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Japanese Verbal Morphology in Coordination

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This paper lays out data and issues that arise when verbs are coordinated in Japanese. Typically with the structure [V1 and V2] T, only V2 gets the tense marker. Thus, affixation for V1 is "suspended". Other verbal affixes also show suspension, but the nature of recoverability is different for each affix. Suspended affixation is simply unrecoverable (tense), recoverable with an allomorph (negation), recoverable with a different interpretation (causative), and recoverable without a twist (aspectual auxiliary). Suspended affixation is analyzed as post-syntactic merger, and when it is not allowed, that is due to the defective nature of each conjunct (like clitics), not because of the pre-syntactic nature of the derivation. Some comparisons with English are also made.

1. Basic facts about suspended affixation in Japanese verbal domain
2. Various nature of the recoverability of the suspended affix
3. Previous works (syntax vs. lexicon)
4. Apparent TP coordination
5. Comparison with English: A unified approach
6. Two factors that rule out SA
7. Nominal domain

1. Suspended affixation in verbal coordination

(1) a. John-wa yoku manabi[1] yoku asob-u
J.-Top well study well play-Pres
'John [studies a lot] and [plays a lot].'

b. Taro-ga utai odot-ta
T.-Nom sing dance-Past
'Taro [sang] and [danced].'

Although the first conjunct does not have a tense marker, it has the same interpretation of tense as the second conjunct. (1a-b) can be analyzed as coordination of VP or V. (See Yoon 1994 for similar examples in Korean.)

[1] I analyze the last vowel *-i* of *manabi* as epenthetic; it erases a coda when the root ends in a consonant and does not show up when the root ends in a vowel. For 'sing', the root is /utaw/, where the last [w] is dropped unless followed by [a]. There is another morpheme which is also used as a sentence/predicate connective, namely *-te*. It has the connotation of "V and then" and thus cannot be used in (1a) (Kuno 1973: 195). It is analyzed as involving adjunction rather than coordination (cf. Takano 2004: 171).

In addition to the tense morpheme (cf. Takano 2004), suspended affixation happens with negation, auxiliary (e.g., aspectual) verbs, and causative suffix.

(2) Taro-ga utai odor-ana-katta
T.-Nom sing dance-Neg-Past
'Taro did not sing and did not dance.'
'Taro sang and did not dance.' (Fukushima 1999: 315)

(3) Taro-ga utai Ziro-ga odori-hazime-ta
T.-Nom sing Z.-Nom dance-begin-Past
'Taro began to sing and Ziro began to dance.'
'Taro sang and Ziro began to dance.' (Fukushima 1999: 304, adapted)

(4) Hanako-ga Masao-ni [[uti-o soozisuru]-ka [heya-dai-o haraw]]-**aseru** koto ni sita[2]
H.-Nom M.-Dat [[house-Acc clean]-OR [room-rent-Acc pay]]-**Cause** decided
'Hanako decided to make Masao clean the house or pay room rent.' (Kuroda 2003: 455)

2. Is affixation really suspended?

Actually, the first conjunct in (1) cannot have the tense marker. Thus the affixation is not just suspended but rather *aborted*. (5) is not coordination but consists of two independent sentences:

(5) Taro-ga utat-ta odot-ta
T.-Nom sing-Past dance-Past
'Taro sang. (He) danced.' (cf. Takano 2004: 172)

For (2), an allomorphic negative marker can show up:

(6) Taro-ga utaw-azu odor-ana-katta[3]
T.-Nom sing-Neg dance-Neg-Past
'Taro did not sing and did not dance.'

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[2] Curiously, the first conjunct *soozisuru* contains a tense morpheme, the present suffix *-ru*. It seems that the disjunctive marker *ka* requires a tensed sentence, necessitating a tense morpheme. As noted by Kuroda, *-ru* here does not have a semantic content, for it is under the scope of the past marker *-ta*.

The original example is disjunction. Suspended affixation also happens with conjunction:

(i) Taro-ga Ziro-o utai odor-ase-ta
T.-Nom Z.-Acc sing dance-Cause-Past
'Taro made Ziro sing and dance.'

[3] Like (5), *-(a)na* on the first conjunct yields two independent sentences:

(i) Taro-ga utaw-ana-katta odor-ana-katta
T.-Nom sing-Neg-Past dance-Neg-Past
'Taro did not sing. (He) did not dance."

Naturally, the second "sloppy" reading in (2) is missing in (6). So is in (8) below.

The usage of the allomorph *-(a)zu* is limited to a sentence-medial position like in (6).

For (4), affixation of the causative suffix to the first conjunct yields a different interpretation, as noted by Kuroda (2003: 456):

(7) Hanako-ga [[Masao-ni uti-o soozis-**aseru**]-ka [heya-dai-o haraw-**aseru**]] koto ni sita
H.-Nom [[M.-Dat house-Acc clean-**Cause**]-OR [room-rent-Acc pay]]-**Cause** decided
'Hanako decided to make Masao clean the house or she decided to make him pay room rent.'

(4): Cause scopes over OR; Masao has a choice.
(7): OR scopes over Cause; Masao won't have a choice.

Only with (3) does affixation seems to be optional (with the same morpheme and the same meaning):[4]

(8) Taro-ga utai-**hazime** Ziro-ga odori-**hazime**-ta
T.-Nom sing-**begin** Z.-Nom dance-**begin**-Past
'Taro began to sing and Ziro began to dance.'

3. A brief history of approaches to inflection and suspended affixation in Japanese

As Kornfilt and Whitman (2011) argue, suspended affixation touches on the issue of the syntax/lexicon dichotomy. The syntax/lexicon debate roots in the treatment of Japanese causatives. In early days of the 60s and 70s, causative verbs are formed syntactically (via transformation). The 80s saw the advent of lexicalism, and whether Japanese causatives are formed in the syntax or lexicon has been controversial.

The example in (4) by S.-Y. Kuroda, one of the earliest proponents of syntactic treatment, is nowadays widely recognized as a decisive argument against lexical approaches (cf. Harley 2008):

(4) Hanako-ga Masao-ni [[uti-o soozisuru]-ka [heya-dai-o haraw]]-**aseru** koto ni sita
H.-Nom M.-Dat [[house-Acc clean]-OR [room-rent-Acc pay]]-**Cause** decided
'Hanako decided to make Masao clean the house or pay room rent.'

Analogously, (1) seems to favor the syntactic approach.

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4 The same applies to conjunctive causative example cited in note 2:
(i) Taro-ga Ziro-o utaw-**ase** odor-**ase**-ta
T.-Nom Z.-Acc sing-**Cause** dance-**Cause**-Past
'Taro made Ziro sing and dance.'
Unlike in the case of disjunction in (4) and (7), there seems to be no semantic difference depending on whether the causative suffix on the first conjunct is recovered.

(1) b. Taro-ga utai odot-ta
T.-Nom sing dance-Past
'Taro sang and danced.'

Takano (2004)'s syntactic approach
The tense morpheme is attached to the second verb under adjacency post-syntactically (cf. Halle and Marantz 1993).

(9) [V and V] T
└──┘
Merger (cliticization)

Yoon (1994) proposes the same "phrasal affix" analysis for similar facts in Korean. Kornfilt (1996) also proposes that suspended affixation in Turkish verbal domain is the result of the copula cliticized to the coordinated structure.[5]

As expected, when adjacency is disrupted by a particle, merger is blocked:

(10) Taro-ga utai odori-sae si-ta
T.-Nom sing dance-even do-Past
'Taro even sang and danced.'
'Taro sang and even danced.'

Here, *do*-support of the tense morpheme applies, as in non-coordinated sentences when adjacency is disrupted.

Fukushima (1999)'s lexical account of suspended affixation
Japanese verbal forms are generated pre-syntactically in the lexicon. Proper interpretations are obtained semantically and not reflected in phrase structure.

Although Fukushima argues against syntactic approaches, his arguments are actually at cross-purposes in evaluating the Takano/Yoon approach, for Fukushima only considers movement-based (i.e., incorporation and LF excorporation) accounts. (The same is true with Sells 1995, to which I return in the appendix.) If the syntactic structure can be transparent to semantic interpretation, there seems to be no need to posit semantic structures separate from syntactic structures as Fukushima does.

[5] In a recent work, however, Kornfilt (2012) proposes a different RNR analysis, but notes (n. 8) (but not necessarily endorse) a cliticization analysis, attributing the observation to Guglielmo Cinque.

4. Apparent TP coordination

(11) Hanako-ga Taro-o buti Masako-ga Ziro-o kusugut-ta
H.-Nom T.-Acc hit M.-Nom Z.-Acc tickle-Past
'Hanako hit Taro and Masako tickled Ziro.'
(Fukushima 1999: 301, see also Hirata 2006)

With distinctive subjects, (11) might be analyzed as TP coordination, but the first conjunct lacks tense morphology. Thus, (11) is better analyzed as vP coordination, containing subject and object but not tense, as in (12):[6]

(12) [vP1 vP2] T

Here, the subject stays in situ within vP, not at Spec TP. Case-licensing of two *ga*'s is implemented by across-the-board Agree, analogous to (13):

(13) I consider [Bob intelligent] and [Tom competent].
(Woolford 1987, see also Tomioka 1993: 488)

So does Japanese lack TP coordination? Actually the two conjuncts can have distinct tense interpretations as in (14):

(14) Taro-ga kinoo-wa utai kyoo-wa odor-u
T.-Nom yesterday-Top sing today-Top dance-Pres
'Taro sang yesterday and dances today.'
(Fukushima 1999: 308, see also Tomioka 1993: 487)

Here the tense of the first conjunct is independent of the tense morpheme on the second conjunct, and we have to analyze the first conjunct as TP. The question is, what happened to T in the first conjunct? I suggest that (14) involves adjunction rather than coordination, much like an absolute construction like (15):

(15) [$_{TP}$ John sitting in front of me, [$_{TP}$ I could not see the screen]].

In this adjunction analysis, (14) would be re-segmented, re-glossed and re-translated as as (14)':

(14)' Hanako-ga Taro-o but-i Masako-ga Ziro-o kusugut-ta
H.-Abs T.-Acc hit-T(inf) M.-Nom Z.-Acc tickle-Past
'Hanako hitting Taro, Masako tickled Ziro.'

6 Hirata (2006) initially also proposes a vP coordination structure but ultimately changes it to AgrP coordination (selected by T), based on the evidence that the subject moves out of vP.

That is, [i] of *buti* 'hit' is an infinitive marker (like English *to*), not an epenthesis. *Ga* on the first subject is the absolutive (default) case marker, as in English. The structure would be analogous to the *te* adjunction construction (cf. note 1).

The evidence that [i] is sometimes better analyzed as an infinitive marker comes from (16):

(16) a. boku-wa mat-ta
I-Top wait-Past
'I waited.'

b. boku-wa mat-i-ta-kattta
I-Top wait-T(inf)-want-Past
'I wanted to wait.'

When *ta* means Past, there is no [i] (16a), but when it means 'want', it has [i] (16b). The difference cannot be phonological but syntactic: (16a) is mono-clausal, but (16b) is bi-clausal. Thus, only in (16b) is there a place for [i] , namely the embedded T. See Nishiyama (2012: 159).[7]

How is the tense of the first verb in (14) interpreted? Under the TP adjunction analysis, the tense of the first verb is infinitive and thus is not specified. It is well known that the interpretation of the participle in an absolute construction is variable and depends on several factors, as in (17):

(17) a. Standing on a chair, John can touch the ceiling. (condition)
b. Having unusually long arms, John can touch the ceiling. (reason)
(Stump 1985, Kratzer 1989)

Thus, it is not surprising that a temporal adverb overrides the otherwise ordinary specification of the adjoined tense by the matrix tense.[8]

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[7] In the proposed analysis, Japanese does not have a true TP coordination. Of course, once we open up the possibility of TP adjunction, a question arises whether all the sentences that we have analyzed as V, VP, or vP coordination can be analyzed in the same way. While I cannot deny this possibility, unless there is evidence to the contrary, the null hypothesis is that Japanese has V, VP, or vP coordination (despite the lack of TP coordination), and the merger analysis in (9) is implemented under this assumption.

[8] It is worth pointing out that in a simplex sentence, the temporal adverb alone cannot license tense:

(i) *Taro-ga kinoo uta-u
T.-Nom yesterday sing-Pres
'*Taro sings yesterday.' (cf. Tomioka 1993: 487)

(ii) *Taro-ga kinoo uta-i
T.-Nom yesterday sing-Inf
'*For Taro to sing yesterday.' (cf. Tomioka 1993: 489)

Tomioka (1993: 484ff) also considers the adjunction analysis of apparent TP coordination but ultimately rejects it, on the ground that the sentence behaves differently with respect to anaphor from other ordinary adjunction sentences involving 'when' and 'because' clauses. This point is well taken, but it is not straightforward whether the adjunction analysis of (14) would yield exactly the same structure as 'when' and 'because' clauses. Thus, while Right Dislocation is possible with 'when' and 'because' clauses, it is impossible with (14).

5. Comparison with English: Takano (2004)

(18) John walked and danced.

TP coordination with RNR (cf. Kayne 1994)?

(19) $John_i$ [t_i walked] and [t_i danced] (*Left* Node Raising?)

(20) a. Different students walked and danced.
b. Different students walked and different students danced.

Both sentences have the reading that those who walked and danced are different from the ones contextually understood. But (20a) has another reading that those who walked and those who danced are not the same, which is missing in (20b). Takano (2004, n.7) claims that this raises a problem for the RNR analysis. (Similarly, the scope difference between (4) and (7) might suggest that RNR is not a good way to capture suspended affixation of the causative suffix in Japanese, along the line of Kornfilt (2012) for Turkish. But there is a caveat in this argument using semantic differences, to which we return in the section 7.)

Takano proposes that, unlike in Japanese, where tense merges with the verb post-syntactically, verbs in English as in (18) are fully inflected pre-syntactically. But with auxiliary tense, the verb is uninflected:

(21) John will walk and dance.

It is desirable to give a unified analysis of (18) and (21), along the line of post-syntactic merger given for Japanese. Suppose that the parallelism between the two conjunct is stricter in English than in Japanese. Thus, while Japanese permits affixation of only one conjunct, English does not. We have the derivation in (22):

(22) T [V1 and V2]
↓ (Merger)
V1-T and V2
↓ (Feature Copying)
V1-T and V2-T
↓ (Vocabulary Insertion)
walk-ed and dance-d

Crucial is the operation of Feature Copying, which is missing in Japanese. For the future tense in (21), which is not an affix, there is no Merger, and thus no Feature Copying happens.

6. Two factors that rule out SA

6.1. There cannot be a phrase within a word.

(23) a. *[oven and dish] cleaner
b. *[develop and move]ment
c. *[$_{N}$ [$_{XP}$ X and X]-N] (cf. Botha 1981)

(24) a. inu*(-goya) to yama-goya
dog-hut and mountain-hut
(intended) 'dog house and mountain lodge'

b. buta*(-niku) to tori-niku
pig-meat and bird-meat
(intended) 'pork and chicken meat'[9]

6.2. Each conjunct must be a full word.

(25) a. * Jean les et celles d'à côté trouve belles.
'John finds them and those besides pretty.'

b. * I saw the book and it. (Cardinaletti and Starke 1999)

Japanese transitive/intransitive marker

(26) nao-**s**-u 'fix.trans' mawa-**s**-u 'spin.trans'
nao-**r**-u 'get fixed' mawa-**r**-u 'spin.intrans'

(27) Taro-ga koma-o nao-*(**si**) mawa-**si**-ta
T.-Nom top-Acc fix-**trans** spin-**trans**-Past
'Taro fixed and spun the top.'

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9 Similar constraints hold in Turkish nominal derivation (Kornfilt and Whitman 2011 and Kornfilt 2012). Kornfilt (2012) argues that apparently possible case of suspended affixation in derivation is due to pragmatics (specifically, a kind of metonymy, as *salt* denoting *salt shaker*). Similarly, *buta to tori* can mean 'pork and chicken' in addition to 'pig and bird'. But with (24b), given *niku* attached to the second conjunct, metonymy of the first conjunct is harder, due to the parallelism requirement between the two conjuncts.

A question remains as to what to do with V coordination as (i):

(i) I [read and filed] a paper.

If [read and filed] forms a VP (as (23c)), then the object would be outside the VP. One solution is to follow Kayne (1994) and assume that what looks like V coordination actually involves RNR of VP coordination. Then Takano's argument we saw based on (20) must be reconsidered. Perhaps it is OK for movement to change the meaning of the original sentence (e.g, QR). Thus, there should be no problem when a RNRed sentence and its non-RNRed counterpart have different interpretations.

Compare (27) with (28) (repeated from n.2):

(28) Taro-ga Ziro-o utai odor-**ase**-ta
T.-Nom Z.-Acc sing dance-**Cause**-Past
'Taro made Ziro sing and dance.'

The verbs in (26/27) are often called lexical causatives. But recent theorizing assumes that there is no lexicon as the locus of word-formation and all the morphological operations happen (post-)syntactically (Marantz 1997). For (26/27) as well, I proposed in Nishiyama (1998, 2000) that the (in)transitivizing morphemes are located in v.

Given that v projects to vP, (27) cannot be ruled out by saying that there cannot be a phrase within a word (cf. section 6.1). Instead, (27) is ruled out because each conjunct must be a full word (cf. 25).[10] This means that *nao* in (27) becomes a full word with attachment of the transitive marker (residing in v).

Technically, vP as a full word is implemented as a Phase. Thus, vP must be pronounced as a unit.

7. Nominal domain

Japanese nominal connector *to* requires both conjunct to be strictly nominal, without a Case marker or a postposition. Thus, suspended affixation is obligatory.[11]

(29) John(*-ga) to Mary-ga sorezore Tokyo(*-kara) to Osaka-kara kita
J.-Nom and M. -Nom respectively Tokyo-from and Osaka-from came
'John and Mary came from Tokyo and Osaka, respectively.'

As for predicates, the copula is necessary for nouns as well as nominal adjectives:

(30) Taro-wa gakusei*(-de) yuusyuu-da
T.-Top student-Cop talented-Cop
'Taro is a student and talented.'

Note that the forms of the copula are different between the first conjunct and the second, like the case of negation we saw in (6). Even though nouns are free morphemes, suspended affixation is impossible in (30). It seems that nouns in Japanese require the copula at the morphological

10 Kabak (2007) proposes an analysis along the same line for Turkish, but see Kornfilt (2012: n. 7).

11 In Hindi, according to Kabak (2007: 312) (citing Payne 1995: 285f), postpositions can attach at the end of the conjoinednominal phrase (like Japanese), but both nominal conjuncts must be obligatorily case-marked (unlike Japanese). The latter may be attributed to the difference between inflection (Hindi) and agglutination (Japanese). In Turkish, according to Kornfilt (2012), whether nominal suffixes (e.g., the plural marker) can spread to each conjunct is controversial.

(rather than syntactic) level to function as a predicate.[12]

In Turkish, nonverbal coordination does not require the copula on the first conjunct (cf. Kabak 2007: 334), unlike (30). In Japanese, verbs are more tolerant about SA, allowing a bare root to stand alone. In Turkish, in contrast, nouns are more tolerant, allowing a bare noun to stand alone.

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[12] It is often assumed that *de* is a gerundive form analogous to *te*-forms of verbs. If this is correct, and if *te*-forms involve adjunction (cf. n. 1), then there would be no true coordination of nominal predicates in Japanese. One way to fill this gap is to deny the first premise and assume that *de* is sometimes distinct from *te*-forms. (29) can be paraphrased as the following, using a bona fide *te*-form of nominal predicates.

(i) Taro-wa gakusei-de at-te yuusyuu-da
T.-Top student-Cop be-te talented-Cop
'Taro is a student and talented.'

Although slightly awkward, (i) contains *te* attached to a dummy verb *ar*-. See Nishiyama (1999) for details.

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Appendix What to do with lexicalists' arguments against syntactic analyses: Sells (1995)

What complicates the syntax/lexicon debate as the locus of morphology is that there are several versions of syntactic analyses and that lexicalists consider only some syntactic analyses, notably head movement. Thus, Sells (1995), one of the most serious attacks against syntactic approaches to Korean and Japanese morphology, only points out problems with head movement.

Two replies to Sells (1995), Nishiyama (1998) and Koopman (2005), offers an alternative that Sells does not consider. (The former offers a merger analysis, the latter an antisymmetric roll-up analysis.)

Contributions of lexicalists are significant. We saw above that Fukushima (1999) provides important data of suspended affixation in Japanese. Both Nishiyama (1998) and Koopman (2005) agree with Sells that head movement cannot be utilized to capture Korean and Japanese morphology.

Most of the alleged problems discussed in Sells is circumvented if we assume that not all morphemes project syntactically. For example, focus particles are clitics and thus adjoins to a phrase, without changing the property of the top node. This is the case even with English as *I gave it [$_{PP}$ even [$_{PP}$ to John]]*. There is thus no problem for apparent long-distance selection in the presence of focus particles, as alluded by Sells. Apparent long-distance selection can also be handled with the notion of Extended Projection of Grimshaw (2003).

(34) *Two level morphemes*

a. ooki-katta-**desu**
big-Past-**Polite**
'was big (polite)'

b. tabe-**masi**-ta
eat-**Polite**-Past
'ate (polite)'

AP < TP < LevelP vs. VP < LevelP < TP ??

The level morphemes are a kind of agreement, agreeing with the level operator somewhere in the CP layer. It is well known that the position of agreement is variable, in contrast to rather fixed order of other morphemes such tense and aspect. Even in a single language, the position varies. Thus, in Lamaholot (Austronesian, see Nishiyama and Kelen 2007), the agreement marker is either a prefix or a suffix depending on the verb. Thus in (34), it is not surprising that the position of the level morpheme varies.

In DM terms, the vocabulary insertion of the level morphemes goes as (25):

(35) a. [polite] <--> /mas/ / V __
b. [polite] <--> /des/

(35) indicates that /des/ is the general morpheme for the polite level, and /mas/ is limited to the verbal environment, immediately following the verb.

(36) a. *tabe-ta-**desu**
eat-Past-Polite
'ate (polite)' (Sells' 24a)

b. **tabe-ta-**masu**
eat-Past-Polite
'ate (polite)'

It is true that (36a) is ungrammatical, but at least it is understandable, e.g., as an utterance of Japanese learners. This reflects the general nature of /des/. In contrast, (36b), with wrong order of morphemes, is simply unintelligible. This shows that the position requirement of /mas/ is quite strong.

Given the close connection between verb and tense, both semantically and in terms of cross-linguistic morpheme order, the order of verb-tense-level (i.e., the order for /des/) seems unmarked. This implies that /mas/ has some idiosyncratic features. This view is shared by Koopman's (2005: 616ff), although the details of the analysis differ.

(37) *Basic facts of Japanese (subject) honorifics*

a. Japanese productive honorific: o-V-ni naru
(e.g. o-tabe-ni naru 'eat.hon')
b. Irregular form:*o-si-ni naru -> nasaru 'do.hon'
c. Double marking is possible: o-nasari-ni naru (Sells' 27)

Now, Sells (p. 292) says:

> a syntactic view of honorification would presumably take *o-V-ni naru* to be the realization of some node in the tree expressing honorific information [...]; an irregular form like *nasaru* would be derived by a special rule from the ungrammatical source **o-si-ni naru.*

But actually there is no need to postulate the ungrammatical source.

(38) a. [do, honorific] <--> /nasar/
b. [do] <--> /su-/
c. [honorific] <--> /o- -ni nar/[13]

Here, the irregular form /nasar/ is inserted to a complex feature bundle derived by Fusion of [do] and [honorific]. There is an issue of whether we need to stipulate that Fusion is this case is obligatory. Fortunately, even if Fusion is optional, there is a way to rule out **o-si-ni naru* on independent ground. There is a phonological (minimal word) requirement that V in *o-V-ni naru* be a foot consisting two syllables (cf. Nishiyama 1998). This rules out **o-si-ni naru*.

Double marking is handled as a case of double agreement (see also Koopman 2005: 622.)

There is evidence that verbal morphology is (post-)syntactic, not pre-syntactic as Sells advocates.

(39) *Verb / adjective distinction in Japanese*

	Verb			*Adjective*	
a.	tabe-**ru**	'eat-Pres'	b.	taka-**i**	'high-Pres'
c.	tabe-sase	'eat-Caus'	d.	*taka-sase	'high-Caus'

In the focus construction (cf. 10), the verb requires *do*-support, while the adjective requires *be*-support:

(40) a. tabe-sae **su**-ru
eat-even **do**-Pres

b. taka-ku-sae **ar**-u
high-ku-even **be**-Pres

Since the relation between the categorial feature and the choice of the dummy verb above goes beyond word boundaries, (40) indicates that the verb / adjective distinction is necessary in the syntax. Then the choice of the present marker (/ru/ or /i/ as in (39a, b)) can be handled syntactically. This undermines the necessity to have a morphological template generated pre-syntactically like *V-ru* and *A-i*, as Sells would do.

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[13] This abstracts from a more plausible analysis whereby *o-*, *ni* and *nar-* are distinct morphemes.