VERBAL MORPHOLOGY OF JAPANESE AND HEAD MOVEMENT[*]

Michiya Kawai
Huron University College/University of Western Ontario

1.   Introduction

Japanese verbal morphology comes in two major forms, commonly referred to as *plain* (PLN-) and *polite* (POL-) form (cf. Bloch 1946, McCawley 1968, Okimori, et. al. 1989, Shibatani 1990, among others. For a brief descriptive summary of these forms, see Endo Hudson 1994 and Chino 1996). One question is whether or not these two forms involve a single underlying syntactic structure. A single structure approach presumably is the null hypothesis for its simplicity; however, this has not always been the approach chosen.

Morita (2005), for example, proposes an analysis that involves two distinct underlying structures in order to accommodate the two forms. This is in part because syntax closely mirrors morphology in the recent analysis of verbal morphology (cf., Emonds 1978, Pollock 1989, Chomsky 1991, 1993, for example). Morita (2005: 1) takes as a point of departure the observation that "an agglutinative form [of Japanese predicates] cannot be used in the combination of the feature specifications 'Past,' 'Negative' and 'Polite'." Consider (1), where $-i-$ denotes an epenthetic vowel. The PLN-negative past morpheme (1b) is agglutinated to the verb stem; Morita claims that this is not the case with the POL-negative past form (1a). Assuming that agglutination is done by head movement, Morita designs an analysis where head movement is blocked in the past negative polite predicates.

(1)   a.   aruk-i-mas-en des-i-ta.   b.   aruk-ana-k-ar-ta[1]
             walk-i-polite-neg be-i-past   walk-neg-pred-be-past
             'didn't walk (polite)'   'didn't walk (plain)'

This paper first critically examines the dual structure approach of Morita 2005, and then, argues for the single structure approach by extending the analysis of PLN-form presented in Kawai 2006 to POL-form. Section 2 presents the data to be considered in this paper. Section 3 outlines Morita's (2005) analysis and its problems. Close examination shows that the dual structure analysis does not receive strong empirical support. Section 4 presents, as an alternative, a single structure analysis for the two forms, by extending Kawai's (2006) analysis of PLN-form. A brief concluding remark is given in Section 5.

[1] *Des-i-ta* in (1a) surfaces as *deshita*, and *ar-ta* in (1b) as *atta* (cf. McCawley 1968).

2. Data

This section presents the data on Japanese PLN- and POL-form predicates as in, respectively, (2) and (3). The hyphenation therein is for expository purposes, not necessarily representing proper morpheme boundaries. In this paper, we are concerned with inflection forms expressing [±Past, ±Negative, ±Polite]; other – modal auxiliaries and conjunctive – suffixes are not discussed, since they are not relevant to our concern here.

(2)   Japanese plain form inflection

	Pos./Pres	Pos./Past	Neg./Pres	Neg./Pres	
a.	taberu	tabeta	tabenai	tabenakatta	*eat*
b.	aru	atta	nai	nakatta	*exist*
c.	de-aru da	de-atta datta	de(wa)nai	de(wa)nakatta	*be*
d.	takai	takakatta	takakunai	takakunakatta	*high*

(3)   Japanese polite form inflection

	Pos./Pres	Pos./Past	Neg./Pres	Neg./Past	
a.	tabemasu	tabemashita	tabemasen	tabemasendeshita	*eat*
b.	arimasu	arimashita	arimasen	arimasendeshita	*exist*
c.	desu	deshita	de(wa) arimasen	de(wa) arimasen deshita	*be*
d.	takaidesu	takakattadesu	takakuarimasen	takakuarimasen deshita	*high*
e.	takaidesu	takakattadesu	takakunaidesu	takakunakatta desu	*high*

A thorough morpho-phonemic analysis of Japanese verbal morphology is available in McCawley 1968. In this paper, I follow, without any argument, the essence of his analysis of (2) and (3), as summarized in (4) and (5), respectively. Let us consider (4) first.

(4)   Plain form inflection analyzed

	Pos./Pres	Pos./Past	Neg./Pres	Neg./Past	
a.	tabe-ru	tabe-ta	tabe-na-k̶-i+∅	tabe-na-k̶-ar-ta	*eat*
b.	ar-ɍu	ar-ta	na-k̶-i+∅	na-k-ar-ta	*exist*
c.	de-ar-ɍu d-a	de-ar-ta d-ar-ta	de na-k̶-i+∅	de na-k̶-ar-ta	*be*
d.	taka-k̶-i+∅	taka-k-ar-ta	taka-k-nak̶-i+∅	taka-k-na-k̶-ar-ta	*high*

PLN-form has two tense morphemes: non-past *–ru* and past *–ta*. Non-past *–ru* is not overtly expressed when it immediately follows *–k–i–,* as in the positive present adjective in (4d) and all the present negative forms in (4); this 'unrealized' non-past tense morpheme is denoted by ∅. The *–k–* deletes when it is immediately followed by *i−∅*. The short form of the positive present in (2c) also appears to undergo a similar "tense deletion" process, as in (4c). Here, I remain non-committal as to whether the tense morpheme is deleted or simply absent. Past morpheme *–ta* is always overt when it is present. Regarding the PLN-negation, its lexical entry is traditionally represented as *(a)nak*. *(a)* is licensed by a preceding "word-internal" consonant; it is absent word-initially, or when the negation is preceded by a vowel-ending stem. The status of *k* is not fully understood; it has traditionally been analyzed as a part of the adjectival stem. Following Nishikawa (1999), Morita (2005) treats it as a Predicate head; thus she represents PLN-negation as *ana–*. (See Namai 2002 and Nishiyama 2005). This is not crucial to our discussion; here, we simply follow Morita's practice of denoting PLN-negation as *ana–*. Bear in mind, however, that the initial *a* in *ana–* may be absent in some data. Now, observe the distribution of *ar* in (4), while ignoring (4b) for the time being. In every case, *ar* is immediately preceded by a non-verbal element, such as an adjective or negation. Contrastingly, when immediately preceded by a verb stem, tense morphemes *–ru* and *–ta* are directly 'attached' to it. This is abstractly the distribution of English *do* (Kawai 2006). Morita (2005) refers to this as *dummy copula* (DumCop); in this paper, we will denote this kind of *ar* as *supportive ar* (AR).

Let us turn to the polite form paradigm (5). Due to the space limitation, the internal breakdown of the PLN-forms is omitted in (5d/e).

(5) <u>Polite form inflection analyzed</u>

	Pos./Pres	Pos,/Past	Neg./Pres	Neg./Past	
a.	tabe-mas-~~ru~~	tabe-mas-i-ta	tabe-mas-en+∅	tabe-mas-en-des-i-ta	*eat*
b.	ar-i-mas-~~ru~~	ari-mas-i-ta	ar-i-mas-en+∅	ar-i-mas-en-des-i-ta	*exist*
c.	de-~~ar i mas~~-~~ru~~	de ~~ar i mas~~-i-ta	de (wa) ar-i-mas-en+∅	de ar-i-mas-en-des-i-ta	*be*
d.	takai desu	takakatta desu	takak ar-i-mas-en+∅	takaku ar-i-mas-en-des-i-ta	*high*
e.	takai desu	takakatta desu	takakunai desu	takakunakatta desu	*high*

A POL-verb stem is a composite of a verb stem, *mas*, and epenthetic vowel *i*, if the verb stem ends with a consonant. *Mas* behaves as a verb, as it licenses *–ru* without AR; *r* drops when immediately preceded by *mas*. When the *verb-mas* complex is adjacent to past morpheme *–ta*, epenthetic vowel *–i–* appears. In negative non-past form, *–en* is attached to the complex verb stem,

and the non-past tense morpheme is covertly expressed, as is seen in *tabe-mas-en+∅* in (5a). In the negative past form, *ta* must be overt and *des*, polite form of AR, is inserted with an epenthetic vowel *i*. Japanese polite adjectival inflection comes with two types of negative inflections, (5d/e), to be referred to as Type I and II, respectively. The positive forms of Type I and II inflection patterns are identical: the PLN-adjectival inflection with dummy politeness marker *desu*. This should be distinguished from the homophonous *des−ɾu* found in (5a/b/c), since it is a non-tense bearing item, unchanged irrespective of the tense as in (5e). Type II negation uses this strategy, as well. In negative forms of the Type I inflection, on the other hand, the polite counterpart of *ar* – viz., *ar-i-mas* – appears on the left of the negation *–en*.

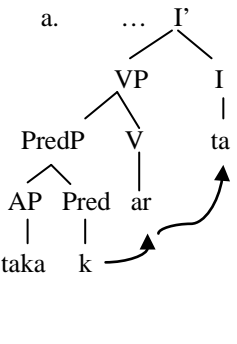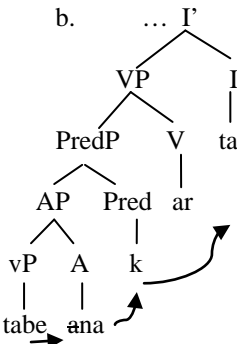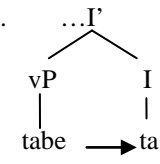Descriptive generalization of the paradigms above is given below:

(6) a. Only verbs license tense morphemes under linear adjacency.
     b. Stranded tense morphemes are supported by AR.
     c. A POL-verb stem is created by *v-stem+mas*.
     d. A PLN-adjective becomes a POL-adjective with the non-tense-bearing *desu* (Type II).
     e. Past Tense Morpheme must be overtly expressed.
     f. PLN-negation is *ana–* (or *(a)nak*), and the POL-negation, *-en*.
     g. AR is "spelled out" as in *ar* in PLN-form inflection and *des* in POL-form inflection.
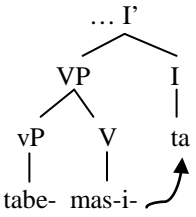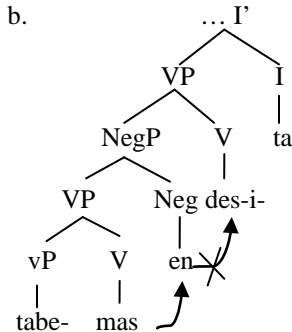
3. Dual Structure Analysis

In this section, Morita's (2005) analysis of the paradigms above is discussed. Morita builds an analysis based on the assumption that a POL-negative past predicate cannot form a predicate complex via agglutination, an assumption to be challenged later. For Morita, the real contentious issue is in the negative past form: viz., the PLN-form is agglutinative while the POL-form involves a periphrastic construction – i.e., the AR-tense complex (*des-i-ta*) not agglutinated to the verb-negation complex. Thus, we will focus on the past negative forms, as well, leaving aside other forms unless necessities arise. Under the assumption that agglutination results from head movement, Morita designs a theory where a POL-negation blocks the head movement of a verb complex toward Infl.

Morita assumes that the PLN-form of a negative predicate "is formally classified as an adjective: the negative morpheme *ana–* functions as an adjectival head" (Morita 2005: 2). This is an assumption that Morita fails to defend successfully in her discussion. Morita (2005: 2) offers two reasons for the adjectival status of *ana–*, neither of which is decisive: (A) both adjectives and *ana–* lack the hortative and imperative forms, unlike verbs; and (B) they both require AR. (A) and (B) both fail because they are also true for the polite form negation *-en*, which Morita analyzes as a head of Neg. As such, the only conceivable reasons for treating *ana–* as an adjective seem to me to be: (a) it inflects like an adjective, *~k−i−∅* and *~k−ar−ta*, as seen in (4); and (b) the analysis cannot distinguish *ana–* from *–en* if they both are of the same category.

Let us take a closer look at the past forms of Japanese predicates. Morita (2005: 3) follows Nishikawa (1999) in that an adjectival predicate contains two types of copulas: a supportive AR and a "predicative copula [−*k*] … necessary for predication." In (7a/b), past tense morpheme –*ta* is an affix which "attracts a lexical head" (Morita 2005: 5); however, Pred, not being a lexical head, is unable to merge with *ta*. AR is thus inserted for licensing *ta*. In (7c), a positive form verb is directly attracted by *ta* since nothing intervenes between them; *tabe* successfully moves to I, yielding *tabe-ta*. (8) illustrates these processes.

(7)   a.   taka-k-ar-ta   b. tabe-na-k-ar-ta   c. tabe-ta
             high-Pred-AR-past   eat-neg-Pred-AR-past   eat-past
             'was expensive'   'didn't eat'   'ate'

(8)

Let us turn to the POL-form predicates. As is standard, Morita views –*mas* as a polite verb stem attached with a verb-stem. Consider the positive form (9a)/(10a). Past tense morpheme *ta* is licensed by *mas*, thus head movement of VP to I is licit, according to Morita's view. Consider the negative counterpart of (9a)/(10a), as in (9b)/(10b).

(9)   a.   [[ᵥ tabe]-[ᵥ mas]-i-[ᵢ ta]]

       b.   [[ᵥ tabe]-[ᵥ mas] [Neg en] [des]-i-[ᵢ ta]]

(10)

Morita assumes, following Pollock (1989), that polite negation –*en* heads its own functional projection. *Des* is inserted to "realize the past morpheme," much as *ar* was inserted in the PLN-past negative form. Morita insists that there is a crucial difference: viz., the POL-form of a negative predicate "uses a periphrastic construction to realize the past tense morpheme, while the plain form as the agglutinative form" (Morita 2005: 7). Morita sees this as the defining difference between the two forms. In order to obtain this effect, Morita appeals to (11), a revised form of the Proper Head Movement Generalization (Li 1990, Baker 1996) in (12).

(11)   A non-inflectional category cannot move into an inflectional category and then back into a non-inflectional category.

(12)   A lexical category cannot move into a functional category and then back into a lexical category (Baker 1996: 284).

According to Morita, verb-stems and tense morphemes are non-inflectional items. Thus, (11) has no effect on the POL-positive form in (9a)/(10a); head movement does not move through any inflectional category. On the other hand, the POL-negative past form is affected by (11). NegP is taken as an "inflectional category, since polarity is assumed to be the inflectional category of morphosyntactic property distinguishing affirmative sentences from negative sentences (Stump 1998)" (Morita 2005: 9). Under (11), *v-stem-mas* cannot head-move to –*ta* once it moves into NegP, as shown in (9b)/(10b). Subsequently, the polite form of a negative predicate must use the periphrastic constructions, concludes Morita (2005).[2] In PLN-forms, on the other hand, Pred is a non-inflectional head "since it does not exhibit properties of inflectional categories, such as productive and semantic regularity." Thus, "head movement from the non-inflectional head Pred – and other items head-moved into it – to the higher non-inflectional head [AR] is possible, since there is no inflectional category that intervenes between them" (Morita 2005: 10), as illustrated in (8b). Hence, Morita (2005) concludes, PLN-negative past form is formed by agglutination.

Morita's argument is not as strong as desired, however. First, the analysis crucially rests on (11), a generalization. As such, (11) is a summary of a problem, rather than a solution. This weakness is acknowledged by Morita in her conclusion.[3] Further, the revision of (12) into (11) is motivated strictly by the descriptive necessity; no independent supporting evidence is given in her discussion. Second, and more critically, Morita fails to offer a convincing reason to distinguish PLN- and POL-negation in terms of their syntactic categories. While it is not *a priori* incorrect, the burden of proof is on Morita.

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[2]The original text is believed to contain minor typos; I believe that the statement here captures what is intended by Morita (2005).

[3] To be fair, (11) can plausibly be subsumed under some version of Relativized Minimality.

There are at least two problems with Morita's (2005) position. One is that Morita uses two unrelated criteria for determining the category of the negations. The POL-negation is classified as inflectional on the basis of its polarity-determining property, as we saw above, while the PLN-negation seems to be classified from the purely morphological view point. If we apply this criterion, *ana–* must also be classified as an inflectional category, contrary to Morita's (2005) contention. The other problem is that PLN-negation *ana–* does not always behave as an adjective. For example, Japanese has a concessive construction, as in (13), where the predicate complex is broken up into stem+contrastive particle-*wa* (contr.) and *aru/nai* for an adjective (13a) or *suru* for a verb (13b), which is inflected according to [±Past, ±Negative, ±Polite]. This construction adds a contrastive-focus on vP, thus, it is syntactically similar to English VP fronting. If PLN-negative is indeed an adjective, then it is predicted to participate in this construction just as other adjectives do. This prediction is not borne out, as is shown in (14), however.

(13) a. Kono hon-wa omoshiroku-wa aru-ga, kauhodo ja nai.
          This book-top interesting-contr. be, buy-worth is- not.
          'Granted that t his book is interesting, but not worth buying it.'

      b. Gakusei-wa sore-o yomi-wa sita-ga, nani-mo oboete   nak-atta.
          student-top that-acc read-contr. did-but, nothing remember not-past.
          'The student did read that, but he didn't remember anything about it.'

(14) a. * Gakusei-wa ronbun-o kakanaku-wa   aru-ga, koogi-wa   suru.
           student-top   article-acc write-not-contr. is-but, lectures-contr. do
           'Granted that the student doesn't write articles, he does lectures.'

      b. * Kono hon-wa yasuku-naku-wa aru-ga, sugoku yasuppoi.
           this book   cheap-not-contr. is-but, terribly cheapy
           'Granted that this book is not cheap, it's really cheapy looking.

(15) a. Kono hon-wa omoshirokunaku-wa aru-ga, yakuni-wa tatsu.
          this book-top   uninteresting-contr. is-but, helpful
          'This book is not interesting, but it is certainly helpful.'

      b. Sono koto-ni tsuite sumanaku-wa aru-ga, nani-mo dekinai.
          that thing-regarding sorry-contr.   is-but, anything cannot do
          'Although I feel sorry for that, I can't do anything about it.'

The ungrammaticality of (14) does not come from the incompatibility of negative predicate (*ana–*) in the *wa*-marked (contrastive) clause. Japanese has a small class of adjectives containing lexicalized *ana–*: e.g., *omoshirokunai* (interesting-not) 'uninteresting'; *sum-anai* (finish-not) 'sorry', among others. They can licitly participate in this construction, as in (15). In short, the ungrammaticality in (14) indicates that sentence negation cannot be in the

contrastively focused (vP) clause. This in turn indicates that the construction in (14) sees *ana–* as sentence negation, not as a plain adjective. Then, *ana–* in (14) is too high for it to be included in the contrastively focused clause.

This renders Morita's (2005) analysis untenable, however; the generalization in (11) can no longer distinguish the PLN- and POL-negative past. Yet, I believe that this is a step toward the right direction. First, now the categorial status of POL- and PLN-negation is determined under a single criterion; both determine the polarity value of affirmative/negative of a clause. Second, the periphrastic/non-periphrastic distinction, so central to Morita's (2005) analysis, is questionable at best. Consider (16) and (17), which are from western dialects of Japanese, spoken in the Kinki region.

(16) a. aruk-ahen   b. aruk-anhen-kar-ta
          walk-not-∅   walk-not-AR-past
          'don't walk'   'didn't walk'

(17) a. aruk-an-∅   b. aruk-an-kar-ta   c. aruk-an-ar-ta
          walk-not-∅   walk-not-AR-past   walk-not-AR-past
          'don't walk'   'don't walk'   'don't walk'

(18) a. aruk-i-mah-en-∅   b. aruk-i-mah-en-kar-ta
          walk-polite-not-∅   walk-i-polite-not-past
          'don't walk (polite)'   'didn't walk (polite)'

      c. aruk-i-mah-en-kar-ta
          walk-polite-not-past
          'didn't walk (polite)'

Note that given the presence of AR, *–an* and *-hen*, like the standard *–en*, cannot support the past tense morpheme. Morphologically, they do not behave like adjectives; further, they determine the polarity of sentences. Therefore, *–an* and *–hen* are inflectional heads, according to Morita's (2005). Yet, observe in (16b)/(17b) that *katta* is agglutinated, not a periphrastic form, unlike what (11) predicts. The same story can be told for a variant in (17c), where *ar-ta* (pronounced as *anda* rather than *atta*) does not appear periphrastically. Finally, in those dialects, the POL-forms comparable to (16)/(17) are as in (18). Note that in these dialects, *-katta* and *–anda* are agglutinated, contrary to what is predicted with (11).

Bearing in mind this range of facts, the assumption is dubious that the POL-negative past involves a periphrastic construction. In fact, Morita does not offer any supporting argument for it. Clearly, the fact that we have *tabemasen* 'don't eat' for the non-past form does not entail the wordhood of *deshita* found in *tabemasendeshita* 'didn't eat'. Perhaps, the wordhood of *deshita* is intuitively appealing for a prosodic reason; *tabemasen-deshita* is certainly a natural break. However, so is *aruka-nanda,* where *-nanda* is clearly not a periphrastic word. Or, perhaps, it is by analogy from the *desu* in the Type II negation, which is

clearly periphrastic. However, the tense-bearing *desu* is always agglutinated to a predicate nominal *de* (as in (3c)) or the past negative predicate complex.

I have argued that (i) both POL- and PLN-negative are head of negation, and (ii) the negative past form of POL-predicate does not involve a periphrastic strategy. This leads to an analysis significantly simpler than Morita's (2005) analysis: namely, irrespective of POL- and PLN-forms, negation involves agglutination of AR and *ta*.

4.   Alternative Proposal

This section presents an alternative analysis of Japanese verbal morphology, extending Kawai's (2006) analysis of the PLN-form inflection. Below, we take the following to hold true about Japanese. Namely, (i) a tense morpheme (*-ru* or *-ta*) is licensed by being adjacent to a "verb", but not to an adjective, nominal predicate *de*, and negation; (ii) a tense morpheme, when it is left unlicensed, is attached to *ar* in the PLN-form, and *des* in the POL-form; and (iii) negation *ana−* and *−en* both are inflectional heads.

The next step is to derive the properties in (i)-(iii). Lasnik's (1995) analysis of the English/French verbal morphology offers a system for that, although it was not specifically designed for Japanese verbal morphology. Lasnik's (1995) analysis came about as an alternative to Chomsky's (1993) analysis of English/French verbal morphology, which had serious problems. Here, the space limitation prohibits us from fully reviewing the problems therein, nor can we closely examine, and motivate, Lasnik's analysis. However, it is worth noting that Lasnik's analysis is not only descriptively more adequate than Chomsky's (1993), but also a simpler – and, more principled – analysis, once we accept affixation as a part of grammar (Chomsky 1955/1985, 1957).

Let us consider the core proposals of Lasnik's (1995) analysis. Any analysis of English verbal morphology must distinguish main verbs, which do not overtly raise to I (19a/b) from those that do (i.e., *be* and auxiliaries) (19c/d). Further, it is desirable if the same analysis can account for the difference between English and French main verbs, the latter of which overtly raise to I (19e/f).

(19) a.   John did not kiss Mary.
              John [[$_I$ did-past] [$_{NegP}$ [$_{Neg}$ not] [$_{VP}$ kiss Mary.]]]
      b. * John kissed not Mary.
              John [[$_I$ kissed-past] [$_{NegP}$ [$_{Neg}$ not] [$_{VP}$ ~~kissed~~ Mary]]]
      c. * John did not be happy.
              John [[$_I$ did-past] [$_{NegP}$ [$_{Neg}$ not] [$_{VP}$ be/was happy]]]
      d.   John was not happy.
              John [[$_I$ was-past] [$_{NegP}$ [$_{Neg}$ not] [$_{VP}$ ~~be/was~~ happy]]]
      e.   Jean (n')aime pas Marie.
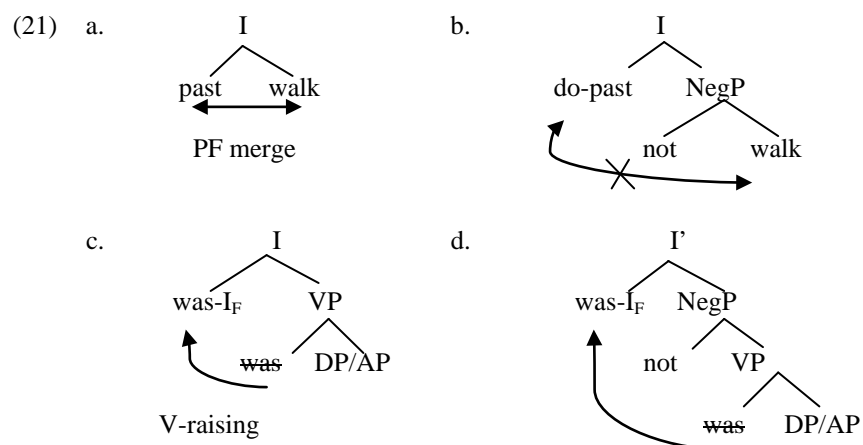   f. * Jean (n') pas aime Marie.

For English verbal morphology, a successful analysis must make the two-way distinction that is derived from the principles of grammar. In Lasnik's (1995) analysis, "Infl is freely an affix or a set of abstract features" (Lasnik 1995 (1999: 105)), to be referred to as, respectively, affixal infl (I_A) and featural infl (I_F). Let us first consider the property of affixal Infl. I_A must be affixed to a verb for the satisfaction of its morphological need; a stranded affix is an illegal LF object. This is a minimalist reincarnation of Chomsky's (1955/1985, 1957) treatment of tense affix in English; it requires linear adjacency to which it is affixed. For this reason, Lasnik (1995) considers affix-hopping to be a merger operation at PF (20a). Syntactic processes are insensitive to linear adjacency since linearization has not taken place. Under this method of licensing an I_A, verb raising does not take place (20b). Below, a bare verb stem is referred to as nonlexicalist verb (V_{NON}). When a negation is present, the linear adjacency is broken between I_A and V-stem, creating a stranding affix, an illegal syntactic object. In that case, *Do* support salvages this derivation by inserting *do*, as in (20c).

(20) a. … I_A V $\rightarrow$PF-merge $\rightarrow$ V-I_A
      b. …ed walk $\rightarrow$PF-merge $\rightarrow$ walk-ed
      c. …ed not walk $\rightarrow$ Do support/PF-merge $\rightarrow$ did not walk

Now, let us turn to featural Infl (I_F). Lasnik observes that finite featural Infl is strong in both English and French; thus, its features must be "licensed" in overt syntax via agreement with, in this case, those of a raising-type verb (i.e., *be* and auxiliaries in English, and all the main verbs in French). Following Chomsky (1993), Lasnik (1995) assumes that the agreement is local, and, thus, a verb with the corresponding set of agreement features must overtly raises to a local domain of I_F, presumably by adjoining to it.[4] It is clear that a V_{NON} cannot help the I_F since it lacks agreement features altogether. Lasnik proposes that English has another type of verbs: namely, those that are fully inflected in Lexicon, as proposed in Chomsky's (1993) fully lexicalist approach to the English verbal morphology. The relevant features of a lexicalist verb (V_{LEX}) can agree with I_F, thereby licensing the latter in overt syntax. As a consequence, finite I_F in English induces a V_{LEX} to raise, whereas I_A does not. This is exactly the effect we want to capture. In English, those that are overtly raised to I are *be* and auxiliaries; in French main verbs are of the raising kind. Thus, Lasnik (1995) concludes that (i) *be* and auxiliaries in English, and French main verbs, are lexicalist verbs; and (ii) English main verbs are nonlexicalst.

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[4] This system does not work under *agree* (Probe-Goal), since agreement is done without triggering movement. In order to fit this analysis within the current minimalist framework (Chomsky 2000, 2008, among others), the present analysis must be modified accordingly, which is beyond the scope of this paper. The challenge is to motivate the raising of *be* and auxiliaries somehow. If the only option is by a movement-triggering feature, such as OCC-feature, P-feature, and EPP-feature, then its presence/absence must be the answer. Another possibility is to allow head movement to be driven by the morphological needs of Infl. See Kawai 2008 for an exploratory study along this line.

This is schematically shown in (21). In (21a), *walk* is linear adjacent to affixal I_A, thus undergoing PF-merge to yield *walked*. In (21b), *not* breaks the linear adjacency of I_A and *walk*, thus the former is stranded; *Do*-Support thus applies to salvage this offending affix. With *be* in (21), a V_{LEX}, it is merged with full morphological features. According to Lasnik's analysis, which is couched in Chomsky's (1993) theoretical framework, *was* raises to the local agreement domain of I for an agreement purpose, as in (21c/d). See Lasnik (1995/1999: 108) for a discussion on how (21d) "evad[es] a relativized minimality ECP violation."

(21) a.

I

past   walk

PF merge

b.

I

do-past   NegP

not   walk

c.

I

was-I_F VP

was   DP/AP

V-raising

d.

I'

was-I_F NegP

not   VP

was   DP/AP

Improper combinations – i.e., I_F and V_{NON} and I_A and V_{LEX} – will be independently ruled out, because V_{NON} has no agreement features for I_F, and V_{LEX}, being fully inflected, cannot take another tense affix. We will assume the correctness of the essence of this approach for the rest of our discussion and use the diagnostics made available by this analysis. Namely: a raising V is V_{LEX} whereas a non-raising one is V_{NON}.

Now, let us return to Japanese morphology. First consider the PLN-forms, repeated here in (22). For the sake of readability, I have incorporated the adjectival predicate *k* and epenthetic vowels into the adjectival stems.

(22)   Plain form inflection analyzed

	Pos./Pres	Pos./Past	Neg./Pres	Neg./Past	
a.	tabe-ru	tabe-ta	tabe-nak-~~ar ru~~	tabe-nak-ar-ta	*eat*
b.	ar-ru	ar-ta	nak-~~ar ru~~	nak-ar-ta	*exist*
c.	de-ar-ru	de-ar-ta	de-nak-~~ar ru~~	de nak-ar-ta	*be*
	d-a	d-ar+ta			
d.	takak-~~ar ru~~	takak-ar-ta	takaku-nak-~~ar ru~~	takaku-nak-ar-ta	*high*

Kawai (2006) classifies PLN-form main verbs as V_{LEX} since they do not move past negation (23a). Observe that *exist*, *be* (copula), and *takai* (adjective) (23b-d) vacate their merged position in the negative contexts, unlike the main verb (23a). The merged positions for those items are indicated by '==' in (23). This becomes clearer when contrasted with the POL-counterpart of (23d), as in (23e): the polite form *arimas* appears on the left of the negation, indicating its merged position. This is exactly the mirror-image to how English *be* and auxiliaries behave, as in (24). Thus, Kawai (2006) classifies them as V_{LEX} in Japanese.

(23) a. tabe-nak-ar-ta   a'. * == nak-tabe-ta
          eat-neg-AR-past   neg-eat-past

      b. * ar-nak-ar-ta   b'. == nak-ar-ta
            exist-neg-AR-past   ~~exist~~ -neg-exist-past

      c. * de-ar-nak-ar-ta   c'. de == nak-ar-ta
            pred-be-neg-AR-past   Pred- ~~be~~ -neg-be-ta

      d. * takak-ar-nak-ar-ta   d'. takak == nak-ar-ta
            high-be-neg-AR-ta   high- ~~be~~ -neg-~~be~~-ta

      e. takak-ar-i-mas-en-des-i-ta   e'. * takak-en-ar-i-mas-i-ta
          high-be-i-polite-eng-AR-i-ta   high-neg-be-i-polite-i-ta

(24) a. * [$_I$ past [$_{Neg}$ not …[$_{VP}$ was …   b. [$_I$ was-past [$_{Neg}$ not …[$_{VP}$ ~~was~~ …

      c. * … ar …$_{VP}$] nak $_{Neg}$] ta $_I$]   d. … ~~ar~~ …$_{VP}$] nak $_{Neg}$] ar-ta $_I$]

Now, consider the POL-form inflection. With POL-form verbs, *exist*, and *be* (copula), repeated here in (25), none vacates its merged position.

(25) Polite form inflection analyzed

	Pos./Pres	Pos./Past	Neg./Pres	Neg./Past	
a.	tabe-mas-~~r~~u	tabe-mas-i-ta	tabe-mas-en+∅	tabe-mas-en-des-i-ta	*eat*
b.	ar-i-mas-~~r~~u	ar-i-mas-i-ta	ar-i-mas-en +∅	ar-i-mas-en-des-i-ta	*exist*
c.	de-~~ari-mas~~-~~r~~u	de ~~ar i ma~~s-i-ta	de ar-i-mas-en+∅	de ar-i-mas-en-des-i-ta	*be*
d.	takai desu	takakatta desu	takaku ar-i-mas-en+ ∅	takaku-ar-i-mas-en des-i-ta	*high*
e.	takai desu	takakatta desu	takakunai desu	takakunakatta desu	*high*

They stay in situ and PF-merges with the past tense suffix. Thus, there is no evidence for V-raising; thus, it suffices to assume that *mas* is a lexicalist verb. In the negative contexts, *des* (AR) is inserted as a supporting item of I$_A$, as predicted. Only language specific stipulations necessary are (i) *des* is the polite counterpart of *ar*, and (ii) *desu* can also be used as a generic politeness marker for the type II adjectival inflection pattern. Type II is the PLN-adjectives with *desu* attached. So, our account of the PLN-forms carries over. The positive paradigm of the Type I adjectival inflection is irregular, since the positive counterparts of their negative paradigm is (26), where −*u*− denotes an epenthetic vowel, the reason of which is unclear to me.

(26) a. * takaku arimasu   b. * takaku arimasita
            takak-ar-i-mas-ru   takak-u-ar-i-mas-i-ta
            high-be-polite-pres   high-be-polite-pres

Some sort of incompatibility may exist between the Predicate head *k* and the present form of *ar/ar-i-mas*. Thus, the deletion of *k-AR-ru* is preferred over other options, a kind of situation that might be best described by Optimality Theory.

5.   Summaries

This paper has argued that the POL- and PLN-form of Japanese predicate inflection can receive a single structure analysis. We initially examined Morita's (2005) dual structure analysis as a point of departure, which treat the POL- and PLN-negation distinctly in terms of their categories. This treatment does not receive empirical support, as we saw in Section 3. We then plugged, into Japanese verbal morphology, Lasnik's (1995) analysis of English/French verbal morphology. PLN-form of Japanese predicates has been successfully done in Kawai 2006. The analysis naturally extended itself to POL-forms, as well.

Japanese, like English, has both affixal and featural I's. *Ar*, used as a main verb ('exist') or copula for a nominal or adjectival predicate, is a fully inflected item in lexicon (a lexicalist verb (V$_{LEX}$). As such, it can license only a featural I (I$_F$); an affixal I (I$_A$) cannot be affixed to a V$_{LEX}$, nor can it license the relevant agreement features in V$_{LEX}$. Assuming that agreement is done in a local domain of a head, V must raise to the local domain of I$_F$. In Japanese PLN-inflection, *ar* raises to I$_F$; this movement is vacuous in positive contexts but visible in negative ones, as seen in (23). This is a mirror image of English *be* and auxiliaries, schematically represented in (24), repeated here as (27).

(27) a. * [$_I$ past [$_{Neg}$ not [$_{VP}$ was …   b. [$_I$ was-past [$_{Neg}$ not …[$_{VP}$ ~~was~~ …

       c. * … ar …$_{VP}$] nak $_{Neg}$] ta $_I$]   d. … ~~ar~~ …$_{VP}$] nak $_{Neg}$] ar-ta $_I$]

For main verbs, on the other hand, none raises past negation, thus indicating that they are non-lexicalist verbs. For POL-forms, a verb stem is attached to polite verb *mas*, thus, not only main verbs, which are always lexicalist, *ar* even becomes a lexicalist verb complex: *ar-i-mas*. Thus, all the verbs in POL-inflection are lexicalist, thus not involving V-raising.

This analysis substantially simplifies Morita's (2005) analysis, while specifying the interaction between syntax and morphology (cf., Lasnik 1995, Bródy 2000, Surányi 2003, among others). However, along the line, it has also lost two accounts that Morita's (2005) analysis offers elegantly. One is that the present analysis has little to say about agglutination of the predicates, because it separates head-movement from agglutination of predicates. I believe, however, that this is to be dealt with in morphology, not in syntax, because there are cases of agglutination without any evidence of head movement: e.g., sentence final particles. Another is that we now have no explanation of why Japanese PLN-negation has adjectival inflection. Again, I am not sure if it has any profound explanation behind this. It may well be the case that the PLN-negation behaves as an adjective because it is not a verb or a nominal. In fact, in the present analysis, the PLN-negation can be morphologically adjectival, as long as it is also a head of negation – presumably, by moving into the negation head.

I believe that the present analysis captures the system underlying the Japanese verbal morphology. Yet, there are challenges ahead. In particular, Lasnik's (1995) analysis, which is the core of the present analysis, is not fully compatible with the more recent framework of minimalism. This is in part because the theory does not have a place for head movement, thereby excluding head adjunction (Boeckx and Stjepanović 2001, Lasnik 2001). The version of minimalism (Chomsky 1995, 2000, 2008, etc.) with *agree* (Probe-Goal) does not trigger raising, as assumed here. We need an alternative view for head movement (cf. Bobaljik 1995, Surányi 2003, Matushansky 2006, among others). How Lasnik's (1995) analysis can be retrofitted to a newer theoretical framework is left for a future research topic (cf. Kawai 2008 for an attempt).

References

Baker, M. C. 1996. *The Polysynthesis Parameter*. Oxford: Oxford University Press.

Bloch, B. 1946. Studies in colloquial Japanese I: Inflection. *Journal of American Oriental Society* 66: 97–109. Reprinted in *Bernard Bloch on Japanese,* ed. Roy Miller. 1970. New Haven: Yale University Press.

Bobaljik, J. D**.** 1995. In terms of Merge: Copy and Head Movement. In Pensalfini, R. and H. Ura, eds. *MITWPL 27*, 41–64. MIT.

Bobaljik, J. D. and S. Brown. 1997. Interarboreal operations: Head movement and the Extension Requirement. *Linguistic Inquiry* 28: 345–356.

Boeckx, C., and S. Stjepanović. 2001. Head-ing toward PF. *Linguistic Inquiry* 32: 345–355.

Bródy, M. 2000. Mirror theory: Syntactic representation in perfect syntax. *Linguistic Inquiry* 31: 29–56.

Chino, N. 1996. *Japanese Verbs at a Glance*. Tokyo: Kodansha International.

Chomsky, N. 1955/1985. *The Logical Structure and Linguistic Theory*. Chicago: University of Chicago Press.

Chomsky, N. 1957. *Syntactic Structures*. The Hague: Mouton.

Chomsky, N. 1991. Some notes on economy of derivation and representation. In *Principles and Parameters in Comparative Grammar*, ed. R. Freidin, 417–454. Cambridge, Mass: MIT Press. Reprinted as a chapter in Chomsky 1995.

Chomsky, N. 1993. A minimalist program for linguistic theory. In *The view from Building 20*, eds. K. Hale and S. J. Keyser, 1–52. Cambridge, Mass: MIT Press. Reprinted as in Chomsky 1995.

Chomsky, N. 1995. *The Minimalist Program*. Cambridge, Mass: MIT Press.

Chomsky, N. 2000. Minimalist inquiries: the framework. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, eds. R. Martin, D. Michaels, and J. Uriagereka, 89–155. Cambridge, MA: MIT press.

Chomsky, N. 2008. On phases. In *Foundational Issues in Linguistic Theory,* eds. R. Freidin, C. Otero, and M. –L. Zubizaretta, 133–166?. Cambridge, MA: MIT Press.

Emonds, J. 1978. The verbal complex V′-V′ in French. *Linguistics Inquiry* 9: 151–175.

Endo Hudson, M. 1994. *English Grammar for Students of Japanese: The Study Guide for those Learning Japanese*. Ann Arbor: The Olivia Hill Press.

Kawai, M. 2006. Verbal morphology of Japanese. In *Proceedings of the 2006 Canadian Linguistics Association Annual Conference*, eds. C. Gurski and M. Radisic, 10 pages. http://ling.uwo.ca/publications/CLA2006/Kawai.pdf

Kawai, M. 2008. Verbal morphology, agreement and head movement: Re-examination of Lasnik 1995. Ms., A paper to be presented at the 2008 Poznań Linguistic Meeting at Collegium Europaeum Gnesnense. Gniezno, Poland.

Lasnik, H. 1995. Verbal morphology: *Syntactic structures meets the minimalist program.* In *Evolution and revolution in linguistic theory*, eds. H. Campos and P. Kempchinsky, 251–275. Washington, DC: Georgetown University Press. Reprinted in Lasnik 1999.

Lasnik, H. 1999. *Minimalist Analysis*. Malden: Blackwell.

Lasnik, H. 2001. A note on the EPP. *Linguistic Inquiry* 32: 356–362.

Li, Y. 1990. X^0-binding and verb incorporation. *Linguistic Inquiry* 21: 399–426.

Matushansky, O. 2006. Head movement in linguistic theory. *Linguistic Inquiry* 37: 69–109.

McCawley, J. 1968. *The Phonological Component of a Grammar of Japanese*. The Hague: Mouton.

Morita, C. 2005. Negative predicates in Japanese. In *Proceedings of the 2005 Canadian Linguistics Association Annual Conference*, ed. C. Gurski, 12 pages. http://ling.uwo.ca/publications/CLA-ACL/CLA-ACL2005.htm

Namai, K. 2002. The word status of Japanese adjectives. *Linguistic Inquiry* 33: 340–349.

Nishiyama, K. 1999. Adjectives and the Copulas in Japanese. *Journal of East Asian Linguistics 8*, 183-222.

Nishiyama, K. 2005. Morphological boundaries of Japanese adjectives: Reply to Namai. *Linguistic Inquiry* 36: 134–143.

Okimori, T. et. al. 1989. *Nihongo-shi* "*History of the Japanese Language*." Tokyo: Oohuu Sha.

Pollock, J.-Y. 1989. Verb movement, Universal Grammar, and the structure of IP. *Linguistic Inquiry* 20: 365–424.

Shibatani, M. 1990. *The Languages of Japan*. Cambridge: Cambridge University Press.

Surányi, B. 2003. Head movement qua substitution. *GLOW Newsletter 26.* Handout available at http://ludens.elte.hu/~b_suranyi/download/glowheadmvt_handout.pdf