Deriving (Un) availability of "Bare Adjectives":

A Hidden Small Clause Approach*

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1. Apparent "Unexpected" Behavior of Japanese Attributive Adjectives: (Un) availability of "Bare Adjectives"

The English-type language has two ways of nominal modification available, as illustrated in (1):

(1) a. the [delicious] apple (an attributive adjective)
b. the apple [that is delicious] (a relative clause containing a predicative adjective)
c. the apple [that was delicious] (a relative clause containing a predicative adjective)

(1a) is a case in which a bare adjective modifies a nominal attributively, whereas in (1b,c), the same nominal is modified by a relative clause. In contrast, nominal modification in Japanese is not so clear with respect to the identity of a prenominal modifier. Consider the following paradigm:

(2) a. [oisi-i] ringo
delicious-Nonpast apple
'the delicious apple/the apple that is delicious'
b. [oisi-katta] ringo
delicious-Past apple
'the apple that was delicious'
c. *[oisi] ringo
d. *[oisi-ku] ringo
(cf. [akai] ringo, [aka] ringo vs. [ao] ringo, *[akaku] ringo)

Note that in Japanese there is only one surface form of nominal modification which corresponds to English counterparts in (1a) and (1b), as illustrated in (2a). Unlike English, Japanese non-past adjectives must be accompanied by a tense/aspect-related element like *–i* 'non-past' as in (2a). In this sense, "bare adjectives" as in (1a) in English are unavailable in Japanese.

With respect to the status of non-past adjectival nominal modification in Japanese, there have been roughly three positions explicitly or implicitly employed in the literature. One is to claim that the relevant bracketed portion in (2a) is unambiguously a relative clause, while another takes a stand by saying that the bracketed part in question can be ambiguously analyzed as either a relative clause or a (bare) direct modifier like English in (1a). A third position, which is quite often implicitly assumed in the literature, considers the bracketed portion to be unambiguously a (bare) direct modifier on a par with (1a) in English. One of the purposes of this paper is to lend credence to the first position among the three candidates.

A second unexpected behavior of adjectives in Japanese is demonstrated by the fact that it is impossible to merge a bare root adjective to a nominal projection, as illustrated in (2c). A third mysterious behavior of Japanese adjectives is that the *ku*-form of Japanese adjectives cannot be used attributively, as illustrated in (2d). The *ku*-form of adjectives occurs in the so-called small clause (SC) construction in Japanese, as shown in (3):

(3) a. Mary-wa [$_{SC}$ John-o tanomosi-ku] kanzi-ta.
Mary-Top John-Acc dependable feel-Past
'Mary felt John dependable.'
b. John-wa [$_{SC}$ Mary-o utukusi-ku] omot-ta.
John-Top Mary-Acc beautiful think-Past
'John thought Mary to be beautiful'

As illustrated in (4), the *ku*-form of adjectives in Japanese does not have to be adjacent to a verbal element at surface (cf. Kikuchi and Takahashi 1991 for original observations):

(4) a. [$_{SC}$ John-o tanomosi-ku]$_i$ Mary-wa t_i kanzi-ta.
John-Acc dependable Mary-Top feel-Past
'Mary felt John dependable.'
b. [$_{SC}$ Mary-o utukusi-ku]$_i$ John-wa t_i omot-ta.
Mary-Acc beautiful John-Top think-Past

'John thought Mary to be beautiful'

In (4), the SC has been fronted to a sentence-initial position by scrambling, and the result is OK. Therefore, it remains mysterious why the *ku*-form of adjectives in Japanese cannot be used attributively as in (2d).

The standard "explanation" for the facts in (2c,d) in the traditional Japanese grammar may run as follows. For (2c), since Japanese bare roots of adjectives are bound morphemes unlike English, they cannot be used as an independent element to be operative in syntax. As for (2d), since the *ku*-form of adjectives in Japanese is so-called *ren-yoo* form, or "adverbial form," it is impossible to use it adjacent to a nominal element. Even if the above "explanation" is basically correct, it still remains to be answered why this is the case in the first place. In other words, much deeper principled explanation is called for to fully solve the puzzle in (2). The main goal of this article is to demonstrate that the phenomena in (1) - (2) are interrelated and can be provided with a principled syntactic account, while taking the above-mentioned traditional Japanese grammar-based "explanation" is basically on the right track.

According to Kayne (1994) and Fukui and Takano (2000), adjuncts precede their targets in general. If it is the case that adjuncts are left-adjoined to their targets in general, relatives and attributive adjectives are to be analyzed as involving adjunction to a projection of a nominal element both in English and Japanese. Fukui and Takano (ibid.) claim that relatives in Japanese are left-adjoined to a projection of N without movement of a head N, while relatives in English involve movement of a head N to D after the relatives are left-adjoined to a projection of N, deriving correct surface word orders in Japanese and English. However, if adjuncts including attributive adjectives are left-adjoined to a projection of N, followed by movement of a head N to D, how come only attributive adjectives are surfaced prenominally in English? It would be desirable if all the relevant phenomena mentioned above in both English and Japanese are to be provided with a unified principled account.

In Hoshi (1997), I addressed fundamental differences of nominal modification between English and Japanese, as illustrated in (1) - (2), viz., asymmetry with respect to ordering variation of nominal modifiers. In an attempt to derive them from an interaction of independently motivated hypotheses, I argued that combining Fukui and Takano's (1998) theory of linear order and Abney's (1987) F-selection analysis of prenominal adjectives will give us a principled account for the phenomenon in question. In this article, I will revisit the relevant phenomenon and pursue a different explanation to it from the perspective of syntax-morphology interaction.

Specifically, articulating and modifying Kayne's (1994) IP-internal structure of the D-CP analysis of nominal modification, I will claim the following: (i) the phenomena in (1) - (2) and (3) are interrelated and can be provided with a principled theoretical account; and (ii) (un) availability of "bare adjectives" in nominal modification between English and Japanese are to be attributable to different natures of CP-internal structures including "hidden" small clauses (SC) in the two languages: (a) deletability of copular verbs; (b) different types of complementizers; (c) internal morphological make-ups of adjectives.

The present article is organized as follows. In Section 2, I will first review Hoshi's (2002b) attempt at explaining th (un) availability of "bare adjectives" in prenominal modification in English and Japanese and point out some problems with the analysis.[1] Section 3 advances an alternative analysis, while maintaining virtues of Hoshi's (2002b) original analysis. In Section 4, several consequences of the alternative analysis in the present article will be addressed. Finally, Section 5 makes concluding remarks.

2. Hoshi's (2002b) Analysis and Its Problems

2.1. The Analysis

Within the framework of antisymmetry of syntax, Kayne (1994) proposes to analyze both relative clause construction and prenominal adjectival construction as involving the following D-CP configuration in (5a,b), respectively:[2] [3]

(5) a. $[_{DP}$ the $[_{CP}$ gentleman$_1$ [that $[_{IP}$ t_1 is tall]]]] (relative clause).
➡ the gentleman that is tall
b. $[_{DP}$ the $[_{CP}$ tall$_1$ [C $[_{IP}$ gentleman t_1]]]] (prenominal adjective)
➡ he tall gentleman

Although Kayne (1994) himself does not articulate the IP-internal structure and derivation, first of all, partly departing from Kayne (1994), in Hoshi (2002b), I assumed that both (5a) and (5b) in English involve basically the same "hidden" small clause (SC), as indicated as FP and, (departing from Kayne (1994)), the IP in (5b) is in fact such a small clause FP, as illustrated in (6) and (7), respectively:[4] [5]

(6) $[_{DP}$ D $[_{CP}$ C $[_{IP}$ I $[_{VP}$ V (= be) $[_{FP}$ NP [F AP]]]]]]
(7) $[_{DP}$ D $[_{CP}$ C $[_{FP}$ NP [F AP]]]]

The only differences between (5a) and (5b) are the presence vs. absence of the copular verb V and its related inflectional element I.[6)]

Furthermore, Hoshi (2002b) appeals to Kikuchi and Takahashi's (1991) analysis of small clauses in English and Japanese. Kikuchi and Takahashi (ibid.) demonstrate that there are some significant differences with respect to small clauses between English and Japanese, attributing the differences to what they call the Agr Parameter: presence vs. absence of the functional category Agr in languages. Specifically, they propose the following structures for small clauses in English and Japanese, respectively:

(8) Small clauses in English:
$[_{AgrP}$ AGR $[_{AP}$ NP $[_{A'}$ A]]]
(9) Small clauses in Japanese:
$[_{AP}$ NP $[_{A'}$ A]]]

Lack of the functional category AGR in Japanese small clauses as in (9) seems to be quite natural given the fact that the language lacks grammatical agreement phenomena in general. Thus, I basically followed Kikuchi and Takahashi (1991) in assuming that the SC in English has an agreement-inducing functional category, while the Japanese counterpart lacks such a functional category, without committing myself to the identity of the relevant functional category as AGR. One could assume that the relevant functional category is a “light adjective” a in the sense of Takano (1996), analogously to the light verb v which is standardly assumed in the minimalist program. Abstracting away from this point, I will just label the relevant functional category and its projection as F and FP in the following discussion, as indicated in (10) rather than as in (8):

(10) Small clauses in English:
$[_{FP}$ F $[_{AP}$ NP $[_{A'}$ A]]]

I will return to one of the important consequences of presence vs. lack of an agreement-related functional category in small clauses in Section 5.

For ease of reference, let me reproduce the relevant paradigm as (11) below:

(11) a. *[oisi] ringo (= (2c))
delicious apple
‘a/the delicious apple’

b. *[oisi-ku] ringo (= (2d))
delicious apple
'a/the delicious apple'

Note that I am assuming the following derivation in (12b) for English prenominal adjectival modification like (12a):

(12) a. the [delicious] apple (= (1a))
b. $[_{DP}$ the $[_{CP}$ $[_{AP}$ t_1 [delicious]$]_2$ [CP $[_{FP}$ $[_{NP}$ apple$]_1$ [F t_2]]]]]

Suppose that such an adjective fronting is allowed by UG unless blocked by some principles. If it is to be shown that some differences between English and Japanese are responsible for the availability of adjective fronting, we can obtain a principled account for the fact in (11b).

With respect to (18a), in Hoshi (2002b), I suggested that the root portion R (P) cannot be extracted out of the Japanese SC AP due to the general ban on stranded affixes (cf. Baker 1988; Lasnik 2000 *inter alia*.). In Hoshi (2002b), I suggested a possibility of extending Kikuchi and Takahashi's (1991) account for apparent impossibility of movement of an adjective predicate in small clauses in an attempt to explain the unacceptability of (11b).

Among some crucial differences between the small clauses in English and Japanese, Kikuchi and Takahashi (1991) observe that English allows for fronting of a small clause predicate, while it is not the case in Japanese, as illustrated below:

(13) a. How intelligent$_i$ do you consider [Mary t_i]?
b. ?*Kasiko-ku$_i$ John-ga [Mary-o t_i] omotte-i-ru
(= Kikuchi and Takahashi 1991: 90-91 (39a,b))

They account for this difference as follows. In the case of English, the subject NP moves from [Spec, AP] to [Spec, AgrP] for agreement and thus the remnant AP can move to the matrix [Spec, CP] by wh-movement without any problem. On the other hand, in the case of Japanese, since there is no Agr, the subject NP must stay in situ at [Spec, AP] throughout the derivation. Thus, in order to derive (13b), you have to move a non-maximal projection A', in violation of the ban on movement of X' elements (Chomsky (1986)). By the same token, in the derivation of (11b), the *ku*-form adjective is an A', it is impossible to move from within a small clause to [Spec, CP]. Note in passing that under a version of Predicate Internal Subject Hypothesis,

the subject NP will remain in-situ throughout a derivation. If this is the case, movement of the whole AP projection is not available. If it is generally the case that an adjective predicate is not permitted to move from within a small clause, the impossibility of (11b) seems to be accounted for. However, there are good reasons to believe that such a move is not tenable.

2.2. Problems

First of all, although Hoshi (2002b) adopts Kikuchi and Takahashi's (1991) treatment of the differences of small clauses between English and Japanese, there are both empirical and theoretical problems with their analysis as it stands. First of all, observe the following sentence:

(14) (?) imaimasi-ku$_i$ John-ga [Mary-o t_i] omotte-iru (koto)
obnoxious John-Nom Mary-Acc consider

In fact, the status of (14) is nearly perfect, especially with the sentence-initial element being focalized with stress. Thus, it seems that in principle the predicate in a SC can be moved without any problem. For that matter, the judgment of (13b) itself may vary from speaker to speaker and thus the degraded acceptability of (13b) seems to be attributable to other unknown factors.

In addition, under the current assumptions of bare phrase structures in the minimalist program, apparently, it seems to be difficult to maintain Kikuchi and Takahashi's (1991) explanation for the ungrammaticality of (13b). This is because there is no non-branching projections in bare phrase structures in general. Therefore, what has been fronted is to be analyzed as a minimal projection of A in (13b). One might want to simply assume that movement of a minimal projection of an element to a specifier (or a non-head XP adjoined position) violates Chomsky's (1995) uniformity condition on chains in (15) below:[7)]

(15) A chain is uniform with regard to phrase structure status.
(= Chomsky 1995: 253 (17))

However, as recent studies argue, the status of the uniformity condition on chains in (15) is not so firmly established. Fukui and Takano (1998) propose that it is possible to assume that a minimal projection of an element moves to a non-head positions such as a specifier in order to accommodate a head movement in their theory of linear order (see also Toyoshima 2000 for a similar claim).

Next, even if extension of Kikuchi and Takahashi's (1991) idea were to be somehow maintained, it is impossible to generate (11b) anyway, since it is independently known that unlike English Japanese does not allow for deletion of a copular verb. Pesetsky (1995: 296) notes that deletion of a copula may be involved for adnominal progressives in English as in the following sentence in (16):

(16) The man walking the dog is Bob. (= taken from Pesetsky 1995: 296)
(cf. The man who/that is walking the dog is Bob.)

Now, consider the following contrast in Japanese:

(17) a. Sono inu-o sanpo sase-te-**iru** hito-wa Bobu da.
that dog-Acc walking-is man-Top Bob is
"The man who/that is walking that dog is Bob."
b.*Sono iu-o sanpo sase-te Ø hito-wa Bobu da.
"The man walking the dog is Bob."

As shown in (17b), if we delete the auxiliary verb *–iru* (progressive be) in (17a), the sentence becomes ungrammatical. I will take this as indicating that in general Japanese does not have an option of deleting a copula-like verb.

Furthermore, a Japanese copular verb *–ar* "be" cannot be deleted in general, either, as illustrated below:

<Focus Construction>
(18) a. [taka-i] yama
b. [taka-ku mo aru] yama (adapted from Nishiyama 1999)
c. *[taka-ku mo Ø] yama
(19) a. [taka katta] yama
b. [taka-ku mo atta] yama
c. *[taka-ku mo Ø] yama
<*Beki* Construction>
(20) a. *[taka-i beki] yama
b. [taka-ku aru beki] yama (adapted from Nishiyama 1999)
c. *[taka-ku Ø beki] yama

Thus, if the prenominal adjectival modification in Japanese involves the underlying copular verb *–ar* 'be', and it is immune from deletion, the unacceptable form in

(11b) is never generated in the first place.

Nevertheless, there is still a problem with Hoshi's (2002b) account. Consider the following paradigm:

(21) a. *[imaimasi-ku]$_1$ (mo) [otoko [t_1]] ar-ru
obnoxious (also) man be-Nonpast
b. *[imaimasi-ku]$_1$ (mo) [otoko [t_1]] ar-ta
obnoxious (also) man be-Past

In (21), an adjective predicate in *ku*-form has been moved to the putative [Spec, CP] from within a small clause. There is nothing wrong with movement of an adjective predicate from within a small clause, if our above-mentioned discussion is on the right track. In fact, as the following paradigm shows, an adjective predicate in *ku*-form can be fronted from within a small clause with the copular verb *–ar* 'be' in a sentence:

(22) a. sono otoko-ga imaimasi-ku (mo) ar-ru/ar-ta
that man-Nom obnoxious (also) be-Nonpast/Past
'That man is/was (also) obnoxious.'
b. [imaimasi-ku]$_1$ (mo) [sono otoko-ga t_1] ar-ru/ar-ta

Thus, under Hoshi's (2002b) analysis, (21) remains still mysterious. Given these empirical and theoretical considerations, we are led to pursue a different tack to explain the fact that the *ku*-form of adjectives does not occur prenominally. In the next section, I will put forth an alternative analysis, while maintaining virtues of Hoshi's (2002b) original analysis.

3. Alternative Analysis

3.1. Parametrizing the Complementizer in D-CP Structure

First of all, recall from Section 2 the Kaynean analysis of nominal modification, reproduced as (23) - (25) below:

(23) a. [$_{DP}$ the [$_{CP}$ gentleman$_1$ [that [IP t_1 is tall]]]] (relative clause)
➡ the gentleman that is tall
b. [$_{DP}$ the [$_{CP}$ tall$_1$ [C [$_{IP}$ gentleman t_1]]]] (prenominal adjective)
➡ the tall gentleman

(24) $[_{DP}$ D $[_{CP}$ C $[_{IP}$ I $[_{VP}$ V (= be) $[_{\mathbf{FP}}$ NP [F AP]]]]]]
(25) $[_{DP}$ D $[_{CP}$ C $[_{\mathbf{FP}}$ NP [F AP]]]]

I am assuming that unlike the case of relativization structure in (23a), the copular verb V and its related inflectional element I are missing in the case of prenominal adjectival modification structure in (23b), as represented in (24) - (25), respectively. Thus, there is a correlation between the CP-internal structures and the availability of raising of NP or AP to [Spec, CP]. Only in a configuration where the copular verb and its related I are absent, adjective raising to [Spec, CP] is triggered. I will propose to attribute the different pattern of predicate raising to [Spec, CP] to the different natures of the relevant complementizer in the Kaynean D-CP structure in what follows.[8)]

Let us look at more closely the complementary distribution between the NP/DP raising to [Spec, CP] and the AP raising to [Spec, CP] in English. Consider the following paradigm in (26):

(26) a. $[_{DP}$ the $[_{CP}$ $[_{NP}$ gentleman$]_i$ $[_{CP}$ that $[_{IP}$ t_i is tall]]]]
b. $[_{DP}$ the $[_{CP}$ $[_{DP}$ $[_{NP}$ gentleman$]_i$ $[_{DP}$ who $t_i]]_j$ $[_{CP}$ Ø $[_{IP}$ t_j is tall]]]]
c. *$[_{DP}$ the $[_{CP}$ $[_{NP}$ gentleman$]_i$ $[_{CP}$ Ø $[_{IP}$ t_i is tall]]]]
d. $[_{DP}$ the $[_{CP}$ $[_{AP}/_{FP}$ tall$]_i$ $[_{CP}$ Ø $[_{IP}$ gentleman t_i]]]]
e. *$[_{DP}$ the $[_{CP}$ $[_{AP}/_{FP}$ tall$]_i$ $[_{CP}$ that $[_{IP}$ gentleman t_i]]]]
f. *$[_{DP}$ the $[_{CP}$ $[_{AP}/_{FP}$ tall$]_i$ $[_{CP}$ Ø $[_{IP}$ gentleman is t_i]]]]
g. *$[_{DP}$ the $[_{CP}$ $[_{AP}/_{FP}$ tall$]_i$ $[_{CP}$ that $[_{IP}$ gentleman is t_i]]]]

Let us assume that the "null complementizer" Ø in (26b) is the same as the overt counterpart that in (26b) feature-wise except for its phonological features and that the "null complementizer" Ø in (26c) is featurally distinct from the one in (26b), since the former does not license the gap in the subject of the relative clause, while the latter does (cf. Rizzi 1990, chap.2). Furthermore, note that when AP/FP-raising applies, not only the complementizer must be null but also the embedded IP must not contain a tensed copular verb, as shown in (26d-g). Given this consideration, it seems natural to suppose that it is the different natures of the two complementizers that are responsible for raising of NP and AP/FP to [Spec, CP]. I will formulate this generalization as follows:

(27) Parameterization of Complementizers:
In the D-CP structure for nominal modification, C with the property of attract-

ing NP/DP will be selected when the C takes a tensed full clause, while C with the property of attracting AP/FP will be chosen when the C selects a non-tensed small clause.

Adjectives in English are completely divorced from the copular verb *be* not only syntactically but also morphologically, while adjectives in Japanese are quite different in this respect: although they are syntactically independent of the copular verb *–ar* 'be' and the aspect/tense morpheme, they must be morphologically merged with the latter two elements, resulting in a [A-V-T] complex in the phonological component after Spell-Out (cf. Fukui and Sakai 2002). Recall from Section 2 that Japanese does not allow for the option of deleting a copular verb *–ar* 'be' (and its related aspect/tense element) in adjectival nominal modification. This indicates that Japanese adjectival nominal modification must involve a tensed full clausal structure. Therefore, the relevant complemetizer C in the D-CP structure in this case must have the property of attracting NP/DP to [Spec, CP] in accordance with the generalization in (27). If it is the case that Japanese allows only the structure in which an adjective is generated under an IP with a copular verb, it is correctly predicted that adjective raising to [Spec, CP] is not permitted, just like the cases in (26f,g). Hence, the impossibility of (11b).

Why is a copular verb *–ar* 'be' obligatorily required syntactically in Japanese in the first place unlike in English? I will speculate that the reason lies in the existence of a suffixal element *–k(u)* in Japanese adjectives in contrast with English counterparts. Following the intuition of the traditional grammar, I will assume that the suffix *–k(u)*, which makes up a *renyoo* (= "adverbial") form, needs to be morphologically adjacent to a predicative element such as a copular verb due to its morphological requirement, which in turn makes the presence of a tense/aspect morpheme *–ru/ta* obligatory in Japanese. Thus, automatically, the option of employing the reduced form as in (25) cannot be appealed to in Japanese, forcing Japanese to use the option of the non-reduced form as in (24).

This might be related to the fact that the *ku*-form of adjectives is not created as a result of checking/agreement with the predicative element. But I will not pursue this issue any more in this article. I will come back to the syntactic function of the suffix in question in Section 4.

3.2. Internal Morphological Structures of Adjectives in Japanese

Now, let us suppose that the *ku*-form in Japanese is in fact a complex element consisted of a root element and the suffixal *–k(u)* part. Further, let us assume that

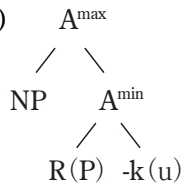
the *–k(u)* part serves as an "adjectivalizer" (or "adverbializer") which turns an adjectival root element into an AP (or AdvP). This assumption can be supported from considerations of the morphological shape of the *ku*-forms *vis-à-vis* the nominal forms with the suffix *–sa*.

(28)

A-Root	N	AP/AdvP
haya	haya-sa	haya-k (u)
kasiko	kasiko-sa	kasiko-k (u)
subaya	subaya-sa	subaya-k (u)
utukusi	utukusi-sa	utukusi-k (u)

Thus, it is plausible to assume that the Japanese small clause involving a *ku*-form predicate has the following configuration:

(29)



In (29), an adjectival root element and the suffixal element *–ku* are merged to create a syntactically functioning element $A^{min\ (/max),}$ which in turn is merged with the subject NP, projecting a maximal element A^{max} (= SC) (see Namai 2002 for arguments in favor of taking *–k(u)* as part of a single-word status in syntax). If it is generally impossible to affect a sub-part of a word such as a root by syntactic movement, as is known as the principle of *Lexical Integrity* (cf. Spencer 1991 and references therein), generating the form in (11a) is prohibited, either.

4. Some Consequences of the Alternative Analysis

Finally, I will also discuss several consequences pertaining to the present proposal, including: (i) relative clausal nature of prenominal adjectival modifiers in Japanese; (ii) nature of arguments/variables involved in adjectival and adverbial *ku*-forms in Japanese; and (iii) structural differences of adjectives and adverbs between English and Japanese.

4.1. Prenominal Adjectival Modifiers in Japanese as Copulative (Relative) Clauses

If the foregoing discussion is basically on the right track, we are led to the conclusion that (at least) adjectives entering into predicative use have copulative (relative) clausal structures in prenominal attributive use in Japanese. This is because there is no way to satisfy formal features at C in the D-CP structure by moving AP to [Spec, CP] in the case of Japanese adjectival nominal modification. This forces children to adopt a different strategy for adjectival nominal modification in Japanese, viz., relativization by NP/DP movement to [Spec, CP], in order to derive (2a,b), which are repeated as (30a,b), respectively:

(30) a. [oisi-i] ringo
delicious-Nonpast apple
'the delicious apple/the apple that is delicious'
b. [oisi-katta] ringo
delicious-Past apple
'the apple that was delicious'

Thus, under the Kaynean analysis of nominal modification, which I am adopting here, the derivation of *oisii ringo* 'delicious-Nonpast apples'and *oisikatta ringo* 'delicious-Past apples' will be as follows:[9), 10)]

(31) $[_{DP}\ [_{IP}\ [_{VP}\ [_{AP}\ t_i$ oisi-ku] ar] –ru/-ta]$_j$ $[_{DP}\ [_{CP}$ ringo$_i$ [C t_j]]]]
➡ [oisi-i] ringo/ [oisi-katta] ringo (= after Spell-Out)

In (31), an NP/DP is moved to [Spec, CP] to satisfy the formal features of C, followed by IP-movement to [Spec, DP], yielding the N-final order in Japanese.

Furthermore, notice that the Kaynean analysis of nominal modification will provide a natural account for the fact that the modified head NP cannot occur before the modifier clause in Japanese, as illustrated below:

(32) a. *ringo [oisi-**i**]
b. *ringo [oisi-**katta**]

Note that strictly speaking the ordering of a modifier and its modifiee is outside the realm of head-parameter, if there is any. Thus, it is not quite clear why Japanese does not allow for such a pattern in (32). But, under the current analysis, the unac-

ceptability in (32) can be explained away by assuming that the formal features in C of the D-CP structure are not satisfied, which makes the derivations not to converge.

Yamakido (2000) claims that attributive adjectives in Japanese can be analyzed on a par with their analogues in English. In Hoshi (2002a), I critically re-examined her arguments and pointed out that none of them are decisive enough to make such a conclusion and observed two pieces of evidence in favor of relative clausal analysis of prenominal adjectives in Japanese on the basis of lack of ambiguity and impossibility of comparative deletion (cf. Hoshi ibid. for details).

Here, I will add another piece of evidence in support of the relative clausal status of prenominal adjectives in Japanese. Kensuke Honda (personal communication, 2002) points out that honorification facts provide evidence that a clause is involved in prenominal adjectival modification in Japanese. Consider the following:

(33) [[o-yasasii] sensei]
Honorific-marker kind teacher
'the kind teacher'
(34) [sensei-ga o-yasasii]
teacher-Nom Honorific-marker kind-Nonpast
'The teacher is kind.'

As illustrated in (33), the subject honorification is triggered by a subject in a clause. Thus, it is quite natural to assume that there is an underlying subject in (32) as well, which induces subject honorification (see Harada 1976 and Shibatani 1978 among others for discussion of honorification in Japanese).

In this connection, let me touch on a famous acquisition fact in Japanese. It is well-documented that children acquiring Japanese overgenerate the complementizer *no* as in (36) (cf. Clancy 1985 and Murasugi 1991 among others) in contrast to the case of adult Japanese in (35) :

(35) [[aoi] kuruma]
blue car
'the blue car/the car that is blue'
(36) [[aoi] **no** buubuu]
blue Comp car
'the blue car/the car that is blue'

This might suggest that the Japanese children at this stage is just employing the same structure as in English, regarding *aoi* "blue" in (36) as a morphologically simplex element just like *blue* in English. But notice that unlike English, the relevant complementizer in (36) is overtly realized. An in-depth investigation on this matter is called for in future research.

4.2. Nature of "Arguments" in Adjectival and Adverbial Ku-forms in Japanese

In section 3.2., we observed that the same morphological *ku*-form is used for both adjectives and adverbs in Japanese. Thus, naturally, a question arises as to how the two instances of *ku*-form are interrelated with each other.[11)]

In the tradition of Davidsonian (and Neo-Davidsonian) formal semantics, predicates such as adjectives are assumed to involve (at least) non-event individual arguments, whereas predicates such as adverbs are assumed to involve event (or state) arguments in logical forms. Given the morphological identity in (28) between adjectives and adverbs in *ku*-forms in Japanese, it seems plausible to assume that unlike English, the *ku*-forms in Japanese per se are neutral with respect to the status of their relevant arguments before entering into syntax by Merge. Thus, depending on the other element of a pair of Merge, say, whether it is a nominal element or a verbal element, the *ku*-form predicates will take either an non-event individual argument or an event (or state) argument in logical forms of expressions in Japanese, as illustrated in (37) by using a *ku*-form *kasiko-ku* 'wise/wisely':

(37) Adjective/Adverb in *ku*-form in Japanese: e.g., kasiko-ku (x) 'wise/wisely (x) '
  a. Merged with a nominal element, say, Taroo
    Taroo-ga kasikoku ar-ru (➡ Taroo-ga kasiko-i)
    Taroo-Nom wise be-Nonpast
    'Taroo is wise.'
    ➡ Logical form: kasiko-ku (t)
  b. Merged with a verbal element, say, hurumau "behave"
    Taroo-ga kasikoku hurumau
    Taroo-Nom wisely behave-Nonpast
    'Taroo behaves wisely.'
    ➡ Logical form: ∃e[hurumau (e, t) & kasiko-ku (e)]

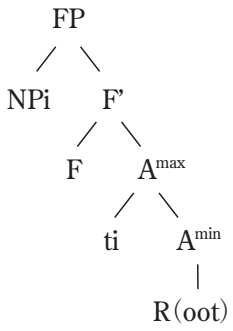
If this line of thinking is not off the mark, the *ku*-forms in Japanese seem to provide a stronger support for Radford's (1988: 141) claim: "Adjectives and Adverbs

can be treated as different members of the same overall category, [and therefore they] should be assigned to the same linguistic class." (cf. also Emonds 1976). Here, I will assume with Davidson (1966) and Katz (2000) that non-event predicates like adjectives do not have underlying Davidsonian event arguments.

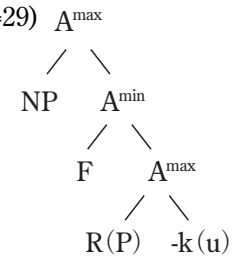
4.3. Structural Differences of Adjectives and Adverbs between English and Japanese

If the analysis of small clauses in English and Japanese in this article is correct, it is clear that structures of adjectives in English and Japanese are quite different, as illustrated in (38) - (39) below:[12)]

(38)

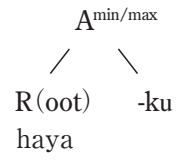


(39) (=29)



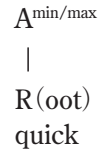
In English, the adjectival root will constitute a syntactic element of $A^{min/max}$ per se, as shown in (38). On the other hand, the adjectival root in Japanese will need a help of a suffix *–k(u)* to project a syntactically functioning element $A^{min/max}$, as represented in (39). Furthermore, if the speculation in Section 4.2. is not off the mark, both adjectives and adverbs in *–ku*-form, say, *haya-ku* 'quick/quickly' are structurally the same, as illustrated in (40) below:

(40) Japanese: Adjective & Adverb

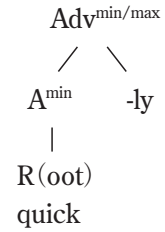


Unlike Japanese, adjectives and *–ly* adverbs, say, *quick* and *quickly*, are to be considered as possessing distinct configurations, as represented in (41) below:

(41) English Adjective



Adverbs



The structural differences of adjectives and adverbs between English and Japanese in (41) predict that not only Japanese adjectives behave differently from English counterparts, but also *–ly* forms and *ku*-forms in the two languages have different distributions. The former has been already demonstrated by prenominal adjectival modification. The latter prediction is also borne out, as illustrated in (42) - (43):

(42) a. *John considers [Mary **intelligently**]
b. *John is **intelligently**.
c. John behaved **intelligently**.

(43) a. John-wa Mary-o **kasiko-ku** omotte-iru.
John-Top Mary-Acc intelligent think
“John considers Mary intelligent.”
b. John-wa **kasiko-ku** mo aru.
John-Top intelligent also is
“John is also intelligent.”
c. John-wa **kasiko-ku** hurumatta.
John-Top intelligently behaved
“John behaved intelligently.”

As shown in (42) - (43), adverbial *-ly* forms in English and *–ku* forms in

Japanese are not co-extensive. Unlike the latter, the former never stand in a subject-predicate relation with an NP. Thus, the *–ku* forms in Japanese can not only function as an adverb, as in (43c), but also serve as a predicate of a small clause or as a secondary predicate, as in (43a,b), respectively. On the other hand, the *–ly* forms in English can only play a role of an adverb, as illustrated in (42a-c).

The next question is why is it the case that the suffix *–ku* is attached to a root to create an adjective/adverb in Japanese and that the suffix *–ly* is merged with an adjective to produce an adverb in English in the first place? As a first approximation, I will propose that suffixation in natural languages can serve as a "cloaking" device, as formulated in (44) below:

(44) Suffixation as a "Cloaking" Device:
Under the assumption that a root of A has an uninterpretable ϕ-feature (cf. Chomsky 1995), suffixation of *–ku* in Japanese and *–ly* in English renders the uninterpretable ϕ-feature in question invisible to (core) computation in syntax.

Let us assume, following Chomsky (1995), that an adjectival root has uninterpretable ϕ-features, which must be eliminated somehow in the course of (core) computation of syntax for convergence. In English, since there is an agreement/checking-inducing functional category F, the uninterpretable ϕ-features will be checked and eliminated. Thus, "bare adjectives" are employed in the language. On the other hand, Japanese lacks such a functional category, and thus uninterpretable ϕ-features of adjectival roots must be handled in some other fashion. One possibility is to assume that adding the suffix *–ku* to the adjectival root will render the uninterpretable ϕ-features of the root invisible to syntax.

This assumption seems to be quite natural, given that basically the same thing can be said about *–ly* adverbs in English and its counterparts in other languages. It is well-know that in general adverbs do not enter into agreement with an NP with respect to ϕ-features unlike adjectives (cf. Alexiadou 1997 and references therein.). This can be explain away if we assume that addition of the suffix *–ly* to the adjectival root will render the uninterpretable ϕ-features invisible to the (core) computation in syntax.[13)]

5. Concluding Remarks

In this article, I argued that (un) availability of what I call "bare adjectives" in English and Japanese is to be derived in a principled manner from the interaction of

the morphological make-ups of adjectives and the natures of the complementizer C in the D-CP structure for nominal modification. To the extent that the consideration in this article is on the right track, it will lend further support to the Kaynean analysis of nominal modification.

Notes

*The present article is a radically revised version of my earlier manuscript, which was presented at HIGLIF (Hiyoshi Generative Linguistic Forum) at Keio University (2002) and the 125th National Conference of Linguistic Society of Japan on November 4th, 2002 at Tohoku Gakuin University. I would like to express my sincere gratitude to Yoko Sugioka, Kazumi Matsuoka, Yukio Furukawa, and Kensuke Honda for their valuable comments and discussions at earlier stages of the development of this work. I am also grateful to the audience at the 125th National Conference of Linguistic Society of Japan for useful comments and suggestions which helped greatly to clarify my points, especially Takashi Toyoshima and Noriaki Yusa. Needless to say, the usual disclaimers apply. The research reported here has been partly supported by the Keio University Academic Development Fund 2002.

1) Hoshi (2002b) pursues an explanation to the relevant fact in (2d) in Japanese, extending Kikuchi and Takahashi’s (1991) idea concerning small clauses in English and Japanese, but now I believe that the account is not tenable from both empirical and theoretical grounds. See the text for some discussion on this point.

2) I assume that among adjectives in English only the ones with predicative use are amenable to the Kaynean D-CP analysis of nominal modification (cf. Alexiadou and Wilder 1998). Furthermore, if Kishimoto (2000) is right in analyzing the sequence of an indefinite pronoun and an attributive adjective in English (e.g., something delicious/*delicious something) as involving an overt raising of N-head to Num, it must be assumed that another functional projection such as Num (P) intervenes between D and C. Additionally, if the ultimate theory of nominal modification is to account for the distributions of items such as articles, demonstratives, numerals, descriptive adjectives, etc., it seems to be necessary to postulate various sorts of functional categories below D a la Cinque (1996). However, I will just keep to the simpler D-CP structure in the present article for ease of exposition. See also Kayne (1994: 101) for a similar suggestion to accommodate Romance languages.

3) One might wonder why the nominal element such as *people* closer to the complementizer C does not move to [Spec, C] rather than the nominal element such as *politician* which is located in the embedded clause in (i) below. The answer lies in the different statuses of the two nominal elements: as indicated in (i), the former is an NP (predicative element) and the latter is a DP (argumental element). By definition, only a predicative element can be moved to [Spec, C]. Thus, there is no mystery concerning the derivation of (i).

(i) the [$_{NP}$ politician] (that) [$_{DP}$ people] think t is intelligent

Now, all the predicative elements seem to be able to move to [Spec, C]. But, it is clear that this is not the case: NP, AP, VP are possible, but PP is not. There is a reason for this discrepancy. Although NP, AP, and VP can stand without any complement (or modifier), PP is usually accompanied by a complement. This is incompatible with the general ban on “complex predicative elements” in [Spec, C] holding in English-type languages (cf. Emonds 1976).

4) I will come back to the discussion of the status of FP in the subsection 3.3.

5) Although I will assume the underlying structure in (5) for a subset of prenominal adjectival modifica-

tion, it might be possible to maintain the structure in (4) for all types of prenominal adjectival modification to the extent that adjectives with only attributive use are to be accommodated somehow. Consider (i) - (iii) below:

(i) John is a mere child (cf. *the child is mere.)
(ii) John is merely a child.

(iii) $[_{DP}$ D $[_{CP}$ C $[_{IP}$ I $[_{VP}$ $[_{AP}$ mere (ly)] $[_{VP}$ V (= be) $[_{\mathbf{FP}}$ [F $[_{NP}$ child]]]]]]]]
(I and V are null)

One possibility is to assume that the attributive adjective is generated as a VP-adjoined adjunct analogously to its *–ly* adverb counterpart as in (iii) and it is raised to [Spec, CP] alongside the raising of the predicative NP to [Spec, IP]. One might cast doubt on this analysis, claiming that the nominal predicate NP *child* has no "subject" to be predicated of it in (iii) in violation of theta-criterion. One possible way out of this problem is to appeal to Higginbotham's (1985) idea of theta-binding of a nominal predicate by a determiner (see Higginbotham ibid. for the detailed mechanism of theta-binding). Notice that in (iii) the determinder D c-commands the nominal predicate NP *child*, thus satisfying the theta-role of the nominal predicate within DP, which accounts for the lack of a "subject" in (iii). I will leave the details of treatment of this type of prenominal adjectives to future research (see Sugioka and Lehr 1983 for a suggestion of treating non-intersective adjectives as adverbs in terns of morphologically as well as semantically).

6) See Chomsky (1995, Chap.4) for some discussion of the adjectival construction and its related problems.

7) In fact, in Hoshi (2002b), taking the contrast in (13) as real, I attempted to account for the difference between (13a,b) by appealing to the ban on movement of a minimal projection of an element to a specifier (or a non-head XP adjoined position), as regulated by Chomsky's (1995) uniformity condition on chains in (14). But, now, I feel that I have to be more cautious in making such a move. I am grateful to Takashi Toyoshima (p.c.) for bringing my attention to this important point.

8) Murasugi (2000) and Fukui and Takano (2001) independently argue that the Kaynean D-CP analysis of relatives does not fit into Japanese. In the former, it is claimed that Japanese relatives lack a CP projection, while it is argued that Japanese lacks DP projections in general in the latter. See Hoshi (in progress) and Hoshi (2001a) for some discussion of potential problems with their analyses, respectively.

9) Nishiyama (1999) and Aoyagi (2001) propose slightly different underlying structures for Japanese adjectival modification, as illustrated in (i) and (ii) below, respectively:

(i) a. $[_{TP}$ $[_{VP}$ $[_{PredP}$ $[_{AP}$ aka] Ø] Ø]-i]
b. $[_{TP}$ $[_{VP}$ $[_{PredP}$ $[_{AP}$ aka] k-] -ar-]-ta]
(ii) a. $[_{TP}$ $[_{vP}$ $[_{aP}$ $[_{AP}$ aka] ku-] -ar-]-ru]
b. $[_{TP}$ $[_{vP}$ $[_{aP}$ $[_{AP}$ aka] ku-] -ar-]-ta]

Nishiyama (1999) assumes that the element *–i* is a present tense morpheme on a par with a past tense morpheme *–ta*. On the other hand, Aoyagi (2001) posits an underlying representation like (ii), where *–ru* and *–ta* are present and past tense morphemes, respectively.

Aoyagi (2001) claims that Japanese does not involve any predicative head movement in syntax and instead a predicate and its tense element are combined into a phonologically single unit via morphological merger in the phonological component. If my considerations in the text are basically on the right track, it seems reasonable to extend his analysis of adjectives in Japanese to the case of prenominal adjectival modification as well. More specifically, he proposes the following suppletion rule which

accounts for the surface form of the present tense form of an adjectival element in Japanese (see Aoyagi (2001) for details of an analysis of Japanese adjectives):

(iii) /i/-suppletion: ku + ar + ru → i

Note that since the focus particle such as mo 'also' blocks adjacency between the adjectival element and the copular verb (plus the tense/aspect morpheme), morphological merger does not apply in (18b) and (19b).

Nishiyama (1999) also entertains another possibility of the prenominal adjectival modification in Japanese with respect to the present form of an attributive adjectival on the basis of Rubin (1993, 1994, 1996), as illustrated below:

(iv) $[_{ModP}\ [_{AP}$ aka] -i]

In (iv), a prenominal adjectival makes up a ModP, a functional projection. Since in terms of minimalist spirit, the status of such a functional projection as ModP is not clear, I will not pursue this possibility in this article.

10) One might wonder whether the remnant movement of AP in (31) induces violation of the Proper Binding Condition (PBC). Here, for the characterization of the PBC effects, I will follow Kitahara (1994, 1997), Müller (1993, 1996), and Takano (1994, 2002), among others, who independently argue that the PBC effects will arise if either of the following two situations holds:

<Proper Binding Condition (PBC) Effects>
(i) a. There is an unbound trace at LF.
b. The operation that created a trace and the operation that raised a phrase containing the trace to a position where the trace is unbound are of the same type.
(= taken from Takano 1999: 8 (20))

Note that the derivation in (31) may be considered as running afoul of the clause in (ia) at first blush. But, it can be assumed that since the A-bar moved AP in (31) will be "reconstructed to its original position" at LF under the standard assumption on reconstruction effects, producing a representation in which there is no unbound trace at LF.

How about the clause in (ib)? Apparently, the derivation in (31) involves two instances of A-bar movement, viz., NP/DP-movement to [Spec, CP] and IP-movement to [Spec, DP], if the latter is taken as an A-bar movement. If so, the derivation should violate the clause (ib), as it stands. However, it is quite reasonable to assume that the two instances of A-bar movement belong to different types of operations in the relevant sense. By definition, in the case of relatives, a nominal element functioning as a predicate must be raised to the [Spec, CP]. Thus, the relevant movement operation cannot affect other elements. On the other hand, the movement to [Spec, DP] in (31) never affects a predicative nominal element, but only effects raising of the remnant IP. This can be confirmed by the fact that NP/DP-movement to [Spec, DP] and IP-movement to [Spec, CP] will produce an ungrammatical expression, as illustrated below:
(ii) $*[_{DP}\ hon_i\ [_{DP}\ D\ [_{CP}\ [_{IP}$ Taroo-ga t_i yonda$]_j\ [_{CP}\ C\ t_j]]]]$

11) See Nishiyama (1999) for some discussion on adjectival *ku*-forms and adverbial *ku*-forms in Japanese.

12) The difference in question might be captured by a parameter like the following:
(i) *Adjective Realization Parameter:* The adjectival root will make up an $A^{min/max}$ per se or need a suffix to project a syntactically functioning $A^{min/max}$.

The former value is selected by languages like English and the latter value is chosen by those like Japanese.

13) Cinque (1999) analyzes adverbs as being located at the specifier of each of the particular functional heads, but the relevant features related to such functional heads are not ϕ-features. Therefore, the claim in the text is not affected even if we adopt Cinque's (ibid.) fine-grained clausal structure.

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