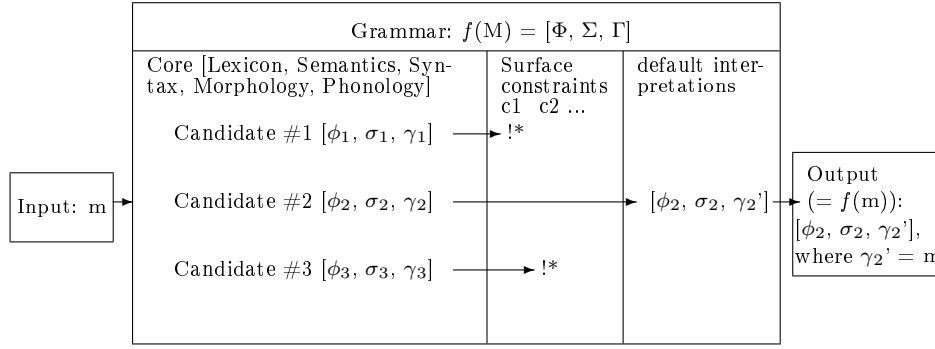


Figure 2: The assumed architecture of the grammar to propose

/ru/.¹ The verbal base form, having combined with one tense expletive to be a tensed form, further combines with another to be a tensed form again, as allowed by the affix rule $[VI/VP-tnsd [VI/VP-tnsd X][DfltMT Y]]$. The analysis of the content of the tense expletive (or default morpheme of tense) as the identity function, formalized as **DfltMT'** = $\lambda X \lambda e \lambda t [X(e)(t)]$ (which is computable from Parsons' (1985: 244) tense analysis), makes possible the consecutive affixation of the tense expletive for one verb. For example, the content of the standard /sin# u/ 'die# DfltMT' is $\lambda X \lambda e \lambda t [X(e)(t)](\lambda e \lambda t [die'(e) \& Cul/Hold(e)(t)])$, i.e., $\lambda e \lambda t [die'(e) \& Cul/Hold(e)(t)]$, which is equivalent to the content of the base form of the verb. It is assumed that **the conventional implicature is available** that $\lambda X \lambda e \exists t [X(e)(t) \& t \in \{t | (t \in Present) \vee (t \in Future)\}]$ is free, which is independently motivated, for example, for 'copula-less' sentences. For example, a finite clause /funa ga sin# u/ 'carp Nom die# DfltMT' has the conventional implicature applied, and the verbal part means $\lambda X \lambda e \exists t [X(e)(t) \& t \in \{t | (t \in Present) \vee (t \in Future)\}] (\lambda e \lambda t [die'(e) \& Cul/Hold(e)(t)])$, i.e., $\lambda e \exists t [die'(e)(t) \& Hold/Cul(e)(t) \& t \in \{t | (t \in Present) \vee (t \in Future)\}]$.

A slightly revised version of Ito's 1990 word size requirement is proposed as a surface constraint that **the prosodic structure of every tensed form must consist of two or more MORAS, i.e., be at smallest BIMORAIC**. In addition, Kiparsky's 2005 economy constraint, which is ranked lower than the prosodic minimality constraint, is assumed that **the larger number of the consecutive forms of the same morpho-syntactic category a word contains, the less it will be chosen in competition with another**. The prosodic minimality constraint in conjunction with the economy constraint correctly predicts that the base forms of the strong base verbs combine with one tense expletive /u/ and another /ru/ since their base forms consist only of one consonant and 2) that the base forms of the weak base verbs combine with the tense expletive /u/ or /ru/ only since there is no weak base verb the base form of which consists only of one consonant. Ishida's 1956 (94-95) blocking analysis is in order for Yamaguchi dialect: The sequence of the perfective (auxiliary) verb /n/ plus /u/ 'DfltMT' and /eba/ 'if [Non-past]' was blocked by the negative predicate /nu/ 'not' and /neba/ 'if ... not', and that the morpheme /n/ in the '/n/-consonant' final base verbs was the perfective morpheme. Assuming that Ishida's 1956 blocking analysis remains to be working in the modern Yamaguchi dialect, the /n/ consonant-final base verbs with the tense expletive /u/ is ungrammatical but those with the complex /uru/ only, for example, the 'non-past'

¹The conditional /reba/ forms are analyzed as the verbal base plus /u/ 'DfltMT'-'/re/ 'Non-past/Imperative'-'/ba/ 'if'.

form #sin+u+ru# (1a-i), are allowed in the dialect.

The alternative in conjunction with another surface constraint as given below further explains why the ‘/e/ vowel-final base’ verbs, which actually has the last /e/ absent in their base forms in the dialect, combine with the ‘non-past’ complex /uru/ in Yanagawa dialect (Matsuishi 1985), as in (3a-i) in contrast with its standard counterpart (3b-i) and in (3a-ii) in contrast with its standard counterpart (3b-ii).

- (3) a. i) tab u ru ii) n u ru [Yan(agawa)]
eat DftMT DftMT sleep DftMT DftMT
‘i) (He) eats (it).’ ‘ii) (He) sleeps.’
- b. i) tabe ru (= (1d-i)) ii) ne ru [S]
eat DftMT sleep DftMT
‘i) (He) eats (it).’ ‘ii) (He) sleeps.’

Another surface constraint along the line of Steriade’s 2008 global constraint suffices for the phenomenon in Yanagawa dialect that **given a subconstituent C of a candidate expression characterized by a set of syntactic specifications $\{[\alpha F], [\beta G], \dots, [\gamma H]\}$, C stands in correspondence to EVERY OTHER listed form that is characterized by the same set of syntactic values WITHIN ITS IMMEDIATE MORPHOLOGICAL CLASS**, which is ranked lower than the prosodic moraic minimality and higher than the economy constraint. The syntactic specification relevant to the global constraint is the morpho-syntactic category, the tense expletive, or default morphemes of tense (DftMT). The forms of this category are, for example, /u/, /ru/, /u# ru/. These are referred globally within the immediate morphological class that the lexicon specifies. The morphological class in Yanagawa dialect that is specified is the so-called /e/ vowel-final base verbs like /tab/ ‘eat’; there is no morphological class specified in standard. The global constraint in effect forces the numbers of the default morphemes of tense in the ‘non-past’ forms to be identical within the specified morphological class of verbs. Note that the global constraint could not have been stated in any core component of the grammar, which is component-modular, since the morphological constraint needs to see at least the simple or complex default morphemes of tense of all the verbs like /u/, /u# ru/ and /u# ru# ru/ within its own morphological class.

The global constraint added to the alternative explains the phenomenon in question as follows. The ‘non-past’ form #n+u# ‘sleep DftMT’ would have violated the prosodic minimality constraint, eventually letting the global constraint violated in this morphological class, as given in Table 2.

That holds even if none of the other ‘non-past’ forms /tab# u/ and /kowar# u/ violates the prosodic minimality within its own cycle. The base forms of the morphological class thus select the complex #u+ru# standing in correspondence within the class although they violate the lower-ranked economy constraint.

3. Implications: The current study implies as follows. The prosodic minimality on tensed verbal forms motivates the default morpheme of tense (or tense expletive) to double, which brings out an apparent complexity of the ‘irregular conjugations’ in dialects and standard Japanese. A grammar is made restrictive based on the idea that every linguistic phenomenon is explained by devices of the most suitable component to that. With a default morpheme and its non-default morpheme of a syntactic category given, the content of the default morpheme may be the identity function, and may receive

References: /u/ _i , /ru/ _j , /u# ru/ _k , ...	ProsMini	TotalIdent _{lex}	EcoMRe
a. kowar# u _i	✓	*!	
a. tab# u _i	✓	*!	
a. n# u _i	*!		
☞ b. kowar# u# ru _k	✓	✓	*[2]
☞ b. tab# u# ru _k	✓	✓	*[2]
☞ b. n# u# ru _k	✓	✓	*[2]

Table 2: Analyses of */tab# u/ and /tab# u# ru/ ‘eat [Non-past]’, */kowar# u/ and /kowar# u# ru/ ‘break [Non-past]’ and */n# u/ and /n# u# ru/ ‘sleep [Non-past]’

the complementary meaning of the marked morpheme as a conventional implicature. We have left the question for future research, why affixes do not take the other base form if the verb has more than one base form, for example, */tabe ru/ (cf. /tab u ru/ ‘eat [Non-past]’) in Yanagawa dialect.²

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²Such a pragmatic constraint would be in order that an affix with the less meaning contribution selects the shorter base form if there are two.