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On the Dual Status of the *e*-ending in Old Japanese Verbal Morphology*

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1 Introduction

The Japanese language throughout its attested history has a good number of transitive-intransitive verb ‘pairs’, where the transitive and the intransitive members of a pair share the same root but take different suffixes. (1) lists some such pairs that are phonographically found already at the stage of Old Japanese (henceforth OJ) (see Narrog 2016 for a more comprehensive list):¹

(1) a. <i>yake</i> - ‘to burn _{INTR} ’	vs. <i>yak</i> - ‘to burn _{TR} ’	- <i>e</i> -	-Ø-
b. <i>ide</i> - ‘to emerge’	vs. <i>idas</i> - ‘to take out’	- <i>e</i> -	- <i>as</i> -
c. <i>tat</i> - ‘to rise’	vs. <i>tate</i> - ‘to raise’	-Ø-	- <i>e</i> -
d. <i>tomar</i> - ‘to stop _{INTR} ’	vs. <i>tome</i> - ‘to stop _{TR} ’	- <i>ar</i> -	- <i>e</i> -
e. <i>tir</i> - ‘to scatter _{INTR} ’	vs. <i>tiras</i> - ‘to scatter _{TR} ’	-Ø-	- <i>as</i> -

¹ I adopt the Frellesvig and Whitman transcription system for OJ throughout the paper (see Frellesvig 2010).

The following abbreviations are used: ADN = adnominal, CONC = concessive, FK = *Fudoki kayō*, HON = honorific, HUM = humble, IMP = imperative, INCH = inchoative, INF = infinitive, INTR = intransitive, KK = *Kojiki kayō*, LOC = locative, MYS = *Man’yōshū*, NEG = negative, NMNL = nominalizer, PERF = perfective, TENT = tentative, TR = transitive.

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f.	<i>kakar-</i>	‘to hang _{INTR} ’	vs.	<i>kak-</i>	‘to hang _{TR} ’	<i>-ar-</i>	<i>-Ø-</i>
g.	<i>watar-</i>	‘to go across’	vs.	<i>watas-</i>	‘to make go across’	<i>-ar-</i>	<i>-as-</i>
						INTR	vs. TR

As a preliminary observation, three (overt) suffixes can be identified from (1), namely *-ar-*, *-as-*, and *-e-*, with different functions: While *-ar-* and *-as-* are clearly associated with intransitive and transitive verbs, respectively, the status of the *e*-ending is not obvious. The ending is associated with an intransitive meaning in some forms (e.g., *yake-*, *ide-*) but behaves like a transitivizer in other forms (e.g., *tate-*, *tome-*). Its ambivalent behavior has attracted numerous studies, on both OJ and modern Japanese (see, e.g., Kageyama and Jacobsen 2016), among which many seek to relate the functional and distributional complexity of the *e*-ending to its origin in the proto-language (e.g., Unger 1993[1977], Frellesvig 2008, Whitman 2008, Frellesvig and Whitman 2016), which in turn form an essential part of the reconstruction of proto-Japanese morphology.

While this line of research has been quite fruitful, and some broad consensus has been reached in recent years (see the rest of the paper for more detailed discussion), the current paper focuses on the *synchronic* status of the *e*-ending in OJ and submits a novel proposal that the ending is in fact structurally ambiguous at this stage. I will first argue in Section 2 that *some e*-endings in OJ involve a verbalizer/v head *-y-* which may directly be suffixed to the root (2a), whose presence is masked by a regular phonological process. Additionally, I will show in Section 3 that *not all e*-endings could be analyzed as involving the verbalizer *-y-*, and a separate, structurally higher *-e*-suffix must also exist (2b), which can be identified via its special aspectual meaning:

- (2) a. [_{Asp} [_v [_√ ...] *-y-*] *-Ø-*]
 b. [_{Asp} [_v [_√ ...] *-Ø-*] *-e-*]

Building on the conclusion reached in Sections 2–3 that the *e*-ending in OJ has a dual status (i.e., *-y-* and *-e-*), I address the aforementioned transitivity alternation puzzle in Section 4 and show that the proposed analysis provides new insights into this long-standing issue. It will be suggested that the apparent ambivalent behavior of the *e*-ending in OJ arises only if one views it as a homogeneous phenomenon; the correct question to ask for OJ is what the function of the verbalizer *-y-* (2a) is and what the function of the aspectual *-e-* (2b) is, respectively. The conclusion will be that while the *v* head *-y-* functions as an intransitivizer, the *Asp* head *-e-* licenses change-of-state but does not directly affect transitivity. Section 5 elucidates the idea further by presenting three case studies that would be difficult to account for without the new proposal presented in this paper. Section 6 concludes.

2 Identifying *-y-*

This section argues that *some e*-endings in OJ involve a suffix *-y-* underlyingly. I start reviewing the issue by investigating the behavior of the other two suffixes identified in Section 1, namely the intransitive *-ar-* and the transitive *-as-*, which will help set up the novel approach to the *-e-* suffix to be spelled out below. First of all, both suffixes seem to have an initial vowel, as in *tir-* vs. *tir_{as}-* (1e), where apparently a vowel-initial ending alternates with a zero. However, while the most frequent initial vowel for both suffixes is indeed /a/ (as in (1) and (3a) below), the value of the vowel in fact varies depending on the root they select. For example, as in (3b–d), the initial vowel of the

two suffixes may be /o/ or /u/.² Crucially, when the two suffixes occur in pairs, the initial-vowel alternation unexceptionally occurs in the same contexts; that is, the two do not differ on which roots condition the vowel change:

- (3) a. *kap*ar- ‘to change_{INTR}’ vs. *kap*as- ‘to switch_{TR}’ (cf. *kap*- ‘to change’)
 b. *motop*or- ‘to go back’ vs. *motop*os- ‘to make go back’
 c. *oto*r- ‘to be inferior’ vs. *oto*s- ‘to drop’
 d. *sugur*- ‘to pass’ vs. *sugus*- ‘to let pass’

The pattern in (3) immediately casts some doubts on an analysis where the /a/ vowel in the *as*- and *ar*-endings is part of the suffixes, under which it is entirely a coincidence that the initial vowels of *-as*- and *-ar*- always covary.³ A more natural solution, then, is to take the vowels in question to be part of the root. That is, in *tir*- vs. *tiras*- (1e), the root for both forms is *tir(a)*-, and in the latter a transitive suffix *-s*- attaches directly to it. Likewise, for *kakar*- ‘to hang_{INTR}’ vs. *kak*- ‘to hang_{TR}’ (1f), I suggest that the root form is *kak(a)*- for both, and the former form involves an intransitive suffix *-r*-.⁴

Treating the vowels in question as part of the root raises a complication, however: One then needs to explain why the final vowel of a verbal root like *tir(a)*- is sometimes present but sometimes not. I will suggest in Section 3 that the distribution of the OJ root-final vowel is conditioned entirely by phonological factors (by contrast, as stated in fn.3, the *value* of the vowel is not phonologically predictable). What is important for our current purposes is how the treatment of this vowel relates to the form of the *e*-ending in OJ. According to (1) and the discussion above, the *e*-ending may alternate with the transitive *-s*- or the intransitive *-r*- in a transitivity pair. Now, besides /e/, there is in fact another possible vowel-ending in OJ, namely *-(w)i*-, that may participate in such transitivity alterations. As in (4), /e/ may attach to a root whose final vowel is /a/ (the vowel is absent on the surface when the *e*-ending is used, but its value can be determined from forms with *-s*- or *-r*-) (4a), while /*-(w)i*/ occurs after roots whose final vowel is /o/ or /u/, as in (4b–d):⁵

- (4) a. *ida*s- ‘to take out’ vs. *ide*- ‘to emerge’
 b. *oko*s- ‘to wake/raise’ vs. *oki*wi- ‘to arise’
 c. *oto*r- ‘to be inferior’; *oto*s- ‘to drop’ vs. *oti*i- ‘to fall’
 d. *sugur*- ‘to pass’; *sugu*s- ‘to let pass’ vs. *sugi*wi- ‘to pass time’

The covariance between the value of the vowel ending (/e/~wi/) and the value of the final root-vowel (/a/~o/ or /u/) is quite systematic. Also, it needs to be explained that the final vowel of a root is not directly present if the *wi*- or the *e*-ending attaches to it. To provide a solution, I propose

² Other vowels are also attested, e.g., *kap*yer- ‘to return_{INTR}’ vs. *kap*yes- ‘to return_{TR}’, but /u/ and /o/ are more frequent.

³ Note that the vowel alternation is not phonologically predictable in OJ; for example, *kakar*- ‘to hang_{INTR}’ vs. *kakur*- ‘to be hidden’ are contrastive. This excludes the possibility that the values of the initial vowels of *-Vs*- and *-Vr*- are plainly conditioned by some phonological properties of the root in a parallel manner, so they must covary.

⁴ Under the current proposal, *all* OJ verbal roots in fact end with a vowel. While this view is apparently in conflict with the ‘traditional wisdom’ that Japanese has both vowel-ending and consonant-ending verb roots (see Frellesvig 2010:96–118 and Vovin 2020:449–453 for OJ), it resembles Martin’s (1987:671–672) and Unger’s (1993[1977]) influential reconstructions for the proto-language. A more detailed discussion of the diachronic issue lies outside the scope of the current paper.

⁵ The glide /w/ in /wi/ gets deleted after a coronal (Frellesvig 2010:33); see also (6).

the shaded forms in (5), where a *-y-* suffix that attaches to the vowel-ending roots is posited (the function of *-y-* is discussed later in the paper, especially in Section 4):

- (5) a. *ida-s-* ‘to take out’ vs. *ida-y-* ‘to emerge’
 b. *oko-s-* ‘to wake/raise’ vs. *oko-y-* ‘to arise’
 c. *oto-r-* ‘to be inferior’; *oto-s-* ‘to drop’ vs. *oto-y-* ‘to fall’
 d. *sugu-r-* ‘to pass’; *sugu-s-* ‘to let pass’ vs. *sugu-y-* ‘to pass time’

The shaded forms in (5) are the underlying representations of the *wi-* or the *e-* ending forms in (4), with the same root forms that can be suffixed with *-s-* or *-r-*. The surface forms with the *wi-* or the *e-* ending in (4) are derived via the vowel-contraction rules in (6), which I take to be entirely regular in OJ (see fn.6; note also that I do not distinguish /y/ and /i/ in any meaningful way in this paper):

- (6) a. /ui/ or /oi/ > /wi/ (>/i/ after coronals)
 b. /ai/ > /e/

That is, an underlying form like *ida-y-* ‘to emerge’ in (5a) gives rise to *ide-* in (4a) as a result of regular phonology. In other words, the final vowel of a root is underlyingly present in the *wi-* or *e-* ending forms. Note also that OJ in general does not allow vowel hiatus, so sequences like /ai/ or /oi/ are ill-formed in surface phonology. The rules in (6) are thus phonologically well motivated. There are in fact plenty of cases where (6) is at work in other areas of the language. For instance, as in (7), the three rules in (6) are all attested for A-N compounds (Frellesvig and Whitman 2008:19):⁶

- (7) a. *taketi* (proper name) <=*taka* ‘high’ + *iti* ‘market’ (/ai/ > /e/)
 b. *opwisi* ‘big stone’ <=*opo* ‘big’ + *isi* ‘stone’ (/oi/ > /wi/)
 c. *wakwiratukwo* (an appellation) <=*waku* ‘young’ + *iratukwo* ‘honored male’ (/ui/ > /wi/)

The relevant structure of the OJ verbal domain is represented in (8a). I adopt here an often-made assumption from the Distributed Morphology literature that an open-class lexical item consists of (at least) an acategorical root and a category-defining element (Marantz 1997, among many others). This means that a root like $\sqrt{OKO}$ in (8b) is not itself specified for a lexical category, but it gets the specification from combining with a verbalizer, such as *-y-*:⁷

⁶ OJ has more than one way of resolving vowel hiatus. Besides vowel contraction, another major strategy is vowel deletion; that is, one vowel gets deleted in a vowel sequence, as in *wagapye* < *wa=ga ipye* ‘my house’. Note that vowel deletion and contraction seem to apply in quite different contexts (see Russell 2003 for detailed description, where deletion and contraction are referred to as contraction and monophthongization, respectively). In fact, Frellesvig (2008) considers vowel deletion ‘synchronic’ rules and refers to vowel contraction as ‘diachronic’ rules, suggesting that the latter is best understood as a type of historical sound change. However, given that cases involving vowel contraction is in fact widespread in OJ (see Frellesvig and Whitman 2008 for various cases beyond the scope of (6–7)), it is possible to interpret deletion and contraction as synchronically two domain-sensitive phonological processes. The exact division of labor of the two is left to future study, though see Section 3 for a case where the two types of rules are structurally distinguished.

⁷ There are also cases where a verbalizer appears to attach to a form that is already categorized. For instance, the verb forms *opo-s-* ‘to cultivate’ and *opwi-* ‘to grow_{INTR}’ are usually considered to be derived from the non-inflectional adjective *opo* ‘big’ (see, e.g., Whitman 2008:165):

(i) *opo* ‘big’ vs. *opo-s-* ‘to cultivate’ vs. *opwi-* (< *opo-i-*) ‘to grow_{INTR}’

- (8) a.
$$\begin{array}{c} v \\ \swarrow \quad \searrow \\ \sqrt{} \quad v \\ \{-s-, -r-, -y-, -\emptyset-\} \end{array}$$
- b. e.g.,
$$\begin{array}{c} v \\ \swarrow \quad \searrow \\ \sqrt{OKO} \quad v \Rightarrow okwi- \text{ 'to arise' (after (6a))} \\ -y- \end{array}$$

As in (8a), OJ *v* has four possible exponents: *-s-*, *-r-*, *-y-*, and a phonetic zero; they occur in different verb forms. The zero is posited to reflect the fact that an OJ verb may simply lack an overt verbalizer, see Section 4 for further discussion of zero exponence.

Note that category-defining heads such as *v* are very often multi-functional (as is common for derivational morphemes). In the current case of *v* in OJ, the options listed in (8a) all also have the function of making the verb they create a transitive or an intransitive verb (a typical property of *v*; see Marantz 1997, among others). For example, recall that a verb suffixed with *-s-* is invariably transitive, and an *-r-*-suffixed verb is always intransitive. In fact, there are also additional functions that *v* can have; a dedicated discussion of the function of *-y-* is deferred to Section 4.

3 A Higher *-e-*

We have seen in the last section that *some e*-endings in OJ underlyingly involve a verbalizer *-y-*; the surface result is /e/ because *-y-* undergoes regular vowel contraction with a root-final vowel, which is /a/ in most cases.⁸ This analysis, however, does not cover the entire distribution of the *e*-ending. In fact, there are many cases where, an extra /e/ vowel occurs following *-r-* or *-s-*, which, as argued above, are themselves *v* heads:

- (9) a. *wakare*- 'to be split' cf. *wak(a)-* 'to distinguish'
 b. (*m*)*umare*- 'to be born' cf. *um(a)-* 'to give birth'
 c. *sirase*- 'to inform' cf. *sir(a)-* 'to know'

The *e*-endings in (9) cannot involve the *-y-* suffix identified in Section 2, not only because *-y-* as a *v* head should in principle compete with *-s-* or *-r-* for the same position in the structure (so they cannot cooccur), as predicted by the $\sqrt{+v}$ analysis in (8), but also because in order for the surface form /e/ to show up, a (root-final) /a/ vowel preceding *-y-* is required (so the condition of (6b) is met, which then may apply); however, in (9), the extra /e/ is not adjacent to the root, which suggests that it cannot be treated the same way as other root-adjacent *e*-endings.

More importantly, there are in fact numerous cases where this extra /e/ occurs right after *-y-*:

The structure of *opo-s-* may be analyzed as in (ii), where the adjective *opo-* is headed by a phonologically zero categorizer, which may further be suffixed with *-s-*, deriving a (transitive) verb:

- (ii) $[_v [_a [_\sqrt{opo-}] -\emptyset-] -s-]$

Another possibility is that *-s-* in *opo-s-* in fact directly attaches to the root, as in (iiib) (that is, the verb is not built on the adjective *opo-*, whose structure is in (iiia); the two simply share the same category-neutral root):

- (iii) a. $[_a [_\sqrt{opo-}] -\emptyset-]$ b. $[_v [_\sqrt{opo-}] -s-]$

While I will not take a stance between the analysis in (ii) and in (iii) in this paper, it is worthwhile to note that the existence of adjective-verb pairs like *opo* vs. *opos-* in OJ further supports the idea developed in this section that the vowel preceding *-s-*, *-r-*, or *-y-* cannot be analyzed as part of the suffix.

⁸ /a/ is simply the most frequently used vowel in OJ (see Frellesvig and Whitman 2008:18). This provides one major reason why the ending in question in most cases shows up as /e/, but not /wi/.

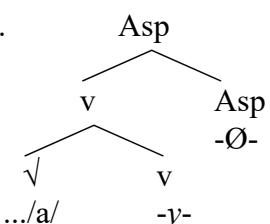
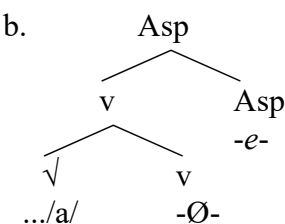
- (10) a. *saka*-y-e- 'to prosper' cf. *sak(a)*- 'to bloom'
 b. *sina*-y-e- 'to wither' cf. *sin(a)*- 'to die'
 c. *naka*-y-e- 'to cry' cf. *nak(a)*- 'to cry'
 d. *kiko*-y-e- 'to be heard' cf. *kik(o)*- 'to hear'

The *ye*-ending in (10) can be phonologically decomposed into /y/ and /e/. The /e/ part naturally fits in the discussion of (9): It must involve a distinct *-e-* suffix that is not the verbalizer *-y-*, because it is not adjacent to the root, in which case the phonological rules in (6) should not apply, but *-y-* only surfaces as /e/ (or /(w)i/) if (6) apply. Hence, the /y/ part of the ending must also reflect a suffix, and I suggest that it is exactly the verbalizer *-y-* identified in Section 2. (10) are thus interesting cases because the phonetic shape of the verbalizer *-y-* is faithfully realized, unlike previous cases where the underlying representation of the suffix is obscured by the vowel contraction rule (6b). A natural explanation of this fact is as follows: A form like *nakaye-* (10c) is syllabified as /na.ka.ye/, where /a/ and /y/ in question are not in the same syllable, so (6b) does not apply here.

I identify the distinct *-e-* morpheme as an Asp(ect) head merged above *v* (see Sections 4–5 for discussion of its function). For example, the form *nakaye-* 'to cry' is analyzed as follows:

- (11) [Asp [_v [_√ *naka-*] -y-] -e-]

In (11), the verbalizer *-y-* and the aspectual *-e-* cooccur in the same verb form. Such cases strongly suggest that the *e*-ending in OJ has a dual status: In some cases, it results from the *v* head *-y-* contracting with a root-final vowel, which is usually /a/ (see fn.8); in other cases, the ending involves a separate suffix *-e-*, which is structurally higher than *-y-*. The two possibilities that may give rise to the *e*-ending are represented by the two diagrams in (12):

- (12) a.  b. 

In (12a), the *v* head is *-y-* and the Asp head is occupied by a phonetic zero. In surface phonology, the structure gives rise to the *e*-ending as a consequence of the vowel contraction rule (6b) (recall that all verb roots in OJ end with a vowel, which is usually /a/). By contrast, in (12b), *v* is zero while Asp is realized *-e-*. Here, one simply does not observe the presence of the root-final vowel, and the phonetic form of the Aspectual *-e-* remains unaffected. In other words, the final vowel of the root simply gets deleted in forms like *tat-e-* 'to raise', where the *e*-ending is the aspectual *-e-*.⁹ There are two strategies in OJ for resolving vowel hiatus (see also fn.6): One is contraction and the other is deletion. While the former has been discussed in last section for *-y-* and is what happens in (12a), what happens in (12b) is the latter, whose rule for the current case is given in (13):

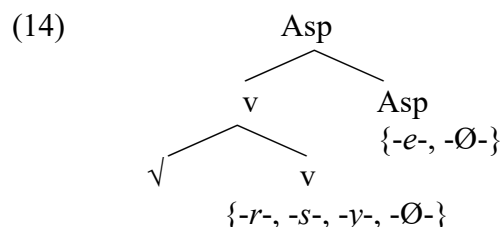
- (13) V > Ø / ___ /e/

I suggest that vowel contraction (6) and deletion (13) may actually apply in different domains (cf. fn.6). In (12b), we get deletion rather than contraction. I propose that this is because the root and

⁹ The *e*-ending in this transitive verb cannot involve *-y-*; see Section 4.

the aspectual *-e-* are not structurally adjacent. That is, in OJ verbal morphology, linearly adjacent vowels occurring in two structurally non-adjacent positions trigger deletion, not contraction. The verbalizer *-y-* undergoes contraction with the preceding vowel because it is structurally adjacent to the root, where the preceding vowel is from.

Consider again now the *-(a)ye-*, *-(a)re-*, and *-(a)se-* endings in (9–10), which are traditionally taken to be three non-segmentable elements: The former two have been considered passive markers, and the latter a causative marker (see, e.g., Vovin 2020). However, under the current compositional view, the three forms are not individual voice markers, but they each involve a *v* head (i.e., *-y-*, *-r-*, *-s-*) and a separate suffix (i.e., *-e-*) merged above *v*. The obvious formal parallelism between the three traditional voice markers and the three verbalizers *-y-*, *-r-*, *-s-* identified in Section 2 is thus captured. The initial vowels of the three traditional voice markers are actually part of the root (see Section 2). To put together, the structure in (14) is proposed for the verbal domain of OJ:



Note that both *v* and *Asp* may be realized as zeros. (14) predicts the following eight combinations of *v* and *Asp* exponents, all in fact being well attested in OJ:

(15)

		v exponents			
		-Ø-	-r-	-y-	-s-
Asp exponents	-Ø-	-Ø-	-r-	-y-*	-s-
	-e-	-e-	-re-	-ye-	-se-

* In most cases, *-y-* undergoes vowel contraction with the preceding root-final vowel, surfacing as /e/ or /(w)i/.

That is, within the domain of *Asp*, an OJ verb may be suffixed with zero, *-r-*, *-y-*, *-s-*, *-e-*, *-re-*, *-ye-*, or *-se-*. The picture, however, is partially obscured by the vowel contraction rules in (6), so the verbalizer *-y-* may surface as /e/, giving rise to homophony with the *Asp* *-e-*. Note that other endings in (15) are realized faithfully. To sum up, there are two possible sources for the *e*-ending in OJ: a structure with *-y-* in *v* and *-Ø-* in *Asp* (12a), and a structure with *-Ø-* in *v* and *-e-* in *Asp* (12b).

Note that the forms in (15) have been often treated in radically different ways in the literature. For example, Vovin (2020) identifies *-(a)s-* and *-(a)se-* as two allomorphs of the same causative morpheme, and *-(a)re-* and *-(a)ye-* as two distinct passive markers. However, he does not discuss *-ar-*, which is treated simply as part of the stem, and the structural status of the *e*-ending, the focus of the current paper, is also not addressed. In general, there has been a tradition in synchronic descriptions of OJ (and later stages of Japanese as well) to disregard the functional status of the *e-*

ending, treating it instead as merely part of the stem,¹⁰ whereas it has in fact long been acknowledged in the diachronic discussion that the *e*-ending has a functional origin in Japanese. One practical reason for ignoring the morphemic status of the *e*-ending in previous analyses is that it appears hard to determine its exact function, as it somehow involves both intransitivizing and transitivity, two apparently opposite functions. However, as we will soon see in Section 4, once it is established that the *e*-ending at the stage of OJ in fact has two sources, namely the verbalizer *-y-* and the Asp head *-e-*, their functions can be interpreted in a much more straightforward way; the seemingly contradictory uses of the *e*-ending should be considered as the result of /e/ corresponding to two underlying sources. In other words, the right question to ask is essentially not what the function of the *e*-ending is, but rather what the functions of *-y-* and *-e-* are, respectively. At any rate, the clear parallelisms of the forms represented in (15) call for a decomposition of these forms, which is the main goal of the current paper.

4 The Functions of *-y-* and *-e-*

The previous two sections argued that there are two possible sources for the *e*-ending in OJ. First, a verb form with a surface *e*-ending may be underlyingly $\sqrt{-y-\emptyset-}$ (12a), where the verbalizer *-y-* undergoes vowel contraction with the final vowel of the root, via regular phonology (6b). Second, an *e*-ending may involve an Asp head in $\sqrt{-\emptyset-e-}$, where the verbalizer is a zero exponent (14b). This section discusses the exact functions of *-y-* and *-e-*, and demonstrates how the dual-status account of the *e*-ending sheds new light on the long-standing puzzle that the ending behaves like a ‘transitivity flipper’ in Japanese.

I start with cases where the ending unambiguously involves *-y-* but not the aspectual *-e-*. As we have seen in Section 2, *-y-* may show up as either /e/ or /(w)i/, depending on the value of the root-final vowel preceding it. The form of the aspectual *-e-*, by contrast, never alternates (it is always /e/). Not surprisingly, while the aspectual *-e-* may occur after *-r-* or *-s-*, forms like *-r-i-* or *-s-i-* are not attested.

The implication is thus that whenever we see the (w)i-ending, it must involve *-y-*, not *-e-*. It is a well-established observation that all attested (w)i-ending verbs in OJ (there are around thirty; see Frellesvig 2010:98–99 for a full list) are *intransitive* verbs (Kida 1988; Whitman 2008). More specifically, as pointed out by Whitman (2008), the (w)i-ending verbs are all inchoative/change-of-state intransitives. Some examples are given in (16):

- (16) a. *opwi-* (< *opo-y-*) ‘to grow_{INTR} (*lit.* to become big)’ cf. *opo* ‘big’
 b. *sabwi-* (< *sabu-y-*) ‘to get desolate’ cf. *sabu* ‘lonely’
 c. *pwi-* (< *po-y-*) ‘to dry up’ cf. *po-s-* ‘to dry_{TR}’

In (16a) and (16b), *-y-* seems to derive a change-of-state verb from an adjective, which is stative (see fn.7 for possible derivations of these cases). In (16c), the verb forms *po-s-* and *pwi-* both seem to be derived from a root *po-*, and the former is also an inchoative intransitive.

In sum, *-y-* seems to be associated at least with the following functions: (i) It endows the root with the categorial status *verb*; (ii) it ensures that the verb form is intransitive (see below); and (iii) it assigns the verb with an inchoative meaning. The first function is shared by all *v* morphemes in

¹⁰ See Frellesvig and Whitman 2016 for a notable exception, where both diachronic and synchronic issues are discussed.

OJ (see (8)); the second and third functions are what make *-y-* different from *-s-* and *-r-* (as well as *-Ø-*). As a specific way of implementing this, I propose the following Distributed Morphology-style vocabulary insertion rules for *-y-* as well as the other *v* exponents in OJ:

- (17) a. [TR]_v → *-s-* or *-Ø-*
 b. [INTR]_v → *-r-* or *-Ø-*
 c. [INTR, BECOME]_v → *-y-*

As represented in (17), I suggest that the inchoative meaning of *-y-* is associated with a formal feature which I label as [BECOME]. While *-s-* and *-r-* derive ‘plain’ transitive and intransitive verbs, *-y-* derives intransitive verbs that are inchoative (see further below). I also propose that the zero exponent *-Ø-* is an allomorph of *-s-* or *-r-*. Note that the presence of *-Ø-* is independently needed, as both transitive and intransitive verbs can be unmarked in OJ (see (1) for example). Nothing, however, hinges on this particular treatment of zeros for our current purposes.¹¹

Under the current analysis, there are two (overt) intransitivizers in OJ, namely *-r-* and *-y-*, which are further distinguished by the presence/absence of [BECOME]. The functional differences between the two suffixes can be most clearly observed in the following minimal pair, in fact discussed in depth by Kinsui (2006) (see also Whitman 2008):

- (18) *wi-* (< *wo-y-*) ‘to sit down; to settle down’ vs. *wo-r-* ‘to sit; to be at’

Kinsui (2006) argues that there is an aspectual difference between *wi-* and *wo-r-*, namely the former is the non-stative counterpart of the latter. On the current morphological analysis of the two forms, their semantic difference is exactly from the difference between *-y-* and *-r-*: While both are intransitive, the former is additionally associated with a change-of-state meaning.

We now discuss cases with an *e*-ending that can be unambiguously analyzed as *-e-*, not *-y-*. There are two cases. First, as shown in Section 3, an *e*-ending that occurs after *-s-*, *-r-*, or *-y-* must involve a head higher than *v*, namely the aspectual *-e-*. Second, since we have seen above that *-y-* is an intransitivizer, an *e*-ending that occurs in a transitive verb form must be the aspectual *-e-* (see fn.9). Now, considering *-s-e-*, *-r-e-*, and *-y-e-* (see (15)), it appears that *-e-* itself does not affect the transitivity of a verb form at all. As stated above, *-s-* is a transitivity marker while *-r-* and *-y-* are both intransitive markers with different aspectual flavors. Likewise, *-s-e-* is transitive and both *-r-e-* and *-y-e-* are intransitive. Recall that traditionally, *-(a)re-* and *-(a)ye-* are analyzed as two non-segmentable passive markers in OJ. However, they actually behave quite differently from ‘typical’ passives that one finds, for example, in English. The original usage of both *-(a)re-* and *-(a)ye-* may be what is traditionally called ‘spontaneous’, not ‘passive’ (cf. Shibatani 1985; Narrog 2012:142), only the latter of which could be understood informally as the ‘demotion’ of an agent.¹² That is, a traditional passive verb in OJ prototypically expresses the ‘spontaneous happening’ of an event

¹¹ It has been a debate in the literature, for both Japanese and many other languages, on why transitive or intransitive verbs are sometime overtly marked but sometimes unmarked, even though there are relevant overt markers that could have been used. See Jacobsen 1985, 1992; Haspelmath 1993; Haspelmath *et al.* 2014 for relevant discussion.

¹² While a ‘true’ passive reading is also attested for *-(a)re-* and *-(a)ye-* in OJ, I assume that it is secondary and leave it aside in this paper. Typologically, as also noted by Whitman (2008), while it is quite common for passive markers to be grammaticalized from inchoative markers (see immediately below in the text, where I assume spontaneous = inchoative), the opposite direction of grammaticalization is not attested (see Kuteva *et al.* 2019).

without volitive action (see Shibatani 1985). One example where a verb suffixed with *-y-e-* receives a spontaneous reading is given in (19):

- (19) 宇利波米婆胡藤母意母保由
*uri pam-e-ba kwo-domo omopo-y[e]-u*¹³
 melon eat-NMNL-CON child-PL think-INTR.INCH-E-CONCL
 ‘When [I] eat melon, [my] children come to mind’ (MYS 5.802)

I assume that the traditional term ‘spontaneous’ is actually equivalent to inchoative/change of state, their difference being merely terminological. In addition, I suggest that such a chang-of-state reading is also associated with the [BECOME] feature, the one that was introduced above for *-y-*. The following vocabulary insertion rules can now be proposed:

- (20) a. []_{Asp} → -Ø-
 b. [BECOME]_{Asp} → -e-

That is, there are two exponents for Asp in OJ: a zero morpheme for an unmarked Asp (20a), and *-e-* for [BECOME]. The zero exponent is inserted for any Asp that does not bear the [BECOME] feature, in accordance with the standard elsewhere principle. Note that in the current analysis, the functions of *-y-* and *-e-* partially overlap, as they are both associated with the same [BECOME] feature. They differ, however, in the following ways. First, *-e-* is structurally higher than *-y-*, the former being an Asp head and the latter *v* (see (12)). Second, *-e-* itself does not categorize; it can only be suffixed to a form that has already been assigned the categorial status *verb* by *v* (this is the defining property of *v*). Third, crucially, *-e-* is not directly associated with the transitivity property of a verb form, which is determined by *v* (recall also that *-y-* invariably intransitivizes).

In other words, while we have shown that *-y-* and *-e-* are two different suffixes in OJ, functionally, the *e*-ending can still be viewed as a natural class, namely the natural class of morphemes with the [BECOME] feature. Thus, the traditional assumption that the *e*-ending is a uniform phenomenon is kept under the present account, though in a weaker form. There are in fact several advantages to this, but due to space considerations I will discuss only one here.¹⁴ In particular, while *-y-* and *-r-* seem to be associated with different semantics, which is captured by the current analysis by positing that *-y-* has an extra [BECOME] feature that *-r-* lacks (17), it has been an old observation that *-y-e-* and *-r-e-* seem to be functionally equivalent. In traditional terms, the observation is that *-(a)ye-* and *-(a)re-* are both passive markers without a clear semantic difference (for example, Vovin (2020:756) suggests that their difference is probably dialectal). Under the present decompositional analysis, the relevant structures of *-y-e-* and *-r-e-* can be represented as follows:

- (21) a. $\sqrt{-r-e-}$: Asp
 v Asp
 / [BECOME]
 / -e-
 \ [INTR]
 \
 √ v
- b. $\sqrt{-y-e-}$: Asp
 v Asp
 / [BECOME]
 / -e-
 \ [INTR, BECOME]
 \
 √ v

¹³ Regular phonology deletes *-e-* when it precedes the conclusive *-u*, as in the current example.

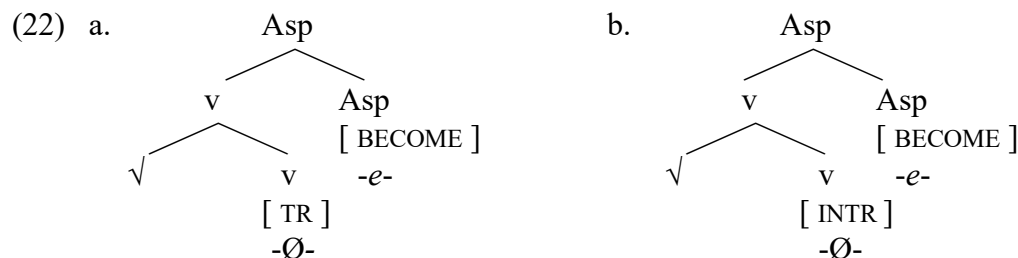
¹⁴ See Chén (in prep.) for a full-length discussion.

*-r-**-y-*

The structures in (21a) and (21b) are different only in that *v* in (21b) has an extra [BECOME], so it is realized as *-y-*, not the ‘plain’ intransitive *-r-*. However, I suggest that this difference does not actually lead to a semantic difference between (21a) and (21b), because the two structures both have [BECOME] also on Asp. Two [BECOME] features occur in (21b), one on *v* and one on Asp, and I argue that this case is simply semantically equivalent to a case where [BECOME] occurs only once (that is, (21a)). Note also that multiple exponence of the same feature is typologically not an uncommon phenomenon (see, e.g., Harris 2017, for general discussion), and in many cases the feature that is present multiple times in the structure seems to be indeed interpreted only once.¹⁵ For (21b), I will simply assume that it carries no more information than (21a). Thus, the current account captures the intuition that while *-r-* and *-y-* are two different morphemes in OJ, there is no observable semantic difference between *-r-e-* and *-y-e-*.

The above discussion may also provide a potential explanation for why the form *-y-e-* went out of use in Early Middle Japanese (EMJ), although it is much more frequently attested than *-r-e-* in OJ, the latter of which then gave rise to the new passive marker *-(r)are-* in EMJ, which is still used today. The suggestion is that the structure in (21a) is more economical than the one in (21b) since there is no featural redundancy in the former, so it may be diachronically more stable.

Consider again the long-standing question raised in Section 1, i.e., why the *e*-ending in OJ appears to be both transitivity and intransitivity (1). Since the *e*-ending in fact involves two morphemes, *-y-* and *-e-*, the question of how they impact transitivity must be answered separately. First, as seen above, *-y-* is an intransitivity marker, which by itself does not show any ambivalent behavior regarding transitivity. Second, *-e-* is an Asp head, which itself does not affect transitivity but may attach to both transitive and intransitive verb forms. Consider now the following structures:



While (22a) and (22b) have different features in *v*, their surface representations can be the same, because both [INTR] and [TR] on *v* can be realized as *-Ø-* in OJ (see (17)). Recall that a verb form with a zero *v* can be either transitive or intransitive (e.g., *yak(a)-* ‘to burn_{TR}’ vs. *tat(a)-* ‘to rise’). Consequently, the surface ambiguity between (22a) and (22b) gives rise to the incorrect impression that it is *-e-* (which is the only overt suffix) that is responsible for the transitivity alternation we observe in the language. However, the real (in)transitivity marker in (21) is *-Ø-* on *v*, not *-e-* on Asp. In the next section, I will briefly discuss three cases where the aspectual *-e-* clearly does not alter transitivity, providing additional evidence that its real function is licensing change of state (due to space limitations, only a sketch of the analysis will be provided below; see for Chén *in prep.* for a full-length discussion).

¹⁵ Though note that multiple exponence can arise in a number of different ways. I will not go into this issue in this short paper.

5 Case Studies

The first case I will briefly discuss here is the verb pair *kapa-s-* ‘to change_{TR}’ and *kape-* ‘to change_{TR}’ where both forms are transitive.¹⁶ As stated in Section 4, if an *e*-ending verb is transitive, the ending logically cannot be the intransitive *-y-*; it thus must be the aspectual *-e-*. Hence, the relevant structures for the two verb forms are the following:

- (23) a. *kapas-*: [Asp [v [*kapa-*] -s-] -Ø-]
 b. *kape-*: [Asp [v [*kapa-*] -Ø-] -e-] (the root-final vowel /a/ deletes before *-e-*)

While in (23a) the transitivizer is the overt *-s-*, the transitivizing *v* head is covert in (23b). According to (17a), I take this to be a difference that is entirely phonological. Thus, the only real structural difference between the two in (23) is the presence/absence of the aspectual *-e-*. Whitman (2008:172) points out that the two forms have slightly different meanings: ‘*Kapas-* implies no change of state on the part of the patient (if any), except a change of location. *Kape-* entails that the patient is changed (*my emphasis*).’ On the current analysis of *-e-*, this ‘extra’ meaning of *kape-* (that the patient is changed) is exactly what its [BECOME] feature licenses. In other words, the analysis provided in this paper directly captures the semantic difference between *kapa-s-* and *kape-*.

The second case to discuss involves *tamap(a)-* ‘to give_{HON}’ and *tamap[e]-* ‘to receive_{HUM}’:

- (24) 阿我農斯能美多麻々々比弓
a=ga nusi=no mi-tama tamap-i-te ... [*tamap-* ‘to give_{HON}’]
 I=GEN master=GEN HON-soul give.HON-INF-PERF.INF
 ‘giving [me] your (*lit.* my lord’s) grace ...’ (MYS 5.882)
- (25) 多麻之比波安之多由步敝尔多麻布礼杼
tamasipi=pa asita yupubye=ni tamap[e]-ure-do ... [*tamap[e]-* ‘to receive_{HUM}’]
 soul=TOP morning evening=LOC receive.HUM-NMNL-CONC
 ‘although I feel (*lit.* receive) your spirit from morning to evening ...’ (MYS 15.3767)

As *tamap-e-* in (24) is transitive, the *e*-ending must be the aspectual *-e-*. Considering the meanings of the two verbs, it is quite clear that *tamap(a)-* ‘to give_{HON}’ and *tamap-e-* ‘to receive_{HUM}’ do not form a transitivity alternation pair, but rather reflect two viewpoints of the same giving event, *tamap(a)-* from the perspective of the giver and *tamap-e-* from that of the receiver. Note further that *tamap(a)-* is honorific while *tamap-e-* a humble verb, consistently reflecting a scenario where the giver is ranking higher than the receiver in terms of a social hierarchy.

While the presence of such a pair is unexpected under the traditional view that the *e*-ending may have something to do with transitivity, the current account offers a new way of understanding it. What *-e-* in *tamap-e-* ‘to receive_{HUM}’ does is to (re-)interpret the recipient as the affectee of the giving event. Thus, for (25), the relevant interpretation is that ‘[my] soul, the recipient *and* the affectee, is given [your] spirit and the soul is consequently in a state such that it is affected by the giving event’. Note also the occurrence of the temporal adverbial *asita yupubye=ni* ‘from morning to evening’ in (25), which appears to be durational. Intuitively, the phrase does not seem to denote the duration of the giving event per se, which would result in a nonsensical meaning where there

¹⁶ All the four following forms are independently found in OJ: *kapa-r-* ‘to change_{INTR}’, *kapa-s-* ‘to change_{TR}’, *kape-* ‘to change_{TR}’, and *kapa(a)-* ‘to change’ (the last is phonographically attested only in Eastern OJ, once in MYS 14.3482).

is a single giving event that lasts from morning to evening. Instead, I suggest that the durational phrase denotes the duration of the result state of the event; that is, it is the result of the event (in this example, a specific ‘feeling’ of the speaker) that lasts from morning to evening.

The third case to consider is about the interpretation of two forms of ‘to forget’ in OJ:

(26) 和遠和須良須奈

wa=wo wasur-as-u na [wasur(a)- ‘to forget’]
 I=ACC forget-HON-ADN NEG.IMP
 ‘Do not forget me!’ (FK 13)

(27) 和禮波和須禮士

ware=pa wasure-zi [wasur-e- ‘to forget’]
 I=TOP forget-NEG.TENT
 ‘I will not forget.’ (KK 12)

Wasur(a)- is less frequent in OJ and went out of use after the OJ stage. Omodaka et al. (1967:818) note that *wasur(a)-* means ‘to forget intentionally’ and *wasure-* ‘to forget unintentionally’.¹⁷

We thus encounter another case where the *e*-ending appears to be entirely independent from transitivity. Again, the ending in *wasure-* must be the aspectual *-e-* because the verb is transitive. I suggest that the reported semantic difference between *wasur(a)-* and *wasure-* regarding intentionality is also expected under the current proposal that *-e-* as an Asp head realizes [BECOME]. The suggestion is that *wasur(a)-* ‘to forget’ is in fact an activity/semelfactive verb without a result state, whereas *wasure-* is an achievement verb, denoting both a process and a result state. Structurally, I suggest that it is exactly the [BECOME] feature that is responsible for the denotation of a result state of an event. A general fact about activity/semelfactive verbs and achievement verbs is that the former often do, and the latter often do not, imply volition (see, e.g., Dowty 1979). Thus, it seems natural to view the intentionality difference between *wasur(a)-* and *wasure-* as actually a byproduct of the aspectual difference between the two forms. While *wasur(a)-* highlights the process of the forgetting event, *wasure-* focuses on the result state of forgetting.

6 Conclusion

This paper examined the synchronic status of the *e*-ending in Old Japanese. I argued that the ending in fact exhibits a dual status. In some cases, the *e*-ending involves an intransitive inchoative marker *-y-* in *v*, which may further undergo vowel contraction with a root-final vowel, thus resulting in */e/*. In other cases, the *e*-ending is the transparent realization of a higher morpheme *-e-*, which is dedicated to express a change-of-state meaning. The two may cooccur in the same verb form, as in the traditional ‘passive’ suffix *-(a)ye-*. Consequently, the traditional ‘transitivity flipping’ property of the *e*-ending becomes epiphenomenal—it looks as if it has the function of reversing the transitivity of a verb only if it is a single morpheme, but we have seen that it is not. On the one hand, a verb form with *-y-* is invariably intransitive. On the other hand, the aspectual *-e-* may be suffixed to both transitive and intransitive verbs, itself being independent from transitivity properties, in which case the ‘real’ (in)transitivizer can be a lower null morpheme merged in *v*, whose presence is independently needed in the language.

¹⁷ See also Vovin 2020:449 for discussion of the two forms.

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