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# Prenominal Forms of the Japanese Copula and Nominalization[*]

Yuta Tatsumi

## 1. Introduction

This paper argues that variation in prenominal forms of the Japanese copula is best analyzed in terms of TP-nominalization. Main evidence comes from the comparative reading of prenominal superlative constructions and scope interaction in nominative/genitive conversion. This paper shows that the size of prenominal clauses can vary in Japanese.

## 2. Nishiyama (1999)

Prenominal forms of the Japanese copula are widely assumed to be good hallmarks of the categorial distinction between nouns and nominal adjectives (Kageyama 1982, Miyagawa 1987, Ohkado 1991). As shown in (1a), when a noun is used as a predicate of prenominal clauses, the copula can be realized as -*no*, in addition to the non-contracted form *dearu*. In contrast, when a nominal adjective appears in the predicate position of prenominal clauses, -*no* is not allowed and the other form -*na* must be used, as shown in (1b). Crucially, -*na* is not allowed in (1a).

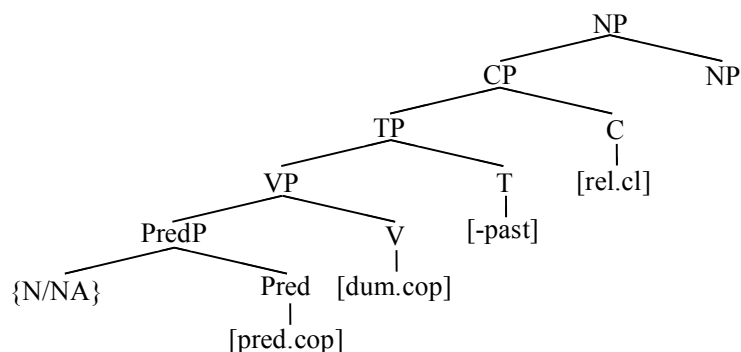(1)　　Prenominal Forms of the Japanese Copula

　　a.　　[NP *dansei*-***dearu***/*dansei*-***no***/\**dansei*-***na***　　[NP *gakusei*]]　　　　　[Nouns]

　　　　　　male-COP/male-NO/male-NA　　　　　　　student

　　　　　'male students'

　　b.　　[NP *mazime*-***dearu***/*mazime*-***na***/\**mazime*-***no***　　[NP *gakusei*]]　　[Adjectival Nouns]

　　　　　　serious-COP/serious-NA/serious-NO　　　　　student

　　　　　'serious students.'

One way to capture this contrast in prenominal forms of the Japanese copula is offered by Nishiyama (1999) based on the framework of Distributive Morphology. Nishiyama (1999) offered the vocabulary insertion rules and the syntactic structure, as shown in (2).

(2)　a.　　[pred.cop, dum.cop, -past, rel.cl] ⇔ /na/ ／ NA__

　　　b.　　[pred.cop, dum.cop, -past, rel.cl] ⇔ /no/　c.　　[pred.cop, dum.cop, -past] ⇔ /da/

　　　d.　　[pred.cop] ⇔ /de/　　e.　　[dum.cop] ⇔ /ar/　　f.　　[-past] ⇔ /u/ ／ V__

g.

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                                              NP
                                     CP              NP
                              TP            C
                       VP          T      [rel.cl]
                 PredP       V    [-past]
          {N/NA}      Pred  [dum.cop]
                       |
                  [pred.cop]
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(Nishiyama 1999)

Under this analysis, prenominal forms of the Japanese copula vary corresponding to elements located in the complement position of the Pred head. If a nominal adjective appears in that position, a feature bundle that Fusion applies to is realized as *-na* as in (2a). When other nominal elements occupy the complement position of the Pred head, the resulting feature bundle is realized as *-no* following the rule (2b).

## 3. Issues

Although, Nishiyama's (1999) analysis can capture the basic data about prenominal forms of the Japanese copula, there are some problematic cases for it. For example, some nominal adjectives can appear with both *-na* and *-no* forms in the exact same environment, as shown in (3).

(3)  a.  *ainiku-**na**      tenki*       b.  *ainiku-**no**      tenki*
         unexpected-NA  weather             unexpected-NO  weather
         'unexpected weather'               'unexpected weather'
     c.  *massugu-**na**    michi*        d.  *massugu-**no**    michi*
         straight-NA    road                 straight-NO    road
         'a straight road'                   'a straight road'

In (3), both *-na* and *-no* are combined with the same prenominal element, and there is no significant difference between these prenominal forms in their interpretations. In order to explain the hybrid class as in (3), Nishiyama (1998) argues that this kind of hybrid class can be accounted for by assuming the Augmentation process in (4).

(4)   Augmentation (Nishiyama 1998: 121)
           X     →     X
           |           |
          [∅]         [NA]
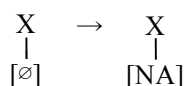
However, it is not clear how to restrict overgeneration caused by the Augmentation process in (4). As shown in (1a), some nouns are less subject to the Augmentation process. In order to capture this fact, we need an additional assumption. Moreover, the Augmentation process in (4), which defines the categorical change only in one direction, is not enough to capture variation in the hybrid class. For example, there are some nominal adjectives that resist *-no* form in a prenominal position, as shown in (5).

(5)  a.  *ichizi-teki-**na**      teiden*        b. * *ichizi-teki-**no**      teiden*
        temporary-NA    power.failure        temporary-NO    power.failure
        'temporary power failure'            'temporary power failure'

As observed by Tanomura (2008), in modern Japanese, the morpheme *-teki* must be combined with *-na* but not with *-no*. However, in certain configurations, *-teki* can appear with *-no*, as shown in (6c). In (6), a prenominal copula appears in a sentential complement clause.

(6)  a.  [*kono  teiden*]*-nikansitewa*      [NP [*pro  ichizi-teki    **dearu**]  kanoosei*]*-ga    taka-i.*
        this   power.failure-regarding              temporary  COP    probability    high-PRES
        'As for this power failure, it is likely to be temporary.'
    b.  [*kono  teiden*]*-nikansitewa*      [NP [*pro  ichizi-teki-**na**]    kanoosei*]*-ga    taka-i.*
        this   power.failure-regarding              temporary-NA    probability    high-PRES
        'As for this power failure, it is likely to be temporary.'
    c.  [*kono  teiden*]*-nikansitewa*      [NP [*pro  ichizi-teki-**no**]    kanoosei*]*-ga    taka-i.*
        this   power.failure-regarding              temporary-NO    probability    high-PRES
        'As for this power failure, it is likely to be temporary.'

Given that *teki* primarily selects *-na* as shown in (5), the optionality of prenominal forms observed in (6) is not expected. It is not clear how to capture the *-no* form in (6c) unless we assume another type of Augmentation process. However, that kind of Augmentation process will face the same problem of overgeneration discussed above. In addition, there is another environment in which the restriction on prenominal forms of the Japanese copula is neutralized, as shown in (7).

(7)  a.  [*kono  teiden*]*-nikansitewa*      [*pro  ichizi-teki    **dearu**] {*yooda/hazuda/hazuganai*}.
        this   power.failure-regarding          temporary  COP    seem/should/cannot
        'As for this power failure, it {seems to/should/cannot} be temporary.'
    b.  [*kono  teiden*]*-nikansitewa*      [*pro  ichizi-teki-**na**] {*yooda/hazuda/hazuganai*}.
        this   power.failure-regarding          temporary-NA    seem/should/cannot
        'As for this power failure, it {seems to/should/cannot} be temporary.'

c. [ *kono  teiden*]-*nikansitewa*       [*pro  ichizi-teki-no*]   {*yooda/hazuda/hazuganai*}.
   this   power.failure-regarding        temporary-NO     seem/should/cannot
   'As for this power failure, it {seems to/should/cannot} be temporary.'

In (7a), the copula is followed by modal expressions, and again both *-na* and *-no* can appear in the same position, as shown in (7b,c).

## 4.  Proposal

Given these consideration, I argue that the optionality between *-na* and *-no* should be analyzed in terms of TP-nominalization. I propose that in addition to the basic selectional restriction on the prenominal form, which is defined on the basis of the distinction between nouns and nominal adjectives, there is another environment in which the basic selectional restriction is neutralized. To be more precise, I argue that exceptional *-no* forms are allowed when the nominalizer head is combined with a TP, as shown in (8b). In addition, I assume the vocabulary insertion rules as in (9).[1]
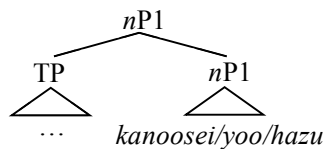
(8)  a.  /na/                          b.  /no/
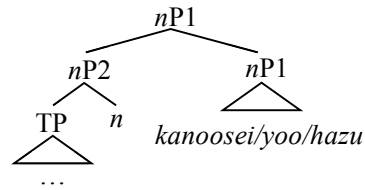


(9)  a.  [pred.cop, dum.cop, -past, *n*]  ⟷  /no/  /  __ NP
     b.  [pred.cop, dum.cop, -past]      ⟷  /na/  /  NA __ NP
     c.  [pred.cop, dum.cop, -past]      ⟷  /no/  /  __ NP

As for *-na* and the regular prenominal *-no* form, I simply follow Nishiyama's (1999) analysis with a slight modification, as shown in (9b,c). As for the exceptional *-no* marking such as (6c) and (7c), I propose that *-no* is inserted following the vocabulary insertion rule in (9a). In other words, when the nominalizer head is attached to a prenominal clause, we can exceptionally obtain *-no* as a contracted form of the Japanese copula. In what follows, I provide support for the proposed analysis.

## 5.  Support
### 5.1.  Scope of *mottomo* 'most'

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[1] In this paper, I adopt Murasugi's (1991) analysis that Japanese relative clauses are TPs, in contrast to Nishiyama (1999).

It is well-known that superlative constructions can have two different interpretations: absolute reading and comparative reading (Szabolcsi 1986, Heim 1999). As shown in (10), such ambiguity is attested in Japanese as well (Aihara 2009, Shimoyama 2014).

(10) a. *John-ga     mottomo takai  yama-ni      nobot-ta.*
        John-NOM   most     high   mountain-to  climb-PAST
        'John climbed the highest mountain.'
    b. Absolute reading:
        John climbed a mountain that is higher than any other contextually relevant mountain.
    c. Comparative reading:
        John climbed a higher mountain than the other contextually relevant climbers did.

Under the absolute reading, the highest mountain has to be the highest among contextually relevant mountains. On the other hand, under the comparative reading, the highest mountain only needs to be the highest among mountains that the other contextually relevant climbers climbed. Crucially, it is argued that the comparative reading of attributive superlative constructions shows island sensitivity. For instance, Shimoyama (2014) pointed out that (12a) has only the low comparative reading, in contrast to (11a).

(11) a. *John wants* [PRO *to get the highest score*].
    b. Low comparative reading
        What John wants is to get a higher score than anyone else.
    c. High comparative reading
        The score that John wants to get is higher than the score anyone else wants to get.
(12) a. *John said* [*that he got the highest score*].
    b. Low comparative reading
        John said that he got a higher score than anyone else got.
    c. High comparative reading
        * The score that John said he got is higher than the score anyone else said John (or he/she) got.

Of importance here is that (11a) and (12a) do not behave alike with respect to the availability of the high comparative reading, and the only difference between them is the finiteness of embedded clauses. If a complement clause is finite, high comparative reading is not allowed. Now, following the previous studies, let us assume that we can obtain the high comparative reading only when the superlative morpheme *-est* can be moved out of the embedded clause. The contrast above means that only finite clauses block such covert movement of the superlative morpheme. Keeping this in mind, let us consider the following example of prenominal clauses.

(13) a. *Taro-ga    susi-o    [[mottomo sinsen  **dearu**] zyootai]-de    tabe-ta.*
       Taro-NOM  sushi-ACC  most     fresh    COP    condition-with  eat-PAST
       'Taro ate one piece of sushi in fresher condition than any other sushi.'  (Absolute)
       'Taro ate one piece of sushi in fresher condition than anyone else did.'  (Comparative)

    b. *Taro-ga    susi-o    [[mottomo sinsen  **na**] zyootai]-de    tabe-ta.*
       Taro-NOM  sushi-ACC  most     fresh    NA  condition-with  eat-PAST
       'Taro ate one piece of sushi in fresher condition than any other sushi.'  (Absolute)
       'Taro ate one piece of sushi in fresher condition than anyone else did.'  (Comparative)

    c. *Taro-ga    susi-o    [[mottomo sinsen  **no**] zyootai]-de    tabe-ta.*
       Taro-NOM  sushi-ACC  most     fresh    NO  condition-with  eat-PAST
       'Taro ate one piece of sushi in fresher condition than any other sushi.'   (Absolute)
       '?*Taro ate one piece of sushi in fresher condition than anyone else did.'  (Comparative)

Comparative reading is available in (13a) and (13b), and both sentences are ambiguous. However, (13c) receives only absolute reading.[2] The contrast in (13) supports the proposed analysis that exceptional *-no* requires the presence of the nominalizer head.

    Following Aihara (2009) and Shimoyama (2014), I assume that *mottomo* 'most' corresponds to the English superlative morpheme *-est* in the sense that covert movement of this element is necessary for the comparative reading. Suppose that category determining functional heads such as a verbalizer and a nominalizer are phase heads (Arad (2003)). Given this, the island sensitivity could be reduced to the phase-bound nature of the covert movement of superlative elements similarly to QR. In other words, nominalized TPs but not bare TPs constitute a scope island. In (13b), the superlative element can move to a higher position to obtain comparative reading because there is no scope island. In contrast, the superlative element in (13c) cannot move out of the prenominal clause because that the prenominal clause is a scope island due to the presence of the nominalizer head. Thus, the resulting sentence always receives absolute reading.

### 5.2.   Nominative/genitive conversion

There is another piece of evidence for the proposed analysis. It has been argued that a genitive subject in nominative/genitive conversion shows scope ambiguity (Miyagawa 1993). As shown in (14), a disjunctive subject phrase which bears genitive case can take scope over the head noun *kanoosei* 'probability'.

(14)      [[[ *rubii-ka sinju*]-*no*    *yasuku naru*    *kanoosei*]-*ga*    *tyoodo 50% da*.
         ruby-or  pearl-GEN    cheap  become  probability-NOM  exactly  50%  COP

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[2] Jonathan Bobaljik (p.c.) points out that the example (i), which is the English counterpart of (13), does allow the comparative reading. I leave this difference between English and Japanese for future research.
(i)    Taro ate the piece of sushi that was the freshest.

'The probability that rubies or pearls became cheap is exactly 50%.'
'The probability that rubies become cheap or the probability that pearls

become cheap is exactly 50%.'

Miyagawa (1993) argues that this ambiguity arises from movement of the genitive subject. If a genitive disjunctive phrase moves into Spec,DP, the disjunctive phrase takes scope over the head noun. Thus, if a disjunctive subject phrase bears nominative case, it does not show the ambiguity, as shown in (15).

(15)        [[[ *rubii-ka  sinju*]-*ga*     *yasuku naru     kanoosei*]-*ga*       *tyoodo 50% da*.
              ruby-or  pearl-NOM    cheap  become  probability-NOM  exactly 50% COP
            'The probability that rubies or pearls became cheap is exactly 50%.'
            '*The probability that rubies become cheap or the probability that pearls

            become cheap is exactly 50%.'

Now let us consider the examples in (16). In (16), predicates of prenominal clauses are changed with the combination of *kakuyasu* 'inexpensive' and the Japanese copula, and subject phrases receive genitive case.

(16) a.    [[[ *rubii-ka  sinju*]-*no*      *kakuyasu*]   *dearu kanoosei*]-*ga*        *tyoodo  50% da*.
              ruby-or  pearl-GEN    inexpensive  COP    probability-NOM  exactly 50% COP
            'The probability that rubies or pearls are inexpensive is exactly 50%.'
            'The probability that rubies are inexpensive or the probability that pearls

            are inexpensive is exactly 50%.'
    b.    [[[ *rubii-ka  sinju*]-*no*      *kakuyasu*]-*na    kanoosei*]-*ga*        *tyoodo  50% da*.
              ruby-or  pearl-GEN    inexpensive-NA  probability-NOM  exactly 50% COP
            'The probability that rubies or pearls are inexpensive is exactly 50%.'
            'The probability that rubies are inexpensive or the probability that pearls

            are inexpensive is exactly 50%.'
    c.    [[[ *rubii-ka  sinju*]-*no*      *kakuyasu*]-*no    kanoosei*]-*ga*        *tyoodo  50% da*.
              ruby-or  pearl-GEN    inexpensive-NO  probability-NOM  exactly 50% COP
            '*The probability that rubies or pearls are inexpensive is exactly 50%.'
            'The probability that rubies are inexpensive or the probability that pearls

            are inexpensive is exactly 50%.'

As can be seen in (16a) and (16b), genitive subjects show scope ambiguity similarly to (14). However, as shown in (16c), when -*no* is used as a realization of the prenominal copula, the disjunctive phrase must take scope over the head noun, in contrast to -*na* and the non-contracted form of the Japanese copula.

The proposed analysis can account for the unambiguity of (16c). Following Ochi (2001), I assume that movement of genitive subjects takes place optionally in the overt syntax, and the landing site is unambiguously an A-position. The structures of (16b) and (16c) are given in (17a) and (17b), respectively.

(17)  a.                                    b.
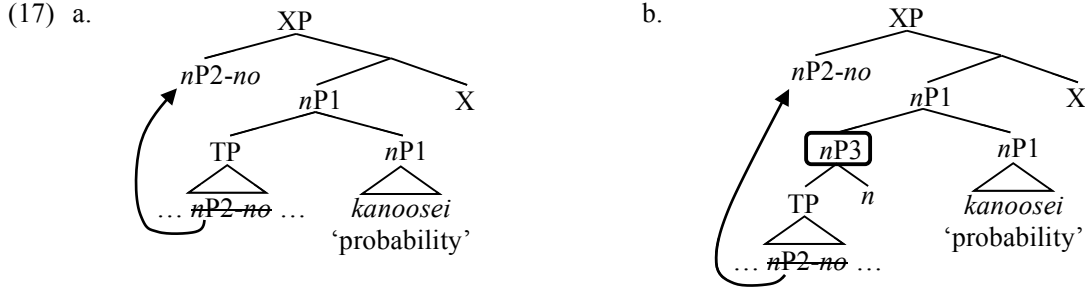


In (17a), the genitive subject phrase is moved into the specifier position of XP, and in that position the genitive case is checked off. If this movement takes place overtly, we obtain the reading in which the disjunctive subject phrase takes scope over the head noun. In this structure, the copula in prenominal TP is realized as a non-contracted form or -*na*.

In contrast, (16b) has the structure (17b). Crucially, in this structure, if the genitive subject does not undergo overt movement to Spec,XP, the formal feature of the genitive phrase cannot be attracted by the head of XP at LF. This is because nP3 intervenes between them. Since nP3 is closer to the attracting head in comparison to the genitive subject in (17b), nP3 blocks covert movement of the genitive subject phrase, similarly to the A-over-A Condition. Given that covert movement of the genitive subject is blocked due to the nominalizer head, the genitive phrase must be moved into Spec,XP overtly in order to be checked off by the X head, otherwise the genitive case of the subject phrase remains unchecked and the derivation crashes. If the genitive subject is overtly moved into the specifier position of XP, the moved noun phrase can establish an agreement relationship with the X head. If we allow this kind of greedy movement of the genitive subject as an option (Lasnik 1995, Boškovič 2007), we can correctly predict that (16c) receives the reading in which the disjunctive subject phrase takes scope over the head noun, and the sentence is unambiguous.[3] It is worth noting here that the same contrast is attested when we make use of other head nouns such as *riyuu* 'reason', as shown in (18). This data also support the proposed analysis.

(18)  a.    [[[ *rubii-ka  sinju*]-*no*      *kakuyasu*]    *dearu riyuu*]-*o*        *osiete.*
             ruby-or  pearl-GEN    inexpensive   COP    reason-ACC    tell

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[3] Here, I exclude the possibility of movement of nP2 to nP3 based on antilocality. The movement of a subject phrase to nP3 violates antilocality proposed by Boškovič (2016) similarly to *wh*-movement from Spec,TP to Spec,CP. I am grateful to Željko Boškovič for bringing this to my attention.

'Tell me the reason that rubies or pearls are inexpensive.'

'Tell me the reason that rubies are inexpensive or the reason that pearls are inexpensive.'

b. [[[ *rubii-ka sinju*]-*no   kakuyasu*]-*na   riyuu*]-*o   osiete.*

    ruby-or pearl-GEN   inexpensive-NA   reason-ACC   tell

'Tell me the reason that rubies or pearls are inexpensive.'

'Tell me the reason that rubies are inexpensive or the reason that pearls are inexpensive.'

c. [[[ *rubii-ka sinju*]-*no   kakuyasu*]-*no   riyuu*]-*o   osiete.*

    ruby-or pearl-GEN   inexpensive-NO   reason-ACC   tell

'*Tell me the reason that rubies or pearls are inexpensive.'

'Tell me the reason that rubies are inexpensive or the reason that pearls are inexpensive.'


## 6.   More on *-no*

In Japanese, there is another instance of *-no*, which seems to be related to the presence of the nominalizer. For example, *-no* can function as a head noun of head internal relative clauses, as shown in (19).


(19)   *John-ga*   [[_RC_ *doroboo-ga   nige-teiru*]   *no*]-*o   tsukamae-ta*
    John-NOM   thief-NOM   run.away-ASP   NO-ACC   catch-PAST
    'John caught a thief who was running away.'


However, I argue that the exceptional *-no* form of the Japanese copula is different from the one which appears in head internal relative clauses. Let us consider the following examples.


(20) a.   *John-ga*   [ *doroboo-ga   toosootyuu   **dearu**   no*]-o   *tsukamae-ta*
    John-NOM   thief-NOM   escape   COP   NO-ACC   catch-PAST
    'John caught a thief who was running away.'

b.   *John-ga*   [ *doroboo-ga   toosootyuu   **na**   no*]-o   *tsukamae-ta*
    John-NOM   thief-NOM   escape   NA   NO-ACC   catch-PAST
    'John caught a thief who was running away.'


Crucially, *-no* in head internal relative clauses can co-occur with prenominal forms of the Japanese copula, as shown in (20a,b). If *-no* in (20) were an instance of the exceptional *-no* form discussed so far, the fact that it can appear with the prenominal copula would be problematic for the proposed analysis. However, note that case particles can be attached to *-no* in head internal relative clauses, in contrast to the exceptional prenominal *-no*. Given this, I analyze *-no* in head internal relative clauses such as (20a,b) as a pronominal element modified by a relative clause. The exceptional prenominal form of the copula, which relies crucially on the presence of the nominalizer head, is different from pronominal *-no*.

## 7. Conclusion

In this paper, I have argued that variation in prenominal forms of the Japanese copula is best analyzed in terms of TP-nominalization. The data on the comparative reading of prenominal superlative constructions and scope interaction in nominative/genitive conversion support the proposed analysis. This study has shown that prenominal forms of the copula are determined based on the nature of prenominal clauses.

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