

# THE STRUCTURES OF MODALITY IN KOREAN\*

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## 1 Introduction

Korean has some nouns which are used for expressing ability, possibility and necessity, such as *swu* ('ability/possibility'), *li* ('(circumstantial) possibility'), and *philyo* ('necessity'). As with modal expressions familiar from other languages, for example English *can*, *swu* allows both dynamic (ability) and epistemic (possibility) interpretations. In contrast, *li* only has an epistemic interpretation. These nouns appear in construction either with *iss-ta* ('exist') or *eps-ta* ('not exist'). All of the constructions have the superficial form:

- (1) Subject . . . Embedded-Predicate-ADNOM.FORM Noun *iss-ta/eps-ta*

The main previous discussions on this topic are Ha (2007) and Chung (2007).

The semantic types of modality can initially be classified as follows (e.g., Palmer (2001)):

- (2) a. epistemic: based on our knowledge
- b. deontic: external constraints on an individual
- c. dynamic: internal properties of an individual

although there are more (Kratzer (1981), von Stechow (2006)). In this paper (for simplicity) I only consider examples with epistemic or dynamic modals.

Regarding the syntactic structures, Brennan (1993) suggested for English modals that epistemic modals are raising verbs and dynamic modals are control verbs (see also Jackendoff (1972)). This division has been challenged in more recent literature. The only general approach is to treat all modal verbs as syntactic raising verbs (e.g., Wurmbrand (1999), Hacquard (2006)) with a range of semantic relations for different modal interpretations (Kratzer 1981). However, Korean does show syntactic differences in the different modal interpretations, and these

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differences are the focus of this paper. There are two interpretations with the noun *swu*, as shown in (3a-b). The overall structure of the clause is determined by the verb *iss-ta*, which takes a nominative subject and a complement that is either nominative or unmarked (see (3c)):<sup>1</sup>

- (3) a. mina-ka nolay-lul pwulu-l swu(-ka) iss-ta  
 Mina-NOM song-ACC sing-ADN possibility(-NOM) exist-DEC  
 ‘It is possible that Mina sings.’ (epistemic)
- b. mina-ka nolay-lul pwulu-l swu(-ka) iss-ta  
 Mina-NOM song-ACC sing-ADN ability(-NOM) exist-DEC  
 ‘Mina is able to sing.’ (dynamic (ability))
- c. mina-ka yongki(-ka) iss-ta  
 Mina-NOM courage(-NOM) exist-DEC  
 ‘Mina has courage.’ ~ ‘Mina is courageous.’

(4) illustrates *li*, which has only an epistemic interpretation, and appears with a negative verb (or more generally, in a downward-entailing context):

- (4) mina-ka nolay-lul pwulu-l li(-ka) eps-ta  
 Mina-NOM song-ACC sing-ADN possibility(-NOM) not.exist-DEC  
 ‘It is not possible that Mina sings.’ (epistemic)

As argued by Chung (2007) and Ha (2007), there are two different surface structures; I present the details below. In the epistemic interpretation, the matrix predicate *iss-ta/eps-ta* is 1-place and takes a single internal argument. In the dynamic interpretation, the matrix predicate is 2-place, and the overall structure is a control structure.

There are ways to distinguish the two interpretations. Putting *mos* ‘cannot’ or past tense in the embedded CP forces an epistemic interpretation of the modal noun:

- (5) a. mina-ka ku mwuncey-lul phwu-l swu iss-ta  
 Mina-NOM that problem-ACC solve-ADN ability/possibility exist-DEC  
 ‘Mina can solve the problem.’ (dynamic or epistemic possible)
- b. mina-ka ku mwuncey-lul mos phwu-l swu iss-ta  
 Mina-NOM that problem-ACC cannot solve-ADN possibility exist-DEC  
 ‘It is possible that Mina is not able to solve the problem.’ (epistemic only)
- c. mina-ka ku mwuncey-lul phwul-ess-ul swu iss-ta  
 Mina-NOM that problem-ACC solve-PAST-ADN possibility exist-DEC  
 ‘It is possible that Mina solved the problem.’ (epistemic only)

The same distinguishing elements are evident in (6):

- (6) a. mina-ka halwucongil TV-lul mos po-l swu iss-ta  
 Mina-NOM all day long TV-ACC cannot watch-ADN possibility exist-DEC  
 \* ‘Mina is able to not be able to watch TV all day long.’  
 ‘It is possible that Mina cannot watch TV all day long.’

<sup>1</sup> Korean-specific abbreviations used in this paper: ADN (adnominal), PROC (processive), DEC (declarative).

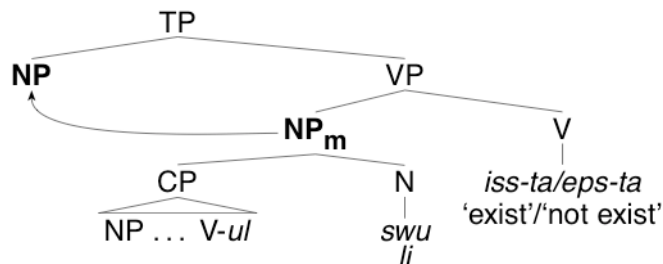
- b. mina-ka halwucongil TV-lul po-ass-ul swu iss-ta  
 Mina-NOM all day long TV-ACC watch-PAST-ADN possibility exist-DEC  
 \* ‘Mina is able to have watched TV all day long.’  
 ‘It is possible that Mina has watched TV all day long.’

## 2 Structures of Korean Modal Verbs

### 2.1 The Epistemic Structure

I propose (7) for the epistemic structure, which I refer to as the ‘propositional complement’ structure, with a 1-place matrix predicate. As can be seen, the single argument headed by the modal noun becomes the surface subject during the syntactic derivation.

- (7) Propositional complement structure for epistemic modals



How do we know that the surface subject of the clause is **NP<sub>m</sub>** rather than the NP subject from within the CP? The latter would correspond to subject-to-subject raising as in English. We can test this in Korean by considering whether the NP subject of the CP shows evidence of being a matrix surface subject or an embedded subject.

First, the nominative subject of an individual-level predicate necessarily receives an ‘exhaustive’ interpretation in Korean (as in Japanese, see e.g., Kuno (1973)). The effect goes away in embedded clauses:

- (8) a. mina-ka chencay-i-ta  
 Mina-NOM genius-COP-DEC  
 ‘(Of all the relevant people,) it is Mina who is a genius.’ (exhaustive)  
 b. na-nun [mina-ka chencay-i-la-ko] sayngkakha-n-ta  
 I-TOP [Mina-NOM genius-COP-DEC-COMP] think-PROC-DEC  
 ‘I think that Mina is a genius.’ (neutral reading possible)

Now, epistemic modal structures pattern like (8b); the neutral reading is possible, and this would not be possible if *mina-ka* were a surface matrix subject:

- (9) [mina-ka chencay-i-l] swu iss-ta  
 [Mina-NOM genius-COP-ADN] possibility exist-DEC  
 ‘It is possible that Mina is a genius.’ (neutral reading possible)

Second, *nun* in Korean usually marks a topic, but in embedded contexts, a *nun*-marked NP necessarily receives a contrastive interpretation:

- (10) a. mina-nun chencay-i-ta  
 Mina-TOP genius-COP-DEC  
 ‘Mina (topic) is a genius.’ ~ ‘As for Mina, she is a genius.’  
 b. na-nun [mina-nun chencay-i-la-nun] sasil-ul a-n-ta  
 I-TOP [Mina-CONTR genius-COP-DEC-ADN] fact-ACC know-PROC-DEC  
 ‘I know (the fact) that MINA is a genius.’ (necessarily contrastive)

Once again, epistemic modal structures pattern like (10b), and the NP in question receives a necessarily contrastive interpretation, showing that it is not a matrix constituent:

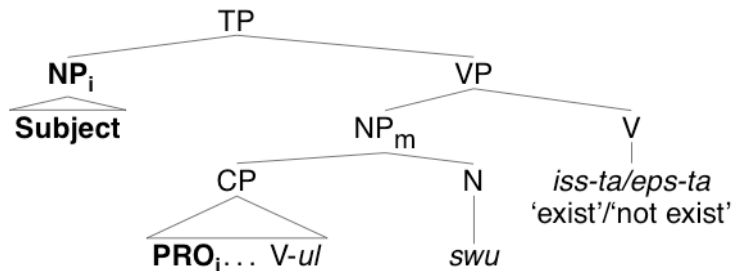
- (11) [mina-nun chencay-i-l] swu iss-ta  
 [Mina-CONTR genius-COP-ADN] possibility exist-DEC  
 ‘It is possible that MINA is a genius.’ (necessarily contrastive)

In summary, the epistemic structure does not involve subject-to-subject raising, and the initial NP is part of an embedded CP. In section 2.3, I contrast this with an independent subject-to-subject raising construction in Korean.

## 2.2 The Dynamic Structure

For dynamic modals, I propose that the matrix predicate is 2-place, and the NP headed by the modal noun remains VP-internal. This is a control structure, as shown by the coindexing in (12):

- (12) Control structure for dynamic modals



With the dynamic interpretation, the initial NP behaves like a matrix subject. In contrast to (9) and (11) above, a nominative-marked subject gets the exhaustive interpretation, and a *nun*-marked subject gets the topic interpretation:

- (13) a. mina-ka nolay-lul pwulu-l swu iss-ta  
 Mina-NOM song-ACC sing-ADN ability exist-DEC  
 ‘(Of all the people,) it is Mina who is able to sing.’  
 b. mina-nun nolay-lul pwulu-l swu iss-ta  
 Mina-TOP song-ACC sing-ADN ability exist-DEC  
 ‘Mina (topic) is able to sing.’

Another useful test is honorific-marking on predicates, which covaries with the subject, as illustrated in (14); the honorific marker on the verb, *si*, agrees with the boldfaced referential NP. Honorific marking is not possible on the matrix predicate in (14b) when the honorific subject is in the embedded clause.

- (14) a. na-nun [ku **pwun-i** hyenmyengha-**si**-ta-ko] sayngkakha-n-ta  
 I-TOP [that person(hon.)-NOM be.wise-HON-DEC-COMP] think-PROC-DEC  
 ‘I think that that person (hon.) is wise (hon.).’  
 b. \*na-nun [ku **pwun-i** hyenmyengha-ta-ko] sayngkakha-**si**-n-ta  
 I-TOP [that person(hon.)-NOM be.wise-DEC-COMP] think-HON-PROC-DEC  
 ‘I think (hon.) that that person (hon.) is wise.’

In the modal structures, honorific marking on the matrix predicate is only possible with a dynamic interpretation. In the examples in (15), each embedded predicate can be honorific-marked. However, if honorific marking is present on the matrix predicate, a dynamic interpretation is necessary. The examples (15b-c) contain the elements mentioned above in (5) which force an epistemic interpretation of the modal, and honorific marking on the matrix predicate is not possible.

- (15) a. ku **pwun-i** ku mwuncey-lul phwul(-**usi**)-l swu  
 that person(hon.)-NOM that problem-ACC solve(-HON)-ADN ability  
 iss(-**usi**)-ta  
 exist(-HON)-DEC  
 ‘That person (hon.) is (hon.) able to solve (hon.) the problem.’  
 b. ku **pwun-i** ku mwuncey-lul phwul(-**usi**)-ess-ul  
 that person(hon.)-NOM that problem-ACC solve(-HON)-PAST-ADN  
 swu iss(\*-**usi**)-ta  
 possibility exist(\*-HON)-DEC  
 ‘It is possible that that person (hon.) solved (hon.) the problem.’  
 c. ku **pwun-i** ku mwuncey-lul mos phwul(-**usi**)-l  
 that person(hon.)-NOM that problem-ACC cannot solve(-HON)-ADN  
 swu iss(\*-**usi**)-ta  
 possibility exist(\*-HON)-DEC  
 ‘It is possible that that person (hon.) is not able to solve (hon.) the problem.’  
 d. ku **pwun-i** ku mwuncey-lul phwul(-**usi**)-l swu  
 that person(hon.)-NOM that problem-ACC solve(-HON)-ADN ability  
 iss(-**usi**)-ess-ta  
 exist(-HON)-PAST-DEC  
 ‘That person (hon.) was (hon.) able to solve (hon.) the problem.’

These facts are predicted by the structures above in (7) and (12). In the epistemic structure in (7), which is the structure of (15b-c), there is no matrix referential NP subject to trigger honorific marking on the matrix predicate.

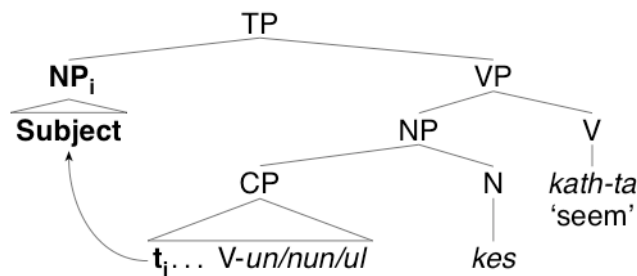
### 2.3 A Raising Predicate: *kes kath-ta*

Korean does in fact have true subject-to-subject raising. The predicate *kes kath-ta* has the meaning of ‘seem’ and is a true raising predicate (Choi 1988); the behaviour of this construction is similar to *rasii* (‘seem’) in Japanese, discussed by Nakau (1973).

- (16) mina-ka chencay-i-n kes kath-ta  
 Mina-NOM genius-COP-ADN *kes* seem-DEC  
 ‘Mina seems to be a genius.’

The nominative NP of this predicate shows matrix subject properties.

- (17) Structure for raising predicates



The raised subject  $NP_i$  has an exhaustive interpretation with an individual-level predicate when marked nominative, and *nun*-marking does not induce a contrastive interpretation:

- (18) a. mina-ka chencay-i-ta  
 Mina-NOM genius-COP-DEC  
 ‘It is Mina who is a genius.’ (exhaustive interpretation)  
 b. mina-ka chencay-i-n kes kath-ta  
 Mina-NOM genius-COP-ADN *kes* seem-DEC  
 ‘It is Mina who seems to be a genius. (exhaustive interpretation)
- (19) mina-nun chencay-i-n kes kath-ta  
 Mina-TOP genius-COP-ADN *kes* seem-DEC  
 ‘Mina (topic) seems to be a genius.’ (no contrastive interpretation)

The interpretations of the initial NP in this raising structure contrast with the interpretations of the initial NP in the epistemic modal structures, showing that (17) cannot be the structure for epistemic modals in Korean, and supporting the analysis in (7).

## 3 Negation, NPIs and Modal Structures

In the structures that I am considering, each clause can be independently negated. (20) illustrates this with the raising construction. I refer to the negation (underlined in the examples) as ‘internal’ and ‘external’, as in (20b) and (20c) respectively.

- (20) a. pi-ka o-l kes kath-ta  
rain-NOM come-ADN *kes* seem-DEC  
'It seems to rain.'
- b. pi-ka o-ci anh-ul kes kath-ta  
rain-NOM come-COMP NEG-ADN *kes* seem-DEC  
'It seems to not rain.'
- c. pi-ka o-l kes kath-ci anh-ta  
rain-NOM come-ADN *kes* seem-COMP NEG-DEC  
'It does not seem to rain.'

### 3.1 Modals and NPI Licensing

Now let us consider the interaction of negation with the modal structures. With internal negation, *swu* can have either modal interpretation:

- (21) mina-ka halwucongil TV-lul an po-l swu iss-ta  
Mina-NOM all day long TV-ACC NEG watch-ADN ability/possibility exist-DEC  
'Mina is able to not watch TV all day long.'  
'It is possible that Mina does not watch TV all day long.'

However, with external negation, the dynamic (ability) interpretation is expressed by *swu* but the epistemic interpretation by *li*.<sup>2</sup>

- (22) a. mina-ka ku mwuncey-lul phwu-l swu eps-ta  
Mina-NOM that problem-ACC solve-ADN ability not.exist-DEC  
'Mina is not able to solve the problem.'
- b. mina-ka ku-lul chotayha-l li eps-ta  
Mina-NOM he-ACC invite-ADN possibility not.exist-DEC  
'It is not possible that Mina will invite him.'

With this background, I now consider the interactions of the modals, negations, and Negative Polarity Items (NPIs). An NPI in Korean must be a clause-mate with its licensing negation, and in fact must take immediate scope over that negation (see Lee (1996), Kim (1999), Sells and Kim (2006), Sells (to appear)).

Hence an NPI in (23a) must scope just over the inner negation and under *swu*, while an NPI in (23b) must scope over the outer negation, over *swu*. In these examples, the first one has an epistemic interpretation, but the second one only has a dynamic interpretation:

- (23) a. amwuto moim-ey an o-l swu iss-ta  
*anyone* meeting-to NEG come-ADN possibility exist-DEC  
'It is possible that no one will come to the meeting.'
- b. amwuto moim-ey o-l swu eps-ta  
*anyone* meeting-to come-ADN ability not.exist-DEC  
'No one is able to come to the meeting.'

<sup>2</sup> As noted in the introduction, *li* is lexically specialized to appear in downward-entailing contexts.

In order to be licensed, we expect that the NPI must be a constituent of the embedded clause in (23a), with internal negation, but be in the matrix clause in (23b), due to the external negation. The fact that (23a) is only interpreted as an epistemic modal follows from the structure I have proposed, as the subject NPI *amwuto* is necessarily a constituent of the clause embedded under the modal noun. The opposite is true for (23b) – *amwuto* must be a matrix subject, and therefore the structure is a control structure, giving the dynamic interpretation.

Now consider the examples in (24). (24a) has a dynamic interpretation, because the NPI has to be in the matrix clause to be licensed, and is naturally interpreted as the thematic subject of a control predicate in that position. The NPIs in (24b) and (24c) are objects, and their presence forces the linearly preceding subject also to be interpreted in the matrix clause, resulting in a dynamic interpretation once more.<sup>3</sup>

- (24) a. *amwuto* *ku* *il-ul* *ha-l* *swu* *eps-ta*  
*anyone* that work-ACC do-ADN ability not.be-DEC  
 ‘No one is able to do the work.’ (NPI > ¬ >  $\diamond_d$ )
- b. *mina-nun* *amwukesto* *ha-l* *swu* *eps-ta*  
*Mina-TOP anything* do-ADN ability not.be-DEC  
 ‘Mina is not able to do anything.’ (NPI > ¬ >  $\diamond_d$ )
- c. *mina-ka* *amwukesto* *ha-l* *swu* *eps-ta*  
*Mina-NOM anything* do-ADN ability not.be-DEC  
 ‘It is Mina who is not able to do anything.’ (NPI > ¬ >  $\diamond_d$ )

With the necessarily epistemic noun *li*, which must appear in the structure (7), constituents of the embedded clause do not normally scope out of that clause, and hence scope under *li*. The examples in (25) have external negation, which therefore scopes widest:

- (25) a. *haksayng* *motwu-ka* *moim-ey* *o-ass-ul* *li* *eps-ta*  
 student all-NOM meeting-to come-PAST-ADN possibility not.exist-DEC  
 ‘It is not possible that all the students came to the meeting.’ (¬ >  $\diamond_e$  > *all*)
- b. *mina-man* *moim-ey* *o-ass-ul* *li* *eps-ta*  
 Mina-only meeting-to come-PAST-ADN possibility not.exist-DEC  
 ‘It is not possible that only Mina came to the meeting.’ (¬ >  $\diamond_e$  > *only*)

No other scope relations are possible for these examples.

### 3.2 NPI Licensing and Scrambling

From what I have shown above, there is an apparent prediction: no NPI will scope over external negation if the modal has a epistemic interpretation (as the NPI should be contained within the clause embedded under the modal noun). In fact, some examples where an NPI scopes over external negation are grammatical, but only where scrambling of the NPI out of the propositional complement is possible (see also Chung (2007)). The examples below show that only NPIs allow such scrambling; no other quantificational phrases (*only*-phrases, QNPs) seem to take scope out of a propositional complement.

<sup>3</sup> In the formulae,  $\diamond_d$  indicates a dynamic modal and  $\diamond_e$  indicates an epistemic modal.



The acceptability of these structures is directly correlated with the ability of the NPI to scramble out of the embedded clause into the matrix clause, where negation is. The discussion around examples (25) might lead us to expect that the examples in (26), with the necessarily epistemic *li*, and external negation, should be ungrammatical, but in fact they are grammatical:

- (26) a. amwuto moim-ey o-l li eps-ta  
*anyone* meeting-to come-ADN possibility not.exist-DEC  
 ‘Nobody may come to the meeting.’ (NPI > ¬ >  $\diamond_e$ )
- b. amwuto moim-ey o-ass-ul li eps-ta  
*anyone* meeting-to come-PAST-ADN possibility not.exist-DEC  
 ‘Nobody might have come to the meeting.’ (NPI > ¬ >  $\diamond_e$ )

In these examples, the NPI has to scramble up into the matrix clause in order to be licensed – scrambling itself only happens to license an otherwise unlicensed phrase. If scrambling has not occurred, as evidenced by a preceding constituent of the embedded clause, acceptability is very severely degraded. This is shown in (27a) and (28a). The b-examples in each pair show that if the NPI scrambles, it can be licensed in the matrix clause.

- (27) a. ??mina-ka amwuto chotayha-ess-ul li eps-ta  
 Mina-NOM *anyone* invite-PAST-ADN possibility not.exist-DEC
- b. amwuto<sub>i</sub> mina-ka t<sub>i</sub> chotayha-ess-ul li eps-ta  
*anyone* Mina-NOM invite-PAST-ADN possibility not.exist-DEC  
 ‘Whoever it may be, it is not possible that Mina invited him/her.’
- (28) a. ?\*mina-man amwuto chotayha-ess-ul li eps-ta  
 Mina-only *anyone* invite-PAST-ADN possibility not.exist-DEC
- b. amwuto<sub>i</sub> mina-man t<sub>i</sub> chotayha-ess-ul li eps-ta  
*anyone* Mina-only invite-PAST-ADN possibility not.exist-DEC  
 ‘Whoever it maybe, it is not possible that only Mina invited him/her.’

These facts also provide support for the idea mentioned above, that an NPI in Korean must be a clause-mate with its licensing negation. The contrasts in (27-28) could not be explained on the assumption that the NPIs in Korean are licensed in the same way as NPIs in English, namely by being in the scope of negation.

## 4 Conclusion

Korean has two clearly distinct structures for the modal predicates which I discussed here: a ‘propositional complement’ structure for epistemic modals (7) and a control structure for dynamic modals (12). There is also an independent subject-to-subject raising structure (17) (with the raising predicate *kes kath-ta* (‘seem’)). The evidence for these structures comes from the interpretation of subjects, honorific predicate marking, and the interaction of modal structures with negation and NPI licensing. There are other modal constructions and modal interpretations (in particular, the deontic interpretation) whose investigation may shed further light on the syntax of Korean and its mapping to the semantics. I leave this for future research.

With the hypothesis that NPIs in Korean are clause-mate with their licensing negation, I suggested that NPIs may scramble up into the matrix clause in order to be licensed by matrix negation. This scrambling option does not seem available to other quantificational phrases.

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