

*Ar and Nai: Negative Predicates in Standard- and Kansai-Japanese**

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1. Introduction

This paper is concerned with the negative forms of finite-inflected *ar* ‘be/exist’ in Japanese. Particularly, we consider the question of why in Standard Japanese (SJ) the negative form of *aru* is *nai*, and *atta* is *nakatta*, not **aranai* and **aranakatta*, respectively (Backhouse, 2009, and references therein). This phenomenon comes with additional complications: viz. Kansai Japanese (KJ) allows *aran/arahren* and *arankatta/arahrenkatta* (Heffernan, 2019), which are structurally similar to the unacceptable negative forms in SJ.¹

In this paper, I compare the negated, finite-inflected *ar* of SJ and KJ, and conclude that *ar* is not syntactically irregular, but the lexical properties of SJ in (i) and (ii) give rise to the observed irregularities: (i) SJ lacks the verbal form (V-root) of *ar*, and (ii) SJ has only one negation *(a)nak*, compared to KJ’s three: *(a)nak*, *-(a)n*, and, *(a)hen*. For the discussion below, the following should be noted. First, I will omit for simplicity the epenthetic vowel *a*, when referring to negations, as in *nak*, *-n*, and *-hen*. Second, the underlying form of *atta* is analyzed as *ar-ta*, with the *r* assimilated to the *t* of the finite inflectional marker *ta*. Third, we concentrate on the past (or *posterior aspect*) paradigm (e.g., *atta*, *nakatta*) for better morphological transparency. Fourth, we will focus on *nak* as a polarity head, leaving aside the question of whether or not it can also function as an adjective, as no empirical differences will arise in the present analysis, no matter which answer.²

Throughout this paper, I take without supporting arguments the Neo-Lexicalist Approach to verbal morphology (Kawai, 2019), an approach that grew out of Lasnik’s (1995/1999) *lexicalist-nonlexicalist* hybrid analysis, within the Minimalist Framework (Chomsky, 2008, 2015, Chomsky et al., 2023). In what follows, I will focus more on illustrating the morphological facts and processes of Japanese verbal morphology, while keeping minimal theoretical and technical details of the approach. This will inevitably make the discussion less precise. However, without a detailed presentation of the approach and the theory behind it, which are out of the scope of this paper, details of theory-internal matters would not be useful for our s.

In what follows, a preliminary discussion on this topic is given in Section 2.1, followed by the Neo-Lexicalist analysis of *aru* with the minimal theoretical background required for the discussion (Section 2.2), a dialectal comparison of *aru* in SJ and KJ (Section 3), and concluding remarks in Section 4.

2. Theoretical Preliminary

2.1 The Question Defined

It is not infrequent to be asked by the students studying elementary level Japanese why the negative plain form of *aru/atta* are *nai/nakatta* (1a), instead of *aranai/aranakatta* (1b).

- (1) a. *nai*, *nakatta*
b. **aranai*, **aranakatta*

Language teachers typically treat *nai* and *nakatta* as exceptions, which in my view is a reasonable answer from pedagogical perspectives. However, for linguistics, this is inadequate. An explicit account for the underlying mechanism is necessary. (See Chomsky, 1955/1975, 1957, for example). For that, the following two questions must be addressed: (i) why is the form *nakatta* available? and (ii) why is **aranakatta* unacceptable?

In broad brush-strokes, there have been two major treatments of *nai/nakatta* (Backhouse, 2009): viz. (i) *nai* is an adjective, and verb *aru* has no negative forms; or (ii) *nai* is the negative form of *aru* with the suppletion involving “a zero alternant stem (i.e. ZERO-na-i)” (p. 9). The present paper argues, instead, that (1a) follows from the *AR-Support Analysis* (ASA) (Kawai, 2006, 2008), and (1b) from two lexical gaps in SJ, to be presented. (19a/b), in combination with the blocking effect by negative verbal suffixes *-n* and *-hen*, the contrast in the negative predicates in SJ and KJ are derived.

Built on an earlier version of Minimalism (Chomsky 1993, 1995), the ASA crucially relies on *head adjunction* (Kawai, 2006). In the current theoretical framework (Chomsky et al., 2023), however, head adjunction is not available. Therein, “movement” is epiphenomenal to *internal merge*, to be outlined below, and, thus, adjunction operation does not exist. The present analysis updates the core spirit of ASA using the current theoretical tools.

2.2 Theoretical Background

Here, we briefly outline the minimally required theoretical assumptions for the discussion on Japanese verbal morphology below. First, the primary task of syntactic computation is to create syntactic objects (SOs) and map them to the Conceptual-Intensional interface (CI) (Chomsky et al., 2023). Syntactic derivation also undergoes an ancillary process of *externalization*. This interfaces with the Sensorimotor (SM), where phonetic contents and morpho-phonemic (mp-) properties (such as *linear order* and *morpho-phonemic (mp-)deletion*) are relevant. The lexicon supplies the list of necessary lexical items (*Lexical Array*) to syntax.

Second, a syntactic object (SO) is built by recursive application of *merge* (Chomsky, 2008, Chomsky et al., 2023), which merges two terms to create a new “term” (2a–d).

- (2) a. $\text{MERGE}(a, b) = \{a, b\}.$
 b. $\text{MERGE}(c, \{a, b\}) = \{c, \{a, b\}\}$
 c. $\text{MERGE}(d, \{c, \{a, b\}\}) = \{d, \{c, \{a, b\}\}\}$
 d. $\text{MERGE}(a, \{c, \{a, b\}\}) = \{a, \{c, \{a, b\}\}\}$
 e. $\{a, \{c, \{a, b\}\}\} \rightarrow \begin{array}{ccc} a & c & \text{---} & b \\ & \text{---} & \text{---} & \end{array}$

Merge may involve a term that is already in the SO – e.g., (2d), where *a* is merged twice. This is referred to as *internal merge* for expository purposes. Here, of the repeated terms, the ones that are more deeply embedded in the structure are referred to as *copies (of the head)*, and the shallowest one, *the head (of a chain)*. In (2d), the *a* on the left is the head and the one on the right, the copy. Typically, the head is lexicalized (i.e., *to become phonetically overt*) and the copies are morpho-phonemically (mp-) delexicalized (i.e., *to become phonetically covert*) at SM. The right hand side (LHS) of (2e) is the output at SM of the SO in LHS of (2d), where *a* apparently “moved” from the right of *c* to the left of *c*. This is how the classic *transformation* is expressed under the present theoretical framework. Observe that, thus handled, “movement” is

always to the “root” of an SO at each merge cycle, never to a term already present in the SO. Hence, no head adjunction.

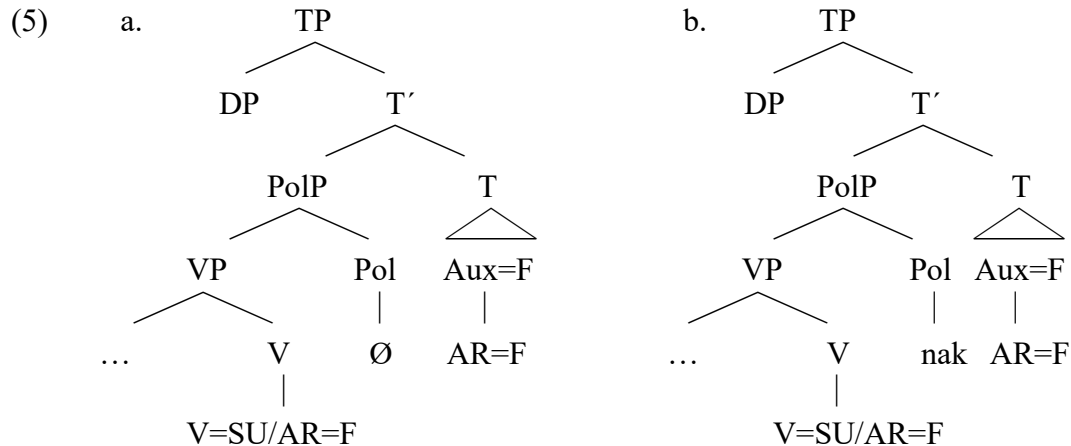
Third, following the ASA, we assume that the Japanese lexicon lists “verbal” items in the following manner: i.e. stem, root, and raising verb. The stem of a verb is a nominal expression of the verb, thus compatible with case particles and such modal auxiliaries as potential: e.g., *ari-e-ru* ‘can/may exist’ and *ari-wa suru* ‘it does exist’. The verb root is a composite of a verb stem and a light-verb *SU*, denoted as $V=SU$. A raising verb is a composite of a verb root that is functionally designated for raising and fully inflected finite tense/agreement features (3c).

(3)		<u>ar-</u>	<u>yom</u>	<u>tabe</u>
a.	stem	ar-	yom-	tabe-
b.	root	ar=SU	yom=SU	tabe=SU
c.	raising	AR=F	n/a	n/a
d.	Auxiliary (AUX)	AR	n/a	n/a

For the ease of identification, the raising verb *ar* and auxiliary *ar* are denoted as AR=F.

Fourth, (4a) is an abbreviated presentation of how clausal spine of Japanese is built. First, V merges with its complement, or remains stand-alone. Polarity (POL) merges with (and selects) the V or V-complex, labelling it as VP. POL has value ‘±’, where POL(+) has no phonetic content (Ø) and POL(-) is *nak* in SJ. T in turn selects the POL, labeling it as Polarity Phrase (PolP). The T-PolP complex is further merged with (selected by) C, labelling it as Tense Phrase (TP). The root complementize (C)-TP complex is selected by Start Symbol (Σ), which evaluates it as the root Phase. In the subsequent discussion, we ignore C and Σ. Auxiliary AR=F can be registered as either V or T (Kawai, 2019).

- (4) a. $[[[[\dots V_{VP}] POL (\pm)_{PolP}] AUX-F_{TP}] C_{CP}] - \Sigma$
b. $T \rightarrow AUX=F$, where $F \rightarrow ru$ or ta (surfaces *ru* or *u*, or, *ta* or *da*, respectively.)
c. $V \rightarrow V=SU$ or $AR=F$



T consists of AUX and T (4b). Below, we only consider the finite-inflected T: i.e., F. V is headed either by V-root or a raising verb (AR=F). In the Neo-Lexicalist approach, lexical items may licitly contain multiple head features. AR=F, containing both AR and F, can be recognized as V or T. Either it merges as the V-head, and then raises to T, or it is directly base-generated in T.

- (6)
 - a. F must be affixed to a verbal element – V-root, SU, or AR.
 - b. SU mp-merges to V when it is linearly adjacent to V-stem.
 - c. AR mp-merges to V, when it is linearly adjacent to SU.
- (7)
 - a. SU becomes covert, when it is immediately next to V.
 - b. AR becomes covert, when it is immediately next to SU.

For example, in (8a), SU and AR mp-merged to V-root, and tense affix F, respectively. Thus, the V-root phonetically appears immediately right of the F. In (8b), SU is mp-merged to V-root, but AR is not mp-merged to F, because they are not linearly adjacent to one another. When contrastive particle *-wa* attaches to the V-stem, as in (8c/d), SU is overt, for it is not linearly adjacent to the verb stem, and, therefore, mp-merger does not apply.³

- (8)
- | | | | |
|----|----------------------------|------------------------|------------------------|
| a. | tabe=SU (+) AR=ta | → tabe=SU (+)AR=ta | → tabe-ta |
| | eat =SU POL(+) AR=past | | ‘ate’ |
| b. | tabe=SU nak AR=ta | → tabe=SU nak AR=ta | → tabe nak atta. |
| | eat =SU POL(-) AR=past | | ‘did not eat’ |
| c. | tabe-wa SU (+) AR=ta | → tabe-wa SU (+)AR=ta | → tabe-wa shi-ta |
| | eat-cont SU POL(+) AR=past | | ‘Eat, (I) did’ |
| d. | tabe-wa SU nak AR=ta | → tabe-wa SU nak AR=ta | → tabe-wa shi nak atta |
| | eat-cont SU POL(-) AR=past | | ‘Eat, (I) did not.’ |

(9)

a.	akak – ar-ta	→ akak ^j	→ akay	→ akai	‘is red’
b.	akak – ar-ta	→ akak-atta			‘was red’
c.	Misha doma.				
	Misha house	‘Misha is home.’			
d.	János orvos.				
	János doctor	‘János is a doctor.’			

This is the reason that past forms are morphologically more transparent, as noted earlier.

Seventh and lastly, *ar* is amphibious between *copula* (*be*) and (*inanimate*) *existential verb* (*exist*). They are distinguished by their selectional properties. The former selects an adjectival- or nominal-predicate, as in (10a/b), whereas the latter selects explicit/implicit locative, as in (10c/d). So-called *possessive ar*, as in (10e), is included in the latter group.

- (10)
- | | | | | |
|----|--------------|-----------------|----------|---------------------------------------|
| a. | sore-wa | takak | atta | |
| | that-topic | ‘expensive | ar+past’ | ‘that was expensive’ |
| b. | sore-wa | neko-de | atta | |
| | that-topic | cat-pred | ar+past’ | ‘It was a cat.’ |
| c. | Canada-de | yamakaji-ga | atta | |
| | Canada-loc | forest fire-nom | ar+past | ‘There was a forest fire in Canada.’ |
| d. | Office-ni | konpyútá-ga | atta | |
| | Office-loc | computer-nom | ar+past | ‘There was a computer in the office.’ |
| e. | Uchi-(ni)-wa | púru-ga | atta | |
| | home-loc-top | pool-nom | ar+past | ‘The house had a pool.’ |

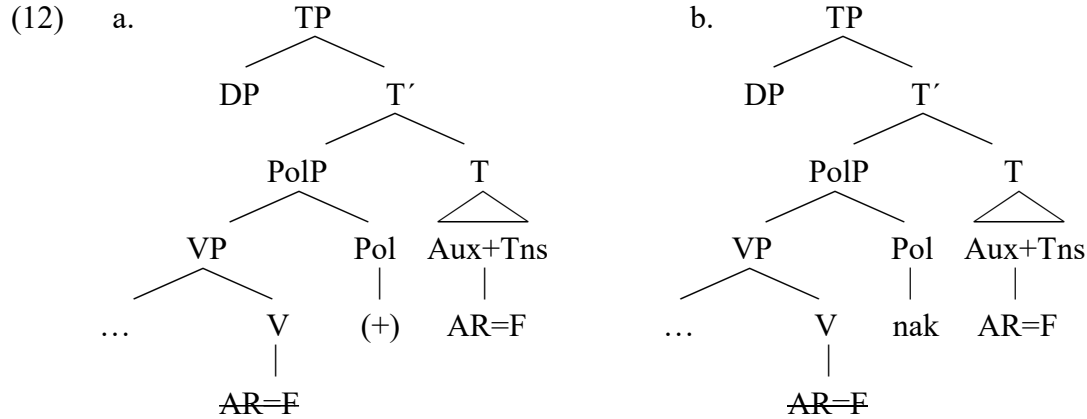
Though morphophonemically indistinguishable, these two types of *ar* are syntactically and semantically distinct. When it is necessary to clearly distinguish the two, we denote copulative *ar* as *ar-C* and existential *ar* as *ar-E*, as to be shown in the next section.

3. Why *nai/nakatta* is the negative form of finite-inflected copula *aru/atta*?

3.1. Why is *nakatta* the negative form of *atta*?

The discussion in the previous section has prepared us to address this question. If *atta* is raising verb, then *nakatta* is derived straightforwardly. In the previous section, we saw that AR=F can function as either a raising verb or a support element for F. If both *ar-C* and *ar-E* in SJ are AR=F, then they first merge as the V-head (11a), POL merges with the V and its complement, if it exists (11b), then, AR=F internally merges to the VP-POL complex to become the T-head (11c). This creates a “movement” configuration (11c/d)/(12), as we saw in (2d/e) in its mirror image.

- (11)
- | | |
|----|--|
| a. | [... AR=F] |
| b. | [[... AR=F VP] POL (±)] |
| c. | [[[... AR=F VP] POL (±) PolP] AR=F T'] ... |
| c. | [[[... atta VP] POL (±) PolP] atta] |
| d. | ... ___ nak atta. → ___ nak atta |



The *atta* inside the VP is the copy and that in T' is the head of the chain, making the latter phonetically overt, and the former, covert (11c). This results in *nak atta*, as desired (11d). Incidentally, this is a mirror image of English finite-inflected *be* verb, as shown in (13a/b).

- (13) a. [... [T was [PolP POL(±) [VP ~~was~~ ...]]]
b. was not ~~was~~ ... → was not ____ ...
c. [C [TP ... [T can [PolP not [VP be ...

(13c) shows that *be* initially merges as the V-head. Yet, *was* appears on the left of negation *not* (13b). In short, raising verbs in English and Japanese share the same core property – viz., they *vanish* from the VP and *appear* as the T-head. In Japanese, the agglutinative nature of its morphology makes this process less transparent. The “disappearance” of *ar* in *nakatta* is analyzed herein not as a case of suppletion (Martin, 1975), but of V-to-T raising (Kawai, 2006, 2008), parallel to the English raising copula *be* (Chomsky, 1993, Lasnik, 1995/1999).

To sum it up, the reason that *nakatta* is the negative form of *atta* is that *atta*, initially merged as the V-head, “raises” to T, by internal merge. AR=F (*atta*) is delexicalized – and becomes covert – inside the VP. The disappearance of the *ar* on the left of negation is only apparent, in other words; it remains in-situ in the SO. In the present analysis, a zero alternant stem for “ZERO-na-i” need not be stipulated.

3.2. Why is *ara-nak-atta* not acceptable?

The negative form of main verbs are $V = SU + (a) + nak + AR = F$, where ‘(a)’ is an epenthetic vowel, as in (14a/b). From this, (14c) is expected to be acceptable, contrary to the fact.

- (14) a. tabe nak ar=ta → tabe-nak-atta
b. yom a-nak ar=ta → yom-anak-atta
c. ar a-nak ar=ta → * ar-anak-atta

One way to block (14c) is to appeal to the *morphological blocking effect*, the original idea of which is attributed to Pāṇini (Rainer, 2014). Crudely put, the marked form of a lexical item, if it exists, blocks the occurrence of the unmarked form of the same lexical item: e.g. *bring-ed* vs. *brought*, *foot-s* vs. *feet*. In this view, the existence of “irregular form” *nakatta* is blocking *aranakatta*. However, the data from Kansai Japanese (KJ) in (15) suggests otherwise.⁵

- (15) a. takou ar-an katta
expensive-ar-not AR=F ‘was not expensive’
b. takou ar-ahen katta
expensive-ar-not AR=F ‘was not expensive’
c. takou- nak atta
expensive-not AR=F ‘was not expensive’

KJ has three types of copulas: *aran*, *arahen*, and *nakatta*.⁶ The blocking effect is not observed therein, strongly suggesting that these three types of negated copula (*ar-C*) are equally unmarked. With *-n* and *-hen*, *ar-* can appear VP-internally, without being blocked by *nak-atta*.

Now, consider the KJ data on a negative predicate paradigm in (16) and (17).⁷ Unlike *ar-C*, main verbs V=SU reject *nak* (16c). My informants use (16c) but as a sentence of SJ, not KJ. In KJ, *ar-E* also rejects *nak* (17c). From this, we conclude that in KJ, *ar-E* is a main verb (i.e. non-raising verb), and *ar-C* a copula (raising verb). (18) sums up the observations made thus far.

- (16) a. ik-an-katta
b. ik-ahen-katta
c. ?/* ik-anak-atta
- (17) a. ar-an-katta
b. ar-ahen-katta
c. * ar-anak-atta
- (18) a. In SJ, negation is only *nak*.
b. In KJ, negation can be *-n*, *-hen*, or *nak*.
c. *-n* and *-hen* are negative verbal suffixes, whereas *nak* is not.
d. *-n*, *-hen*, and *nak* are usable with the copula in KJ (12).
e. *nak* is not used with V=SU, including *ar-E* (16)/(17) in KJ.
f. *nak* used with V=SU and AR=F in SJ.

(18a/b/f) are observed above. (18c) is induced from the data in (15)–(17). At SM, *nak* is agglutinated to the stem of main verbs with epenthetic vowel *a*. However, given that *nak* may appear independently, as in *nai* and *nakatta*, it is not a verbal suffix. That is, *nak* is syntactically an independent POL head, but agglutinated to the stem of a main-V morphophonemically. On the other hand, *-n* and *-hen* are specified as verbal suffixes in the lexicon. Thus, they are more marked than *nak*, and, therefore, they block *nak* when used with a main verb (V=SU) (18e). In (15), on the other hand, *nak* is also blocked with *ar=SU* by the negative verbal affixes, but it is available, because of the availability of AR=F. In other words, the relevant blocking effect is not ‘*nakatta* vs. **aranakatta*’, but ‘*nak* vs. *-n/-hen*’.

What remains is to account for why **aranakatta* is unacceptable in SJ. For that, I propose the following two morpho-lexical idiosyncrasies of SJ.

- (19) a. The lexicon of SJ lacks root form of *ar* (*ar=SU*).
b. The lexicon of SJ lacks verbal suffix *-n* and *-hen* for negation.

With (19a), the unacceptability of **aranakatta* in SJ is trivial. SJ simply lacks the crucial ingredients for this form. Thus stated, they are lexical gaps specific to SJ, an accidental property of SJ. One might try to derive (19a) from the fact that (i) both AR=F and ar=SU are semantically identical, and, thus would be redundant, and (ii) AR=F is more “economical” for morphology than ar=SU, as it need not add an epenthetic vowel. Although it is not implausible, natural language routinely tolerates some degree of redundancy and, thus, we cannot endorse this view without further motivation at present.

Regarding (19b), it is a restatement of (18c). However, thus stated, it derives (18f). Given that *-n* and *-hen* are verbal suffixes, they are both more marked than *nak*. For this, with V=SU/ar=SU, they would trigger the morphological blocking effect against *nak*, as seen in KJ. In SJ, on the other hand, with (19b), *nak* is the only available negation, and, thus, not blocked, even when it is used with V=SU. Therefore, it equally accepts V=SU and AR=F save ar=SU (19a). In short, the contrast in the verbal morphology of SJ and KJ can be derived with two morpho-lexical gaps in SJ, as in (19a/b).

4. Summary

In this paper, we addressed the question of why *aru/atta* in negative form are *nai/nakatta*, instead of **aranai/*aranakatta*, respectively. This question was broken down into two questions: (i) how *nai/nakatta* are the well-formed forms of negated *aru/atta*?; (ii) how **aranai* and **aranakatta* are blocked? For the former question, we adapted the ASA of Japanese verbal morphology. In SJ, *ar* is a raising copula, AR=F for both *ar-C* and *ar-E*. Within the Neo-Lexicalist approach to “head movement” (Kawai, 2019), AR=F first merges as the V-head, and later internally merges as the T-head. This creates a “movement” configuration (20a), where the copy of the AR=F is delexicalized, yielding *nak atta*. At the same time, **aranai* and *aranakatta* do not arise, due to (19a): i.e., *ar=SU* is unavailable as a lexical item in SJ (20b).

- (20) a. [[[[... AR=F_{VP}] *nak* PolP] AR=F]: AR=F (*ar-C* or *ar-E*) as raising verb (SJ)
 b. * [[[[... ar=SU_{VP}] *nak* PolP] AR=F]: ar=SU missing in the lexicon (SJ)

With (19b) SJ has only *nak* for negation. In the absence of verbal affixes *-n* and *-hen*, *nak* is not blocked, when used with V=SU (21a). This accounts for why *nak* is used with either AR=F or V=SU, save for ar=SU. In KJ, on the other hand, only *-n* or *-hen* is allowed with ar=SU and V=SU, due to the blocking effect, but copula may take *nak*, in so far as it is ar=F (21b). (22) is a schematic summary of (21).

- (21) a. SJ: AR=F/V=SU ~ *nak* ∴ no blocking effects (19b), but no ar=SU+*nak* (19a).
 b. KJ: AR=F ~ *nak*, ar=SU/V=SU ~ *-n/-hen* ∴ the blocking effect by verbal suffixes.

- (22) a. ~~ar=SU (copula/existential) (SJ)~~ N/A: accidental lexical gap
 b. V=SU (main verb) (SJ)
 c. AR=F (copula, existential) (SJ) —————→ *nak*
 d. AR=F (copula) (KJ) —————→
 e. ar=SU (copula) (KJ) —————→
 f. ar=SU (existential V) (KJ) —————→ *-n/-hen*
 g. V=SU (main verb) (KJ) —————→

In the present account, *nakatta* does not block *aranakatta*, but negative verbal affixes *-n* and *-hen* block non-affixal negation *nak*, when V=SU is involved. The account presented here reduces the range of phenomena down to two accidental lexical properties of SJ. However, the account could be further sharpened and strengthened. For example, it may be fruitful to investigate other types of negation in Japanese, such as *-zu*, *-ji*, *-nu*, and, *naφu*. In addition, within the present analysis, the definition of blocking effect is not fully explicit and precise. Also, the lexical entries in the present analysis may be seen as redundant or inefficient. Further investigations are in order.

This paper dealt with a highly localized phenomenon regarding Japanese verbal morphology. However, it also demonstrates the propitiousness of a comparative study of Japanese dialects in uncovering subtle linguistic facts. What appears to be random morphological facts may receive a systematic account at a certain level of abstraction. It also shows some promise in cross-linguistic study of related phenomena, such as the copula of English and Japanese. The present study deals with a relatively limited amount of data. Further investigations are in order with larger data sets from wider ranges of dialects. Consulting with a larger number of informants may be desirable for this purpose. Finally, although the present account likely has no impact on Japanese pedagogy, knowing the inner workings of Japanese verbal morphology may be of some benefit.

Endnotes

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¹ No significance is behind the naming of these two dialects.

² See a detailed discussion on this question in Backhouse (2009). Such a sentence as *konnan-ga naku-(wa) nakatta* (‘There were some difficulties’ or ‘(lit.) Some difficulties didn’t not exist’) may be analyzed as *naku*_{adjective} *nak*_{polarity}+*atta*. I, however, am inclined to take this as a case of constituent negation, similar to *I couldn’t not pass up the opportunity*.

³ The following abbreviation convention is used for Japanese particles: *cont* for “contrastive particle,” *top* for “topic marker,” *nom* for “nominative,” and *loc* for “locative.”

⁴ With nominal predicates, *ar* in *de-aru* may be omitted, as in *d-a*. The presence of *ar* in the negative present form is detectable in this fossilized negative form: *ar-a-z-ari* ‘do not exit/is not.’

⁵ It may be more appropriate to analyze *ar-ank-atta* and *ar-ahenk-atta*, although this is immaterial the present discussion.

⁶ Strictly speaking, *-hen* consists of negation morpheme *-en* and *(a)h*, similar to the *-en* in *(i)mas-en*.

⁷ I am grossing over the micro-variations of the dialects spoken in the Kinki Region. (See Heffernan, 2019.) My informants are predominantly “Kyoto dialect” speakers, although some are from Osaka area. Closer investigation of micro-variations is in order.

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