

Verb Reduplication in Japanese*

TAKAYUKI AKIMOTO
Kogakuin University

1 Introduction

Reduplication is a pervasive linguistic phenomenon found in many languages, where a part of or the full base stem (or root) is repeated (e.g. Inkelas & Zoll 2005). While reduplication has been extensively studied across various languages and theoretical frameworks, its interaction with verbal morphology and syntax presents interesting challenges for morphological theory. This paper investigates verb reduplication (henceforth VR) in Japanese, as illustrated in (1):¹

- | | | | |
|-----|-----------|-----------|-----------|
| (1) | fuki-fuki | kaki-kaki | nuri-nuri |
| | RED-wipe | RED-write | RED-put |

The VR form in (1) consists of the base of the verb stem and its reduplicant. While Japanese VR is not highly productive, it exhibits systematic characteristics that warrant careful investigation.

¹ The abbreviations used in this paper are as follows: ACC = accusative; GEN = genitive; NEG = negative; RED = reduplicant; PAST = past tense; POL = politeness marker; PRES = present tense; TR = transitive morpheme.

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These characteristics include: (i) the obligatory insertion of the light verb *su* ‘do’; (ii) the expression of iterative aspectual meaning; and (iii) the full reduplication of the verbal stem. This study aims to offer a principled explanation for these properties within the framework of Distributed Morphology (Halle & Marantz 1993).

The paper is organized as follows. Section 2 presents the key properties of Japanese VR. Section 3 develops an analysis that accounts for these properties by proposing that VR is mediated by an aspectual head that syntactically projects between vP and VoiceP. Section 4 extends the analysis to related phenomena, particularly the formation of *hito-V* predicates. Section 5 concludes the paper.

2 Three Properties of Japanese VR

This section presents three key properties of Japanese VR: (i) the obligatory insertion of the light verb *su* ‘do’; (ii) iterative aspectual meaning; and (iii) total reduplication of the verbal stem.

2.1 Property 1: *Su*-Insertion

A fundamental morphosyntactic property that distinguishes Japanese VR from regular verbal predicates concerns the obligatory realization of the light verb *su*. While canonical verbs in Japanese directly combine with grammatical markers such as tense, negation, and politeness morphemes, VR constructions systematically require the presence of the light verb *su* (or its allomorph *si*) to host these markers. This morphological dependency is exemplified in (2):

- (2) a. teeburu-o **fuk**{-u/-anai/-(i)masu}
 table-ACC wipe{-PRES/-NEG/-POL}
 ‘wipe a table/not wipe a table/wipe_{POL} a table’
 b. *teeburu-o **fuki-fuk**{-u/-anai/-(i)masu}
 table-ACC RED-wipe{-PRES/-NEG/-POL}
 c. teeburu-o **fuki-fuki**-{**su**-ru/**si**-nai/**si**-masu}
 table-ACC RED-wipe- {do- PRES/do-NEG/do-POL}
 ‘wipe a table/not wipe a table/wipe_{POL} a table’

The contrast between (2a) and (2b–c) reveals a systematic restriction on the morphological composition of VR forms. While the simple verb *fuk* ‘wipe’ in (2a) directly combines with tense, negation, and politeness markers, the reduplicated form *fuki-fuki* cannot host these inflectional suffixes, as evidenced by the ungrammaticality of (2b). Instead, the light verb *su* must be recruited to carry inflectional morphology, as shown in (2c).

One might argue that VR forms are not verbal but nominal in nature, on par with verbal nouns such as *benkyoo* ‘study’ that require the light verb *su* (e.g. *benkyoo-suru* ‘do study’). However, several pieces of evidence suggest that the *su*-insertion is not due to the nominal nature of VRs. First of all, unlike verbal nouns, VR forms cannot occur in typical nominal positions such as case-marked arguments:

- (3) a. eigo-o benkyoo-su-ru a’. eigo-no benkyoo-o su-ru
 English-ACC study-do-PRES English-GEN study-ACC do-PRES
 ‘study English’

- b. *teeburu-o fuki-fuki-su-ru* b'. **teeburu-no fuki-fuki-o su-ru*
 table-ACC RED-wipe-do-PRES table-GEN RED-wipe-ACC do-PRES
 ‘wipe a table’

As shown in (3), while verbal nouns allow alternation between direct accusative marking and the nominalization pattern with genitive subjects (3a–a’), VR forms are strictly limited to the verbal pattern (3b) and resist nominalization (3b’). Furthermore, VR forms do not license adnominal modifiers, which is another hallmark property of nominal elements in Japanese:

- (4) a. {*kirei-ni/*kirei-na*} *fuki-fuki(-su-ru)*
 cleanly/clean RED-wipe-do-PRES
 ‘to wipe cleanly’
 b. {*kirei-na/*kirei-ni*} *teeburu*
 clean/cleanly table
 ‘clean table’

The contrast in (4) shows that VR forms require adverbial modification with *-ni* rather than adjectival modification with *-na*, patterning with verbs rather than nouns. These data suggest that the obligatory insertion of *su* in VR is not due to the nominal status of the VRs; rather, the verbal nature of VR forms indicates that *su*-insertion here is triggered by some other structural factor.

2.2 Property 2: Aspectual Meaning

The second characteristic property of Japanese VR concerns its aspectual interpretation. Crosslinguistically, verb reduplication is often employed to express various aspectual meanings, including iterative aspect (repeated action), continuative aspect (ongoing action), habitual aspect (regularly occurring action), and intensification (Inkelas & Zoll 2005). In Japanese, VR consistently expresses iterative meaning, encoding multiple occurrences of the event denoted by the base verb.

Let us demonstrate this with the comparison between a canonical verb form *fuk-u* ‘to wipe’ and its VR counterpart *fuki-fuki* under two distinct contexts illustrated in Figure 1. Context A represents an event involving a single directional wiping motion, while Context B depicts a wiping event with back-and-forth motion. The distribution of these forms is shown in (5):

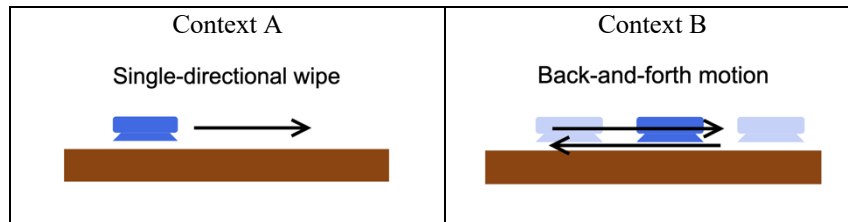


Figure 1

(5) Predicates	Context A	Context B
a. Canonical verbs (<i>teeburu-o fuku</i>)	OK	OK
b. VR forms (<i>teeburu-o fuki-fuki-suru</i>)	*	OK

The distributional pattern in (5) reveals a crucial property of Japanese VR: While the canonical verb form *fuk-u* is compatible with both unidirectional and bidirectional wiping events, the VR form exhibits a strict sensitivity to the internal composition of the event. Crucially, the requirement of back-and-forth motion provides direct evidence for the iterative aspectual nature of VR forms. The bidirectional movement inherently involves iteration of the basic action, with each complete cycle consisting of two directional components. This demonstrates that the iterative meaning is grammatically encoded in the VR construction itself, rather than being a pragmatic inference or contextual effect.

2.3 Property 3: Total Reduplication

The third characteristic property of Japanese VR concerns the form of reduplication itself: Japanese VR exhibits total reduplication, where the full stem of the base verb is copied. This pattern is illustrated in (6):

- (6) a. kak*(i)-kaki(-su-ru) ‘RED-write-do-PRES’ (kak- = root)
 b. fuk*(i)-fuki(-su-ru) ‘RED-wipe-do-PRES’ (fuk- = root)
 c. nur*(i)-nuri(-su-ru) ‘RED-put-do-PRES’ (nur- = root)

A crucial observation here is that the reduplicant must include the stem-final vowel *-i*, which I assume is an epenthetic vowel (Nishiyama 2016), forming the adverbial form (also known as *Renyoo-kei*). The obligatory nature of this vowel is evidenced by the ungrammaticality that results from its omission, as indicated by the asterisk in (6).

The requirement of total reduplication becomes particularly interesting when we examine more complex verbal forms, such as transitivity-alternation verbs. For instance, the transitive (lexical causative) verb *nob-as* ‘to extend something’ consists of the verb root *nob* and the transitive morpheme *-as*. Crucially, when these morphologically complex verbs undergo reduplication, both the root and the derivational morphology must be copied in their entirety:

- (7) a. nob-as-u → nob-asi-nob-asi-su-ru ‘RED-extend-TR-do-PRES’
 b. mawa-s-u → mawa-si-mawa-si-su-ru ‘RED-turn-TR-do-PRES’

The pattern in (7) is particularly revealing about the domain of reduplication in Japanese. The fact that the transitivity morpheme *-as* (or its allomorph *-s*) must be included in the reduplicant indicates that reduplication targets a morphologically complex stem rather than just the root. This suggests that the reduplication process applies after the derivational morphology has been assembled.

The systematic nature of this total reduplication can be better appreciated when compared with partial reduplication patterns found in other languages. For instance, Hiaki, a Uto-Aztecan SOV language, shows a different pattern where only a portion of the base is reduplicated (Harley & Leyva 2009: 242):

- (8) a. chiveh-ta → chive-chiveh-ta ‘RED-spread.out-TR’
 b. kuak-ta → kua-kuak-ta ‘RED-turn-TR’

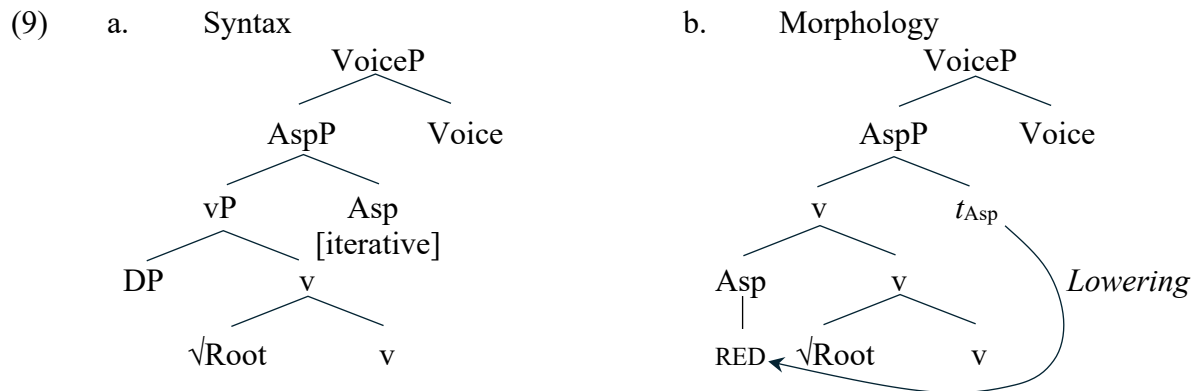
While Hiaki also employs the transitive morpheme *-ta*, parallel to Japanese transitivity morphology, its reduplication pattern differs crucially from Japanese VR: The reduplicant in Hiaki does not include the transitive morpheme *-ta*. This cross-linguistic comparison reveals two important points. First, the total reduplication pattern in Japanese VR is a language-specific property rather than a universal characteristic of verbal reduplication. Second, and more theoretically significant, languages can differ not only in the phonological form of reduplication but also in the morphological domain over which reduplication operates.

3 A Morphosyntactic Analysis

This section develops an analysis of Japanese VR that accounts for the three properties discussed in Section 2. The analysis is couched within the framework of Distributed Morphology (Halle & Marantz 1993), which assumes that words are built from abstract roots and functional morphemes through the interaction of syntactic and post-syntactic operations.

A central question that emerges from the discussion in Section 2 is how to capture the systematic relationship between the morphological form of VR and its semantic interpretation. Specifically, we need to explain (i) why VR requires the light verb *su*; (ii) why it consistently expresses iterative meaning; and (iii) why it exhibits total rather than partial reduplication. These properties suggest an intimate connection between the syntactic position where reduplication is introduced and its morphosemantic effects.

To address these questions, I propose that Japanese VR involves a specific functional projection that determines both its form and meaning. Specifically, I argue that VR is mediated by the Asp(ect) head, which syntactically projects between vP and VoiceP. This position corresponds to what Travis (1991, 2010) terms ‘Inner Aspect’, a dedicated syntactic position for aspectual operators that modify the internal temporal structure of events. Moreover, I propose that this Asp head morphologically functions as an affix (Marantz 1982) and undergoes the post-syntactic operation of Lowering (Embick & Noyer 2001). The proposed structure is illustrated in (9):



The Asp head proposed here plays three crucial roles. First, it blocks the head-movement of $\sqrt{\text{root-v}}$ to Voice, which would occur in ordinary verbs. As we will see in Section 3.1, this blocking effect triggers the insertion of the light verb *su* as an elsewhere form, following general principles of vocabulary insertion. Second, Asp bears the [iterative] feature, which is responsible for the iterative aspectual meaning of VR. This semantic function will be discussed in detail in Section 3.2.

Third, Asp is spelled out by an affixal reduplicative morpheme RED (Haugen & Harley 2013), which copies the phonological content of its sister node. This morphophonological process, which will be examined in Section 3.3, derives the total reduplication pattern observed in Japanese VR and explains why partial reduplication is systematically excluded.

3.1 Analysis of *Su*-Insertion

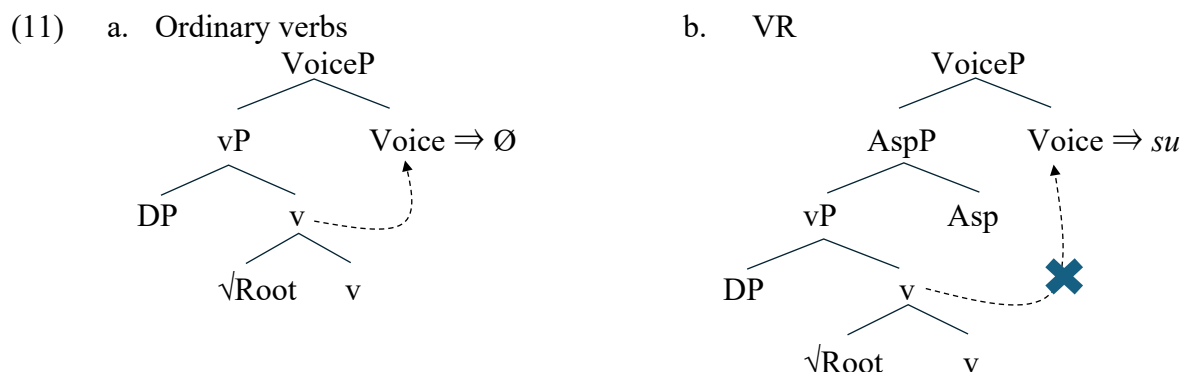
This section examines how the proposed analysis accounts for the obligatory insertion of the light verb *su* in Japanese VR. As we have seen in Section 2, while ordinary verbs can directly take inflectional suffixes, VR forms systematically require the light verb *su*. The key to understanding this property lies in the interaction between head movement in syntax and vocabulary insertion rules in the morphological component.

Following Akimoto (2023), I propose that the light verb *su* is the realization of the Voice head, governed by the following Vocabulary Insertion (VI) rules:

- (10) Vocabulary Insertion Rules of Voice (Akimoto 2023)
- a. Voice $\rightarrow \emptyset$ / $\sqrt{\text{root}}$ ___
 - b. Voice $\rightarrow su$ (elsewhere)

These rules specify that the Voice head is realized as a null morpheme (\emptyset) when it is structurally adjacent to a root, and as *su* elsewhere. This competition-based system captures the fact that Voice is typically null in ordinary verbs but surfaces as *su* in various environments where it is not structurally adjacent to a root. The proposed analysis derives the *su*-insertion in VR as a direct consequence of these independently motivated rules.

Let us examine how these rules apply in the derivation of ordinary verbs and VR forms with *fuk-u* versus *fukifuki-su*. Consider first the structure of an ordinary verb in (11a):



In ordinary verbs (11a), the root $\sqrt{\text{fuk}}$ first combines with the verbalizing head *v*, forming a complex head $\sqrt{\text{fuk-v}}$. This complex head then undergoes head movement to Voice, ensuring that Voice is structurally adjacent to the root. At the point of vocabulary insertion, this adjacency triggers rule (10a), resulting in the null realization of Voice. The situation differs crucially in VR constructions (11b). Here, the presence of the intervening Asp head blocks head movement from *v* to Voice, preventing Voice from becoming adjacent to the root. As a consequence, rule (10a) cannot apply, and Voice must be realized as *su* by the elsewhere rule (10b).

It is worth noting that the current analysis of VRs parallels Ikawa's (2022) analysis of object honorification in Japanese. Object honorification, as in *o-tasuke-su-ru* 'HON-help-do-PRES', represents another construction that requires obligatory *su*-insertion. In her analysis, Ikawa proposes that the honorific head HON projects between \sqrt{P} and *vP*, which correspond to our *vP* and VoiceP respectively, and blocks head raising to *v*, thereby triggering the realization of *v* as *su*. While Ikawa does not explicitly address the mechanism by which the honorific head blocks head movement, an interesting generalization emerges: Both the Asp head in VR and the HON head in object honorification serve as prefixes to the base verb (the entire phonological element in the former and the honorific prefix *o-* in the latter). This observation suggests a potential correlation between the prefixal nature of a head projecting above *vP* and its ability to block head movement. This point will be further discussed in Section 4.

3.2 Analysis of Aspectual Meaning

This section examines how the proposed analysis accounts for the iterative interpretation of Japanese VR. As discussed in Section 2.2, VR forms consistently express iterative meaning, encoding multiple occurrences of the event denoted by the base verb.

I propose that this aspectual interpretation follows directly from the [iterative] feature on the Asp head. Following Travis (1991, 2010), I assume that Inner Aspect can host various operators that modify the internal temporal structure of events. The [iterative] feature in Japanese VR has the semantic function of transforming an event expressed by its complement *vP* into a sequence of repeated events.

The obligatory nature of this interpretation can be illustrated with concrete examples. Consider first how the VR form *fuki-fuki-su-ru* transforms an event of wiping denoted by the verb *fuk-* into repeated events. As we saw in Figure 1, this leads to the unacceptability of the VR in contexts involving a single directional wipe. This iterative requirement holds systematically across VR forms. For instance, consider the use of *mawasi-mawasi* in (12):

- (12) *gatyā-o* *mawasi-mawasi-su-ru*
 capsule-toy.machine RED-turn-do-PRES
 'turn the capsule toy machine'

For this example to be felicitous, the event of turning the capsule toy machine must occur multiple times. A single rotation of the machine would not license the use of the VR form.

The analysis proposed here, which attributes the iterative interpretation to a dedicated [iterative] feature on the Asp head, has several advantages. First, it explains why the iterative meaning is obligatory in VR forms: It is grammatically encoded in the functional structure rather than being a pragmatic inference. Second, it captures the systematic nature of the interpretation across different VR forms. Third, by locating the iterative semantics in the Asp head, it provides a natural account of the connection between the morphological form of VR and its semantic interpretation. This tight connection between form and meaning will be further supported by the analysis of total reduplication in the next section.

3.3 Analysis of Total Reduplication

This section develops an analysis of the total reduplication pattern observed in Japanese VR. The analysis must account for the observation made in Section 2.3: The entire verbal stem including the stem-final vowel /i/ as well as the transitivity marker is copied.

Following Haugen and Harley (2013), I propose that the Asp head with the [iterative] feature is spelled out by an affixal reduplicative morpheme RED, which copies the phonological content of its sister node via the post-syntactic operation of Lowering (Embick & Noyer 2001). This copying operation takes place in the morphological component after syntax, where Vocabulary Insertion (VI) and related phonological rules apply in a bottom-up, cyclic fashion (Bobaljik 2000).

To illustrate how the analysis works, let us consider the detailed derivation of *nobasi-nobasi* ‘extend repeatedly’:

- | | | | |
|------|----|---|---|
| (13) | a. | [_{AspP} [_{vP} DP [_v √nob v]] Asp] | Output of Syntax |
| | b. | [Asp [_v √nob v] Asp] | Morphological Merger: Lowering |
| | c. | [Asp [_v nob as]] | Cycle 1: VI of root and v |
| | d. | [Asp nob•asi] | Cycle 1: Affixation & Epenthesis of /i/ |
| | e. | [RED nob•asi] | Cycle 2: VI of Asp |
| | f. | [nobasi•nob•asi] | Cycle 2: Copy of phonological features & Affixation |

The structure in (13a) represents the output of syntax, containing only abstract morphosyntactic features. The root √nob merges with the verbalizing head v, which in turn combines with Asp. In (13b), the Asp head undergoes Lowering, a post-syntactic operation that displaces Asp downward to adjoin to its complement, creating the configuration necessary for reduplication. The actual spellout proceeds in two cycles. In Cycle 1, shown in (13c), the abstract root √nob is realized as /nob/, and the verbalizing head v is spelled out as the transitive morpheme /as/ (Akimoto 2018). Then, as shown in (13d), the stem-final vowel /i/ is inserted to satisfy morphophonological requirements of the verbal stem (Nishiyama 2016), creating the adverbial form of the verb. In Cycle 2, illustrated in (13e), the Asp head is spelled out as RED, an abstract affixal morpheme that triggers reduplication. Finally, as shown in (13f), RED copies the phonological features of its sister node (*nob•asi* in this case), creating a total reduplication of the verbal stem including the epenthetic vowel /i/.

This cyclic analysis accounts for several key observations about Japanese VR. First, it explains why reduplication must target the entire stem including any derivational morphology: These elements are part of the constituent that undergoes copying at the point when RED is spelled out. This is particularly clear in cases involving transitive morphology in (7). Second, the analysis accounts for the obligatory presence of the stem-final vowel /i/. Following Nishiyama (2016), this vowel is inserted during Cycle 1 to satisfy morphophonological requirements of the verbal stem. Since this insertion precedes reduplication in Cycle 2, the /i/ appears in both the base and the reduplicant. The systematic nature of this total reduplication pattern becomes particularly clear when compared with partial reduplication patterns found in other languages such as Hiaki, where only a portion of the base is reduplicated (8). The contrast between Japanese and Hiaki reveals that the total reduplication pattern in Japanese VR follows from specific properties of the morphological derivation, particularly the timing of Vocabulary Insertion and the domain over which RED operates. This

The analysis of *hito*-V forms presented here, if correct, lends further empirical support to the generalization proposed in Section 3.1 concerning the relationship between prefixal morphology and head movement: heads that function as prefixes systematically block head movement of the lower head(s). This blocking effect manifests itself across various morphosyntactic domains in Japanese, as evidenced by the parallel behavior of the RED morpheme in VR constructions, the honorific prefix *o*- in object honorification, and the prefix *hito*- in delimiting aspectual constructions. The systematic nature of this phenomenon suggests that the blocking effect is not an idiosyncratic property of individual morphemes, but rather a principled consequence of their prefixal status in the morphosyntactic structure. This analysis offers a unified account for the distribution of *su*-insertion across different aspectual and honorific constructions in Japanese.

5 Conclusion

This paper has investigated the morphosyntactic and semantic properties of verb reduplication in Japanese. I have shown that Japanese VR exhibits three systematic properties: (i) the obligatory insertion of the light verb *su*; (ii) iterative aspectual meaning; and (iii) total reduplication of the verbal stem. To account for these properties, I have proposed that VR involves an Asp head that projects between vP and VoiceP. This analysis successfully captures the three properties of VR and extends naturally to the *hito*-V complex. The parallel analysis of VR and *hito*-V forms reveals how Japanese employs the same structural position to encode different aspectual information through different feature specifications: [iterative] in VR versus [+bound] in *hito*-V forms.

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