

# Complex adjectives at the morphology-syntax interface\*

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## 1. Introduction

Japanese has several different types of adjectival expressions where a noun is combined with an adjective (see e.g. Namiki 1988, Yumoto 1990, 2009): among them, there is a fairly large inventory of adjectives with complex forms consisting of a noun plus the adjective base *nai* ‘null, empty’ (Kudo 2000). The following representative examples illustrate the morphological forms of the complex adjectives.<sup>1</sup>

- (1) a. *tawai(-ga)-na-i*  
solidity(-NOM)-null-PRES  
‘childish’
- b. *darasi(-ga)-na-i*  
punctuality(-NOM)-null-PRES  
‘untidy’

The complex adjectives in (1) show a peculiar morphological property, in the sense that nominative case marking can be placed optionally inside the complex form (without affecting the meaning of the whole).<sup>2</sup> The morphological composition of the compound adjectives suggests that Japanese has the grammatical process whereby complex forms are derived by incorporating the noun part into the adjective base, as illustrated in (2).

- (2) [TP N-NOM [Adj *na*]-i] > [TP ~~N-NOM~~ [Adj N-NOM-*na*]-i] > [TP [Adj N-*na*]-i]

The compound forms without case marking can be assumed to emerge as a consequence of incorporating the dependent noun to the adjective base. On the other hand, when the noun bears case marking, it looks as if the noun remains unincorporated. As I will show, however, the case-marked noun may or may not be incorporated to the adjectival base.

The complex adjectives in (1) display one paradoxical property, in that their component noun, when case-marked, is transparent to the syntax in one respect, but it is

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\* This is a revised version of the paper presented at the 8<sup>th</sup> Mediterranean Morphology Meeting held at University of Cagliari (September, 2011). Part of the material was also presented in a seminar at the School of Oriental and African Studies, University of London (September, 2011). I am thankful for Akira Watanabe, Kaz Fukushima, Amir Zeldes, Mark Aronoff, Ryosuke Shibagaki, Peter Sells, Shin-Shook Kim, and the audience for comments and suggestions.

<sup>1</sup> To a large extent, complex adjectives are idiomatic. Most nouns included in the complex adjectives do not serve as independent words now, and cannot be used meaningfully in other contexts. For instance, *tawai* originally means ‘solidity in ideas or behavior’, but it is no longer used as a meaningful word. The types of complex adjectives where the nouns are case-marked are sometimes referred to as “idiomatic adjectives” (see Nishio 1985). The glosses of the component nouns are assigned based on the meanings inferred from the meanings of the whole expressions, or, if possible, on the meanings of their source words, which are no longer in use in contemporary Japanese.

<sup>2</sup> The presence or absence of case marking in the complex forms normally gives rise to semantic differences in the other classes of complex adjectival expressions, i.e. when compound adjectives have non-compound counterparts, the two variants usually do not express the identical meanings. For instance, the compound adjective *ha-gayui* (tooth-itchy) means ‘irritating’, but *ha-ga kayui* (tooth-NOM itchy) means ‘the tooth is itchy’, although, in some cases, the meanings of the paired expressions are approximately the same; e.g. *yoku-bukai* (desire-deep) ‘greedy’ and *yoku-ga hukai* (desire-NOM deep) ‘mean’.

not in another respect. I suggest that the puzzling behavior comes from the availability of pre-incorporation structure for some syntactic operations, and claim that the partial sensitivity of the components of the complex adjectives to syntactic operations naturally follows from the morpho-syntactic constraints imposed on noun incorporation. The fact shows that despite lexical integrity, some syntactic operations may affect incorporated elements when their pre-incorporation structures are accessible syntactically.

The subsequent discussion proceeds as follows. In section 2, after advancing a tripartite classification of complex adjectives comprising *nai* (the Classes I, II and III), some notable features of the Class I and II adjectives are discussed. By comparing the Class III adjectives with the Class II adjectives, section 3 provides a confirmation that some syntactic operations are applicable to the Class II adjectives, owing to the syntactic visibility of the noun in the pre-incorporation position. Section 4 is a summary of the discussion.

## 2. Some properties of the complex adjectives

The complex adjectives under investigation have surface morphological forms in which the noun part appears with or without case marking. This suggests that in order to form compound adjectives with nouns, Japanese makes use of noun incorporation (see Spencer 1991, Mithun 1984 and others for discussion on the properties of noun incorporation), which presumably involves head movement, as often discussed (Baker 1988, 1996 and others), and also that the operation of noun incorporation is optional (at least in certain cases; see below).

The components of complex adjectives have varying degrees of tightness when the noun appears with case marking; according to the tightness of the noun+*nai* sequence, the complex adjectives can be divided into the following three classes.<sup>3</sup>

- (3) a. Class I: *yurugi(-ga)-nai* (shake-NOM null) 'unshakable'; *sokke(-ga)-nai* (interest-NOM null) 'curt, blunt'; *atogusare(-ga)-nai* (later.concern-NOM null) 'without later trouble'; *abunage(-ga)-nai* (danger-NOM null) 'safe'; *nukari(-ga)-nai* (fault-NOM null) 'without any mistakes'; etc.
- b. Class II: *sikata(-ga)-nai* (doing.way-NOM null) 'unavoidable'; *moosiwake(-ga)-nai* (excuse-NOM null) 'inexcusable'; *darasi(-ga)-nai* (tindiness-NOM null) 'untidy'; *tawai(-ga)-nai* (solidity-NOM null) 'childish'; *hugai(-ga)-nai* (worth-NOM null) 'cowardly'; etc.
- c. Class III: *syoo-ga-nai* (doing.way-NOM-null) 'cannot help'; *syoo-mo-nai* (doing.way-also-null) 'trivial'; *doo-siyoo-mo-nai* (how-doing.way-also-null) 'no way of doing'; *tohoo-mo-nai* (means-also-null) 'extraordinary'; *totetu-mo-nai* (reason-also-null) 'incredible'

As I will discuss below, the Class I adjectives have their case-marked nouns separate from the bases syntactically. The Class II adjectives have the constituent structure where the case-marked nouns are incorporated into the adjectival bases, but with the apparent partial transparency of their component nouns to the syntax. The Class III adjectives are ones where no syntactic operations are applicable even if their nouns are case-marked.<sup>4</sup>

<sup>3</sup> There is a tendency that the noun loses its transparency in meaning progressively from the Class I to the Class III adjectives. Thus, the native speakers tend to easily understand the meaning of the nouns in the Class I adjectives, but have difficulty in understanding the meaning of some nouns in Class II, if not all. In the Class III adjectives, some speakers do not even recognize that they have the morphological constituency until they are told.

<sup>4</sup> The number of the Class III adjectives, which do not allow any alternation that can be implemented in other classes, is fairly small. The suppression of nominative case marking on *syoo-*

Before proceeding, note that the negative expression *nai* can be used as a grammatical word—the functional negator—or an adjective (Kishimoto 2007, 2008). On the surface, the clause containing a complex predicate bears resemblance to a negated possessive clause, and the two types of clauses often carry similar meanings, as in (4).

- (4) a. John-ga yuuki-ga na-i.  
John-NOM courage-NOM NEG-PRES  
'John does not have courage' (Possessive)
- b. John-ga sokke-ga na-i  
John-NOM interest-NOM null-PRES  
'John is curt.' (Adjective: Class I)
- c. Mary-ga tawai-ga-na-i.  
Mary-NOM solidity-NOM-null-PRES  
'Mary is childish' (Adjective: Class II)

Superficially, it looks as if the clauses in (4b-c) having complex adjectives as their predicates are of the same type as the negated possessive clause in (4a), but they are not.<sup>5</sup> The complex adjective clauses differ from the negated possessive clause, in that positive counterparts cannot be derived by replacing *nai* with *aru* 'be'.<sup>6</sup>

- (5) a. John-ga yuuki-ga ar-u.  
John-NOM courage-NOM have-PRES  
'John has courage'
- b. \*John-ga sokke-ga ar-u.  
John-NOM interest-NOM have-PRES  
'John is not curt.'
- c. \*Mary-ga tawai-ga ar-u.  
Mary-NOM solidity-NOM have-PRES  
'Mary is adult-like (?).'

Needless to say, the affirmative forms are not available for the complex adjectives without overt case marking on the nouns.

- (6) a. \*John-ga sokke-ar-u.  
John-NOM interest-have-PRES  
'John is not curt.'
- b. \*Mary-ga tawai-ar-u.  
Mary-NOM solidity-have-PRES  
'Mary is adult-like (?).'

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*ga-nai* is possible in colloquial speech, as in *syaa-nai (naa)*, whereas this shortened form is not derived from *syoo-mo-nai*. In general, when the Class III adjectives comprise the particle *mo*, it is not possible to remove *mo* from them. Note that both *syoo-ga-nai* and *syoo-mo-nai* contain the same noun 'syoo', which has originated from *si-yoo* 'way of doing', but they are not construed as alternants because of their distinct lexical meanings (see section 3).

<sup>5</sup> The predicate can also be used as an existential predicate, taking a nominative phrase plus a locative argument, but this use is not directly relevant here.

<sup>6</sup> There are some other observable differences between the two types of clauses, but I will not discuss them in this paper. The positive form of *nai* is *aru* 'have'; the negative form *nai* might have been derived from dropping the verb *aru* from *\*ara-nai* 'have-NEG', which is not a possible form in Standard Japanese (see Kato 1985).

Even though complex adjective clauses sometimes bear resemblance to possessive clauses semantically, describing the attribute of the subject, certain syntactic differences are observed between them.

To return, one notable fact concerning the case-marked variants of the Class II adjectives is that their noun part is susceptible to certain syntactic operations even though it is incorporated into the adjectival base. I propose that in the Class II adjectives, both pre- and post-incorporation configurations are visible, and that some syntactic operations can apply to the component noun located in the pre-incorporation position, insofar as they do not violate the well-formedness conditions imposed on the incorporated head appearing inside the adjectival base by virtue of noun incorporation. In the following discussion, I argue that the difference between the Class I and the Class II adjectives emerges, depending on whether or not the case-marked noun is incorporated to the adjectival base.

## 2.1. Some divergent behavior

The two classes of complex adjectives with the noun+*nai* sequence (categorized as Classes I and II) display a number of differences in their syntactic behavior, which I argue should be attributed to the presence or absence of the noun incorporation. The main claim in this section is that in the Class I adjectives, when the component nouns are case-marked, their incorporation to the adjectival bases is not instantiated, but that the noun parts in the Class II adjectives need to be incorporated even if they bear case marking.

To begin, *nai* 'null, empty' is a predicate that takes a dative-nominative case-marking pattern when used transitively, but it also allows a nominative-nominative case-marking pattern. Thus, the subject of the Class I adjectives may bear dative as well as nominative marking, when the component noun bears nominative marking, as in (7).

- (7) [John-no unten] {-ga/-ni} abunage-ga na-i  
 John-GEN driving{-NOM/-DAT} danger-NOM null-PRES  
 'John's driving is not dangerous/smooth.' (Class I)

Nevertheless, this 'nominative-dative' alternation is not possible with the Class II adjectives, even if the component noun is case-marked, as shown in (8).

- (8) Mary{-ga/\*-ni} tawai-ga na-i.  
 Mary{-NOM/-DAT} solidity-NOM null-PRES  
 'Mary is childish.' (Class II)

Furthermore, the dative marking on the subject is *not* possible when the noun part of the complex adjective does not appear with case marking.

- (9) [John-no unten] {-ga/\*-ni} abunage-na-i  
 John-GEN driving{-NOM/-DAT} danger-null-PRES  
 'John's driving is not dangerous/smooth.' (Class I)

In this respect, the Class II compound adjectives pattern with the Class I adjectives: when the component noun does not occur with a case marker, the subject can only have nominative marking, as shown in (10).

- (10) Mary{-ga/\*-ni} tawai-na-i  
 Mary{-NOM/-DAT} solidity-null-PRES  
 'Mary is childish.' (Class II)

In these cases, whether or not the dative-nominative alternation is allowed is determined by the general requirement that at least one nominative argument is necessary in a clause (Shibatani 1978).

To illustrate how the alternation takes place, let us take a brief look at the (nominal) adjectives *hituyoo-da* 'necessary' and *taikutu-da* 'bored'. First, *hituyoo-da* 'necessary' is a transitive adjective, taking two arguments, so the experiencer subject is allowed to bear dative as well as nominative case, as there is another argument marked with nominative case.

- (11) Ken{-ga/-ni} okane-ga hituyoo-da.  
Ken-{NOM/-DAT} money-NOM necessary-PRES  
'Ken needs money.'

This type of alternation is allowed only when an adjective is transitive. Thus, the nominal adjective *taikutu-da* 'bored' cannot have dative marking on its sole argument, as shown in (12).

- (12) Ken{-ga/\*-ni} taikutu-da.  
Ken-{NOM/-DAT} bored-PRES  
'Ken is bored.'

The important fact is that in Japanese, intransitive adjectives do not allow the dative case marking on their subjects, since they do not take any other nominative arguments.

Now, given that the nominative noun of the Class I adjective is identified as an independent argument, whereas the nominative noun appearing in the Class II adjective is not, due to the incorporation of the noun, the difference between the two types of adjectives in regard to the nominative-dative alternation noted in (7) and (8) follows naturally.

- (13) a. *abunage-ga nai*: [TP ... abunage-ga [ADJ na]-i] (Class I)  
b. *tawai-ga nai*: [TP ... ~~tawai-ga~~ [ADJ tawai-ga-na]-i] (Class II)

In (8), unlike (7), the subject is the sole independent argument, as illustrated in (13), and hence, can only be marked with the nominative case, excluding the dative case.

When the noun part is combined with the adjective *nai* without case marking, both types of complex predicates have their component noun incorporated into *nai*.

- (14) a. *abunage-nai*: [TP ... [ADJ abunage-na]-i] (Class I)  
b. *tawai-nai*: [TP ... [ADJ tawai-na]-i] (Class II)

The examples in (9) and (10) suggest that the forms without case marking constitute single words by incorporation, i.e. the noun part is not an independent argument of the clause by virtue of the noun incorporation to the adjective base in both classes of complex adjectives.

The suppression of a case marker via incorporation is different from a case-marker drop, which often takes place in colloquial speech. This is evidenced by the fact that in (15), the dative marking on the subject can be retained even if the nominative marking on the other argument is dropped.

- (15) John{-ga/-ni} sonna yuuki(-ga) na-i desyo!  
John{-NOM/-DAT} such courage(-NOM) NEG-PRES EMPH  
'John does not have such courage!'

The availability of dative marking on the experiencer in the possessive clause (15) shows that the nominative argument is not incorporated even if its case marking is dropped. (In the case of a case-marker drop, unlike the case of noun incorporation, an intonation break is imposed between the noun and *nai*.) The same case alternation pattern is found in the positive counterpart, as (16) illustrates.

- (16) John{-ga/-ni} sonna yuuki(-ga) ar-i masu ka?  
 John{-NOM/-DAT} such courage(-NOM) have-PRES POLITE Q  
 'Does John have such courage?'

It is clear then that the presence or absence of overt case marking does not play a crucial role in determining the possibility of the dative-nominative alternation. The data illustrate that the nominative-marked noun in the Class II adjective is incorporated into *nai*, and does not serve as an argument syntactically, despite its case marking.<sup>7</sup> The important fact is that in the Class II adjectives, the dative marking is not available for the subject even when the component noun occurs with nominative case, because it does not count as an argument syntactically separate from the adjectival base.

Another fact indicating the difference between the two classes of complex adjectives concerns adverb insertion. The Class I adjectives allow an adverb to appear after the component noun if marked with nominative case, but this possibility is excluded when no case marking appears, as shown in (17).

- (17) a. Kare-wa abunage-ga (mattaku) na-i.  
 he-TOP danger-NOM entirely null-PRES  
 'He is (entirely) without danger.'  
 b. Kare-wa abunage (\*mattaku) na-i.  
 he-TOP danger entirely null-PRES  
 'He is (entirely) without danger.'

Since an adverb can, in general, intervene between an independent argument and a predicate, the fact suggests that the case-marked component noun is syntactically separate from the adjectival base in the Class I adjectives. In contrast, the Class II adjectives do not allow an adverb to intervene between the two elements even if the component noun appears with case marking, as illustrated in (18).

- (18) a. Kare-wa tawai-ga (\*mattaku) na-i.  
 he-TOP solidity-NOM entirely null-PRES  
 'He is (entirely) childish.'  
 b. Kare-wa tawai (\*mattaku) na-i.  
 he-TOP solidity entirely null-PRES  
 'He is (entirely) childish.'

<sup>7</sup> There is one nominal adjective that comprises case marking in it (i.e. *wagama-da* 'selfish'), which is morphologically decomposable as *wa-ga-mama* (1.sg-NOM-will) 'do as one's will' (the nominative being originated as genitive historically). Needless to say, the case marking inside it is not visible to the syntax, so that no dative-nominative alternation is allowed for the subject of the adjective. The complex expression [*ki-o-tuke*]-*o suru* (mind-ACC-attach-ACC do) 'pay attention' provides another case. Here, the complex head *ki-o-tuke* 'attention' includes accusative case in it, but it can occur with another accusative marker, apparently running afoul of the so-called 'double-accusative' constraint. Obviously, this is due to the fact that the accusative case marking inside the complex head is not visible to the syntax.

The facts of adverb insertion suggests that the case-marked component noun is syntactically separate from the adjectival base in the Class I adjectives, but not in the Class II adjectives.<sup>8</sup>

An asymmetry in projecting negative scope provides another argument for the distinction between the two types of complex adjectival clauses. The example in (19) illustrates that an adverb like *sukosimo* 'at all' is an NPI, which needs to be licensed under negation.

- (19) John-ga sukosimo hon-o {yoma-nakat-ta/\*yon-da}.  
 John-NOM at.all book-ACC {read-NEG-PAST/read-PAST}  
 'John {did not read/\*read} books at all.'

Sentence (20) shows that in the Class I adjectives, the adjectival base *nai* licenses an NPI adverb *sukosimo*.

- (20) Kare-no unten-wa sukosimo abunage-ga nakat-ta.  
 he-GEN driving-TOP at.all danger-NOM null-PAST  
 'His driving was not dangerous at all.' (Class I)

This suggests that the adjective base *nai* acts as an operator that projects negative scope, presumably due to the fact that it carries a logical meaning virtually identical to the one expressed by a grammatical negator. Nevertheless, the same *nai* does not license the NPI when it is combined with the noun.

- (21) \*Kare-no unten-wa sukosimo abunage-nakat-ta.  
 he-GEN driving-TOP at.all danger-null-PAST  
 'His driving was not dangerous at all.' (Class I)

A comparison of (20) and (21) shows that the adjectival predicate *nai* can license an NPI by projecting negative scope when it occurs in isolation (with no noun being incorporated).

Note that a negative sentence like (22), which involves a case-marker drop, does not change the possibility of NPI licensing.

- (22) Kare-ni-wa sukosimo sonna yuuki(-ga) na-i desyo!  
 he-DAT-TOP at.all such courage-NOM NEG-PRES EMPH  
 'He does not have such courage at all!'

The fact of NPI licensing in (22) illustrates that the noun whose case marker is dropped (in colloquial speech) is not incorporated even if it appears contiguous with *nai*.

Interestingly, the Class II adjectives do not license NPIs, even when their component nouns are case-marked.

- (23) a. \*Kare-wa sukosimo tawai-ga nakat-ta.  
 he-TOP at.all solidity-NOM null-PAST  
 'He was childish at all.' (Class II)

<sup>8</sup> In colloquial speech, the case marker on the noun part of the complex adjectives may be dropped, and in such a case, a prosodic break is placed between the noun and the adjective. If (17b) is taken to involve a case-marker drop in a colloquial register (with an intonation break between the noun and *nai*), the example might be acceptable even if an adverb intervenes between the noun and the adjectival base. In contrast, (18b) is simply rendered unacceptable with the intervening adverb, for no such possibility exists.

- b. \*Kare-wa sukosimo tawai-nakat-ta.  
 he-TOP at.all solidity-null-PAST  
 'He was childish at all.' (Class II)

The examples in (23) show that *nai* in the Class II adjective does not project negative scope regardless of whether or not the noun part is case-marked. This fact follows straightforwardly, given that the noun part of the Class II adjective is incorporated to *nai* even if it appears with nominative case marking.

A final fact indicating the difference between the two classes of complex adjectives concerns premodifiers used for the purpose of emphasis.<sup>9</sup> The addition of a prenominal modifier is possible with the Class I adjectives, as given in (24a), but this is not possible with the Class II adjectives, as shown in (24b).

- (24) a. John-no unten-wa [{**korepotti-no/nan-no**} abunage]-mo nakat-ta.  
 John-GEN driving-TOP {slightest-GEN/any-GEN} danger-also null-PAST  
 'John's driving was least dangerous.' (Class I)
- b. \*Mary-wa [{**korepotti-no/nan-no**} tawai]-mo nakat-ta.  
 Mary-TOP {slightest-GEN/any-GEN} solidity-also null-PAST  
 'Mary was highly childish' (Class II)

The fact suggests that while the noun appearing in the Class I adjective has status as an independent argument, which allows for prenominal modification, the noun in the Class II adjective does not.<sup>10</sup>

Summarizing the facts observed so far, the complex adjectives belonging to the Classes I and II behave differently, in regard to the dative-nominative alternation on the subject, adverb insertion, and the addition of a prenominal modifier. The impossibility of these operations on the Class II adjectives would be naturally expected if the component nouns are incorporated into the adjective bases, even when marked with nominative case. When the nouns are incorporated to *nai*, the adjective does not project negative scope and hence fails to license NPIs. On the other hand, the nouns constituting part of the Class I adjectives should count as syntactically independent arguments that do not undergo incorporation when marked with nominative case.

## 2.2. Uniform behavior

The two types of complex adjectives (i.e. the Class I and II adjectives) show some distinct behavior when their component nouns are case-marked. Even so, there are cases where two classes of complex adjectives pattern together, indicating that some syntactic operations are applicable to the case-marked nouns regardless of whether or not they are incorporated to the adjectival base *nai*. There are a number of such manifestations. In this section, I suggest that in the Class II adjectives, syntactic operations can affect the case-marked component nouns in the pre-incorporation position, as long as the morpho-

<sup>9</sup> Even with the Class I adjectives, prenominal modification is fairly restricted, and only a limited set of prenominal modifiers can be used, if possible at all. These are minimizing expressions, and need to co-occur with the particle *mo*. Note that *mo* is allowed to attach to the noun in the two types of complex adjectives, without affecting their acceptability.

<sup>10</sup> The nouns can be coordinated in some Class I adjectives, which gives us another indication that the noun is syntactically independent of the adjectival base.

(i) [azi-mo sokke-mo] na-i  
 taste-also interest-also null-PRES  
 'neither tasteful nor interesting'



syntactic conditions constraining their later incorporation to the adjectival base are not violated.

A first argument in support of the present view may be adduced from the applicability of the nominative-genitive conversion to the noun parts of the complex adjectives. In Japanese, nominative case marking on a noun can be changed to genitive case when the expression is embedded under a larger nominal (as in a relative clause or a noun-complement clause) (see Harada 1971, Watanabe 1996, and others).

- (25) a. [John{-ga/-no} hasit-ta] koto  
 John{-NOM/-GEN} run-PAST fact  
 'the fact that John's driving is safe'  
 b. [John{-ga/-no} yon-da] hon  
 John{-NOM/-GEN} read-PAST book  
 'the book which John read'

The nominative-genitive alternation is optional, as seen in (25). This alternation is possible with the Class I and II adjectives. The examples in (26) represent a case of the Class I adjectives, and show that when the noun part of the complex adjective appears with case marking, the nominative-genitive conversion is allowed.

- (26) a. [John-no unten-ni abunage{-ga/-no} na-i] koto  
 John-GEN driving-DAT danger{-NOM/-GEN} null-PRES fact  
 'the fact that John's driving is safe'  
 b. [abunage{-ga/-no} na-i] unten  
 danger{-NOM/-GEN} null-PRES driving  
 'safe driving'

The examples in (27) are cases involving the Class II adjective *tawai-ga nai*.

- (27) a. [tawai{-ga/-no} na-i] koto  
 solidity{-NOM/-GEN} null-PRES fact  
 'the fact that it is childish'  
 b. [tawai{-ga/-no} na-i] hito  
 solidity{-GEN/-NOM} null-PRES man  
 'a childish man'

The fact indicates that the case marking appearing in the incorporated noun may be susceptible to the nominative-genitive case conversion.

Second, both types of adjectives (optionally) allow the occurrence of an emphatic particle *mo* 'also' to the right of the noun part. (28) shows that the Class I adjective allows nominative marking on the component noun to be replaced with *mo*.<sup>11</sup>

- (28) Mary-no unten-wa abunage{-ga/-mo} nakat-ta-si....  
 Mary-GEN driving-TOP danger{-NOM/-also} null-PAST-and  
 'Mary's driving was without danger, and ...'

When *mo* is added, the original nominative case marking is suppressed. The Class II adjective behaves in the same way here, since the particle *mo* can appear with the component noun, as seen in (29).

<sup>11</sup> For one reason or another, when *mo* is simply added, an adverbial use of the adjective is often preferred (see Nishio 1972).

- (29) Mary-no kotoba-wa tawai{-**ga**/**-mo**} nakat-ta.  
 Mary-GEN speech-TOP solidity{-NOM/**-also**} null-PAST  
 'Mary's talk was childish.'

Both classes of complex adjectives allow an alternation between the particle *mo* and nominative case marking.

There is yet another indication that the incorporated noun in the Class II adjectives can undergo syntactic operations. This can be seen in the case conversion that applies under nominalization (Sugioka 1992, Kageyama 1993, Kishimoto 2006). In Japanese, when a clause is nominalized by attaching the suffix *-sa* to an adjective, an obligatory change of nominative to genitive case marking takes place, and no adverbial particle is admitted, as seen in (30) (see Martin 1975, Kishimoto 2005).

- (30) a. Mary{-**ga**/**-mo**} kawai-i.  
 Mary{-NOM/**-also**} cute-PRES  
 'Mary is (also) cute.'  
 b. Mary{-**no**/**\*-ga**/**\*-mo**} kawai-sa  
 Mary{-GEN/**-NOM**/**-also**} cute-NOML  
 'Mary's cuteness'

This case-marking change takes place on the Class I and II adjectives. Example (31) shows that under nominalization, the Class I adjectives allow only the genitive marking on the component noun, which replaces nominative marking.

- (31) abunage{-**no**/**\*-ga**/**\*-mo**} na-sa  
 danger{-GEN/**-NOM**/**-also**} null-NOML  
 'no danger'

Further, (32) shows that the Class II adjectives, in which the noun is incorporated to the adjective *nai*, invoke an obligatory case-marking change under nominalization.

- (32) tawai{-**no**/**\*-ga**/**\*-mo**} na-sa  
 solidity{-GEN/**-NOM**/**-also**} null-NOML  
 'childishness'

In the Class II adjectives, the nominative noun is incorporated to *nai*, but still, must undergo the case-marking change under nominalization, and the presence of the particle *mo* is excluded in the nominalized form.

Now, the question that arises with regard to the Class II adjectives is why they behave in the way they do. While maintaining the analysis taking the two classes of complex adjectives to differ as to whether the case-marked noun is incorporated, I suggest that the mixed behavior of the Class II adjectives arises due to the syntactic visibility of the nouns in pre-incorporation structures, as indicated in (33b).

- (33) a. Class I: [<sub>TP</sub> ... Noun-NOM [<sub>ADJ</sub> na ]-i ]  
 b. Class II: [<sub>TP</sub> ... ~~Noun-NOM~~ [<sub>ADJ</sub> Noun-NOM na ]-i ]

Here, syntactic operations are assumed to access the component nouns outside the adjectival base in both Class I and Class II adjectives.

It is easy to see that some syntactic operations are applicable to the component nouns of the Class II adjectives (as well as the Class I adjectives), provided their pre-incorporation structures are visible. In fact, syntactic operations are allowed on the Class

II adjectives, insofar as they do not affect the morpho-syntactic well-formedness of the post-incorporation structures: the genitive-nominative conversion and the addition of the particle *mo* are both possible, because these operations only affect the head elements. The same holds for the obligatory change on case marking under nominalization. Even when these operations are applied, the nominal elements retain their syntactic status as heads; hence they can undergo noun incorporation and the resultant post-incorporation structures are well-formed.<sup>12</sup>

Nevertheless, other syntactic operations fail to operate on the Class II adjectives by virtue of the noun incorporation: in the Class II adjectives in which the noun is case-marked, the dative-nominative alternation on the subject and adverb insertion are not possible, because the case-marked component noun loses the status of an independent argument by virtue of its incorporation to the adjectival base. Prenominal modification is prevented from applying to the complex adjectives, since a phrasal element cannot be incorporated. Further, *nai* does not project negative scope, because it is combined with the noun; when combined with a noun, *nai* no longer serves an operator that licenses an NPI outside.

In the present proposal, syntactic operations may apply to the pre-incorporated nouns in the Class II adjectives. This analysis would be reasonable if, as often discussed, syntactic operations are banned on parts of words by lexical integrity (see Lapointe 1980, Selkirk 1982, Di Sciullo and Williams 1987, Bresnan and Mchombo 1995). Arguably, however, exceptions to this constraint are occasionally observed (see Haspelmath 2002). Given this fact, one might ask whether there is the possibility that the first group of operations applies to the word-internal elements inside the incorporated bases. If these operations can apply to the word-internal elements, the facts might be accounted for without reference to the pre-incorporation structure. This cannot be the case, however. I will turn to this discussion in the next section.

### 3. The Class III adjectives

In the present perspective, syntactic operations are not accessible to word-internal elements. Under the analysis taking syntactic operations not to apply parts of words, we would expect that all the alternations discussed in the preceding section should be unavailable for the adjectival expressions whose pre-incorporation structure is not accessible. On the other hand, if there are any syntactic operations that can look into word-internal elements, no such possibility should exist. The adequacy of the proposal that the noun appearing inside the adjectival base is not targeted by any syntactic operations due to lexical integrity can be readily confirmed. The Class III adjectives provide a case in point.

- |                            |                       |                            |
|----------------------------|-----------------------|----------------------------|
| (34) a. <i>syoo-ga-nai</i> | b. <i>syoo-mo-nai</i> | c. <i>doo-siyoo-mo-nai</i> |
| doing.way-NOM-null         | doing.way-also-null   | how-doing.way-also-null    |
| 'cannot help'              | 'trivial'             | 'no way of doing'          |

What is remarkable about the Class III adjectives is that they do not participate in any operations discussed above, even if they carry a case marker or a particle.<sup>13</sup>

<sup>12</sup> Needless to say, the presence of the pre-incorporation structures can be confirmed only when the nouns are case-marked, i.e. when the grammatical marking is available for the incorporated nouns. When no such accompanying case-markers appear in the complex adjectives, it is not possible to check whether or not a pre-incorporation structure is visible to the syntax.

<sup>13</sup> *Syoo-ga nai* is categorized as a Class II adjective when it is taken to describe the property of a human individual, meaning 'worthless'. This can be seen by the fact that the adjective, when used in this sense, can participate in the nominative-genitive conversion, as in (i).

To be concrete, let us illustrate how the Class III adjectives behave with regard to the diagnostics discussed thus far. First, (35) shows that the dative-nominative alternation on the subject is not possible with this class of adjectives.

- (35) a. Hanasi{-ga/\*-ni} syoo-mo-na-i.  
 story{-NOM/-DAT} doing.way-also-null-PRES  
 'The story is boring.'  
 b. Sore{-ga/\*-ni} syoo-ga-na-i.  
 that{-NOM/-DAT} doing.way-NOM-null-PRES  
 'That cannot be helped.'

The noun part of the adjective *syoo-ga-nai* in (35b) bears nominative case marking, but the nominative marking appearing on its subject cannot be changed to dative marking. This suggests that the nominative-marked noun in the complex adjective is not identified as a syntactically independent argument.

Second, (36) shows that an adverb cannot intervene between the component noun and the adjectival base, illustrating that the nominative noun constitutes part of the adjective base.

- (36) Sore-wa syoo-ga (\*mattaku) na-i.  
 that-TOP doing.way-NOM entirely null-PRES  
 'That cannot be helped (entirely)'

Third, the adjectival base *nai* does not license an NPI even if the component noun is case-marked.

- (37) \*Sore-wa sukosimo syoo-ga-na-i.  
 that-TOP at.all doing.way-NOM-null-PRES  
 'That cannot be helped.'

(37) suggests that that *nai* does not stand alone, i.e. the component noun is combined with the base syntactically, despite the presence of nominative case marking on the noun. In addition, no prenominal modifier can be added to this adjective, as shown in (39).

- (38) \*[{korepotti-no/nan-no} syoo]-mo-na-i  
 {slightest-GEN/any-GEN} doing.way-also-null-PRES  
 'the least trivial'

These are the properties that the Class III adjectives share with the Class II adjectives, which indicate that the noun part of the complex adjective is incorporated to the adjectival base, rather than serves as an independent argument separate from the base.

Furthermore, the case-marked nouns of the Class III adjectives do not undergo syntactic operations that are allowed for the case-marked nouns included in the Class II adjectives. Thus, the nominative-genitive conversion, which is available for the other classes of adjectives, is *not* possible with the Class III adjectives.

- (39) a. [Sono-ziko-ga syoo{-ga/\*-no}-nai] koto  
 that-accident-NOM doing.way{-NOM/-GEN}-null thing

- (i) Ken-wa [syoo{-ga/-no} na-i] yatu da.  
 Ken-TOP doing.way{-NOM/-GEN} null-PRES fellow COP  
 'Ken is not a worthless fellow.'

The Class II adjective *syoo-ga nai* is a distinct lexical item from the Class III *syoo-ga-nai*.

- ‘the fact that that accident is unavoidable’  
 b. [syoo{-**ga**/\*-**no**}-nai]                      ziko  
 doing.way{-NOM/-GEN}-null              accident  
 ‘the unavoidable accident’

The genitive case marking is not possible with the adjective *syoo-ga-nai*, showing that no alternation can be implemented with this adjective, despite the presence of nominative case marking on the component noun.

Next, the Class III adjectives do not allow an operation substituting an adverbial particle for their nominative case marker.

- (40) Sore-wa doo-siyoo{-**mo**/\*-**ga**}-na-i.  
 that-TOP how-doing.way{-also/-NOM}-null-PRES  
 ‘There is no way of doing.’

(40) shows that an alternation between nominative case and *mo* is not allowed in the Class III adjectives.

Incidentally, *syoo-mo-nai* (doing-way-also-null) ‘trivial’ comprises the adverbial particle *mo* inside, but it does not result from an optional operation substituting *mo* for the nominative case on *syoo-ga-nai* (doing-way-NOM-null) ‘cannot help’. Although, historically, both expressions have been originated from the same form, as often mentioned in Japanese dictionaries (e.g. *Nihon Kokugo Daiziten* [A Grand of Dictionary of the Japanese Language]), these two expressions constitute distinct lexical items now, i.e. *syoo-mo-nai* is not construed as an alternant of *syoo-ga-nai*, since they carry distinct lexical meanings. If these two expressions are related by the particle replacement operation that can be instantiated in other classes of complex adjectives, they should carry the same basic meaning, but this is not the case. Given this fact, it is safe to state that no alternation replacing nominative case with *mo* is available for the Class III adjectives.

Finally, in the Class III adjectives, no genitive marking appears even under nominalization, and also, the forms with the particle *mo* are acceptable despite nominalization, as shown in (41).

- (41) a. syoo{-**ga**/\*-**no**}-na-sa  
 doing.way{-NOM/-GEN}-null-NOML  
 ‘unavoidability’  
 b. syoo\*{-**mo**}-na-sa  
 doing.way-also-null-NOML  
 ‘triviality’  
 c. doo-siyoo\*{-**mo**}-na-sa  
 how-doing.way-null-NOML  
 ‘no way of doing’

In the complex adjectives belonging to the Classes I and II, the morphological change of nominative to genitive case on the noun part of the adjective is obligatory. By contrast, in the Class III adjectives, this obligatory change of case marking is not implemented even under nominalization, and in fact, if the change is instantiated, ungrammaticality results. Moreover, with the adjectives comprising *mo* inside, the particle must be retained even under nominalization, as shown in (41b-c), which is unacceptable for the other classes of complex adjectives. The fact can be taken as a sign that there is no visible component noun outside the adjectival head for the Class III adjectives.

To summarize, (42) shows the observed patterns for the three classes of complex adjectives with regard to (A) the nominative-dative alternation (on the subject), (B)

adverb insertion, (C) NPI licensing, (D) the addition of a prenominal modifier, (E) the nominative-genitive conversion (on the noun part of the adjective), (F) *mo*-replacement, and (G) obligatory change from nominative to genitive case (and exclusion of the particle *mo*) under nominalization.

(42)		A	B	C	D	E	F	G
Class I	<i>abunage-ga nai</i>	√	√	√	√	√	√	√
Class II	<i>tawai-ga nai</i>	*	*	*	*	√	√	√
Class III	<i>syoo-ga-nai</i>	*	*	*	*	*	*	*

As seen in (42), the syntactic operations applicable to the complex adjectives are divided into two types. (A), (B), (C) and (D) may operate on the Class I adjectives, but not on the Class II adjectives. On the other hand, (E), (F) and (G) are applicable to both the Class I and II adjectives. Importantly, the Class III adjectives are not susceptible to any of them. The Class III adjectives behave differently from the Class II, as well as the Class I adjectives.

If (A), (B), (C) and (D) are possible, the component nouns of complex adjectives should be syntactically separate from *nai*, as we have seen in section 2.1. Since these properties are not found in the Class III adjectives, the component noun of the Class III adjectives can be assumed to form a complex head unit with the adjective *nai*, as depicted in (43).

- (43) a. *syoo-ga-na-i*: [TP ... [Adj *syoo-ga-na*]-i]  
 b. *syoo-mo-na-i*: [TP ... [Adj *syoo-mo-na*]-i]

If lexical integrity holds for the complex head comprising the noun and *nai*, the nouns included in the adjective *nai* fall outside the domain where the syntactic operations are applicable. In fact, since (E), (F) and (G) are not allowed for the Class III adjectives, besides (A), (B), (C) and (D), it is reasonable to conclude that word-internal elements are not targeted by any syntactic operations, i.e. lexical integrity is respected in the Class III adjectives, with no component noun being found outside the complex adjectival base.

Meanwhile, the Class I adjectives show a sign that the component nouns are not included within the adjectival heads. (A), (B), (C) and (D) are possible with this class of adjectives, showing that their component nouns are syntactically separate from *nai*. The same Class I adjectives, whose component nouns should not be included in the adjectival bases, allow (E), (F) and (G). In contrast, the Class II adjectives do not allow (A), (B), (C) and (D), suggesting that their component nouns are included in the adjectival base. Nevertheless, the Class II adjectives allow (E), (F) and (G), which suggests that their component nouns should be found outside the complex heads.

The impossibility of (E), (F) and (G) on the Class III adjectives would not be expected if they operated on parts of complex heads. Thus, the facts of the Class II adjectives lead to the conclusion that their component nouns in pre-incorporation position can be accessed by syntactic operations, while they later form complex heads with the adjective *nai*, via noun incorporation, which can affect only heads (Baker 1988 and others). In essence, the Class II adjectives resist (A), (B), (C) and (D), which do not square with the process of noun incorporation. Nevertheless, (E), (F) and (G) are applicable to the case-marked component nouns of the Class II adjectives, thanks to the visibility of the pre-incorporation configurations: even if the component nouns found in pre-incorporation position undergo (E), (F) and (G), they can be incorporated to the adjectival bases, without violating the well-formedness conditions constraining the post-incorporation structures.

#### 4. Conclusion

Japanese complex adjectives where nouns are combined with the adjectival base *nai* can be classified into three classes (Classes I, II, and III), distinguished according to the degree of the tightness in the noun+*nai* sequence. When the noun is case-marked, the noun part superficially looks like an element that is syntactically independent of the adjectival base. This is not necessarily the case, however. The noun parts of the Class II and III adjectives are incorporated to the adjective base, even when they appear with case marking.

The Class II adjectives behave as if their case-marked component nouns are transparent to the syntax in one respect, but they are not in another respect. I propose that in the Class II adjectives, the pre-incorporation as well as the post-incorporation structure is relevant for the determination of their well-formedness. In the Class II adjectives, syntactic operations can apply to the component nouns in pre-incorporation structures as long as well-formed post-incorporation structures can be derived. Since, in the Class II adjectives, the component nouns in both pre- and post-incorporated positions are visible, they behave as if they are sometimes included in the adjectival base, and sometimes they are not.

The data from the Japanese complex adjectives illustrate that syntactic operations do not directly target incorporated heads (i.e. the elements that have undergone noun incorporation), but that some operations may affect the incorporated elements, despite lexical integrity, when their pre-incorporation configurations are visible (or accessible) syntactically.

## References

- Baker, Mark 1988. *Incorporation: A Theory of Grammatical Function Changing*. Chicago: University of Chicago Press.
- Baker, Mark 1996. *The Polysynthesis Parameter*. Oxford: Oxford University Press.
- Bresnan, Joan, and Sam Mchombo 1995. The lexical integrity principle: Evidence from Bantu. *Natural Language & Linguistic Theory* 13: 181-254.
- Di Sciullo, Anna Maria, and Edwin Williams 1987. *On the Definition of Words*. Cambridge, MA: MIT Press.
- Fukushima, Kazuhiko. 1998. Negation in the Lexicon, not in NegP. *CLS* 34-1, 171-184.
- Harada, Shin-Ichi. 1971. Ga-no conversion and idiolectal variations in Japanese. *Gengo Kenkyuu* 60: 25-38.
- Hathpelmeth, Martin 2002. *Understanding Morphology*. London: Arnold.
- Kageyama, Taro 1993. *Bunpoo-to Gokeisei* [Grammar and Word Formation]. Tokyo: Hituzi Syobo.
- Kato, Yasuhiko 1985. *Negative Sentences in Japanese*. Sophia Linguistica XIX.
- Kishimoto, Hideki 2005. *Toogokoozoo-to Bunpookankei* [Syntactic Structure and Grammatical Relations]. Tokyo: Kurosio Publishers.
- Kishimoto, Hideki 2006. Japanese syntactic nominalization and VP-internal syntax. *Lingua* 116: 771-810.
- Kishimoto, Hideki 2007. Negative scope and head raising in Japanese. *Lingua* 117: 247-288.
- Kudo, Mayumi 2000. Hitei-no hyoogen [Negative expressions]. In Yoshio Nitta and Takashi Masuoka (eds.) *Toki, Hitei-to Toritate* [Time, Negation, and Emphasis], 94-150. Tokyo: Iwanami.
- Kuno, Susumu 1973. *The Structure of the Japanese Language*. Cambridge, Mass.: MIT Press.
- Lapointe, Steven 1980. *The Theory of Grammatical Agreement*. PhD. dissertation. University of Massachusetts, Amherst.
- Martin, Samuel 1975. *A Reference Grammar of Japanese*. New Haven: Yale University Press.
- Mithun, Marianne 1984. The evolution of noun incorporation. *Language* 60: 847-895.
- Namiki, Takayasu 1988. Fukugoogo-no Nichi-ei-taisho: Fukugoo-meishi/Fukugoo-keiyooshi [Complex words in contrast between English and Japanese: Compound nouns and compound adjectives]. *Nihongogaku* 7-5: 68-78.
- Nihon Daiziten Kankokai 2000-2002. *Nihon Kokugo Daiziten* [A Grand Dictionary of the Japanese Language], 2<sup>nd</sup> ed. Tokyo: Shogakkan.
- Nishio, Toraya 1972. *Keiyooshi-no Imi Yohoo-no Kijutsuteki Kenkyuu* [Descriptive Studies on the Meaning and Use of Adjectives]. Tokyo: Shuei Shuppan.
- Nishio, Toraya 1985. Keiyooshi-kanyooku [Adjective idioms]. *Nihongogaku* 4-1: 45-53.
- Selkirk, Elizabeth 1982. *The Syntax of Words*. Cambridge, MA: MIT Press.
- Shibatani, Masayoshi 1978. *Nihongo-no Bunseki* [An Analysis of Japanese]. Tokyo: Taishukan.
- Spencer, Andrew 1991. *Morphological Theory*. Oxford: Blackwell.
- Sugioka, Yoko 1992. On the role of argument structure in nominalization. *Language and Communication* 10: 53-80. Keio University.
- Watanabe, Akira 1996. Nominative-genitive conversion and agreement in Japanese: A cross-linguistic perspective. *Journal of East Asian Linguistics* 5: 373-410.
- Yumoto, Yoko 1990. Nitieitaishoo fukugookeiyooshi-no koozoo: Meishi+keiyooshi/keyoodooshi-no kata-nituite [A Japanese-English contrastive study of the structure of complex adjectives: On the patterns of noun plus adjective/nominal adjective]. *Gengobunka Kenkyuu* 16: 353-372.
- Yumoto, Yoko 2008. On the modularity of word formation seen from complex adjective formation. In Yoko Yumoto and Hideki Kishimoto (eds.) *Goi-no Imi-to Bunpoo* [Lexical Meanings and Grammar], 209-229. Tokyo: Kurosio Publishers.