

## Degree Quantification and the Size of Noun Modifiers

The Issue Traditionally, the direct attributive use of adjectives as in (1) has been considered a characteristic property of adjectives. Recent studies suggest, however, that some languages lack direct modification by adjectives entirely and that they only allow for indirect modification using relative clauses as in (2) (e.g. Korean in (3): M.-J. Kim 2002; Slave: Baker 2003).

- (1) [AP expensive] flowers direct modification  
 (2) a. flowers [CP which<sub>i</sub> [TP e<sub>i</sub> are expensive]] indirect modification  
       b. flowers [CP which<sub>i</sub> [TP John bought e<sub>i</sub>]]  
 (3) [e yeppu]-n yeca Korean (M.-J. Kim 2002)  
       pretty-REL woman  
       ‘The/a woman who is pretty’

At a first glance, adjectival modifiers in Japanese seem to fit into this group of languages, as suggested by Baker (2003). This is in fact a widely accepted view on Japanese adjectival modification (e.g. Kuno 1973, Shibatani 1978, Whitman 1981, Dixon 1982, Miyagawa 1984, Makino and Tsutsui 1986, Urushibara 1993, Nishiyama 1999, 2005). Unlike their English counterparts, Japanese adjectival modifiers as in (4) are consistent with a relative clause parse in (5) due to the uniform modifier-NP word order, the lack of overt relative pronouns, and the unclear status of the morpheme *-i*. The morpheme *-i* has often been assumed to be a present tense morpheme or a present-tensed form of copula.

- (4) [utsukushi-i] hana  
       beautiful-I flower  
       ‘beautiful flowers’  
 (5) [CP Op<sub>i</sub> [TP e<sub>i</sub> utsukushi-i]] hana  
       beautiful-I flower  
       ‘flowers that are beautiful’

The idea that some apparent attributive uses of adjectives have predicative sources in relative clauses has also been proposed for English (e.g., Smith 1961, Ross 1967, Kayne 1994, Larson 1999) and Chinese (Sproat and Shih 1991), for example.

Goals In this paper, we present evidence that modification without the support of CP and TP layers does exist in Japanese. Though syntactic evidence for the presence of direct modifiers is hard to come by, we show that the scope of degree quantifiers can be used as a probe into the structure of direct vs. indirect modifiers. The results indicate that adjectival modifiers and clear cases of relative clauses do not show the same range of interpretations, suggesting that after all, adjectival modifiers in Japanese cannot be assimilated to relative clauses. This provides further support for works by Kusumoto (1999) and Yamakido (2005), which look at, among other things, the temporal interpretation of adjectival modifiers and compare that with clear cases of relative clauses, and show that they behave differently.

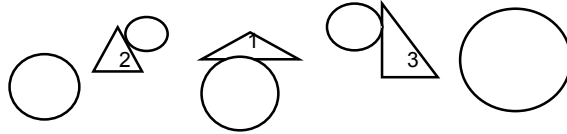
Scope islands for quantifiers over degrees In examining the size of noun modifiers, we look at the availability of the so-called comparative reading of superlative noun phrases as in (6)b (Ross 1964, Jackendoff 1972, Szabolcsi 1986, Heim 1999, etc.).

- (6) John climbed the highest mountain. (Szabolcsi 1986)  
 a. Absolute reading  
    John climbed a mountain that is higher than any other mountain.  
 b. Comparative reading  
    John climbed a higher mountain than anyone else did.  
 = John ranks highest in terms of how high a mountain he climbed.

Comparative readings are said to be sensitive to scope islands (Szabolcsi 1986). Thus, the comparative reading in (8) is not available in (7)b, for example, where the superlative morpheme

-est occurs inside the finite relative clause. Example (7)a has a reading that is judged to be true in the scenario in (9), while example (7)b does not. The derivation of the comparative reading by -est movement at least to the left edge of the main clause VP (Heim 1999; Aihara 2007 for Japanese) derives this contrast.

- (7) a. Triangle 1 touches the [largest] circle. *Absolute/Comparative*  
 b. Triangle 1 touches the circle [that is largest]. *Absolute/\*Comparative*  
 (8)  $\exists d$ [Triangle 1 touches a d large circle &  $\forall y$ [ $y \in C$  &  $y \neq x \rightarrow y$  does not touch a d large circle]] (C = the contextually determined set of triangles)  
 (9)



The lack of scope island effect in Japanese adjectival modifiers Turning to Japanese, we observe that sentence (10) has a reading in which it is true in the above scenario. This shows that *ookii* ‘large’ in (10) behaves more like *large* in English rather than the relative clause *that is large*, as shown in (11).

- (10) Kono sankakkei-ga [[mottomo/ichiban ooki-i] en]-ni sessiteiru.  
 this triangle-NOM most large-I circle-DAT touch  
 ‘This triangle touches the largest circle.’

- (11) a. [This triangle] [**mottomo**<sub>1</sub> [a [<sub>t<sub>1,d</sub></sub> large] circle] touches]  
 b. \*[This triangle] [**mottomo**<sub>1</sub> [a [that [<sub>TP</sub> is t<sub>1,d</sub> large]] circle] touches]

It should be noted that superlative noun phrases in Japanese do exhibit scope island effect elsewhere. When the superlative morpheme needs to move out of a clearly finite relative clause as in (12)b, the comparative reading becomes unavailable.

- (12) a. Taro-ga [[mottomo/ichiban omoshiro-i] hito]-o syuzaishita.  
 Taro-NOM most funny-I person-ACC interviewed  
 ‘Taro interviewed the funniest person.’ *ok Comparative*  
 b. Taro-ga [[mottomo/ichiban omoshirok-at-ta] hito]-o syuzaishita.  
 Taro-NOM most funny-COP-PAST person-ACC interviewed  
 ‘Taro interviewed the person who was/had been funniest.’ *\*Comparative*

Conclusion Japanese adjectival modifiers do not show the scope island effect for degree quantifiers that is expected under the standard view that they are finite relative clauses. If our conclusion is on the right track that Japanese adjectives form direct modifiers without TP/CP layers, no stipulation is necessary to block direct modification in this language, even though the possibility of indirect modification without tense needs to be examined (Bhatt 1999). Our result also suggests a need to reexamine claims made for adjectival modifiers in other languages (e.g. Korean, Chinese). In more general terms, the paper addresses the question of how we can tell what functional projections are present in places where it is not obvious from what we can see overtly (Matthewson 2006).

#### Selected references

Baker, Mark C. (2003) *Lexical Categories: Verbs, Nouns, and Adjectives*, Cambridge University Press, Cambridge. Heim, Irene (1999) ‘Notes on superlatives,’ ms., MIT. Kim, Minjoo (2002) ‘The absence of the adjective category in Korean,’ Proceedings of the 2002 International Conference on Korean Linguistics, Hankwuk Mwonhwas: Seoul, Korea. Kusumoto, Kiyomi (1999) *Tense in Embedded Contexts*, Ph.D. dissertation, UMass, Amherst. Matthewson, Lisa (2006) Temporal Semantics in a Supposedly Tenseless Language. *Linguistics and Philosophy* 29:673-713. Yamakido, Hiroko (2005) The nature of adjectival inflection in Japanese. PhD dissertation, SUNY Stony Brook.