

Fragment answers in Korean: A direct interpretation approach*

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Cho, Sae-Youn. 2016. Fragment answers in Korean: A direct interpretation approach. *Linguistic Research* 33(2), 229–257. This paper aims to account for idiosyncratic properties of fragment answers (FAs) as answers to *wh*-questions in Korean, focusing on case identity and generating issues. The main issue on FAs is the existence of the (case-) marker attached to fragment NP(s), which is a crucial factor to analyze how each fragment is linked to each corresponding *wh*-phrase and how it conveys a desirable sentential meaning. Further, FAs can occur with adjunct phrases with no correlates. To account for the various properties of FAs, we take the Direct Interpretation Approach (DIA) to claim that contra to the Ellipsis Approach (EA), Korean FA constructions can be accounted for by proposing a Korean FA construction with minimum syntactic constraints within the Construction Grammar. In doing so, we assume semantic and pragmatic information on an answerer's background knowledge including question under discussions (QUD) to get a full sentential reading from FAs. This enables us to explain peculiar properties of the FAs in Korean.
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Keywords fragment answers (FAs), marker, QUD, Direct Interpretation Approach (DIA), ellipsis approach

1. Issues

It is well-known that natural languages include various constructions delivering a sentential meaning, which are not complete sentences. Among such constructions, fragment answers (FAs) for *wh*-questions are a typical case in the sense that the

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answer economically uses a single phrase or a few phrases, instead of a full sentence as follows:

- (1) a. Who did Marcia hit?
- b. Johnny.
- c. Marcia hit Johnny.

The FA (1b) to the *wh*-question (1a) is construed as having the full sentence reading (1c) in English. However, not all FAs can be allowed: when the case markers of the FAs are not matched with those of their corresponding *wh*-phrases, the FAs are construed to be ill-formed as shown in (2).

- (2) Whose car did you take?
 - a. John's
 - b. *John
- (Merchant 2004)

The FA (2a) is grammatical because the FA *John's* and its correlate *whose car* share the same case whereas (2b) is disallowed since the FA *John* does not share it with the correlate *whose* in the question. Further, the FA constructions may have a few phrases with or without correlates as follows:

- (3) Who sang this song?
 - a. Maybe Sandy
 - b. Probably Sandy
- (Schlangen and Lascarides 2003)

The FAs in (3) consist of two phrases: one is an NP having *who* as its correlate and the other is an ADVP without its correlate. Though they include an FA with no correlate in the question, they are acceptable. In current linguistic circles, the debates over FAs are mainly about how FAs consisting of a single phrase or a few phrases can convey full sentential readings. To account for this issue, there have been at least two approaches: the (Movement-based) Ellipsis Approach (Merchant 2004; Park 2005; Ahn and Cho 2006, 2012) and the Direct Interpretation Approach (Morgan 1989; Barton 1990; Barton and Progovac 2005). The former assumes FA constructions to involve Ellipsis (and Movement) operations so as to get a right

surface form from their underlying structures. On the other hand, the latter directly renders FAs comprising a single phrase or a few phrases.

Unlike English FAs, FAs in Korean appear to exhibit various idiosyncratic properties. One of them is that FAs tend to be realized either as a case-marked NP in (4b) or a case-less NP in (4c) to answer the question (4a).¹

- (4) a. Nwu-ka Marcia - lul ttayleyss-ni?
who-Nom Marcia-Acc hit-Q
'Who hit Marcia?'
- b. Sue-ka.
Sue-Nom (Intended Meaning: 'Sue hit Marcia')
- c. Sue.
Sue-Ø (Intended Meaning: 'Sue hit Marcia')

To deal with such Korean FAs with or without a case marker, Morgan (1989) first proposes that case-marked FAs are assumed to be derived in terms of the Ellipsis Approach while case-less FAs are directly generated and interpreted by the Direct Interpretation Approach (DIA), which we call a hybrid approach. Following Morgan (1989), Ahn and Cho (2006) pursue to analyze both types of Korean FAs in depth and seem to work successfully.

However, careful examinations still reveal a variety of theoretical and empirical difficulties in explaining FAs in Korean. For instance, an NP with a pragmatic marker (PM) can occur as an FA as in (5b).

- (5) a. (nehwi cwungeyse na-malko) Nwu-ka Marcia-lul ttayleyss-ni?
(you among other than me) who-Nom Marcia-Acc hit-Q
'Who else other than me hit Marcia?'
- b. (Ece) Sue-to/kkaci/man.
(Yesterday) Sue-also/even/only (**PM**)
(Intended Meaning: '(Only/even) Sue hit Marcia (yesterday)(too)')

It is unclear how the hybrid analysis or Ellipsis Approach gives an explanation

¹ The scope of this paper is limited to the FAs in Korean as answers for *wh*-questions.

for the occurrence of NPs with a PM in (5b) as an answer for (5a), because it has not dealt with such data yet. Furthermore, phrases can occur as FAs with no correlate(s) only if there is an FA for its correlate in the preceding *wh*-question as in (5b). In other words, the FAs in (5b) as an answer of the single *wh*-question (5a) consist of two phrases: the adjunct phrase ‘ece (yesterday)’ and an NP with a pragmatic marker. Though the latter has its correlate but the former does not, (5b) sounds fine. This means that only if an FA(s) for its corresponding *wh*-phrase is provided, additional FAs with the information that the answerer wants to give are allowed.

In considering such FA data as in (4-5), we can say that the previous analyses seem to be still insufficient to account for these idiosyncratic properties of FAs in Korean, mainly because they do not treat such multiple FAs with PMs.² Assuming semantic and pragmatic information on answerers’ background knowledge including a question under discussion (QUD), we claim that the peculiar properties of Korean FA constructions can be accounted for by proposing a Korean FA construction with minimum syntactic constraints within the Construction-based Grammar (Goldberg 2006; Sag 2012; Ginzburg and Sag 2000; Kim 2015). If this proposal is accepted, we may say that the independent FA construction rule for Korean is one way of generating and constraining FAs in Korean.

In order to support the claim we make here, in section 2, we present various properties of Korean FAs, focusing on case identity and generating issues, and summarize the findings from the properties. In section 3, based on the distributional behaviors of the FAs in Korean, we briefly review the previous analyses. Section 4 proposes a Korean FA construction rule with identity constraints under the Construction-based Grammar and sketches how to analyze a few FA constructions under our analysis, adopting a slightly modified QUD by Ginzburg and Sag (2000) (cf. Kim 2015). And there will come concluding remarks.

2. Properties of FA constructions in Korean

2.1 Syntactic properties: Identity and generation

² The idiosyncratic properties of multiple FAs with PMs will be further discussed in section 2.1.2.

2.1.1 Single FAs

One of the well-known properties in FA constructions is the case connectivity between the FA as an answer and its corresponding *wh*-phrase in the antecedent question. Though it is certain that there is some case connectivity between the two, it is still unclear exactly how they are connected. More specifically, it is necessary to posit some constraints on how to link the nominative case-marked *wh*-phrase in (6a) to an FA with a nominative case marker or a null marker as in (6b). But the FA with an accusative case marker cannot be allowed as in (6c).

- (6) a. Nwu-ka Marcia - lul ttaylyess-ni?
 who-Nom Mia-Acc hit-Q
 ‘Who hit Marcia?’
- b. Johnnny-ka/Johnnny.
 Johnnny-Nom/Johnnny-Ø (Intended Meaning: ‘Johnnny hit Marcia’)
- c. *Johnnny-lul.
 Johnnny-Acc (Intended Meaning: ‘Johnnny hit Marcia’)

Intuitively, the case identity between the *wh*-phrase and the FA seems to be required as shown in (6b). As for FAs with no marker, they are assumed to share the same case marker with their correlates. But as in (6c), FAs containing a non-identical case marker to the correlates are disallowed due to case conflict.

Moreover, when an FA has a PM without a case marker, it could be an answer for a *wh*-question as follows:

- (7) a. (wuli cwungeyse na-malko) Nwu-ka Marcia-lul ttayleyss-ni?
 (you among other than me) who-Nom Marcia-Acc hit-Q
 ‘Who else other than me hit Marcia?’
- b. Sue-to/-man.
 Sue-also/-only (PM)
 ‘Sue hit Johnny’

As an answer for (7a), an NP with a PM, *Sue-to/-man*, is possible, basically delivering the interpretation ‘Sue hit Johnny’. In addition to that, such PMs express

the answer's assumption that the questioner may believe that the number of the hitters would be either only one or more than one. Hence, each PM functions as a marker with some pragmatic information and no case value in FA constructions.

Another property of FAs regarding case identity is that the morphological form of (semantic) case can be varied as long as the morphological forms belong to the same (semantic) case. When there is a single *wh*-phrase in a question, an FA should occur to get a right answer as in (8).

- (8) a. Johnny-ka nwukwu-eykey/-hanthey phyenci-lul ponayss-ni?
 Johnny-Nom who-to letter-Acc sent-Q
 ‘Who did Johnny send a letter to?’
 b. Marcia(-eykey/-hanthey).
 Marcia-to (Intended Meaning: ‘Sue sent a letter to Mia.’)

In this case, it is worthwhile to observe that when a *wh*-phrase requires a (semantic) case, its FA may have a variant form of the same (semantic) case to be a complete answer.

2.1.2 Multiple FAs

One of the most peculiar properties of multiple FAs in Korean is that the grammaticality of multiple FAs depends on the existence of overt markers attached to the FAs. In principle, Korean allows multiple FAs for multiple *wh*-questions only if the FAs are clear enough to be linked with their correlates in a question. Specifically, the FAs consisting of two phrases are grammatical regardless of whether the second NP has a marker or not, as long as the case marker of the first NP is realized as the same one of the *wh*-phrases in a question as in (9b-c) (cf. Park 2005, 2013). On the other hand, when the first NP of the FAs has a PM marker, the second NP must be case-marked as in (9d) (cf. Ku and Cho 2014).

- (9) a. Nwu-ka nwuku - lul ttaylyess-ni?
 who-Nom who-Acc hit-Q
 ‘Who hit whom?’

- b. *Sue Marcia(-lul/-to)
 Sue-Ø Marcia(-Acc/-also(PM))
- c. Sue-ka Marcia(-lul/-to)
 Sue-Nom Marcia(-Acc/-also(PM))
- d. Sue-to Marcia-lul(*-to/*-Ø)
 Sue-also (PM) Marcia-Acc(/-also(PM))/null
(Intended Meaning of (b-d): ‘Sue hit Marcia’)

For your readability, (9b) is ungrammatical since the first NP, *Sue*, has no marker whereas (9c) is grammatical because the first NP is case-marked. The FA (9d) also sounds good since the first NP has a PM marker while the second is case-marked. In sum, when there are two nominal FAs, the first NP must have either a case marker or a PM; when it is case-marked, the following nominal has no constraint on markers but when it has a PM, the following should be case-marked.

Another property of FAs is that Korean FAs can freely occur with additional adjunct phrases only if an FA is provided as an answer for the *wh*-question. If FAs have nominal phrases linked to their correlates, they may have adjunct phrases in order to provide additional information depending on the speaker’s intention or assumption. When the answerer assumes that the questioner does not know or needs to know some information, he/she can express an adjunct phrase(s) in addition to the nominal FA(s) for the corresponding *wh*-phrase(s) as follows:

- (10) a. Nwu-ka Marcia-eykey cenhwahayss-ni?
 who-Nom Marcia-to phoned-Q
 ‘Who called Marcia?’
- b. Ece Sue-ka.
 yesterday Sue-Nom
 ‘Sue called Marcia yesterday.’
- c. Ece ton-ttaemune Sue-ka.
 yesterday money-because.of Sue-Nom
 ‘Yesterday, Sue called Marcia because of money.’

The essential nominal FA is *Sue-ka* in (10b-c) providing an appropriate answer for the *wh*-question in (10a), which satisfies the minimum condition of the response

to the interrogative sentence. In addition to the FA, the temporal adverbial *ece* ‘yesterday’ appears in (10b) and the adverbial phrase of cause or reason *ton-ttaemune* ‘because of money’ is further added in (10c). By adding those adverbial phrases, the answerer delivers his/her background knowledge or additional information such as a time or a reason or both. Thus, circumstantial adjunct phrases can be allowed in Korean FAs.

Similarly, optional complements that a questioner does not request can be uttered by the answerer as in (11), only if an expressed FA is linked to an appropriate correlate.

- (11) a. Nwu-ka ku sasil-ul malhayss-ni?
 who-Nom the fact-Acc told-Q
 ‘Who told the fact?’
- b. Johnny*(-ka/-man) Marcia*(-eykey/-hanthey).
 Johnny-Nom/-PM Marcia-to
 (Intended Meaning: ‘Johnny told the fact to Marcia.’)

In (11b), there are two FAs: one is *Johnny-*, and the other is an optional complement, i.e. *Marcia-*. Though the optional complement unquestioned occurs as an FA without any correlate(s), there would be no problem, which means that like additional adjuncts, optional complements can appear. Moreover, it is worthwhile to note that like additional adjuncts, the optional complements must be case-marked.

From the distributional behaviors of a single FA and the multiple FAs mentioned above, we can get the following four observations as follows:

- (12) **Observation 1:** As for a single FA, a marker of the FA can be realized

in three ways; one is case-marked, another is case-less,
and the third is delimiter-marked.

Observation 2: As for multiple FAs, the first FA of two FAs in a sequence must be either case-marked or delimiter-marked, but when the first FA bears a delimiter marker only, the immediately following FA must have a case marker.

Observation 3: Only if some FAs are linked to their correlates in the previous question, the other FAs with no correlates such

as optional complements and additional adjuncts may occur. In this case, these FAs with no correlates should have their markers.

Observation 4: In principle, the number of the FAs with or without their correlates can be infinite.

Among the observations above, observations 1 to 3 are about marker-identity issues while observation 4 is about the generating issue. In sum, FAs in Korean, in principle, can be infinitely generated only if some of them are linked to all their correlates. As for the identity issue, the first of two FAs in a sequence must be case- or PM-marked, but when the first bears a PM only, the following FA should be case-marked.

2.2 Non-syntactic properties

2.2.1 Reflexives

One of the peculiar semantic or pragmatic properties of Korean FAs is the distributional behavior of reflexive FAs. Though the case connectivity between the FA as an answer and its corresponding *wh*-phrase in a question is also found in FAs containing a reflexive FA, the reflexive FA may have a nominative case, which means that it can be understood as a subject. As an answer for the nominative case-marked *wh*-phrase in a question (13a), the reflexive FA has a nominative case marker, a null marker, or a delimiter marker (=PM), but not an accusative case marker as in (13b).

- (13) a. Nwu-ka Marcia-lul ttaylyess-ni?
 who-Nom Marcia-Acc hit-Q
 ‘Who hit Marcia?’
 b. *cakicasin_i-ul/cakicasin_i-i/cakicasin-Ø/cakicasin_i-man.
 *self-Acc/self-Nom/self-Ø/self-only(PM)
 Intended Meaning: ‘Marcia hit herself.’

As shown in (13a-b), the case identity between the reflexive FA and its correlate is also required. The *wh*-phrase *nwu-ka* in (13a) and the reflexive FA *cakicasin-i* in (13b) share the identical nominative case value. But the reflexive FA with an accusative case marker is disallowed due to case conflict. The case-less reflexive FA with a null marker *cakicasin* can be assumed to share the same case marker with its correlate. The reflexive FA with a PM *cakicasin-man* can be a possible answer for the *wh*- question.

Considering that a reflexive cannot occur in the subject position of a full sentence as in (14), it is interesting that a reflexive FA can have a nominative case to function as a subject.

- (14) *Cakicasin_i-i Marcia_i-lul ttaylyess-ta.
 Self-Nom Marcia-Acc hit-Decl
 ‘*(Her)Self hit Marcia.’

This phenomenon shows us that syntactically deriving the reflexive FA is hard because the subject position in a full sentence cannot be occupied by a reflexive pronoun as in (14) (cf. Ahn and Cho 2006).

2.2.2 NPIs

Another peculiar property of FAs is the distributional behaviors of NPIs (Negative Polarity Items) (cf. Ahn and Cho 2006; Kim 2013). It is well-known that an NPI must co-occur with a negative predicate to be well-formed as follows:

- (15) a. Amwu-to *(an-)wass-ta.
 Nobody (NPI) not-came-Decl
 ‘Nobody came.’
- b. Johnny-ka amwuketo *(an-)mekess-ta.
 Johnny-Nom nothing (NPI) not-ate-Decl
 ‘Johnny ate nothing.’

However, an NPI can appear as a Korean FA when the NPI has the PM,-*to*, in (16-17).

- (16) a. Nwu-ka wass-ni?
 Who-Nom came-Q
 ‘Who came?’
b. Amwu-to
 anyone-also (NPI) (Intended Meaning: ‘Nobody came.’)

(17) a. Johnny-ka mwues-ul mekess-ni?
 Johnny-Nom what-Acc ate-Q
 ‘What did Johnny eat?’
b. amwukes-to.
 anything-also (NPI) (Intended Meaning: ‘Johnny ate nothing.’)

The delimiter-marked NPIs, *amwu-to* ‘anyone’ and *amwukes-to* ‘anything’, can appear in the FAs as in (16b) and (17b) as correlates in (16a) and (17a), respectively. In addition to the fact that NPIs can be used as FAs in Korean, it is worthwhile to note that they can deliver a full sentential reading. Further, it suggests that though NPIs syntactically should agree with a negative predicate, they can occur as FAs without a negative, which means that they may not be derived from any underlying structure but can be base-generated, delivering a full sentential meaning.

2.2.3 Island constraints

The final property of FAs in Korean we examine here is the distributional behaviors of FAs for their correlates in *wh*-islands. It is widely accepted that island constraints including *wh*-islands are syntactic because no element in a *wh*-clause can be moved out as follows:

The sentence (18) is ruled out syntactically in that the moved element, *Marcia-lul_i*, violates the *wh*-island constraint. However, Korean FAs seem to allow the violation of the *wh*-island constraint (Park 2005, 2013). For instance, an FA can

be linked to an island expression in Korean as in (19).

The FA for a *wh*-island in (19b) can be realized as one of the accusative case-marked, null-marked, or delimiter marked nominal phrases, which can be pertinent answers for the *wh*-phrase within the complex noun phrase in the question (19a). But the nominative case-marked FA is ill-formed because of case conflict. In addition to this marker identity, it is notable that only if both the FA *cwungkwuk umsik-ul* ‘Chinese food’ and the correlate within the complex noun phrase *mwusum umsik-ul* ‘what kind of food’ share the identical case value, the FA can occur. The behavior of FAs regarding island constraints tells us that FAs in Korean may not be derived syntactically but directly base-generated and interpreted.

So far, we have observed the idiosyncratic properties of FAs in Korean, in association with reflexives, NPIs, and island-violation cases. The following is the summary of the observations.

- (20) **Observation 5:** A reflexive FA can occur as a subject though the subject position in a full sentence cannot be occupied by a reflexive pronoun.

Observation 6: Though an NPI must co-occur with a negative predicate to be well-formed in a full sentence, an NPI can appear without a negative as an FA with the PM *-to*.

Observation 7: FAs can occur, even when their correlates are in *wh*-islands.

Observations 5 to 7 suggest that though the distributional behaviors of reflexives, NPIs and the island constraints in a full sentence generally are syntactic in current linguistic societies, they should be treated semantically or pragmatically in FA constructions.

3. Previous analyses

3.1 Movement-based ellipsis analysis

The Ellipsis Approach (EA) by and large assumes that FA constructions allow movement of a fragment for QUDs (Question Under Discussion) and involve subsequent elision of the unpronounced VP or TP through the derivation to get a right surface form (Merchant 2004; Park 2005; Ahn and Cho 2006). Under the ellipsis analysis, the FA in (21b) can be assumed to be derived from the full sentential underlying structure in (21c) and to get its interpretation from the assumed full sentence (Park 2005; Ahn and Cho 2006):

- (21) a. Mia-ka nwukwu - lul poass-ni?
Mia-Nom who-Acc saw-Q
'Who did Mia see?'
- b. Sue-lul.
Sue-Acc (Intended Meaning: 'Mia saw Sue.')
c. [CP Sue_i-lul E[TP ~~Mia-ka t_i poass-e~~]].
Sue-Acc Mia-Nom saw-Decl

In (21c), the object *Sue-lul* first moves to the initial position of the sentence and then the TP *Mia-ka t_i poass-e* is elided under Ahn and Cho (2006). This analysis is based on Merchant's (2004) approach where non-sentential answers are regarded to be induced by sluicing and a similar derivation operates in FA constructions: more specifically, the fragment moves to a left-peripheral position prior to the elision of the unpronounced material of the sentence.

Though the EA seems to account for why FAs can deliver a sentential meaning based on the assumption of their underlying structures, it is insufficient to explain

the idiosyncratic properties of FAs discussed in the previous section. In other words, this approach mainly has difficulties to deal with the problems of (case-) marker identity and putative underlying structures (for more Kim 2015 and Park 2014).

First of all, though the ellipsis analysis seems to give a plausible account of case connectivity as observed in (21) the case matching connectivity in fact is not that simple, considering a wider range of Korean FAs summarized in (12). Specifically, the case connectivity between an FA and its correlate is not strict as follows (see Ahn and Cho 2006; Kim 2015):

- (22) a. nwu-ka nolayhayss-ni?
Who-Nom sang-Q
'Who sang a song?'
- b. Marcia-man/-cocha/-ka/- Ø.
Marcia-PM/-PM/-Nom/ -Ø (Intended Meaning: 'Marcia sang a song.')
- c. nwu-ka nwuku-lul ttaylyess-ni?
Who-Nom who-Acc hit-Q?
'Who hit whom?'
- d. *Johnny-coca/to John-man
Johnny-PM John-PM (Intended Meaning: 'Johnny hit John')

The FA for the nominative-marked correlate *nwu-ka* 'who-Nom' in (22a) can be realized as either a nominative-marked NP *Marcia-ka* or a PM-marked NP *Marcia-man/cocha* or a null-marked NP *Marcia* 'Marcia-Ø' in (22b).

Among these cases, null case-marked FAs appear to be not fully accounted for by the EA in that case-less NPs tend to not undergo movement in Korean, as Kim (2015) pointed out.³ Similarly, the two PM-marked FAs in (22d) seem to be illegal as the multiple *wh*-question in (22c) in the sense that we cannot see which one is a hitter and which one is hit. If (22d) is derived from the underlying structure, i.e. *Johnny-coca/to John-man ttaylyess-e*, the EA appears to need to answer why the

³ There are a few plausible analyses to deal with case-less FAs under the EA. One of them assumes that the potential source of the FA in (22b) is 'Marcia nolayhaysse'. The problem of this analysis may be the fact that the source is a little bit degraded but the case-less FA is perfect (see more Kim (2015)).

multiple FAs like (22d) are not good. This would be another challenge to the EA.

In addition to a single FA, multiple FAs invite more difficulties dealing with the existence of markers under the EA. The grammaticality of multiple FAs can be varied with respect to the types of markers attached to the FAs as follows:

When the FAs, i.e. *Sue*, *Mia* and *tosekwan* ('library'), bear no marker, they are illegal, whereas when the first FA *Sue* contains a PM and the rest have case-markers, they are legal, as shown in (23b). Though the EAs, including Choi and Yoon (2009) and Park (2013), try to solve the problems of multiple FAs as to the existence of markers mentioned in (12), they are still unsatisfactory in the sense that they do not consider PMs such as *-man* and adjunct FAs.

Second, more serious challenges to the EA are related to the so-called putative underlying structures for the FAs involving reflexives and NPIs mentioned in (20). As for reflexive FAs like (13a), the EA may assume the underlying structure (14) but the structure is ungrammatical. This implies that the EA has to derive legal reflexive FAs from ungrammatical underlying structures, which is undesirable. In the same fashion, NPI fragments can be a problem to the EA; they can occur as legitimate answers for *wh*-questions though they do not include any negative licensor as follows:

- (24) a. Mia-ka mwues-ul sass-ni?
Mia-Nom what-Acc bought-Q
'What did Mia buy?'

b. amwukes-to.
Anything (NPI)-also
'Nothing' (Intended Meaning: 'Mia didn't buy anything.')

- c. *[_{CP} amwukes-to_i E[_{TP} **Mia-ka** t_i sass-e]].
 anything-also Mia-Nom bought-Decl
 '(int.) Anything, Mia didn't buy.'

Since the syntactic licensing mechanism of Korean grammar requires NPIs to be licensed by a clause-mate negation, the NPI *amwukes-to* 'anything' necessarily needs the negative *anh-* 'not'. However, the NPI fragment in (24b) can serve as a legitimate answer for the *wh*-question in (24a), delivering a sentential reading though it does not include any negative licensor. The EA analyzes the FA in (24b) as the output derived from the underlying structure in (24c) where the movement of the object to the sentence-initial position is followed by the TP ellipsis triggered by the E(lipsis) feature. Accordingly, the EA would have to make the incorrect prediction that FAs are derived from undesirable source sentences (cf. Kim 2013).

An even more serious challenge arises from island constructions in which FAs are analyzed as elliptical structures by A'-movement and subsequent VP or TP deletion within the EA. As for this issue, Korean FAs can be freely linked to their correlates which occur within the *wh*-island as shown in the following example (see also Park 2005):

- (25) a. Mia-nun [nwu-ka mantun umsik-ul] mekess-ni? (CNPC)
 Mia-Top who-Nom made food-Acc ate-Q
 '(Lit.) Who_i did Mia eat the food that _____i cooked?'
 b. Sue-ka.
 Sue-Nom
 (Intended Meaning: 'Mia ate the food that Sue cooked.')

Specifically, the FA in (25) is connected to an island expression, delivering a full sentential meaning. Under the EA, the FA in (25) may be assumed to be derived from the putative source sentence like the following (Park 2005; Ahn and Cho 2006):

- (26) Mia-nun [_{NP} [_S Sue-ka mantun] umsik-ul] mekess-e. (CNPC)
 Mia-Top Sue-Nom made food-Acc ate-Decl
 'Mia ate the food that Sue cooked.'

However, as shown in (26), since the NP *Sue-ka* ‘Sue’ resides in the relative clause embedded within an NP, it cannot move out from the complex NP to induce the FA in (25b). This, in fact, may indicate that the EA does not seem to suffice to account for why Korean FAs allow the violation of the island constraint.⁴

As demonstrated above, syntactic connectivity effects regarding markers or the idiosyncratic properties of FAs involving reflexives and NPIs all appear to pose theoretical and analytical challenges to the EA which assumes that an FA is syntactically derived from a putative sentential source structure through the operations of movement and E features.

3.2 Previous direct interpretation approaches: Kim (2015)

The Direct Interpretation Approach (DIA) generally provides a generating rule for FAs like $S \rightarrow NP$, assuming that FAs deliver a propositional meaning in the semantic/pragmatic part (see Ginzburg 1996, 2012; Ginzburg and Sag 2000). There have been various proposals to account for the properties of FAs in Korean under this approach (cf. Yoo 2013; Ku and Cho 2014; Kim 2015). In fact, the DIA can give a simple explanation on the problems of FAs including reflexives and NPIs and the FAs for their correlates in *wh*-islands mentioned in (22), since the approach just base-generates FAs without any underlying structure. However, the DIA should explain the (case-) marker identity and posit a proper generating system of FAs in Korean. Among various analyses under the DIA, we introduce the analysis of Kim (2015) as a promising theory of FAs in Korean, which adopts Ginzburg (1996, 2012) and Ginzburg and Sag (2000). In order to deal with the case identity and a generating system of FAs, Kim (2015) proposes a *head-fragment construction* rule in (27) as a generating system, based on an elaborated case system in (28).

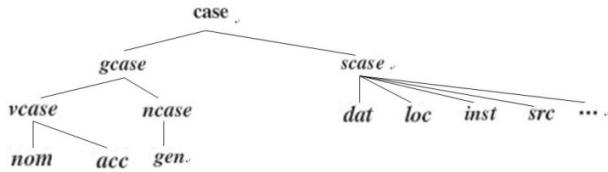
27) Head-Fragment Construction

$$\left[\begin{smallmatrix} \text{SYN } S \\ \text{DGB } \left[\text{SAL-UTT} \left[\begin{smallmatrix} \text{SYN } [\text{CAT } \boxed{i}] \\ \text{SEM } [\text{SEM } [\text{INDEX } i]] \end{smallmatrix} \right] \right] \end{smallmatrix} \right] \Rightarrow \left[\begin{smallmatrix} \text{SYN } [\text{CAT } \boxed{i}] \\ \text{SEM } [\text{INDEX } i] \end{smallmatrix} \right]$$

Kim (2015: 718)

⁴ As a reviewer suggests, the EA may assume that the island insensitive FA can be handled via the island-repair. However, the DIA simply does not need to explain such cases because it does not assume any underlying structure.

(28) Korean Case Hierarchy

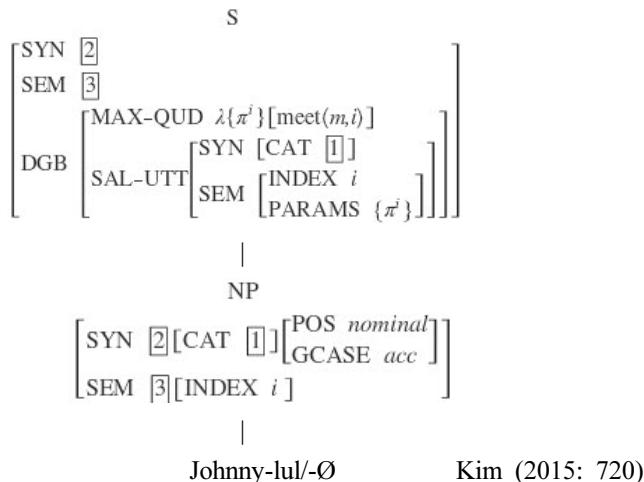


(Kim 2015: 719; Kim and Choi 2004)

In (27), the DGB (Dialogue Game Board) as a feature (attribute) of Pragmatics (Context), first of all, has two attributes, namely the SAL-UTT (salient-utterance) and the Max-QUD (maximal-question-under-discussion). In turn, the former refers to what/who is questioned while the latter represents the whole question under discussion. In addition, (27) specifies that an FA as a single daughter dominated by the mother S can occur when the FA shares the same CAT (category) and INDEX value with the S. Given these tools in (27) and (28), this analysis can provide a tree diagram with AVMs (Attribute Value Matrix) in (30) for the FA (29b) as an answer for the question (29a).

- (29) a. Marcia-ka nwuku-lul mannass-ni?
 Marcia-Nom who-Acc met-Q
 ‘Who did Marcia meet?’
 b. Johnnny-lul/ -Ø
 Johnnny-Acc/-Ø
 (Intended Meaning: ‘Marcia met Johnnny.’)

(30)



For your readability, the value of the salient utterance *nwuku-lul* in (29a) as an attribute of the DGB is encoded and that of the MAX-QUD ‘who did Marcia meet?’ is specified, on the S in (30). Further, the S and the daughter FA in (30) share the same CAT and INDEX value and as a result, the FA in (29b) is predicted to be grammatical under this analysis, conveying the full proposition ‘Marcia met Johnny.’ The key issue here is the case identity between the FA and its correlate in (29). This analysis predicts the FA with or without case markers to be well-formed only if the corresponding *wh*-phrase contains a case marker, because the case value in the CAT of the FA and the correlate as a value of SAL-UTT should be the same in terms of the rule in (27) and the case hierarchy in (28). Though it seems to work for the case identity in (29), it is still unsatisfactory. When there is a *wh*-phrase with no marker in a question, we can use FAs with no case marker as an answer on the contrary to the prediction of this analysis. For example, when we pronounce the question (29), we may omit the accusative case marker *-lul* attached to the *wh*-phrase *nwuku-*. In this case, the FA does not have to have the overt case marker *-lul*, which suggests that this analysis wrongly predicts such cases are illegal. In the same fashion, when there is a subject *wh*-phrase without a case marker in a question, it is still possible to use an FA without markers as follows:

- (31) a. Nwuku wass-ni?⁵
 Who -Ø came-Q
 'Who came?'
 b. Johnny-Ø (Intended Meaning: 'Johnny came.')

Furthermore, this analysis appears to face difficulties to explain why lots of sequential multiple FAs in (23b) sound bad depending on the existence of markers.

We can observe that even when the *wh*-phrases in (23a) have overt case markers, the FAs as answers should have markers including PMs as in (23b). Otherwise, they are predicted to be ill-formed. These properties of multiple FAs could be a puzzle to Kim (2015), though the fact that the FA with no correlates in (23b), *tosekwan* ('library'), should have an overt marker is predicted by postulating the FIC (Full Instantiation Constraint) as follows:

(32) The FIC (Full Instantiation Constraint)

The syntactic information (e.g. case features) not available at surface but updated in the DGB needs to be fully specified in the subsequent syntax.

Kim (2015: 727)

Putting aside the PMs attached to FAs, the final issue we examine is on the generating system of FAs under this analysis. As shown in (23), we can observe that FAs, which in principle can be infinite, consist of two types: FAs with correlates and FAs without correlates. If so, the head-fragment construction in (27) posited by

⁵ The sentence (31a) can be ambiguous between a yes/no question and a *wh*-question. Here we are talking about the *wh*-question case.

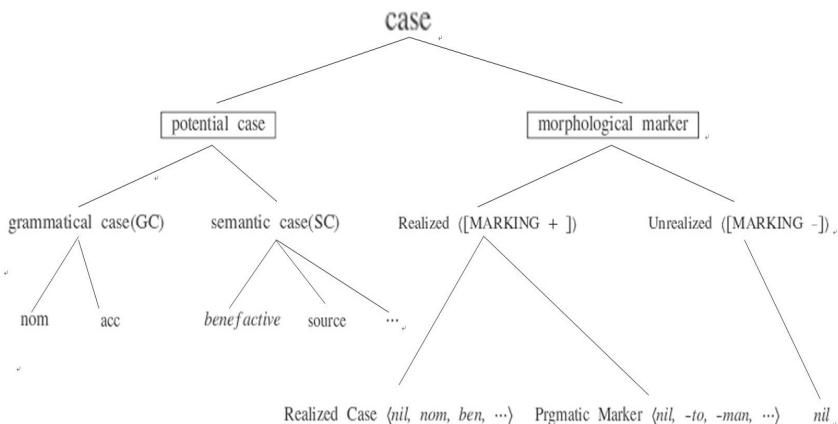
Kim (2015) cannot cover multiple FAs. In short, the analysis of Kim (2015) under the DIA appears to be insufficient to explain the marker connectivity between FAs and their correlates and to produce a proper set of FAs in Korean though it can neatly give an explanation on how FAs convey a full sentential interpretation.

4. A new proposal under the DIA

It has been shown that the Ellipsis Approach faces difficulties in explaining the syntactic connectivity effects regarding markers in (12) and the idiosyncratic properties of FAs in (20). On the other hand, the previous DIA falls short to generate a proper set of FAs in Korean and to predict the marker connectivity between FAs and their correlates in (14), though it can simply deal with the idiosyncratic properties of FAs in (20).

In order to eliminate the demerits of the previous analyses, we provide a new analysis of FA constructions under the DIA, assuming the semantic and pragmatic parts of Ginzburg (1996, 2012), Ginzburg and Sag (2000) and Kim (2015). To do this, we introduce a case system that is a slightly modified version of Cho and Chai (2000) as follows:

(33)



Given (33), Korean nominal phrases assumed here can be represented as in (34).

(34)

$$\text{nom} \left[\begin{array}{l} \text{CASE} \left[\begin{array}{l} \text{P(OTENTIAL)C(ASE)} \left[\begin{array}{l} \text{GRA } \langle \text{nom, acc} \rangle \\ \text{SEM } \langle \text{ben, source, loc, ...} \rangle \end{array} \right] \\ \text{M(OPHOLOGICAL)M(ARKER)} \left[\begin{array}{l} \text{MARKING boolean (+/-)} \\ \text{Realized Case } \langle \text{nil, nom, ben, ...} \rangle \\ \text{Prag Marker } \langle \text{nil, -to, -man, ...} \rangle \end{array} \right] \end{array} \right] \end{array} \right]$$

The key idea of this analysis on markers such as case is that all nominal phrases in Korean have two attributes: the PC (Potential Case) having two subtypes, i.e. the Grammatical Case and the Semantic Case, and the MM (Morphological Marker). The PC as a possible case(s) assigned by a head must be specified. On the other hand, as for the MM, Korean markers can be realized or unrealized, which should be specified as a Boolean value of the attribute Marking. Once the Marking value is positive (+), either the value of the RC (Realized Case) or that of the PM (Pragmatic marker) should not be an empty list (= < >). Of course, if the Marking value is negative (-), then the value of the RC and PM is *empty* or *nil*. Given these tools, we can provide AVMs for various nominal phrases as follows:

(35)⁶

a. Sue -ka	b. Sue
$\left[\begin{array}{l} \text{PC } [\text{GRA } \langle \text{nom} \rangle] \\ \text{MM } \left[\begin{array}{l} \text{Marking +} \\ \text{RC } \langle -ka \rangle \\ \text{PM } \langle \text{nil} \rangle \end{array} \right] \end{array} \right]$	$\left[\begin{array}{l} \text{PC } [\text{GRA } \langle \text{nom} \rangle] \\ \text{MM } \left[\begin{array}{l} \text{Marking -} \\ \text{RC } \langle \text{nil} \rangle \\ \text{PM } \langle \text{nil} \rangle \end{array} \right] \end{array} \right]$
c. Sue -man	d. Mia -eykey
$\left[\begin{array}{l} \text{PC } [\text{GRA } \langle \text{[]} \rangle] \\ \text{MM } \left[\begin{array}{l} \text{Marking +} \\ \text{RC } \langle \text{nil} \rangle \\ \text{PM } \langle -man \rangle \end{array} \right] \end{array} \right]$	$\left[\begin{array}{l} \text{PC } [\text{SEM } \langle \text{ben} \rangle] \\ \text{MM } \left[\begin{array}{l} \text{Marking +} \\ \text{RC } \langle -eykey \rangle \\ \text{PM } \langle \text{nil} \rangle \end{array} \right] \end{array} \right]$

⁶ For your readability, the FA *Sue-man-i* and *Sue-man* in (35c) have the same AVM except for the fact that *Sue-man-i* has *-ka/i* value for the attribute RC.

To enhance your readability, the nominal ‘Sue-ka’ in (35a) must have a nominative as the PC value and the overt morphological marker ‘-ka’ should be attached to ‘Sue’ because of the positive value of the Marking. However, the nominal ‘Sue-Ø’ in (35b) specifying the negative value of the Marking has no marker though it has a nominative case as the value of the PC.⁷ As for ‘Sue-man’ with a PM in (35c), it should have the value of the PM, ‘-man’ because of the positive value of the Marking, regardless of the value of the RC.

On the basis of the case system and nominal AVMs regarding the case realization, we propose a new Head-Fragment Construction as follows:

(36) Head-Fragment Construction (Korean Version)⁸

$$\left[\begin{array}{l} \text{PHON } \langle \dots \rangle \\ \text{MARKING } + \\ \text{RC } a(nil) \\ \text{SEM } e_1 (= e_1 \oplus e_2 \oplus \dots) \\ \text{CXT } \left[\begin{array}{l} \text{SAL-UTT } \langle \dots \rangle \\ \text{SEM } [\text{CAT } \boxed{1}] \\ \dots \end{array} \right] \\ \text{MAX-QUD } e_1 \end{array} \right] \Rightarrow \left[\begin{array}{l} \text{PHON } \boxed{} \\ \text{MARKER } \left[\begin{array}{l} \text{MARKING } \boxed{4} + / - \\ \text{RC } \boxed{2} \\ \text{PM } \boxed{3} \\ \text{SYN } [\text{CAT } \boxed{1}] \\ \text{SEM } [\text{INDEX } i] \end{array} \right] \\ \text{CXT } \left[\begin{array}{l} \text{BG } [\text{SPEAKER } \left[\begin{array}{l} \text{know} \\ e_2 \end{array} \right]] \end{array} \right] \end{array} \right]^*$$

The rule (36), first of all, declares that Korean FAs can be divided into two parts, i.e. FAs with correlates (the first AVM of the arrow) and FAs without correlates (the second AVM of the arrow). The former must occur at least once as specified as the Kleene Plus (+), while the latter may not appear or appear infinitely as noted as the Kleene Star (*). This enables us to generate FAs infinitely after all. In fact, the former AVM and the mother share the same values for the CAT and INDEX which partially guarantee the marker connectivity between FAs and their corresponding *wh*-phrases, similar to the previous analyses under the DIA. On the other hand, the latter AVM for the FAs without correlates can occur when an answerer believes that the additional information related to the QUD at issue is useful for a questioner. In this case, the inherent marker of the adjuncts, if any, must

⁷ In (35b), the grammatical case for the PC is encoded as *nom* but it is undefined in the lexicon.

⁸ As shown in the semantic part of the rule, the information on the event at issue obtained from Korean FAs can be more informative than that of the *wh*-question previously uttered (p.c. with Jongbok Kim). In addition, though the rule can be simplified by eliminating the PHON part, I provide (34) for FAs since it may show us what kind of information each component encodes as constraints.

be attached, as shown in the positive value of the Marking in (36). So far we have sketched how our analysis can generate FAs infinitely, keeping the marker connectivity between FAs and their correlates in Korean. To show how it works, we demonstrate how a single FA such as ‘Sue-ka/-man/ -Ø/-eykey’ can be analyzed under our analysis. The representations of each FA are as follows:

(37)

a.

S	$\left[\begin{array}{c} \text{CTXT SAL-UTT} \\ \text{CAT[CASE PC } \boxed{1} \text{]} \\ \text{CONT IND } \boxed{2} \end{array} \right]$
$\left[\begin{array}{c} \text{PC } \boxed{1} [\text{GRA } \langle \text{ nom } \rangle] \\ \text{CASE} \\ \text{MM } \left[\begin{array}{c} \text{RC } -\text{ka} \\ \text{PM } \text{nil} \end{array} \right] \\ \text{CONT IND } \boxed{2} \end{array} \right]$	

Sue -ka

b.

S	$\left[\begin{array}{c} \text{CTXT SAL-UTT} \\ \text{CAT[CASE PC } \boxed{1} \text{]} \\ \text{CONT IND } \boxed{2} \end{array} \right]$
$\left[\begin{array}{c} \text{PC } \boxed{1} [\text{GRA } \langle \text{ nom } \rangle] \\ \text{CASE} \\ \text{MM } \left[\begin{array}{c} \text{RC } \text{nil} \\ \text{PM } -\text{man} \end{array} \right] \\ \text{CONT IND } \boxed{2} \end{array} \right]$	

Sue -man

c.

S	$\left[\begin{array}{c} \text{CTXT SAL-UTT} \\ \text{CAT[CASE PC } \boxed{1} \text{]} \\ \text{CONT IND } \boxed{2} \end{array} \right]$
$\left[\begin{array}{c} \text{PC } \boxed{1} [\text{GRA } \langle \text{ nom } \rangle] \\ \text{CASE} \\ \text{MM } \left[\begin{array}{c} \text{RC } \text{nil} \\ \text{PM } \text{nil} \end{array} \right] \\ \text{CONT IND } \boxed{2} \end{array} \right]$	

Sue

d.

S	$\left[\begin{array}{c} \text{CTXT SAL-UTT} \\ \text{CAT[CASE PC } \boxed{1} \text{]} \\ \text{CONT IND } \boxed{2} \end{array} \right]$
$\left[\begin{array}{c} \text{PC } \boxed{1} [\text{SEM } \langle \text{ ben } \rangle] \\ \text{CASE} \\ \text{MM } \left[\begin{array}{c} \text{RC } -\text{eykey} \\ \text{PM } \text{nil} \end{array} \right] \\ \text{CONT IND } \boxed{2} \end{array} \right]$	

Mia -eykey

As shown above, the single FAs with or without markers can freely occur regardless of the existence of the overt marker(s) in the correlates, which can solve the problems of (33) that Kim (2015) cannot solve. The crucial difference to deal with the connectivity between Kim (2015) and this analysis is that our analysis simply requires the potential case identity between FAs and their correlates.

To deal with more complex connectivity between multiple FAs and their correlates, we need to understand how the values of the attribute PHON(ology)

specified in the Head-Fragment Construction (36) are decided to be a legal FA construction under this analysis. Specifically, as mentioned in observation 2 in (12), the first one of two FAs in a sequence must be either case-marked or delimiter-marked, but when the first FA bears a delimiter marker only, the immediately following FA must have a case marker. This can be formalized under our analysis as follows:

(38) Marker Appearance Convention (MAC)

[PHON <...F₁ [MARKING +, RC [1](=nil)]> F₂ [RC [2]], REST>]

Informally, if the first FA of two FAs in a sequence has the positive value of Marking and the value nil for the RC, then the immediately following FA should have an overt RC value. In addition, it is worthwhile to note that the value of PHON is a list, <FIRST, REST>, in (38) and the REST can be either an empty list or another <FIRST, REST>. When the REST is an empty list so that the two consequent FAs appear to be <F, <F, <>>, the first F should be case-marked, regardless of the existence of markers attached to the second FA. This enables us to predict that when there are two FAs with two correlates, (9c) is grammatical. On the other hand, if the first F is not case-marked, the only legal case is that the first one should have a PM and the second must contain a case marker. Hence, (9d) is predicted to be grammatical.

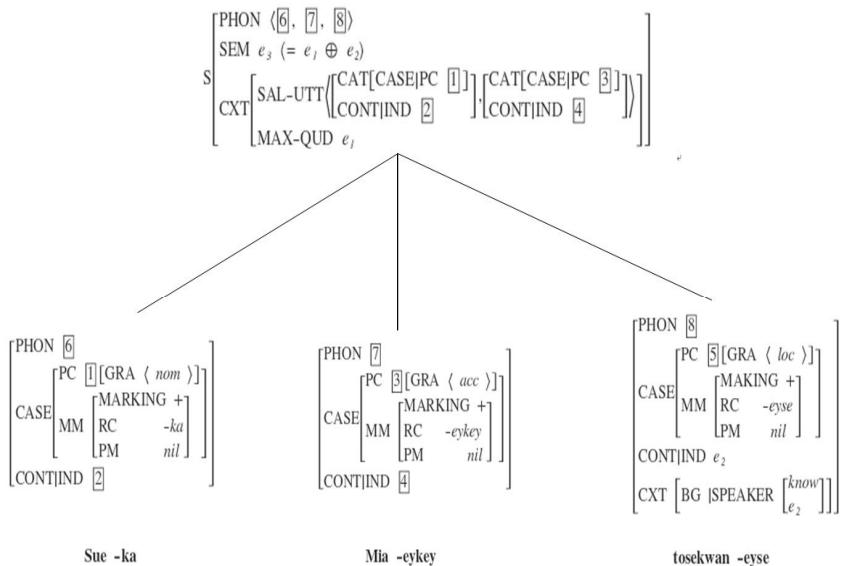
- (9) a. Nwu-ka nwuku - lul ttaylyess-ni?
 who-Nom who-Acc hit-Q
 Who hit whom?
 c. Sue-Nom Marcia(-lul/-to)
 Sue-Nom Marcia(-Acc/-also(PM))
 d. Sue-to Marcia-lul(/*-to/*-Ø)
 Sue-also(PM)Marcia-Acc(/-also(PM))/null)
 (Intended Meaning of (b-d): ‘Sue hit Marcia’)

If this strategy for the complex connectivity between FAs and their correlates is accepted, the following multiple FA examples already provided in (23b) can be

represented as in (39).

- (23) a. nwu-ka nwukwu-eykey/-hanthey senmwul-lul cwuess-ni?
 who-Nom who-to present-Acc gave-Q
 ‘Who gave a present to whom?’
 b. Sue-ka/-man/*-Ø Mia*(-eykey/-hanthey) tosekwan*(-eyse)
 Sue-Nom/-PM/ -Ø Mia-to library-at
 (Intended Meaning: ‘Sue gave a present to Mia at the library.’)

(39)



Basically, our analysis correctly predicts that the multiple FAs in (23b) as an answer for (23a) sound good when they all have markers. This prediction is born out because the MAC declares that the FAs with the correlates, *Sue* and *Mia*, can be the first FA depending on how two FAs are chosen in a sequence. However, the last FA with no correlate, *tosekwan*, is an adjunct delivering circumstantial information that must have its own marker, *-eyse*, by the definition of the Head-Fragment Construction rule in (36). Hence, the tree configuration with AVMs for (23b), where

all FAs have markers, is predicted to be legal as illustrated in (39).

To get a full sentential interpretation from FAs, we basically adopt the semantic and pragmatic parts of Ginzburg (1996, 2012), Ginzburg and Sag (2000) and Kim (2015), which enable us to predict that various FAs can convey a complete proposition in terms of the information on the DGB. In addition to this basic sentential meaning, our analysis further provides a way of adding circumstantial information by encoding speakers' background knowledge on the CXT (context) in (36). This information will be appended to the basic sentential reading on the S node, resulting in a full sentential meaning with additional information that is not questioned.

So far, we have demonstrated how our analysis can account for the idiosyncratic properties of FAs in Korean mentioned in (12) and (20) under the DIA, focusing on the marker connectivity between FAs and their correlates and the proper generating system of FAs in Korean.

5. Conclusion

It is common that non-sentential utterances can be used in natural languages to deliver a full sentential meaning. In this regard, FAs as answers of *wh*-questions would be a typical case, which can be economic in communication. On the other hand, most of the seemingly idiosyncratic properties of FAs in Korean seem to be required to get an appropriate sentential reading without any confusion. As mentioned above, the previous analyses appear to face difficulties explaining the properties of FAs and generating a proper set of FA constructions. To overcome such difficulties, we propose a Head-Fragment Construction rule with linguistic constraints under the DIA. This construction rule informally involves two ideas: FAs in Korean can be generated infinitely and they should observe constraints such as the MAC. In fact, we believe that the construction rule may imply that we can use FA constructions without using full sentences only if we can get a complete proposition from them without having troubles linking each FA to its own correlate. It, of course, is obvious that each language may have a different strategy to guarantee how FAs are linked to their corresponding *wh*-phrases without any difficulty.

Though providing a desirable analysis of FAs in natural languages is never easy, we believe that this analysis is on the right track to give a preferable analysis of FAs in Korean under the DIA. Finally, we hope this analysis provides an insight for the future study on FAs.

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