

The Absence of the Adjective Category in Korean

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Abstract

This paper argues that Korean lacks a distinct, open category of Adjective; what have been traditionally analyzed as adjectives are a kind of stative verbs. I propose that apparent noun-modifying adjectives in Korean are predicates inside relative clauses. The proposed analysis makes several predictions about the syntax and semantics of noun modifiers in Korean. In particular, it predicts that putative adnominal adjectives will only have intersective meanings, because they are predicates inside relative clauses, which are standardly interpreted intersectively with respect to their head nouns. Confronted with the challenge that Korean abounds in non-intersective, subsective predicates like *nungswukha*- 'skillful', I propose new lexical entries for them and thereby overcome this challenge.

Key words: adjectives, intersective predicates, noun-modification, predicate modification (or conjunction), relative clauses, subsectives

1. Introduction

What is the definition of adjectives? The literature suggests that it is extremely difficult to come up with a criterial definition for the category Adjective (see Dixon 1982, Hamman 1991 and Beck 1999, among others). Important criteria that work for one language prove ineffective or inapplicable to other languages, regardless of whether they are syntactic (e.g., distribution),

morphological (e.g., agreement and inflection), or semantic criteria (e.g., gradability and quality-denoting, Wierzbicka 1986) (Beck 1999 is a detailed review of different definitions of adjectives). There is nonetheless one characteristic of adjectives that authors seem to agree upon: they modify nouns (Hamman 1991: 658, Beck 1999: 68-70, and Baker 2003).

Despite these difficulties, Adjective has been assumed to be one of the universal lexical categories (Chomsky 1970, Baker 2003). But several typological works on lexical classes report that quite a number of languages in the world have either a limited number of adjectives (e.g., Japanese, Hausa, and Bantu languages) or a closed class of Adjective (e.g., Mandarin, Yurok, and Samoan) (Dixon 1982). On the basis of a large-scale survey, Beck (1999) maintains that languages with few or no adjectives are a "typological commonplace" and that there is something "marked" about the Adjective class compared with the Noun and the Verb classes.

Where does Korean fit in this picture? Traditional Korean grammarians (e.g., Choy 1971, Sohn 1996, and Sohn 1999) claim that Korean has a distinct category of Adjective. This seems to be true, given that adjectives in Korean can occur both attributively and predicatively, as shown in (1a) and (1b), respectively.¹

- (1) a. ce **yeppu-n** yeca
 That pretty-Rel² woman
 ‘That pretty woman’

- b. ce yeca-ka **yeppu-ta**
That woman-Nom pretty-Dcl
'That woman is pretty.'

In recent years, however, the presence of the Adjective category in Korean has been questioned by several linguists (e.g., Maling and Kim 1998, M.-J. Kim 2002).³

This paper offers additional reasons to doubt that Korean has a distinct and open category of Adjective.⁴ Based upon several morpho-syntactic criteria for adjectivehood drawn from the literature, I argue that (i) what has been traditionally analyzed as the Adjective category is a kind of Verb Class; and (ii) putative noun-modifying (or adnominal) adjectives are predicates inside relative clauses (RCs).

The remainder of this paper is organized as follows. Section 2 reviews how traditional grammarians distinguish adjectives from nouns and verbs. Section 3 shows that adjectives in Korean fail the diagnostics for adjectivehood. On this basis, I reject the traditional belief that Korean has an open class of Adjective. Section 4 discusses the predictions of the present approach. Section 5 is concerned with a problem posed by the presence of non-intersective, subsective adjectives in Korean and the difficulty of deriving their meanings through the medium of RCs. I propose a new denotation for these predicates and show that the proposed analysis can readily overcome this challenge. Finally, Section 6 summarizes and concludes the paper.

2. Traditional Criteria for Adjectives

Traditional Korean linguists such as Choy (1971), Suh (1996), and Sohn (1999) assume that Korean has a distinct lexical and syntactic category of Adjective.⁵ More recently, Yu (1999) has maintained that Korean has various subclasses of adjectives which are distinct from verbs.

How do traditional Korean linguists determine the adjectivehood of a lexical item? Most of them seem to rely on semantic criteria: if a lexical item describes a property or a state of an object, it can be classified as an adjective (e.g., Choy (1971), Suh (1996), Yu (1999)). Sohn (1999), on the other hand, employs two morphological criteria to differentiate adjectives from nouns or verbs.

First, Sohn utilizes inflection for tense or aspect to distinguish adjectives from nouns, as shown in (2) (p. 209).

- (2) a. Mali-nun han tongan yeppu-**ess-ess-ta**
M.-Top one period pretty-**Perf-Pst-Dcl**

‘Mary had been pretty for a certain period.’

or ‘Mary used to be pretty.’

- b. Mali-nun han tongan sensayng*(-**i-ess-ess-ta**)
M.-Top one period teacher(-**Cop-Perf-Pst-Dcl**)

‘Mary had been a teacher for a certain period.’

Paradigm (2) shows that adjectives can inflect for tense and aspect, whereas nouns cannot without the copular verb *i-* attached to them.

Sohn notes that the property of inflection makes adjectives fall under the rubric of "Predicate", along with verbs (p. 209). But he claims that one can nevertheless distinguish adjectives from verbs because the two categories take different non-past morphemes to mark declarative sentences: verbal stems take the suffix *-nun* (or its allomorph *-n*), while adjectival stems take a zero morpheme (\emptyset), as illustrated in (3).

- (3) a. John-un ppang-ul **mek-nun-ta**
J.-Top bread-Acc eat-Pres-Dcl
'John eats bread.'
- b. John-un holangy-ka **musep- \emptyset -ta**
J.-Top tiger-Nom scary-Pres-Dcl
'John is scared of tigers.'

But Sohn's second criterion seems problematic for a couple of reasons. First, it has been argued that *-nun* carries a present progressive meaning (Martin 1992: 722, Ahn 1995: 128-140). Under this view, the reason for why adjectives do not bear this morpheme is because they are incompatible with progressive aspect. Second, contra Sohn, authors like Suh (1996) claims that the non-past form in Korean is not *-nun*, but a morphologically zero form (p. 232).

We can confirm this analysis by changing the predicate endings of the sentences in (3): notice that when the predicate ending changes into a casual or formal style, the morpheme *-nun* disappears from the verbal stem *mek-* and consequently the verbal endings and the adjectival endings become indistinguishable, as shown in (4).

- (4) a. John-un ppang-ul **mek-∅-ne**
 J.-Top bread-Acc eat-Pres-Dcl (Csl)
- a'. John-un ppang-ul **mek-∅-supnita**
 J.-Top bread-Acc eat-Pres-Dcl (Fml)
 'John eats bread.'
- b. John-un holangy-ka **musep-∅-ne**
 J.-Top tiger-Nom scary-Pres-Dcl (Csl)
- b'. John-un holangy-ka **musep-∅-supnita**
 J.-Top tiger-Nom scary-Pres-dcl (Fml)
 'John is scared of tigers.' (lit.: As for John, tigers are scary.)

Paradigm (4) shows that verbs and adjectives in Korean are much more alike than they are thought to be. But we need more compelling evidence to be convinced that “adjectives” in Korean are not adjectives. With that being said, we now turn to Section 3 for further evidence for this claim.

3. Why Korean “Adjectives” are not adjectival?

This Section offers arguments for the lack of a distinct and open class of the Adjective category in Korean. I will argue that putative Korean adjectives (henceforth KAs) are actually a kind of stative verbs on the basis of their verb-like morphosyntactic behaviors.⁶

The first argument that KAs are verbs comes from the fact that, when used predicatively, they occur by themselves without the copular verb *-i*, as shown in (5). Note that nominal predicates such as *haksayng* 'student' must co-occur with the copular verb, as shown in (6).

- (5) a. *ce yeca-ka **yeppu-i-ta**
 that woman-Nom **pretty-Cop-Dcl**
- b. ce yeca-ka **yeppu-ta**
 that woman-Nom **pretty-Dcl**
 ‘that woman is pretty’
- (6) a. ce yeca-ka **haksayng-i-ta**
 that woman-Nom **student-Cop-Dcl**
 ‘that woman is a student’
- b. *ce yeca-ka **haksayng-ta**
 that woman-Nom **student-Dcl**

In addition, just like verbs, KAs can bear tense, aspect and mood markings, which are not compatible with adjectives in other languages (see Hamann 1991: 658). This is illustrated in (7).

- (7) Mali-nun han ttay ttoktokha-**ess-ess-ta**
M.-Top one time smart-**Perf-Pst-Dcl**
'Mary used to be smart.'

Another reason for doubting that KAs are adjectives is that they lack adnominal function, which is, as mentioned above, deemed to be the most defining properties of the Adjective category across languages (see Hamann 1991: 658, Beck 1999: 68-69 and Baker 2003, among others): according to Beck, in order for a lexical item to belong to the Adjective class, it must be able to modify nouns "without any further measure". In other words, if a lexical item needs additional morpho-syntactic support such as the relative clause (RC) marker or the participial morphemes (e.g., *-ing*), as is the case with the English Verbal category illustrated in (8), then one can decide that it is not an adjective.

- (8) a. the boy [**who** is running].
b. the **running** boy
c. *the run boy

Given (1a) above, it may appear that KAs can modify nouns. But a close examination of their distribution suggests that they cannot modify nouns without further morpho-syntactic support: they require the relative clause marker *-n* (or its allomorphs such as *-ten* and *-l*)⁷, as shown in (9). (9b) is an instantiation of a nominal modified by a putative adjective and (9a) an instantiation of a typical RC containing an intransitive verb.

- (9) a. [*e*₁ ttena]-**n**₁ namca (*e* = an empty category)
 [left]-**Rel** man
 ‘the/a man who left’
- b. [*e*₁ yeppu]-**n**₁ yeca
 [pretty]-**Rel** woman
 ‘The/a pretty woman’

What the above data reveal to us is that a noun phrase with an adnominal adjective and a noun phrase preceded by a RC containing an intransitive verb are structurally identical; there is no evidence that they have different syntactic structures. Given this, I submit that adnominal KAs should be treated as predicates inside RCs, as my bracketing indicates, rather than typical attributive adjectives.⁸

Additional support for the claim that adnominal KAs are predicates inside RCs comes from the fact that they can take tense/aspect-marking even when occurring as noun-modifiers, as shown in (10).

- (10) a. ce yeppu-Ø-n yeca
that pretty-**Pres-Rel** woman
‘that pretty woman’
- b. ce yeppu-ess-ess-ten yeca
that pretty-**Perf-Pst-Rel** woman
‘that woman who used to be or was pretty’

Since the predicate *yeppu-* ‘pretty’ in (10) appears inside a noun phrase, it would not be possible for it to take tense/aspect-marking unless it is inside a clause. Given that the examples in (10) represent noun phrases, this clause is most likely to be a RC.

In a similar vein, it is important to note that some of the most common adjectives across languages such as *tall*, *short*, *good* and *bad* (Dixon 1982) are realized as multiple lexical items in Korean. Hence, the only way in which they can modify a noun is by occurring as predicates inside RCs, as shown in (11) and (12).

- (11) a. ce yeca-nun ki-ka ku-ta
that woman-Top height-Nom big-Dcl
‘that woman is tall’ (lit.: ‘As for that woman, her height is big’)
- b. ce [e₁ ki-ka ku]-n₁ yeca
that [height-Nom big]-Rel woman
‘that tall woman’ (‘lit.: that woman whose height is big’)

- (12) a. ce yeca-nun maumssi-ka kop-ta
 that woman-Top heart-Nom pretty-Dcl
 ‘that woman is nice.’
- b. ce [e₁ maumssi-ka kop]-un₁ yeca
 that [heart-Nom pretty]-Rel woman
 ‘that nice woman’

The above paradigms suggest that in Korean, even the most basic and prototypical adjectives cannot modify nouns unless they occur inside RCs.

The arguments presented thus far strongly suggest that KAs are not adjectives. What category do they belong to then? Given that they denote states and inflect for tense/aspect, I argue that they are most likely to be stative verbs. Interestingly, the Korean grammars noted above either do not list a distinct category of Stative Verb (e.g., Sohn 1999) or mention only in passing that "adjectives in Korean could be viewed as stative verbs" like *al-* 'to know' or *memwul-* 'to stay' (Suh 1996:726).⁹ I suspect that the lack of stative verbs in some Korean grammars is not an accident. I believe that this absence is due to the fact that a large portion of stative verbs in Korean has been misanalyzed as adjectives.

To summarize, in this section, I have argued that what have been traditionally classified as adjectives in Korean are actually stative verbs. I have demonstrated that KAs behave like verbs in that they do not need the support of the copular verb, can bear tense/aspect marking, and cannot directly modify

nouns. On the basis of these facts, I have claimed that the putative adnominal adjectives in Korean must be reanalyzed as predicates inside RCs. The next section discusses the predictions of this claim, to which we now turn.

4. Predictions of the Present Analysis

The proposed analysis makes the following predictions:

- (i) Every putative KA will be able to occur predicatively; this is because under the present analysis, they are predicates inside RCs.
- (ii) Putative KAs will not occur as resultative state or depictive predicates, since verbs typically do not occur in these positions (Baker 2003).
- (iii) Korean lacks quantificational adjectives like *occasional* in English, since they involve raising beyond the noun phrase to take scope over the entire sentence; if adnominal adjectives in Korean are indeed predicates inside RCs, they will not be able to quantifier-raise across the clausal boundary, thereby taking widest scope.
- (iv) KAs that occur as noun-modifiers will only have intersective meanings; this is because they are predicates inside RCs, which are standardly interpreted intersectively with respect to their head nouns (cf. Heim and Kratzer 1998).

In what follows, I discuss each of these predictions in turn.

4.1. Non-existence of non-predicative "adjectives" in Korean

Under the present analysis, KAs are verbs and hence cannot occur attributively unless they occur inside a RC. Hence it is predicted that if a lexical item occurs attributively but never predicatively, then it will not belong to the “Adjective category” in the traditional sense.

This prediction is borne out: Korean has lexical items like *cen* ‘former’ which occur only attributively, as illustrated in (13), and they are classified as “attributive determinatives” (Suh 1996) or “prenouns” or “adnoun modifiers” (see Mok 2002: 77, fn. 9), rather than adjectives.

- (13) a. **cen** sangwonuywon
 former senator
 ‘a former senator’
- b. *ku sangwonuywon-un **cen-ta**
 the senator-Top **former-Dcl**
 ‘Lit.: the senator was former’

The reason why lexical items like *cen* are classified as non-adjectives is that, unlike typical “adjectives” in Korean, they can only occur immediately preceding a noun. And, unlike putative KAs, they can modify nouns without the need of the relative clause marker *-(nu)n* (Mok 2002: 77). Furthermore, lexical items under this category are limited in number, rendering it to be a

closed class (see Mok 2002 for further discussion of the characteristics of this class).

The fact that lexical items which only occur attributively are not “adjectives” lends support to the present analysis. This is because, if KAs are indeed verbs, then lexical items which do not behave like typical “adjectives” will not behave like verbs. Words like *cen* ‘former’ have not been analyzed as adjectives or as verbs in the traditional literature (cf. Mok 2002. See footnotes 3, 4, 10.). It is therefore concluded that the present analysis makes a correct prediction on the distribution of adnominal lexical categories in Korean.

4.2. Non-occurrence of KAs as resultative or depictive predicates

According to Baker (2003), one of the characteristic properties of adjectives is their ability to occur as secondary predicates which denote resultative or depictive states, as illustrated by the English adjectives in (14).

- (14) a. John hammered the nail **flat**. (*flat* describes a resultative state)
b. John always eats rice **hot**. (*hot* describes a depictive state)

The proposed analysis predicts that, in Korean, lexical items which occur in resultative or depictive positions will not belong to the Adjective category in the traditional sense, because they are verbs and verbs do not occur in these positions with such meanings.

This prediction is also borne out: what occurs in these positions have been classified as “adverbs,” as they take the suffix *-key*, which normally appears on adverbs, as shown in (15) and (16).

(15) a. John-un mos-ul **napcakha-key** ttayli-ess-ta

J.-Top nail-Acc **flat-Aff** hit-Pst-Dcl

‘John hammered the nail flat.’

b. John-un encena pap-ul **ttukep-key** mek-nun-ta

J.-Top always rice-Acc **hot-Aff** eat-Pres-Dcl

‘John always eats rice hot.’

(16) a. John-un nos-ul **him-cha-key** ttayli-ess-ta

J.-Top rice-Acc **power-full-Aff** hit-Pst-Dcl

Lit.: ‘John hit the nail powerfully.’

b. John-un encena pap-ul **mas-iss-key** mek-nun-ta

J.-Top always rice-Acc **taste.exist-Aff** eat-Pres-Dcl

Lit.: ‘John always eats rice deliciously.’

Given the parallel between (15) and (16), can we conclude that what occur in resultative or depictive secondary predicate positions in Korean are in fact adverbs? I answer in the negative; cross-linguistic data show that adverbs do not occur in these positions, as illustrated by the English data in (17) (Baker 2003).

- (17) a. *John hammered the nail **flatly**.
 b. *John always eats rice **hotly**.

Which category do words with *-key*-marking fall under then? I propose that they are verbs and the reason why they bear the affix *-key* is that it is a kind of aspectual marker. Evidence comes from the fact that the same morpheme occurs on the verbal secondary predicates in causative constructions, as shown in (18).

- (18) a. Na-nun John-lul mos-ul **ttayli-key** mantul-ess-ta
 I-Top J.-Acc nail-acc **hit-Aff** make-Pst-Dcl
 ‘I made John hit the nail.’
- b. Na-nun John-ul pap-ul **mek-key** ha-ess-ta
 I-Top J.-Acc rice-Acc **eat-Aff** do-Pst-Dcl
 ‘I had/made John eat rice.’

This paradigm shows that lexical items which occur in the secondary positions describing resultant states or depictive states in Korean are essentially no different than typical verbs.

4.3. Absence of quantificational adjectives in Korean

Larson (1999) shows that adjectives like *occasional* in English can be directly predicated of (or quantify over) events introduced outside the noun phrase in which it occurs. To illustrate, consider sentence (19).

(19) [DP An occasional sailor] passed by.

This sentence is two-way ambiguous: if *occasional* takes scope over the sentence and hence quantifies over the set of events that the VP denotes, then (19) can be interpreted as something like (20a). On the other hand, if the adjective stays inside the DP at LF, then the DP receives an intersective reading, as given in (20b).

- (20) a. Occasionally, a sailor passed by.
- b. A person who occasionally sailed passed by.

The proposed analysis predicts that Korean will lack “adjectives” which correspond to quantificational adjectives like *occasional*. The reason is that quantifier-raising is clause-bounded and hence *occasional*-type lexical items cannot be interpreted outside the clause in which they occur, thereby taking scope over the entire sentence, as is the case in (20a).

This prediction is also borne out: Korean indeed does not have quantificational “adjectives” which behave like *occasional* in (19) with the quantificational interpretation given in (20b). Hence the two readings in (20) are expressed by two entirely different structures which contain an adverb *kakkum*, as shown in (21). Note that the two sentences in (21) have different contours as well; in (21a), there is a pause between *kakkum* and *senwon*, whereas, in (21b), there is not.

- (21) a. **kakkum**, senwon-i cinaka-ess-ta
occasionally, sailor-Nom pass.by-Pst-Dcl
‘Occasionally, a sailor passed by’ and
Not ‘a person who occasionally sailed passed by’
- b. [_{e1} **kakkum** senwon-i-ess]-ten₁ salam-i
[**occasionally** sailor-Cop-Pst]-Rel.Pst person-Nom
cinaka-ess-ta
pass.by-Pst-Dcl
‘Someone who occasionally sailed passed by’

4.4. Section summary

In this section, I discussed the predictions of the proposed analysis. First, I showed that it correctly predicts the peculiar categorial status of lexical items like *former*; they belong to a closed, non-adjectival class called Attributive Determinative. The second prediction was concerned with the non-occurrence

of putative KAs in secondary predicate positions which are typically occupied by adjectives. It turned out that these positions are occupied by lexical items which have been analyzed as “adverbs” in traditional grammars, since they involve *-key* affixation. I proposed that words that involve *-key* affixation are not adverbs on the grounds that *-key* also occurs on verbal secondary predicates in causative constructions. In so doing, I showed that what occur in resultative and depictive predicate positions are no different than verbs. Finally, the present analysis predicts that Korean will not have “adjectives” which correspond to quantificational adjectives like *occasional* in English, because putative KAs which occur modifying nouns are predicates inside RCs and hence quantificational adjectives cannot be interpreted outside the clause they occur in.¹⁰ I have shown that this prediction is also borne out.

We now turn to Section 5, which discusses an apparent problem for the present analysis.

5. A challenge posed by the presence of subjective predicates in Korean

In the previous section, I deliberately left out yet another prediction of the present analysis: namely, the unavailability of non-intersective interpretations of adnominal KAs. This prediction follows from the semantics of RCs: in the literature, the semantic type RCs is of <et> and hence they combine with their head nouns via *Predicate Modification (or Conjunction)*, thereby receiving an intersective interpretation with respect to their head nouns (cf. Quine 1960, Heim and Kratzer 1998).¹¹ Given this intersective meaning of RCs, the

proposed analysis predicts that non-intersective predicates will not occur modifying a noun, for they are actually predicates which occur inside RCs.

In this section, I show that this prediction faces a challenge: Korean abounds in non-intersective, subsective predicates such as *nunswukha*- 'skillful' *ttwyena*- 'excellent', *hwulwungha*- 'good' and *ssulmoep*- 'useless' (see Kamp 1975, Kamp and Partee 1995, Partee 1995 for semantic classification of adjectives). I show that once we get the right denotations for subsective predicates, we can readily overcome this challenge.

5.1. Subsective vs. intersective predicates

In the literature, subsective adjectives are treated as non-intersectives, since unlike typical intersective adjectives like *red* or *fat*, they do not support the entailment pattern (22) (e.g., Kamp and Partee 1995, Partee 1995, cf. Landman 2001 for a slightly different view).

- (22) a. John is a **skillful** teacher. (subsective)
 $\neq \Rightarrow$ John is skillful and John is a teacher.
- b. John is a **fat** mathematician. (intersective)¹²
 \Rightarrow John is fat and John is a mathematician.

The reason why subsectives fail this entailment is that they do not refer to specific sets of things that have the same properties. To take the adjective *skillful* in (27a) for example, it does not refer to the set of individuals that are

skillful; rather, it refers to individuals that are skillful at being something, which is in this case a mathematician. In contrast, intersectives denote specific sets of things; for example, *red* refers to the set of things that are red.

For this reason, a syllogism that contains an intersective adjectival modifier allows the adjectival meaning to be inherited from the premise to the conclusion, as shown in (23); if John is a doctor who is fat and who is a violinist, then one can conclude that he is a fat violinist.

- (23) a. John-un **ttwungttwungha-n** uysa-i-ta
 J.-Top **fat-Rel** doctor-Cop-Dcl
 ‘John is a doctor who is fat’
- b. John-un vayolin yencwuka-i-ta
 J.-Top violin player-cop-Dcl
 ‘John is a violin player’
- c. Kulemuro, John-un **ttwungttwungha-n** vayolin
 therefore, J.-Top **fat-Rel** violin
 yencwuka-i-ta
 player-Cop-Dcl
 ‘Therefore, John is a fat violinist’ (VALID)

In contrast, when the syllogism contains a subsecutive adjectival modifier, the argument does not go through, as shown in (24); the premise that John is a skillful and is a doctor does not entail that he is a skillful violinist.

- (24) a. John-un **nungswukha-n** uysa-i-ta
 J.-Top **skillful-Rel** doctor-Cop-Dcl
 ‘John is a doctor who is skillful’
- b. John-un vayolin yencwuka-i-ta
 J.-Top violin player-Cop-Dcl
 ‘John is a violin player’
- c. Kulemuro, John-un **nungswukha-n** vayolin
 therefore, J.-Top **skillful-Rel** violin
 yencwuka-i-ta
 player-Cop-Dcl
 ‘Therefore, John is a skillful violinist’ **(INVALID)**

The fact that Korean has subjective predicates occurring as noun modifiers poses a problem for the present analysis. The reason is that under the present analysis, RCs are interpreted in such a way that predicates which occur inside them will only receive an intersective interpretation. Hence, if adnominal KAs are indeed predicates inside RCs, then they will not have non-intersective meanings.

How do we solve this problem? Before answering this question, I would like to point out that this is a more universal problem than a language-specific one, for it can be a challenge for any analysis that deals with languages where subjectives occur as predicates inside RCs. In fact, English exemplifies one of these languages; it allows not only intersectives but also subjectives to occur

as predicates inside RCs. And the same entailment pattern as the Korean RCs arises, as shown in (25-26).

- (25) a. John is a doctor who is **fat**.
b. John is a violinist.
c. Therefore, John is a violinist who is **fat**. (VALID)

- (26) a. John is a doctor who is **skillful**.
b. John is a violinist.
c. Therefore, John is a violinist who is **skillful**. (INVALID)

Two questions come to mind: (i) why can subsectives occur as predicates inside RCs?, and (ii) how can their non-intersective meanings be kept in tact even when they occur inside RCs, as exhibited by the syllogism failures (24) and (26)?

In what follows, I will show that the answers to these questions can be found in the semantics of subsective predicates.

5.2. Solving the subsective puzzle

Let us begin with the question of what enables subsectives to occur inside RCs despite the potential semantic clash between a non-intersective meaning of a subsective predicate and the intersective interpretation of a RC.

The answer to this question can be drawn from two insightful works on the semantics of adjectives: Siegel (1976, ch. 2) notes that the semantics of some predicates can optionally contain a hidden parameter which gives rise to the so-called "as a reading". Take *a beautiful dancer*, for example. This noun phrase can be interpreted as "a person who is beautiful as a dancer (i.e., she dances beautifully (although she may not be beautiful as a woman).)".

This insightful observation by Siegel has been further extended by Heim (1999). Heim posits that subsective or *skillful*-type adjectives in English invariably take an implicit argument of type $\langle et \rangle$, which is supplied by context.

Inspired by these authors' ideas, I propose (27) as the lexical entry for *nungswukha*- 'skillful'.¹³

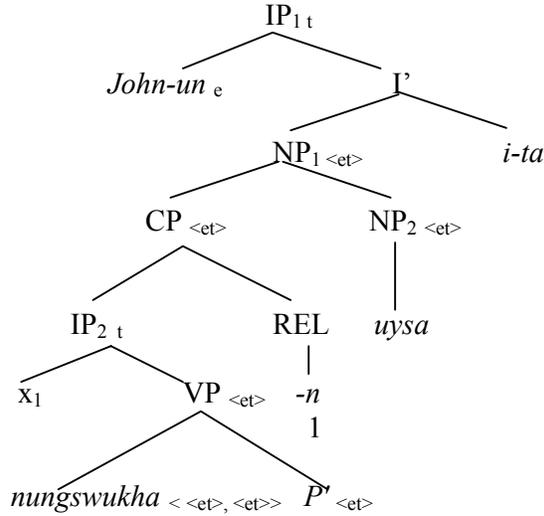
(27) Semantics of subsective predicates in Korean:

$$T(\textit{nungswukha-}) = \lambda P \lambda x [x \text{ is } P \ \& \ x \text{ is skillful as a } P],$$

where P is a free variable, which corresponds to the implicit argument of the adjective in the sense of Heim, and x is its external argument.

Let us now apply this proposal to an actual Korean example and see whether it can correctly derive the meaning for it. First, consider sentence (28a) and its LF representation (28b) (here e is a type for individuals and t for truth-values).¹⁴

- (28) a. John-un [e₁ nungswukha]-n₁ uysa-i-ta
 John-Top [skillful]-Rel doctor-Cop-Dcl
 ‘John is a doctor who is skillful’
- b. LF representation of (28a):



Under the present proposal, the truth-conditions for (28a) can be derived as in (29).

(29) **Derivation of the truth-condition for (28a):**

$$\begin{aligned}
 T(\textit{nunswukha-}) &\equiv \lambda P \lambda x [x \text{ is } P \ \& \ x \text{ is skillful as a } P] \\
 T(\textit{AP}) &\equiv \lambda P \lambda x [x \text{ is } P \ \& \ x \text{ is skillful as a } P](P') \\
 &\equiv \text{via Functional Application (FA)} \\
 &\quad \lambda x [x \text{ is } P' \ \& \ x \text{ is skillful as a } P'] \\
 T(\textit{IP}_2) &\equiv \text{via FA} \\
 &\quad \lambda x [x \text{ is } P' \ \& \ x \text{ is skillful as a } P'](x_1) \equiv \text{via FA}
 \end{aligned}$$

[x_1 is P' and x_1 is skillful as a P']

In the given context, the value for the free variable P is the property of being a doctor. Hence the above is equivalent to the following:

$T(IP_2) \equiv [x_1 \text{ is a doctor and } x_1 \text{ is skillful as a doctor}]$

We can now compute the meaning of the entire relative clause:

$T(CP) \equiv$ via *Predicate Abstraction*

$\lambda x_1 [x_1 \text{ is a doctor and } x_1 \text{ is skillful as a doctor}]$

$T(NP_2) \equiv \lambda y [y \text{ is a doctor}]$

$T(NP_1) \equiv$ via *Predicate Modification*

$\lambda x [\lambda x_1 [x_1 \text{ is a doctor and } x_1 \text{ is skillful as a doctor}](x)$

$\& \lambda y [y \text{ is a doctor}](x)]$

$\equiv \lambda x [x \text{ is a doctor and } x \text{ is skillful as a doctor and } x \text{ is a doctor}]$

Finally, saturating the variable x by substituting it with **John**, we obtain

$T(IP_1) \equiv \lambda x [x \text{ is a doctor and } x \text{ is skillful as a doctor and } x \text{ is a doctor}](\text{John})$

$\equiv \text{John is a doctor and John is skillful as a doctor and John is a doctor.}$

The derived truth-conditions are compatible with native speakers' intuitions about the meaning of the sentence.

In the case of (28a), the value for P was determined sentence-internally: i.e., the value was linguistically present in the relative clause. But this value can come from the context more generally.

Imagine the following scenario: John is a doctor, and the other day he played chess game at a match. John was very good at it and he won the game. Today someone was recalling that game and said (30).¹⁵

(30) ku changki sihap-ey han nungswukha-n uysa-ka
 that chess match-Loc some skillful-Rec doctor-Nom
 iss-ess-ta
 exist-Pst-Dcl

‘At that chess match, there was a skillful doctor’

In the given context, the predicate *nungswukha-* 'skillful' in (30) can be interpreted as skillful at being a chess player rather than at being a doctor. In other words, the value of the implicit argument of the predicate can be a chess player rather than a doctor. Hence we obtain (31) as the semantics for the noun phrase *nungswukha-n uysa* ‘a doctor who is skillful’ in (30).

(31) $T(\textit{nungswukha-n uysa})$

$\equiv \lambda x[x \text{ is a chess player and } x \text{ is skillful as a chess player and } x \text{ is a doctor}](\text{John}) \equiv \text{via } FA$

≡ John is a chess player and John is skillful as a chess player and John is a doctor.

This again matches native speakers' intuitions about the meaning of the noun phrase in the given context. I therefore conclude that the proposed denotation for *nungswukha-* is on the right track.

Let us now return to the question of what is responsible for the syllogism failure in (24): in light of the proposed denotation for *nungswukha-* type predicates, the invalidity of the argument stems from the fact that the implicit argument of *nungswukha-* in (24a) is different from that in (24c), the former being a doctor and the latter being a violinist.

We can fix this syllogism failure by filling in the implicit arguments in the first premise and the conclusion, based on our intuitions about the meanings of these sentences, as shown in (32) (compare with (24)).

- (32) a. John-un **uysa-lose** nungswukha-n uysa-i-ta
 J.-Top **doctor-as** skillful-Rel doctor-Cop-Dcl
 ‘John is a doctor who is skillful **as a doctor**’
- b. John-un vaiolin yencwuka-i-ta
 J.-Top violin player-Cop-Dcl
 ‘John is a violin player’

- c. Kulemuro, John-un **uysa-lose** nungswukha-n vaiolin
therefore, J.-Top **doctor-as** skillful-Rel violin
yencwuka-i-ta
player-Cop-Dcl

‘Therefore, John is a violinist who is skillful **as a doctor**’ (VALID)

The validity of the conclusion in (32) shows that by positing a free variable in the denotation of *nungswukha*-type predicates, we can correctly capture the semantics of these predicates in the given context without further stipulations.

5.3. Section summary

In this section, I demonstrated that the presence of subsecutive predicates in Korean does not pose a problem for an intersective analysis of RCs. In order to capture the inheritance of the subsecutive meaning of *nungswukha*-type predicates through RCs, I proposed that their denotations contain a free variable, whose value is determined by context. Due to this context-dependent nature of subsecutive predicates, we can correctly derive their meanings, regardless of the syntactic environment in which they occur.

6. Concluding Remarks

The thesis of the present paper is two-fold: (i) what have been traditionally analyzed as adjectives in Korean are actually stative verbs and (ii) putative adjectives which seem to occur attributively are in fact predicates inside

relative clauses. I showed that despite the absence of adjectives, Korean has a way of expressing various adjectival meanings such as intersective and subsecutive meanings: that is, it utilizes the relative clause construction.

The present paper leaves two topics for future research: (i) why some languages have adjectival adjectives and some don't and why that is the case; and (ii) what are the principles that govern the mapping between a morpho-syntactic category and a semantic category across languages.

Notes

¹ For the transcription of the Korean data presented in the paper, the Yale Romanization has been adopted and following abbreviations are used:

Acc: accusative case; Aff: affix; Comp: complementizer; Cop: copula; Csl: casual style; Dcl: declarative sentence; Fml: formal style; Loc: locative; Nom: nominative case; Perf: perfective aspect; Pres: present tense; Pst: past tense; Rel: relative clause marker; Top: topic.

² In this paper, I analyze the morpheme *-n* (or its allomorphs), which links an adjective and the noun it modifies, to be identical with the relative clause marker in Korean.

³ Martin (1992: 88-89), for instance, classifies adjectives in Korean as "descriptive verbs", but he does not provide arguments for such a classification. On the other hand, Mok (2002) submits that the lexical category which has been traditionally analyzed as Adjective is not Adjective, but a kind of verbal category. But, contra the present analysis, he argues that Korean does have an adjective category, which consists of the so-called "attributive determinatives" or "adnoun modifiers"

(e.g., *say* ‘new’, *kwukcey* ‘international, and *ywumyeng* ‘famous’). The motivation for this claim is that the category of Attributive Determinative does not exist in other languages and hence it would be better to reanalyze this peculiar category.

There are several problems with this reanalysis, however. One problem with this approach is that the number of lexical items which belong to this category is limited, suggesting that it is not an open category. The other is that words which belong to this class are mostly loan words from Chinese, which receive quantifier phrase-like (e.g., *kwuk-kcey* ‘every-nation’ or relative-clause like interpretations (e.g., *ywu-myeng* ‘exist-fame’), due to their complex morphological make-up. I leave further discussion of this analysis for another occasion.

⁴ James Yoon pointed out to me that lexical items such as *say* ‘new’, *hen* ‘old’, *hes* ‘useless’, and *mayn* ‘most’ may constitute a small class of adjectives which occur only attributively, as shown in (i).

- (i) a. *say* *cip*
 new house
- b. **ku* *cip-un* *say-ta*.
 that house-Top new-Dcl

Although I appreciate this observation, I doubt that they would constitute a serious problem for the present claim; standard Korean grammars list such lexical items under the rubric of "attributive determinatives" on the grounds that they are limited in number and behave differently than typical "adjectives" in Korean (e.g., Suh 1996:567-571). Even if these words turn out to be real adjectives, however, they form such a small class that it would be hard to argue that Korean has an open

category of Adjective. So Korean would fall together with languages such as Japanese and Hausa. See fn. 3.

⁵Suh (1996), however, makes a brief observation that adjectives in Korean can be classified as stative verbs because they pattern with verbs in terms of inflection. But he follows the traditional practice of lexical classification and thus assumes that there is a distinct class of Adjective, whose primary function is the predicative use and whose secondary function is the attributive use (p. 726-727).

⁶ Some authors further classify adjectives as “descriptive verbs” or “subjective psych-verbs” depending on their semantics (see Mok 2002: 73). But further classification of them is not an important issue for the present paper. Hence I simply label them as stative verbs.

⁷ Note that, in Korean, tense and aspect marking on predicates inside RCs works slightly differently than it does in declarative sentences: the relative marker *-n* varies depending on the tense/aspect of the RC, so the predicate inside a RC does not necessarily have to mark tense/aspect, as shown in (i).

- (i) a. [e₁ Mali-lul salangha]-**ten**₁ namca
[M.-Acc love]-Rel (past) man
‘the man who loved (used to love) Mary’
- b. [e₁ Mali-lul mana]-**I**₁ namca
[M.-Acc meet]-Rel (future) man
‘the man who will meet Mary’

⁸ Kuno (personal communication) contends that the ability to modify nouns is not a reliable diagnostic to tell whether a lexical item in Korean is an adjective or not, because Korean is an agglutinative language whose predicates are bound morphemes.

It is therefore surprising that Korean adjectives can modify a noun only when they attach to another morpheme.

But this line of thinking is not convincing for the following reason. Suppose the agglutinative aspect of Korean is wholly responsible for KAs' inability to directly modify nouns. Then it is puzzling why KAs are not free morphemes; note that nouns in Korean are free morphemes even though they can also occur as predicates, and, unlike adjectives, they can directly modify another noun, as shown in (i).

- (i) a. Mali-nun **swuhak** **sensayng-i-ta**
M.-Top math teacher-Cop-Dcl
'Mary is a math teacher'
- b. Mali-nun **yachay** **sicang-e** ka-ess-ta
M.-Top **vegetable** **market-to** go-Pst-Dcl
'Mary went to the vegetable market'

In view of the fact that Korean has predicates which can stand alone, I conclude that the agglutinative aspect of Korean does not provide an argument against the present claim.

⁹ One might wonder why the "-*ko iss-ta*" form, which is roughly paraphrased as "*be -ing*" in English, can co-occur with typical stative verbs like *al-* 'to know' and *salangha-* 'to love', but not with putative adjectives like *yeppu-* 'to be pretty' in Korean, as shown in (i).

- (i) a. Na-nun ku sasil-ul **al-ko** **iss-ta**
I-Top the fact-Acc **know-Comp** **exist-Dcl**
'Lit.: I'm in the state of knowing the fact'

b. *Na-nun **yeppu-ko** **iss-ta**

I-Top **pretty-Comp** **exist-Dcl**

If KAs are indeed stative verbs, why do they behave differently than "typical" stative verbs with respect to their co-occurrence with *-ko issta*? (I thank an anonymous reviewer for the proceedings of HUMIT 2001 for pointing out this potential problem.)

I believe that this is a non-trivial question which involves the syntax and semantics of the "*-ko issta*" construction, not to mention the lexical semantics of stative verbs in Korean. However, I suspect that the answer to this question might be rather straightforward: it may be the case that verbs like *al*-‘know’ and *salangha*-‘love’ are not stative verbs; if they were, they would not combine with progressive-marking morphology, namely, *-ko issta*.

In fact, support for this line of reasoning is found in work on aspect in Korean: Ahn (1995) proposes that verbs like *al*- ‘to know’ are not stative verbs; rather, they are a kind of achievement verbs.

Further support also comes from other languages: recent research on Japanese verbal meanings (Kindaichi 1950 and Ogihara 1998) shows that Japanese verbs corresponding to ‘to know’, ‘to love’, and ‘to live’ are not statives; they are "instantaneous" verbs and hence can co-occur with *te iru*, which refers to states after culmination of events (I thank Makoto Kadowaki for providing the references). In addition, Barbara Partee pointed out to me that verbs like ‘to know’ and ‘to understand’ in Russian and even in English can have both perfective and imperfective meanings, suggesting that their aspectual structures are quite complex.

On the basis of these facts, I conclude that the incompatibility of putative Korean adjectives with *-ko issta* cannot be a challenge for their stativity.

¹⁰ One might wonder whether Korean has the so-called "modal" predicates (e.g., *alleged*, *arguable*, and *potential*), which state relations between possible worlds and time variables (see Kamp 1975 and Landman 2001, among others).

As a matter of fact, Korean does have several of them. Interestingly enough, however, none of them behaves like a stative verb; they either consist of multiple lexical items, as shown in (i), or belong to a Noun class, as shown in (ii).

- (i) [e_1 salinca-lo **hyemuy(-lul)** **pat**]-un₁ salam
 [murderer-as **suspicion(-acc)** **received**]-rel person
 ‘a person alleged to be a murderer’ (Lit.: ‘a murderer who received suspicion’)
- (ii) **camcay-cek** mwuncey
potentially.present-AFF problem
 ‘a potential problem’

Example (i) shows that the closest Korean translation for *alleged* is a RC with clausal predicate inside it, while (ii) shows that *camce-cek* is a noun; note that lexical items ending with *cek* are all of Sino-Korean origin and classified as nouns.

It is curious why modal predicates in Korean do not have verbal properties. Incidentally, modal predicates in Japanese are also non-verbal predicates of Sino origin (Makoto Kadowaki personal communication). I leave this topic for future research.

¹¹ Heim and Kratzer (1998:126) offer (i) as a formal definition of *Predicate Modification*:

- (i) *Predicate modification*: If α is a branching node, $\{\beta, \gamma\}$ is the set of α 's daughters, and $[[\beta]]$ and $[[\gamma]]$ are both in $D_{\langle et \rangle}$, then $[[\alpha]] = [\lambda x. x: [[\beta]](x) = 1 \text{ and } [[\gamma]](x) = 1]$.

¹² Adjectives like *fat* can be considered vague, because, depending on the comparison class, the degree to which one person is fat may vary. But this vague aspect of *fat* is not so important for our present purposes. Hence I treat it like a non-vague intersective adjective.

¹³ Landman (2001) argues that subsectives not only take individuals but also an ordered set of degrees. For simplicity, I ignore the possible presence of degree variables inside subsective predicates.

¹⁴ In this paper, I assume that relative clauses in Korean involve invisible operator movement, which is indicated by the index under the relative clause marker $-(nu)n$ in the LF representation (28b).

¹⁵ I thank Barbara Partee for suggesting this scenario.

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