

Realizations of Information Structure and Its Projection in Korean¹

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1 Introduction

According to Valldví (1996), information structure interacts in principled ways with various grammatical components and is a structuring of sentences by syntactic, prosodic, or morphological means to meet the communicative demands of a particular context (cf. Lambrecht 1994). In other words, information structure indicates how linguistically conveyed information fits into the hearer's information state at the time of utterance. Thus no proper information structuring would result in infelicitous answers as shown in (1) and (2):

- (1) A: What does he hate?
B: He hates CHOCOLATES.
B: #He HATES chocolate.
- (2) A: Does John LIKE rugby?
B: No, he HATES rugby.
B: #No. he hates RUGBY.

In this respect, Korean is no exception. Partitioning information structure improperly would result in an incoherent discourse as in (3):

- (3) A: ku-nun mwuess-lul silhehani?
he-TOP what-ACC hate
B: Ung. chocolate-ul silhehay.
Yes. chocolate-ACC hate
B: #Ung. silhehay.
Yes. hate.

It has been observed that languages adopt different means to encode their information structure: English employs intonation while Catalan relies on word order (Engdahl and Valldví. 1996). Languages like Greek

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and West Germanic exploit both. This paper shows that in addition to prosodic and syntactic information, Korean adopts morphology and constructions in realizing information structure. It also examines how each of these grammatical components interacts among others in the projection of information structure in Korean.²

2 Information Packaging Encoding

As noted, Korean adopts phonological means, morphological markers (particles), word order, and syntactic constructions to encode ‘old’ and ‘new’ information grammatically. Let us consider each means in more detail.

2.1 Phonological and Morphological Encoding

Like English, accented constituents in Korean are interpreted as foci. The constituents with capital letters in (4) indicate A-accent or phonological prominence (following Jackendoff (1972)) and the interpretations provided in (4) illustrate the focus assignment on these elements:

- (4) a. JOHN-I makcwu-lul masiesse
John-NOM beer-ACC drank
‘It is John who drank beer.’
- b. John-i MAKCWU-LUL masiesse
‘It is beer that John drank.’
- c. John-i makcwu-lul MASIESSE
‘What John did with beer was drinking it.’

Another obvious way of encoding information structure is morphological markings. The marker so-called topic marker *n(un)* canonically encodes a link phrase as in (5):

- (5) a. John-un Mary-lul mannassta
John-TOP Mary-ACC met
‘As for John, he met Mary.’

²The underlying framework of this paper follows that of Vallduví (1996) and Engdahl and Vallduví (1996) in which information structure consists of three primitives: focus, link, and tail. The focus part of a sentence signals the updating NEW information. Link and tail are members of the ground that contains already known information acting as an anchor for focus. In particular the link designates WHERE the new information should be added whereas tails specify HOW updates should take place. Within the theory of information packaging developed by Vallduví (1992, 1993) and Engdahl and Vallduví (1996), each sentence has a level of information structure, arising from different combinations of these three primitives. This paper is in a preliminary step in examining the information structure of Korean through the lens of such information packaging theory.

- b. [_L Onul-un] nalssi-ka coh-ta
 Today-TOP weather-NOM good-DECL
 ‘As for today, the weather is good.’

The *nun* marked phrase in both (5)a and (5)b denotes what the sentence is about. As noted by Han (1997), the phrase in (5)a can also function as a contrastive topic if there are individuals other than *John* in the discourse and the individual denoted by *John* functions as one topic among alternative topics. Another often discussed function of the marker *nun* is contrastive focus as illustrated in (6):

- (6) John-i ecye [_F sakwa-nun] mekess-ta
 John-NOM yesterday apple-TOP ate-DECL
 ‘John ate apples yesterday but not other fruits.’

One main difference between contrastive topic and contrastive focus is that in the latter the proposition of the sentence in question is true only of the entity picked out by the *nun* phrase. Thus, the example (6) means that the things that John ate yesterday are only apples and cannot be others.

The phrase with the subject case *i/ka* can denote various discourse function, dependent upon its syntactic position, which we will discuss in due course. The phrase with the subject marker *i/ka* in general can either register a narrow focus reading (identification focus) as in (7)a, or project a presentational reading (information focus) as in (7)b.³

- (7) a. [_F John-i] sakwa-lul mek-ess-ta
 John-NOM apple-ACC eat-ess-DECL
 ‘It is John who ate apples.’
 b. [_F [_F John-i] sakwa-lul mek-ko iss-ta]
 John-NOM apple-ACC eat-COMP in.state-DECL
 ‘There is John eating apples.’

In a certain context, the subject with *i/ka* marker can function as link too, as illustrated in (8):

- (8) [_L John-i] ttenasse!
 John-NOM left
 ‘As for John, John left.’

When (8) serves as an answer to the question of John’s whereabouts and John’s leaving is a surprising or unlike activity for John, *John-i* is not new information but functions as a link phrase. One thing to note here is that the case marker alone does not serve as the information encoder. The

³The terms ‘identification’ and ‘information’ are from Kiss 1998. These two are similar to Kuno’s (1973) distinction between neutral exhaustive listing reading and descriptive reading, respectively.

information status of the phrase with a case marker is dependent upon the interactions of its structural realizations (cf. Choi 1996).

Delimiters such as *man* ‘only’, *cocha* ‘even’, and *to* ‘also’ can also function as focus indicator:

- (9) John-un [_F swuhak-man] mancem-ul patassta
 John-TOP mathematics-only 100-ACC received
 ‘John got a perfect score only in mathematics.’

As shown in (9), the delimiter *man*, semantically similar to *only* in English, explicitly marks a focused phrase.

2.2 Word Order Encoding

Word order is also an important means to convey information structure. In usual cases, given information precedes new information: A leftmost position is for topics, with the default focus position to the left of the verb.

- (10) a. [_L John-un] ku chayk-ul [_F Mary-eykey] cwuessta.
 John-TOP the book-ACC Mary-ACC gave
 ‘John gave the book to Mary.’
 b. [_L ton-un] [_F John-i] manhta
 money-TOP John-NOM many
 ‘As for money, John has a lot.’

As noted by Kim (1985) and Jo (1986), the preverbal position seems to be a focus position in Korean. This condition can be overridden by phonological prominence as in (11).

- (11) a. ONUL achim sakwa mekesse
 today morning apple ate
 ‘It is today that I ate apples in the morning.’
 b. onul ACHIM sakwa mekesse
 c. onul achim SAKWA mekesse
 d. onul achim sakwa MEKESSE

The processes of scrambling or post-verbal dislocation also could change the information structure. As argued in Choi (1996), the informational status determines the relative order among the elements in question. For example, as illustrated in (12), when the *nun* marked subject is scrambled over by the accusative object, the subject loses its topic reading and obtains the contrastive focus reading only as illustrated in (12).

- (12) Tom-ul [_{CF} John-un] manassta.
 Tom-ACC John-TOP met
 ‘As for Tom, John (but not anyone else) met him.’

When the object is scrambled to the sentence initial position over the nominative subject, it obtains a topichood reading as in (13):

- (13) [_L Tom-ul] [_F John-i] manassta.
 Tom-ACC John-NOM met
 ‘As for Tom, John met him.’

This scrambling process seems to result in assigning topichood to the initial phrase. We thus accept the view that the relative order as well as specific positions play a role in determining the information structure.⁴ This in turn means that like Hungarian, Turkish, and Basque, the leftmost position detached from the rest of the sentence is for topichood, with the default focus position just to the left of the verb.⁵

The phrase in the postverbal position as in (13)b obtains a tail reading.

- (14) pelsse ilkesse, [_T i chayk-ul].
 already read this book
 ‘I’ve already read this book.’

Phonologically, the postverbal position cannot be A-accented; it is added quickly with low, flat, falling intonation.

2.3 Constructional Encoding

Korean employs various syntactic constructions in encoding information structure. For example, constructions such as cleft, multiple nominative, echoed verb, and internally headed constructions in (15), respectively, are all constructional realizations of information structure.

- (15) a. sakwa-lul mek-un salam-un [_F John]-i-ta
 apple-ACC eat-PNE man-TOP John-COP-DECL
 ‘It is John who ate apples’
 b. [_F John-i] emeni-ka miin-i-si-ta
 John-NOM mother-NOM pretty-COP-HON-DECL
 ‘As for John, his mother is pretty.’

⁴Different from our position, Choi 1996 argues that a specific syntactic position does not attribute to the information structure.

⁵Choi (1996) assumes that scrambling a wh-phrase object would add contrastive meaning.

- (i) a. John-i nwuku-lul manasse?
 John-NOM who-ACC met
 ‘Who did John meet?’
 b. nwuku-lul John-i manasse?
 who-ACC John-NOM met
 ‘Is it who John met?’

There is a slight meaning difference between the canonical and scrambled one. (i)a is an informational focus question whereas (i)b is an identity focus. In other words, the latter implies that there are a set of individuals that John might meet, and asks WHO among them John actually met. See Choi (1996) for details.

- c. John-i sakwa-lul [_{CF} mek-ki-nun] mekessta
 John-NOM apple-ACC eat-NMLZ-TOP ate
 ‘It is true that John ate apples, but ...’
- d. Kyongchal-i [totwuk-i ton-ul hwumchi-nun kes-ul] capasstay.
 police-NOM thief-NOM meoney take-away KES-ACC caught
 ‘People said that the policeman arrested a robber who was stealing money.’

These constructions in (15) have the same truth conditional meanings as simple declarative sentences. For example, (15)b describes an identical situation with (16)a, whereas (15)a and (15)c with (16)b.

- (16) a. John-uy emeni-ka miin-i-si-ta
 John-GEN mother-NOM pretty-COP-HON-DECL
 ‘John’s mother is pretty.’
- b. John-i sakwa-lul mekessta
 John-NOM apples-ACC ate
 ‘It is true that ate apples.’

The so called echoed verb construction also is a construction-specific realization of information structure. Echoed verb constructions have peculiar syntactic properties: for example, only the main predicate is repeated; the preceding verb is marked by the nominalizer *ki* with the topic marker *nun*; this preceding verb cannot be inflected as illustrated in (17):

- (17) a. *John-i Tom-ul manna-ki-nun Mary-lul mannassta
 John-NOM Tom-ACC meet-NMLZ-TOP Mary-ACC met
- b. *John-un Tom-ul mannass-um-un mannassta
 John-TOP Tom-ACC met-MNLZ-TOP met

As argued by Kim and Lim (2001), one main function of internally headed constructions, whose truth conditional meaning is not different from externally headed constructions, is to encode an event reading on the clause. This position explains why the IHRC in (15)d cannot serve as an answer to a *wh-question* like (18):

- (18) kyongchal-i nwukwu-lul capasstako?
 policeman-NOM who-ACC caught
 ‘Who did you say the policeman caught?’

The IHRC (15)d could be an answer to an event asking question like *what happened?* as shown in (19).

- (19) mwusen il iya?
 what work is
 ‘What happened?’

In multiple nominative constructions like (15)b, the first nominative marked NP is an encoder of focus, as argued by Kim 2000. This element provides an exhaustive reading, a canonical property of focus. One supporting piece of evidence concerns the attachment of a delimiter functioning as a focus indicator. For example, a focus marking delimiter can be attached to the sentence initial nominative NP, not to the genitive NP. Note that a sentence like (21) with the focus indicator on the first NP could be an answer to the nominative wh-phrase question like (20)a, not the the genitive wh-phrase question like (20)b.

- (20) a. Nwu-ka apeci-ka kyoswu-i-si-ni?
 who-NOM father-NOM professor-COP-HON-Q
 b. Nwuku-uy apeci-ka kyoswu-i-si-ni?
 who-GEN father-NOM professor-COP-HON-Q

- (21) Tom-to apeci-ka kyoswu-i-si-ta.
 Tom-also father-NOM professor-COP-HON-DECL
 ‘It is also Tom whose father is a professor.’

Another clean manifestation of information structure in terms of constructions is cleft constructions:

- (22) [_L sakwa-lul mek-un salam-un] [_F John]-i-ta
 apple-ACC eat-PNE man-TOP John-COP-DECL
 ‘It is John who ate apples’

In the cleft construction (22), the focus phrase appears in pre-copula position. Considering general copula constructions like (23), we could observe that the pre-copula position is an obligatory focus position as in other languages:

- (23) John-un haksayng-i-ta
 John-TOP student-COP-DECL
 ‘John is a student.’

This focused element in the pre-copula position is excluded from scrambling and deletion. Its focus status is further attested by the fact that no definite NP can occur in this position as shown in (24).

- (24) *John-un ku haksayng-i-ta
 John-TOP the student-COP-DECL
 ‘John is the student.’

But once we have a definite nominal in the precopula position, the nominal will have only a topic reading, leaving the subject as the only available element for focus. Consider the example (25):

- (25) John-i/*un palo ku haksayng-i-ta
 John-NOM/TOP very the student-COP-DECL
 ‘John is the very student (I am looking for).’

Given the assumption that a sentence can have only one topic element (unlike focus), we would expect the weirdness of the topic marker on the subject in (25).

3 Projecting the Information Structure

One remaining question we will discuss here is how the information structure is projected in the given sentence.

As we have seen earlier, A-accented element obtains a focus reading, indicating a relation between pitch accent and focus. One constraint we can observe in such a relation is that the focus feature assigned on the head element by the pitch accent can be projected up to its mother.

- (26) John-un cip-eyse NOLASSE
 John-TOP home-LOC PLAYED
 ‘John played at home.’

The sentence in (27) could be an answer to queries like like *What did John do at home yesterday?* or *What did John do yesterday?*. This implies that (27) could have the focus projections in (27)a or (27)b:

- (27) a. John-un cip-eyse [_F NOLASSE].
 b. John-un [_F cip-eyse [_F NOLASSE]]

In noun phrases too, the A-accent on the head value in (28) is projected upto its mother. Thus (28) could be an answer to *What did John read yesterday?*

- (28) John-un ecye [_F yenge-eykwanhan [_F CHAYK-ul]] ilkesse
 John-TOP yesterday English-about book-ACC read
 ‘John read a BOOK about English yesterday.’

Another constraint we observe is that both internal and external argument can project its focus value up to its mother phrase, resulting in a wide focus reading, as in (29).

- (29) [_F [_F YENGHWA-lul] poasse]
 movie-ACC watch
 ‘(He) watched a movie.’

Thus (29) could be an answer either to *What did you watch?* or *What did he do?*. One difference we observe from English is that even the external argument can project its focus value upto its mother, sentence. For example, the A-accent on the subject *John* in (30) could induce a wide focus reading (presentational reading).

- (30) [_F [_F JOHN-i] sakwa-lul mekesse]
 John-NOM apple-ACC ate
 ‘John ate apples.’

This is attested by the fact that (31) could be an answer either to *Who ate apples?* or *What happened?*⁶

Different from English (cf. Bresnan 1971) where focus projection is only possible if the A-accented item is the peripheral one,⁷ Korean prohibits the focus on the most oblique complement from being extended up to its mother phrase. To a question like *What did you just do?*, the information structure in (31)a is infelicitous since *Mary* is not the higher argument in argument hierarchy. But the focus on the theme argument *senmwul* ‘present’ can induce a wide focus reading:

- (31) a. * [_F [_F MARY-EYKEY] senmwul-ul cwuesse]
 Mary-DAT present-ACC read-give
 ‘(I) gave a present to MARY.’
 b. [_F Mary-eykey [_F SENMWUL-UL] cwuesse]
 Mary-DAT present-ACC gave
 ‘(I) gave a PRESENT to Mary.’

This restriction seems to be true in a different word order as shown in (32):

- (32) a. * [_F senmwul-ul [_F MARY-EYKEY] cwuesse]
 b. [_F [_F SENMWUL-ul] Mary-eykey] cwuesse]

A similar example with a locative argument bolsters this position:

- (33) a. * [_F [_F SANGCA-EY] chayk-ul nehese]
 box-LOC book-ACC put
 ‘(I) put BOOKS in the box.’

⁶It has been noted that in English A-accent on the external argument cannot project focus value up to its mother:

- (i) [_F MARY] bought a book about bats.

But when the subject is an internal argument as in (ii), A-accent on the subject can license sentence focus:

- (ii) a. [_F [_F TOM] died].
 b. [_F [_F The SKY] is falling].
 c. [_F The [_F SUN] came out].

⁷The data in (i) illustrate this point:

- (i) a. The butler [_F offered the president some COFFEE].
 b. *The butler [_F offered the PRESIDENT some coffee].
 c. The butler offered [_F the PRESIDENT] some coffee.

- b. *_[F] chayk-ul [_F SANGCA-EY] nehesse]
 book-ACC box-LOC placed
 ‘(I) placed books in the BOX.

Based on these observations, we formulate focus instantiation principles such as in (34):

- (34) Focus Instantiation Principle in Korean:
 a. The focus value of a head is projected up to its mother.
 b. The focus value of an argument (external and internal) is projected up to its mother.
 c. Among the internal arguments, only the least oblique one can project its focus value up to its mother.

4 Conclusion

As we have seen so far, Korean employs various means to encode the information structure. In addition to phonological prominence and word order, morphology and constructions are also important ways of registering information structure. The paper shows how information structure is optimally integrated into Korean grammar. We have tried to prove that information structure is an integral part of grammar, interacting in principled ways with morphology, phonology, syntax, and semantics/pragmatics.

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