

Morphological Structures of Japanese Adjectival Compounds

MORINE KONDO

The University of Tokyo

TAKANE ITO

The University of Tokyo

YOHEI OSEKI

The University of Tokyo

1 Introduction

Adjectives in Japanese are generally classified into two types: One is called canonical adjectives and the other is called nominal adjectives (Nishiyama 1999).¹ They do not have apparent semantic difference (Uehara 1998).

¹The terminological distinction ‘canonical adjective / nominal adjective’ is equivalent to: ‘true adjective / nominal adjective’ (Yamakido 2009), ‘adjective / nominal adjective’ (Kuno 1973).

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Nevertheless, there is morphological difference between them, which lies in their endings: When they appear in non-past predicative position, canonical adjectives end in *-i* whereas nominal adjectives end in *-da*.² Previous studies have reported that simple canonical adjectives (e.g. *taka-i* ‘high’) and simple nominal adjectives (e.g. *shizuka-da* ‘quiet’) are morphologically different by presenting various types of empirical support. In contrast, there has been little discussion about the morphological difference between compound canonical adjectives (e.g. *boro-yowa-i* ‘shabby and vulnerable’) and compound nominal adjectives (e.g. *boro-yowa-da* ‘shabby and vulnerable’). In this paper, we argue that compound canonical adjectives and compound nominal adjectives have different morphological structures and present three different kinds of empirical evidence for our morphological structures.

This paper is organized as follows. Section 2 reviews the previous studies dealing with simple canonical adjectives and simple nominal adjectives. Section 3 proposes morphological structures of compound canonical adjectives and compound nominal adjectives, and Section 4 presents three different types of empirical support for them. Section 5 concludes this paper.

2 Background

Previous studies have claimed that simple canonical adjectives and simple nominal adjectives have morphological difference based on the observation that stems of simple canonical adjectives and a present tense inflection *-i* are closely bound together while stems of simple nominal adjectives are independent of a copula *-da* (cf. Martin 1975; Backhouse 1984; Namai 2002; Uehara 2002). This difference is called the difference in morphological boundness (Martin 1975; Uehara 1998; Kato 2003). The difference in morphological boundness between them is supported by the following four pieces of empirical evidence.

First, simple canonical adjectives and simple nominal adjectives have different iterative forms (Uehara 2002: 86). In the case of simple canonical adjectives, the full form (1b), not the stem (1a), is iterated. In the case of simple nominal adjectives, on the other hand, both the stem (2a) and the full form (2b) are iterated.

- (1) a. *‘ \bar{A} , *taka taka*.’ ‘Oh, high! high!’

‘adjective / adjectival verb’ (Murasugi 1990), ‘*-i* adjective / *-na* adjective’ (Backhouse 1984), and ‘*k*-adjective / *na*-adjective’ (Morita 2013).

² In the case of canonical adjectives, in predicative or attributive position, *-i* is attached to the stem. In the case of nominal adjectives, when they appear in attributive position, *-na*, the allomorph of the copula *-da*, is attached to the stem.

- b. 'Ā, taka-i taka-i.' 'Oh, high! high!'
- (2) a. 'Ā, raku raku.' 'Oh, easy! easy!'
 b. 'Ā, raku-da raku-da.' 'Oh, easy! easy!'

(Uehara 2002: 86, Translated by us)

Second, modal auxiliaries such as *-darō* 'seem', *-deshō* 'seem in polite form', *-mitai* 'seem', *-kamo shirenai* 'may', and *-ni chigainai* 'must', sentence-final particles such as *-kashira* 'I wonder', and markers for indirect interrogative sentences such as *-ka dōka* 'whether' attach to the different parts of the words (Uehara 2002: 86; Miyagawa 1987: 44). Selected examples are given in (3) and (4). Regarding simple canonical adjectives, *-darō* is attached to the full form (3b), not to the stem (3a), while regarding simple nominal adjectives, *-darō* is attached to the stem (4a), not to the full form (4b).

- (3) a. **Sono fuku wa taka darō*. 'The clothes seem to be expensive.'
 b. *Sono fuku wa taka-i darō*. 'The clothes seem to be expensive.'
- (4) a. *Sono heya wa shizuka darō*. 'The room will be quit.'
 b. **Sono heya wa shizuka-da darō*. 'The room will be quit.'

(Uehara 2002, Translated by us)

Third, the difference lies in their acceptance of the negative emphatic suffix *-nanka* 'at all' (Namai 2002: 345). *-Nanka* fails to be inserted between the stem of simple canonical adjectives and *-k* (5) while it is successfully put between the stem of simple nominal adjectives and *-de* (6).³⁴

- (5) **taka-nanka-k(u) nai*
 high-at.all-*k(u)* not
 'not high at all'
- (6) *shizuka-nanka-de nai*
 quiet-at.all-*de* not
 'not quiet at all'

(Namai 2002: 345)

³As will be seen in (9), *-k* appears right after the stem of a canonical adjective except for canonical adjectives in the present form ending in *-i*.

⁴As will be seen in (10), *-de* is a predicative copula.

Fourth, there is difference in syntactic operation of *so-replacement*. The stem of simple canonical adjectives cannot be replaced by the pro-form *-sō* (7) while that of simple nominal adjectives can (8).

(7) *taka-k(u)* → **sō-k(u)*
high-k(u) *so-k(u)*

(8) *shizuka-de* → *sō-de*
quiet-de *so-de*

(Namai 2002: 345)

The evidence given in this chapter support that simple canonical adjectives and simple nominal adjectives show different morphological boundness.⁵ Considering the difference in morphological boundness observed in simple words, we explore the case of compounds in the next chapter.

3 Proposal

We propose within the framework of Distributed Morphology (Halle and Marantz 1993, hereafter DM) that compound canonical adjectives and compound nominal adjectives in Japanese have different morphological structures. In our analysis, we adopt the following ideas from previous studies:

- (9) Except for present forms, all other forms in Japanese modern canonical adjectives contain *-k* right after stems (Nishiyama 1999).
- (10) *-da* is the contracted form of *-de aru* (Nakayama 1988; Urushibara 1993). *-de* is a predicative copula. *-u* in *aru* is a present tense form (Nishiyama 1999).
- (11) *-ar*, a dummy copula, appears in both canonical and nominal adjectives (Nishiyama 1999).
- (12) *-ta*, a past tense form, appears in both canonical and nominal adjectives (Nishiyama 1999).
- (13) Stems of canonical adjectives are dependent on *-k* while stems of nominal adjectives are independent of *-de* (Namai 2002).

⁵ Other than empirical support presented in this chapter, there is difference in lexical strata between them: Stems of simple canonical adjectives are restricted to Yamato lexemes, while simple nominal adjectives can accommodate Sino-Japanese lexemes and foreign words in their stems (cf. Backhouse 1984: 177-82).

Our analysis builds on Nishiyama's (1999) claim that all canonical adjectives contain *-k*. We analyze *-k* as a category-assigning head which creates adjectives (hereafter, category-assigning head *a*).

Based on these ideas, we first propose the morphological structure of compound canonical adjectives in Figure 1. We claim that a compound canonical adjective *boro-yowa-k* is derived as follows: First, \sqrt{yowa} is merged with a category-assigning head *a*, creating a simple canonical adjective *yowa-k*. Then, \sqrt{boro} is merged with the simple canonical adjective *yowa-k*, yielding a compound canonical adjective *boro-yowa-k*.

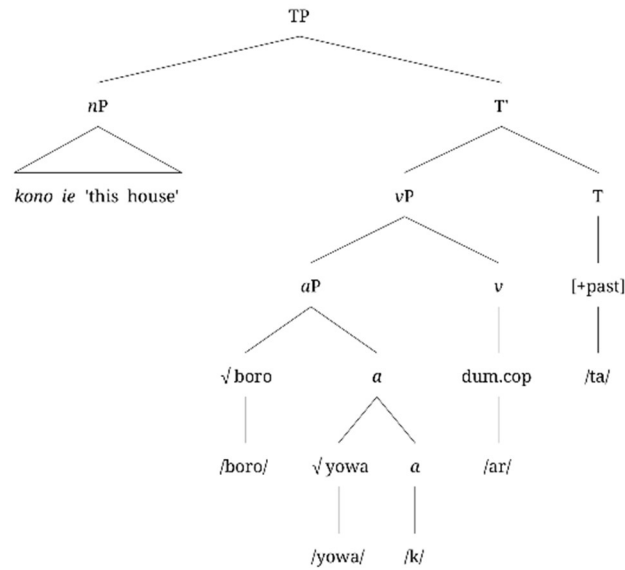


Figure 1. Morphological Structure of Compound Canonical Adjective

Next, we propose the morphological structure of compound nominal adjectives in Figure 2. We argue that a compound nominal adjective *boro-yowa-de* is derived as follows: First, \sqrt{boro} is merged with \sqrt{yowa} , deriving a compound root $\sqrt{boroyowa}$. Next, the compound root $\sqrt{boroyowa}$ is merged with a category-assigning head *n*, yielding a noun *boro-yowa*. Then, the noun *boro-yowa* is merged with a category-assigning head *a*, yielding an adjective *boro-yowa*. After that, the adjective *boro-yowa* is merged with a predicative copula *-de*, creating a compound nominal adjective *boro-yowa-de*.

In the next chapter, we will present three different kinds of empirical evidence for our morphological structures.

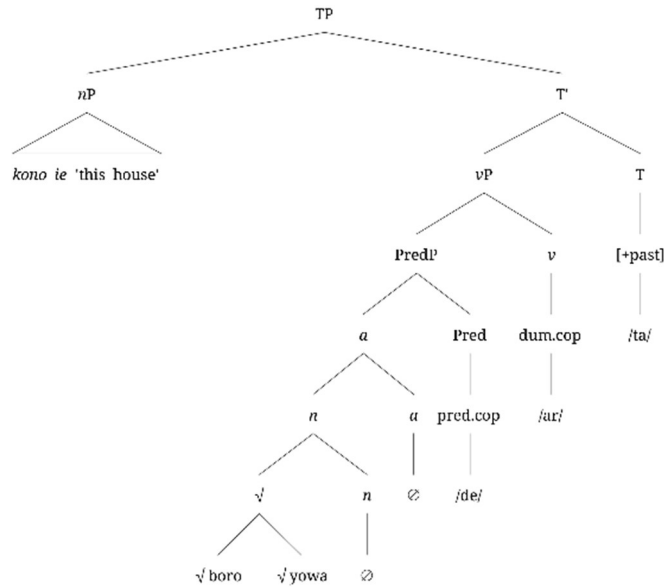


Figure 2. Morphological Structure of Compound Nominal Adjective

4 Empirical Support

4.1 Modification by Degree Modifiers

Compound canonical adjectives and compound nominal adjectives are different in modification by degree modifiers. Predicative modifiers (e.g. *kanari* ‘fairly’) are for modifying verbs and adjectives. Regarding adjectives, both canonical adjectives (e.g. *kanari taka-i* ‘fairly high’) and nominal adjectives (e.g. *kanari shizuka-da* ‘fairly quiet’) can be modified. On the other hand, attributive modifiers (e.g. *kanari no* ‘fair’) are for modifying nouns (e.g. *kanari no akunin-da* ‘quite a bad person’) (Kato 2003). They can modify neither canonical adjectives (e.g. **kanari no taka-i* ‘fair high’) nor nominal adjectives (e.g. **kanari no shizuka-da* ‘fair quiet’).

We try this test on words that have both compound canonical adjective form and compound nominal adjective form. Compound canonical adjectives can be modified by predicative modifiers (14a) but cannot be modified by attributive modifiers (14b). On the other hand, compound nominal adjectives can be modified by both predicative modifiers (15a) and attributive modifiers (15b).

- (14) a. *Sore wa kanari boro-yowa-i.*
 ‘This is fairly shabby and vulnerable.’
- b. **Sore wa kanari no boro-yowa-i.*
 ‘This is fair shabby and vulnerable.’
- (15) a. *Sore wa kanari boro-yowa-da.*
 ‘This is fairly shabby and vulnerable.’
- b. *Sore wa kanari no boro-yowa-da.*
 ‘This is fair shabby and vulnerable.’

This result suggests that in compound canonical adjectives, no elements are merged with the category-assigning head *n*, while in compound nominal adjectives, a compound root is merged with the category-assigning head *n* as well as *a* as shown in Figure 2.

4.2 *B-de aru / AB-de aru

Regarding compound nominal adjectives, there are some cases where AB-*de aru* is acceptable though B-*de aru* is unacceptable (16).

- (16) a. **yowa-de aru* (*B-*de aru*)
 b. *boroyowa-de aru* (AB-*de aru*)

This indicates that the predicative copula *-de* is a morpheme attached not to the second elements of compound nominal adjectives (B) but to the stems of the compound nominal adjectives (AB). On the other hand, regarding compound canonical adjectives, there are no cases where AB-*i* is acceptable though B-*i* is unacceptable.

4.3 Emphatic /Q/ Insertion

In this section, we discuss emphatic /Q/ insertion patterns. When native speakers of Japanese emphasize canonical adjectives, they often insert the special mora /Q/ in these words (e.g. *atsu-i* ‘hot’ -> *a-Q-tsu-i* ‘hot in emphatic form’). If they attempt to emphasize compound canonical adjectives and compound nominal adjectives, the different insertion positions are chosen.

The insertion position pattern of /Q/ in compounds can be elegantly captured by combining the insertion position pattern of /Q/ in simple words (17) and the principle of DM (18).

- (17) /Q/ is likely to be inserted between the 1st and the 2nd morae of simple canonical adjectives (e.g. *a-Q-tsu-i* vs. **atsu-Q-i*). According to previous studies, when real simple canonical adjectives and meaningless coined words similar in shape to simple canonical adjectives (e.g. *akaza-i*) were emphasized, /Q/ was inserted between the 1st and the 2nd morae (Kaneko 2015; Tomiyama et al. 2002)
- (18) The first category-assigning head merging with the root defines the phase (cf. Chomsky 1999). Phase is a closed domain, so once the phase is defined, the interpretation of the output is fixed phonologically and semantically (Marantz 2000; Arad 2003).

The observation described in (17) can be captured in the framework of DM by the notion of the domain defined in (18). Thus, we are led to presume (19).

- (19) /Q/ is inserted between the 1st and the 2nd morae of a domain which is determined by merge with a category-assigning head.

In the case of compound canonical adjectives, our morphological structure predicts that /Q/ is inserted in the 1st and the 2nd morae of *yowak*; for example, when a compound canonical adjective *boro-yowa-i* is emphasized, an emphatic form *boro-yo-Q-wa-i* would be most preferable. It is because *yowak*, where the root \sqrt{yowa} and a category-assigning head are merged, constitutes the domain for /Q/ insertion (Figure 1). On the other hand, in the case of compound nominal adjectives, our morphological structure predicts that /Q/ is inserted in the 1st and the 2nd morae of *boroyowa*; for example, when a compound nominal adjective *boro-yowa-da* is emphasized, an emphatic form *bo-Q-ro-yowa-da* would be most preferable. It is because *boroyowa*, where the compound root $\sqrt{boroyowa}$ and a category-assigning head are merged, constitutes the domain for /Q/ insertion (Figure 2).

Regarding compound nominal adjectives, native speakers of Japanese can certainly judge that /Q/ inserted between the 1st and the 2nd morae of the first element (*bo-Q-ro-yowa-da*) is much preferable than /Q/ inserted between the 1st and the 2nd morae of the second element (*boro-yo-Q-wa-da*). On the other hand, regarding compound canonical adjectives, it is difficult for native speakers of Japanese to judge which emphatic form is preferable, /Q/ inserted between the 1st and the 2nd morae of the first element (*bo-Q-ro-yowa-i*) or /Q/ inserted between the 1st and the 2nd morae of the second element (*boro-yo-Q-wa-i*). Kondo (2021) conducted experiments and showed that the acceptability of /Q/ between the 1st and the 2nd morae in the second element

was statistically higher than that of /Q/ between the 1st and the 2nd morae in the first element. This result suggests that our analysis is on the right track.

5 Conclusion

The aim of this paper was to propose the morphological structures of compound canonical adjectives and compound nominal adjectives in Japanese within the framework of DM. The difference in morphological structure between them was supported by three different types of empirical evidence. First, compound canonical adjectives and compound nominal adjectives were different in how they were modified by two types of degree modifiers, predicative modifiers and attributive modifiers. Second, only in compound nominal adjectives, there were some cases where AB-*de aru* was acceptable though B-*de aru* was unacceptable. Third, we showed that compound canonical adjectives and compound nominal adjectives are different in insertion positions of emphatic /Q/.

Three pieces of evidence presented in this paper support different aspects of our morphological structures: Modification by degree modifiers is support for the categorial status of compound nominal adjectives (i.e. the existence of the category-assigning head *n*), while the other two pieces of evidence support the difference in constituenthood between compound canonical adjectives and compound nominal adjectives (i.e., the two elements (e.g. *boro* and *yowa*) make up a constituent in the morphological structure of nominal adjectives, but not in that of canonical adjectives). In order to confirm that the morphological structure of compound nominal adjectives contains category-assigning head *n*, more empirical evidence is needed. We leave this issue to our future study.

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