

Asymmetric quantification: the case of the Korean topic marker *-(n)un*^{*}

Chung-hye Han

Abstract

The present study addresses the question why *-(n)un* in Korean produces three different readings: a topic reading, a contrastive topic reading, and a contrastive focus reading. I present a unified account of *-(n)un* by pursuing the approach that there is one *-(n)un*, with the different meanings of *-(n)un* determined by the syntactic environment in which it occurs.

1. Introduction

The usage of the marker *-(n)un* in Korean shows that syntax plays a crucial role in determining the semantics of a given sentence.¹ The marker *-(n)un* can attach to all NPs in Korean. However, in some cases, it receives a topic reading or a contrastive topic reading and in other cases, it receives a contrastive focus reading (all to be defined in section 2). The question to be asked is whether Korean has three different *-(n)un*'s with the same phonological realizations. Here, I present a unified account of *-(n)un* by pursuing the approach that there is one *-(n)un*, with the different meanings of *-(n)un* determined by the syntactic environment in which it occurs.

In section 2, I define the topic reading, contrastive topic reading and contrastive focus reading of *-(n)un*. In section 3, I propose a semantics for *-(n)un* and argue that this semantics accounts for the presence of the different readings of *-(n)un*. In section 4, I show that the particular reading which the *-(n)un* marker gets is determined by the syntactic environment in which it occurs. Specifically, I show that at S-structure, (1) a VP-external *-(n)un*-marked NP results in a topic reading or a contrastive topic reading and (2) a VP-internal *-(n)un*-marked NP results in a contrastive focus reading. In section 5, I discuss the syntactic differences related to VP-external *-(n)un*-marked NPs and VP-internal *-(n)un*-marked NPs. Finally, I propose an account of why the interpretation of *-(n)un* is determined by its syntactic environment.

^{*}The exact same version of this paper will appear in the proceedings of *Japanese and Korean Linguistics 6*.

¹The marker *-un/nun* alternates depending on its phonological environment: *-un* is used after a consonant and *-nun* is used after a vowel.

2. *Topic reading, contrastive topic reading and contrastive focus reading of -(n)un*

A *-(n)un*-marked NP with a topic reading functions as the topic of the sentence. Following Reinhart (1981), Gundel (1985), and Horn (1986), a sentence topic denotes what the sentence is about. A *-(n)un*-marked NP with a contrastive topic reading introduces a presupposition that there are other elements in the discourse domain besides the discourse entity picked out by the NP, and the entity denoted by the NP functions as one topic among alternative possible topics (Partee (1991)). A *-(n)un*-marked NP with a contrastive focus reading also introduces a presupposition that there are other elements in the discourse domain besides the discourse entity picked out by the NP, and a sentence with such an NP implicates that the proposition only applies to the entity picked out by the NP. (1) exemplifies the topic reading and contrastive topic reading and (2a) exemplifies the contrastive focus reading.²

(1) [IP John-un [VP Mary-lul coaha-n-ta.]]
 John-Top Mary-Acc like-Pres-Ind
 'John likes Mary.' [topic reading]
 'John likes Mary, (Frank likes Susan, and Peter likes Laura.)'
 [contrastive topic reading]
 presupposition: $\exists x(x \neq \text{John})$

(2) a. [IP John-i [VP Mary-nun coaha-n-ta.]]
 John-Nom Mary-CF like-Pres-Ind
 'John likes Mary, (but not others).'
 [contrastive focus reading]
 presupposition: $\exists x(x \neq \text{Mary})$
 implicature: $\forall x[(x \neq \text{Mary}) \rightarrow \neg \text{like}(\text{John}, x)]$

b. [IP John-i [VP Mary-nun an coaha-n-ta.]]
 John-Nom Mary-CF not like-Pres-Ind
 'John doesn't like Mary, (but not others).'
 [contrastive focus reading]
 presupposition: $\exists x(x \neq \text{Mary})$
 implicature: $\forall x[(x \neq \text{Mary}) \rightarrow \text{like}(\text{John}, x)]$

The sentence in (1) has *-(n)un* marked on the subject. It can have either a topic reading or a contrastive topic reading. When it has a topic reading, the sentence only states that John likes Mary. When it has a contrastive topic reading, it presupposes that there are other people besides John in the domain and the entity denoted by *John* functions as one topic among alternative possible topics. The sentence in (2a) has *-(n)un* marked on the object. It presupposes that there are other people besides Mary in the discourse domain and implicates that John dislikes everybody in that group apart from Mary.³ Such a presupposition survives even in the negation of

²I gloss the topic reading and contrastive topic reading of *-(n)un* as 'Top' and the contrastive focus reading of *-(n)un* as 'CF'.

³I use the term 'implicature' to define the contrastive focus reading of *-(n)un* since

(2a) as shown in (2b). (2b) shares the same presupposition with (2a) and implicates that John likes everybody in the domain except for Mary.

One can easily test these different readings by setting up a discourse context. Let us assume that there are Mary, Sue, and Jane in the domain. Person A asks another person B who John likes. The appropriate answer would be (1) if B just wants to convey the information about how John feels about Mary and doesn't want to convey any information about how John feels about other girls. Both topic reading and contrastive topic reading of *-(n)un* are compatible with this context. However, let's assume that B somehow believes that John doesn't like any of the girls except for Mary and wants to convey this information. The appropriate answer in this context is (2a). The marker *-nun* that is attached to the object *Mary* implicates that John only likes Mary and doesn't like Sue and Jane. On hearing (2a), speaker A will infer that John doesn't like Jane and Sue.

A more refined definition of the contrastive focus reading of *-(n)un* can be provided with example (3). Let's assume that A asked if Cathy likes Mary, with *-(n)un* marked on the object, *Mary*:

(3) a. [IP Cathy-ka [VP Mary-nun coaha-ni?]]
 Cathy-Nom Mary-CF like-Pres-Q?
 'Is it Mary that Cathy likes?'
 presupposition: There are other people besides Mary in the domain and Cathy doesn't like them.

b. ani, [IP Cathy-ka [VP Mary-to an coahay.]]
 no, Cathy-Nom Mary-also not like-Pres
 'No, Cathy doesn't like Mary as well.'
 presupposition: There are other people besides Mary in the domain and Cathy doesn't like them.

c. # ani, [IP Cathy-ka [VP Mary-nun an coahay.]]
 no, Cathy-Nom Mary-CF not like-Pres
 'No, it is Mary that Cathy doesn't like.'
 presupposition: There are other people besides Mary in the domain and Cathy likes them.

The appropriate answer to question (3a) is (3b) if the answer is that Cathy doesn't like Mary. The presupposition introduced by the question in (3a) is that there are other people in the discourse domain and that Cathy doesn't like them. (3b) introduces the same presupposition as the question in (3a). The presupposition of (3b) is that there are other people in the domain and Cathy doesn't like them. The marker *-to* provides the reading that Cathy doesn't like Mary either. However, the presupposition of (3c) is that there are other people in the domain and Cathy likes them. (3c) cannot be a felicitous answer to (3a) because (3c) does not share the same presupposition with (3a). Such a question-answer pair results in a presupposition violation.

the sentence with the contrastive focus reading of *-(n)un* can be followed by a sentence that weakly cancels the implicated proposition. For instance, (2a) can be followed by the sentence *but John may also like others*.

According to the meaning of the contrastive focus reading defined here, we predict that a universally quantified NP with the marker *-(n)un* is not compatible with contrastive focus reading in some discourse contexts, whereas an existentially quantified NP with the marker *-(n)un* is compatible with contrastive focus reading in all discourse contexts. The universal quantifier exhausts the set denoted by the given NP. This makes a universally quantified NP incompatible with the contrastive focus reading when the discourse domain only contains the entities picked out by the universally quantified NP. Consider the data in (4):

(4) a. [IP John-i [VP motun sakwa-nun mek-ess-ta.]]
 John-Nom all apple-CF eat-Past-Ind
 * 'John ate every apple, but not other apples.'
 'John ate every apple, (but not other fruits).'
 b. [IP John-i [VP etten sakwa-nun mek-ess-ta.]]
 John-Nom some apple-CF eat-Past-Ind
 'John ate some apples, (but not all).'

In (4a), the *-nun* attached to the object *motun sakwa* ('every apple') forces the contrastive focus reading. The sentence is anomalous under the reading in which it presupposes that there are other apples that John didn't eat since the set denoted by the NP is exhausted by the universal quantifier. The sentence is good only under the reading in which the relevant implicature is that there are other fruits that John didn't eat. (4b) shows that an NP with an existential quantifier is compatible with the contrastive focus reading in all discourse contexts because the existential quantifier doesn't exhaust the set denoted by the NP. Hence, in (4b), the implicature that there are other apples that John didn't eat survives.

3. Semantics of *-(n)un*

A natural question that comes up at this point is why the marker *-(n)un* allows so many different readings. One possible answer might be that there is more than one lexical item pronounced as *-(n)un*. However, this is not a very attractive approach. Languages with a so called 'topic marker' generally allow the same marker to generate more than one reading. For instance, Japanese *-wa* and Hindi *-to* both have the topic reading, contrastive topic reading and contrastive focus reading available.⁴

⁴I thank Rajesh Bhatt for the Hindi data and Megumi Kobayashi and Nobo Komagata for the Japanese data.

Hindi:

(i) a. Ram ne to seb khaa li-yaa.
 Ram Erg TO apple eat take-Perf
 'Speaking of Ram, he ate the apple.' [topic reading]
 'Ram ate the apple, (Abu ate the banana, and Sita ate the strawberry).' [contrastive topic reading]

Hence, a more attractive approach would be to posit that there is one lexical item *-(n)un* and try to find the reason for the presence of the different readings somewhere else. Here, I argue that the different readings of one lexical item *-(n)un* can be explained by its semantics.

The marker *-(n)un* presupposes a non-empty set (including a singleton set). That is, NP-*nun* presupposes a set whose member is at least the entity picked out by the NP:

(5) presupposition of α -*(n)un*, where α is an individual and X is a set variable over individuals:

$$\exists X[(\alpha \in X) \wedge (|X| \geq 1)]$$

When the set presupposed by *-(n)un* is a singleton set, only topic reading is available. When the set contains more than one element, topic reading, contrastive topic reading and contrastive focus reading are all available. With such a presupposed set, the *-(n)un*-marked NP in a sentence can denote what the sentence is about without any implications with respect to other elements in the set, thereby producing a topic reading, or the sentence with a *-(n)un*-marked NP can make certain implications with respect to other elements in the set, thereby producing either a contrastive topic reading or a contrastive focus reading. The following examples show that NP-*(n)un* is felicitously used only when the set containing the entity denoted by the NP can be presupposed:

(6) a. yeysnal yeysnal-ey han sonyen-i i maul-ey sal-ass-ta.
 long ago-at one boy-Nom this town-at live-Past-Ind
 ‘Once upon a time, a boy lived in this town.’

b. # yeysnal yeysnal-ey han sonyen-un i maul-ey sal-ass-ta.
 long ago-at one boy-Top this town-at live-Past-Ind
 ‘Once upon a time, a boy lived in this town.’

The sentence in (6a) can only be a discourse-initial utterance. In such an utterance, the NP *han sonyen* ('one boy') cannot be marked with *-un*, as shown in (6b), since the set containing the entity denoted by the

b. Ram ne seb to khaa li-yaa.
 Ram Erg apple TO eat take-Perf
 ‘Ram ate the apple, (but not other fruits).’
 [contrastive focus reading]

Japanese:

(ii) a. Yoshiko-wa ringo-o tabemasita.
 Yoshiko-Top apple-Acc eat-Past-Ind
 ‘Speaking of Yoshiko, she ate the apple.’ [topic reading]
 ‘Yoshiko ate the apple, (Tanaka ate the banana, and Taro ate the strawberry).’
 [contrastive topic reading]

b. Yoshiko-wa ringo-wa tabemasita.
 Yoshiko-Top apple-CF eat-Past-Ind
 ‘Speaking of Yoshiko, she ate the apple, (but not other fruits).’
 [contrastive focus reading]

NP cannot be presupposed. After (6a) has been uttered, the singleton set which contains the boy will have been introduced. Hence, the NP *ku sonyen* ('the boy') can be marked with *-un* in the utterance that follows (6a), as shown in (7):

(7) *ku sonyen-un seymali-uy kay-lul kasko iss-ess-ta.*
 the boy-Top three-Gen dog-Acc have be-Past-Ind
 'The boy had three dogs.' [topic reading]
 # 'The boy had three dogs, (and the girl had one dog.)'
 [contrastive topic reading]

Note that although *ku sonyen-un* in (7) has a topic reading, it cannot have a contrastive topic reading. We can explain this by appealing to the fact that the presupposed set is a singleton set. Since the relevant set is a singleton set, the reading which the entity denoted by the NP *ku sonyen* functions as one topic among alternative possible topics is not available.

While the *-(n)un* marker is felicitously used in the discourse segment (8), it is not in the discourse segment (9).

(8) a. *ku sonyen-un seymali-uy kay-lul kasko iss-ess-ta.*
 the boy-Top three-Gen dog-Acc have be-Past-Ind
 'The boy had three dogs.' [topic reading]

b. *sonyen-un kaytul-ul Mary, Lotte, Orion-ilako pul-ess-ta.*
 boy-Top dogs-Acc Mary, Lotte, Orion call-Past-Ind
 'The boy called the dogs Mary, Lotte, and Orion.'

c. *sonyen-un Lotte-nun coahay-ss-ta.*
 boy-Top Lotte-CF like-Past-Ind
 'The boy liked Lotte, (but not Mary and Orion).'
 [contrastive focus reading]

(9) a. *ku sonyen-un hanmali-uy kay-lul kasko iss-ess-ta.*
 the boy-Top one-Gen dog-Acc have be-Past-Ind
 'The boy had one dog.' [topic reading]

b. *sonyen-un ku kay-lul Lotte-lako pul-ess-ta.*
 boy-Top the dog-Acc Lotte call-Past-Ind
 'The boy called the dog Lotte.'

c. # *sonyen-un Lotte-nun coahay-ss-ta.*
 boy-Top Lotte-CF like-Past-Ind
 'The boy liked Lotte, (but not others).'
 [contrastive focus reading]

Consider the discourse segment (8). The utterances in (8a) and (8b) introduce the set of dogs containing Mary, Lotte, and Orion. In (8c), *Lotte-nun* evokes the presupposed dog set, and makes implicatures with respect to other members in the set, namely Orion and Mary, thereby generating a contrastive focus reading. In the discourse segment (9), the utterances in (9a) and (9b) introduce a dog set which only contains Lotte. However, *Lotte-nun* in (9c) forces the contrastive focus reading. But since contrastive

focus reading requires the presupposed set to be a set containing more than one element, this reading is incompatible with the presupposed singleton set.

4. Interpretational differences between VP-external and VP-internal

‘-(n)un’-marked NPs

4.1. ‘-(n)un’-marked scrambled objects

The different readings of *-(n)un* are not always available to all *-(n)un*-marked NPs. The syntactic environment in which the *-(n)un*-marked NP occurs determines its reading. More specifically, if a *-(n)un*-marked NP occurs outside of VP at S-structure, it functions as a sentence topic resulting in a topic reading, or a contrastive topic reading, as shown in (1). The availability of the contrastive topic reading is subject to the same syntactic constraints as the availability of the topic reading. They only differ in the pragmatic constraint that the contrastive topic reading requires the presuppositional set introduced by the *-(n)un*-marked NP to contain more than a single element. But if a *-(n)un*-marked NP occurs inside of VP at S-structure, it can no longer be interpreted as the sentence topic. Instead, it acquires a contrastive focus reading, as shown in (2a), (4b) and (8c).

The interpretation of *-(n)un*-marked scrambled object supports the proposal made here. A scrambled object gets out of VP and adjoins to IP. Thus, a scrambled *-(n)un*-marked object should lose the contrastive focus reading and get a topic reading or a contrastive topic reading instead. I show that this is indeed the case with the question-answer pair in (10):

- (10) a. nwu-ka sakwa-lul mek-ess-ni?
who-Nom apple-Acc eat-Past-Q
'Who ate the apple?'
- b. # [IP John-i [VP sakwa-nun mek-ess-ta.]]
John-Nom apple-CF eat-Past-Ind
'John ate the apple, but not other fruits.'
- c. [IP sakwa-nun; [IP John-i [VP t_i mek-ess-ta.]]]
apple-Top John-Nom t_i eat-Past-Ind
'Speaking of the apple, John ate it.'

The answer to question (10a) should have *sakwa* as its topic. In (10b), although *sakwa-nun* is indeed marked with *-(n)un*, it is not an appropriate answer to (10a). In (10b), *sakwa-nun* is in a VP-internal position. It cannot function as the sentence topic and receives the contrastive focus reading instead. However, (10c) is an appropriate answer to the question (10a). Here, *sakwa-nun* is scrambled out of VP and adjoined to IP. It loses the contrastive focus reading and functions as the sentence topic. This shows that when the object with *-(n)un*-marker ends up in a VP-external position at S-structure, it functions as the topic of the sentence. An analysis of the

relationship between scrambling and the topic/focus readings of *-(n)un*-marked NPs is found in Choi (to appear).

4.2. *‘-(n)un’-Marked universally quantified NPs*

In section 2, I have shown that a universally quantified NP is not compatible with the contrastive focus reading in a certain discourse context. Hence, if the claim that a VP-internal *-(n)un*-marked NP results in a contrastive focus reading is correct, a universally quantified NP that is not compatible with a contrastive focus reading should not be able to occur in a VP-internal position. This is shown in (4).

Furthermore, if the claim that a VP-external *-(n)un*-marked NP results in a topic reading is correct, a universally quantified NP should be able to occur with *-(n)un* in a VP-external position. The prediction is borne out by the data, as shown in (11):

(11) [IP motun sakwa-nun [VP masiss-ta.]]
 all apple-Top taste-good-Pres-Ind
 ‘All apples taste good.’

(11) shows that a universally quantified NP can be marked with *-nun* in a VP-external position because the whole NP functions as the sentence topic in such a position.

5. Syntactic differences between VP-external and VP-internal

‘-(n)un’-marked NPs

5.1. Number of ‘-(n)un’-marked NPs

While there can be more than one *-(n)un*-marked NP in VP-internal position, there can be only one in VP-external position. That is, although a sentence can have more than one NP with contrastive focus reading *-(n)un*, it can have only one NP with the topic reading *-(n)un*. This corresponds to the usual notion that a sentence has a unique topic (Reinhart (1981)).

A sentence becomes ungrammatical if there is more than one topic, as in (12):

(12) * [IP sakwa-nun_i [IP John-un [VP t_i mek-ess-ta.]]]
 apple-Top John-Top t_i eat-Past-Ind
 * ‘Speaking of the apple, speaking of John, he ate it.’

(12) has two *-(n)un*-marked NPs in VP-external positions: the subject and the scrambled object. Hence, both NPs must function as the topic of the sentence. In this case, the sentence is ungrammatical showing that there cannot be two topics in a sentence. However, a sentence can have a *-(n)un*-marked NP in a VP-external position and another *-(n)un*-marked NP in a VP-internal position, as shown in (13):

(13) [IP John-un [VP sakwa-nun mek-ess-ta.]]
 John-Top apple-CF eat-Past-Ind
 'Speaking of John, he ate the apple, (but not other fruits).'

In (13), the subject functions as the topic of the sentence and the object has a contrastive focus reading.

(14) shows that a sentence is grammatical with two -(n)un-marked NPs with a contrastive focus reading. (14) is a double object construction. Both the direct object (*chayk-un*) and the indirect object (*Mary-eykey-nun*) are marked with -(n)un.

(14) [IP John-i [VP chayk-un Mary-eykey-nun cwu-ess-ta.]]
 John-Nom book-CF Mary-to-CF give-Past-Ind
 'John gave the book (but not other things) to Mary (but not others).'

(14) introduces the presupposition that there are other things besides the book under discussion and other people besides Mary (relevant to the discourse context), and implicates that John gave only the book under discussion to only Mary and to no other person.

5.2. Island effects

VP-external -(n)un-marked NPs show sensitivity to island effects, whereas VP-internal -(n)un-marked NPs don't.

(15) a. * [IP John-i [NP [CP [IP Mary-nun coaha-nun]] salam-ul]
 John-Nom Mary-Top like-Mod person-Acc
 man-ass-ta.]
 meet-Past-Ind
 'John met a person who Mary likes.' (S-structure)

b. * [IP John-i [CP [IP Sue-nun apha-ss-ki] ttaymwuney]
 John-Nom Sue-Top sick-past because
 cenhwa ha-yess-ta.]
 telephone do-Past-Ind
 'John called because Sue was sick.' (S-structure)

c. * [IP [NP [CP [IP John-un_i [IP Mary-ka_i t_i coahanta-nun]]]]
 John-Top Mary-Nom t_i like-Mod
 sasil-_i] yere salam-ul nolakey-ha-yess-ta.]
 fact-Nom many people-Acc surprise-Past-Ind
 'The fact that Mary likes John surprised many people.' (S-structure)

The -(n)un-marked NPs in all of the sentences in (15) have neither topic reading nor contrastive focus reading. In (15a), the subject of the relative clause is marked with -nun and in (15b), the subject of the adjunct clause is marked with -nun. (15c) has a complex NP. The complement clause of the complex NP has a scrambled object marked with -(n)un. All the -(n)un-marked NPs in (15) are expected to function as the sentence topic, but the sentences are ungrammatical. This shows that the -(n)un-marker simply cannot attach to VP-external NPs inside an island.

The data in (16) show that the -(n)un-marker can attach to objects in an island:

(16) a. [IP John-i [NP [CP [IP [VP Mary-nun coaha-nun]]] John-Nom Mary-CF like-Mod
salam-ul] man-ass-ta.] person-Acc meet-Past-Ind
'John met a person who likes Mary, (but not others).'

b. [IP [NP [CP [IP Sue-ka [VP John-un coahanta-nun]]] Sue-Nom John-CF like-Mod
sasil-i] Mary-lul nolakey ha-yess-ta.] fact-Nom Mary-Acc surprise do-Past-Ind
'The fact that Sue likes John (but not others) surprised Mary.'

c. [CP [CP [IP John-i [Sue-nun coaha-ki] ttaymwuney] [IP pro
John-Nom Sue-CF like-pres because pro
kunye-eykey cenhwa ha-yess-ta.]] she-to telephone do-Past-Ind
'Because John likes Sue (but not others), he called her.'

In (16a), the object of the relative clause is *-nun*-marked, in (16b) the object of the complement clause of the complex NP is *-un*-marked, and in (16c) the object in an adjunct clause is *-(n)un*-marked. These *-(n)un*-marked NPs are in a VP-internal position and they all give rise to the contrastive focus reading.

I assume that topic is an operator that must bind a variable, following Huang (1989). According to the prohibition against vacuous quantification, all operators must bind a variable. Thus, it is reasonable to expect that at LF a -(n)un-marked element moves to an \bar{A} -position outside of the highest IP, leaving a trace in its base-generated position. The trace functions as a variable, and the moved element binds the trace. The movement analysis predicts that a topic can occur in complement clauses that are not islands. This prediction is borne out by the data as shown in (17):

(17) a. [IP Mary-ka [CP [IP John-un ttwungttwunghata]-ko] mal
 Mary-Nom John-Top fat-Comp say
 ha-yess-ta.]
 do-Past-Ind
 ‘Speaking of John, Mary said that he is fat.’ (S-structure)

b. [CP John-un_i [IP Mary-ka [CP [IP t_i ttwungttwunghata]-go]
 John-Top Mary-Nom t_i fat-Comp
 mal ha-yess-ta.]]
 say do-Past-Ind
 ‘Speaking of John, Mary said that he is fat.’ (LF)

At LF, the trace is properly governed by its antecedent *John-un* and the sentence is grammatical as predicted.

The LF movement account explains why topic can't occur inside islands, as shown in (15a), (15b) and (15c). The LF representations for these

examples are as follows:

(18) a. * $[CP \text{ Mary-nun}_i [IP \text{ John-i} [NP [CP [IP t_i coaha-nun]] Mary-Top John-Nom t_i like-Mod salam-ul] man-ass-ta.]]$
 person-Acc meet-Past-Ind
 'John met a person who Mary likes.' (LF)

b. * $[CP \text{ Sue-nun}_i [IP \text{ John-i} [CP [IP t_i apha-ss-ki] Sue-Top John-Nom t_i sick-Past ttaymwuney] cenhwa ha-yess-ta.]]$
 because telephone do-Past-Ind.
 'John called because Sue was sick.' (LF)

c. * $[CP \text{ John-un}_i [IP [NP [CP [IP t_i [IP Mary-ka t_i John-Top t_i Mary-Nom t_i coahanta-nun]]] sasil-i] yere salam-ul nolakey-ha-yess-ta.]]$
 like-Mod fact-Nom many people-Acc surprise-Past-Ind
 'The fact that Mary likes John surprised many people.' (LF)

In (18a), *Mary-nun* cannot properly govern its trace at [SPEC, IP] because the intervening NP is a barrier to government (as in Chomsky (1986)). In (18b), *Sue-nun* cannot properly govern its trace since the trace is in [SPEC, IP] of an adjunct clause which is adjoined to VP. The intervening CP is a barrier to government. Similarly, in (18c), *John-un* cannot properly govern its trace since the intervening NP is a barrier.

In contrast to the *-(n)un*-marked NPs in VP-external position, those within VP, which have the contrastive focus reading, do not show island effects. The VP-internal *-(n)un*-marked NPs can occur in an island as long as they occur within the VP of that clause as shown in (16). This suggests that *-(n)un*-marked constituents with a contrastive focus reading do not move at LF.

In sum, if a *-(n)un*-marked NP occurs in a VP-external position with respect to its immediate clause at S-structure, it must move to an \bar{A} -position outside of the highest IP and bind its trace at LF. If a *-(n)un*-marked NP occurs in a VP-internal position with respect to its immediate clause at S-structure, it doesn't move at LF. The VP-internal *-(n)un*-marked NP does not function as a sentence topic and has a contrastive focus reading instead. Why this should be the case will be discussed in section 6.

6. A proposal

Based on the facts concerning island effects, I make the following proposal:

(19) a. $-(n)un$ is quantificational if it is in a VP-external position of its immediate clause at S-structure.

b. $-(n)un$ is non-quantificational if it is in a VP-internal position of its immediate clause at S-structure.

The quantificational *-(n)un* results in a topic reading or a contrastive topic reading, whereas the non-quantificational *-(n)un* results in a contrastive focus reading.

The analysis of *-(n)un* proposed here is reminiscent of Diesing's (1992) analysis of indefinites. Diesing (1992) defines two types of indefinites; those that form a tripartite structure and those that are bound by Existential Closure. Indefinites that have quantificational force undergo QR, end up outside of VP and form operator-variable structures. Indefinites that have no quantificational force end up (or remain) within the VP and receive existential force from the operation of Existential Closure at VP.

Following the Heim-Diesing line of tree splitting, I assume that the material from VP is mapped onto the nuclear scope and the material from outside of VP is mapped onto the restrictive clause corresponding to a tripartite structure of logical representation. Figure 1 shows how mapping from LF to the tripartite structure of the logical representation takes place.

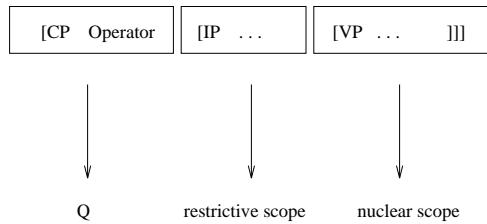


Figure 1: Mapping Hypothesis (Diesing 1992)

The *-(n)un* that has a quantificational force is outside of VP at S-structure undergoes movement to an \bar{A} -position at LF and forms a restrictive clause which contributes to forming a tripartite topic operator-variable structure in the semantics. The *-(n)un*-marked NP results in the restrictor of the topic operator and receives the topic reading. In the case of quantificational *-(n)un* in an embedded clause, as in (17), the *-(n)un*-marked NP results in the restrictor of the topic operator and the rest of the sentence results in the nuclear scope. The *-(n)un* that has no quantificational force is inside of VP at S-structure and cannot undergo an \bar{A} -movement at LF. It forms no restrictive clause and hence no tripartite topic-operator structure will be constructed. Such *-(n)un*-marked NPs receive the contrastive focus reading.

The interpretation of sentences with quantificational *-(n)un* and non-quantificational *-(n)un* is exemplified in (20), (21) and (22):

(20) a. [IP John-un [VP Mary-lul coaha-n-ta.]]
 John-Top Mary-Acc like-Pres-Ind
 ‘Speaking of John, he likes Mary.’ (S-structure)

b. Top(x) [x is John] [x likes Mary]

(21) [IP John-i [VP Mary-nun coaha-n-ta.]]
 John-Nom Mary-CF like-Pres-Ind
 'John likes Mary, (but not others).' (S-structure)

(22) a. [IP John-un [VP Mary-nun coaha-n-ta.]]
 John-Top Mary-CF like-Pres-Ind
 'Speaking of John, he likes Mary, (but not others).'
 (S-structure)

b. Top(x) [x is John] [x likes Mary]

In (20a), *-un* is in a VP-external position. It undergoes movement to an \bar{A} -position at LF and then forms a topic operator-variable structure, as shown in (20b). The *-(n)un*-marked NP *John-un* results in the restrictor of the topic operator and receives the topic reading. In (21), *-nun* is in a VP-internal position. No topic operator-variable structure can be constructed and *Mary-nun* receives a contrastive focus reading. In (22a), *-(n)un* occurs in both VP-internal position and VP-external position. The VP-external *-(n)un*-marked NP *John-un* undergoes movement to an \bar{A} -position and gets bound by a topic operator. The end result is that a tripartite topic operator-variable structure is constructed with *John-un* in the restrictor and *Mary-nun* in the nuclear scope, as shown in (22b). *John-un* in the restrictor receives the topic reading and *Mary-nun* in the nuclear scope receives the contrastive focus reading. It has been shown by Partee (1991) and Diesing (1992) that focused elements map onto the nuclear scope and topics map onto the restrictor. Hence, the results shown here are not surprising.

An apparent problem to the proposed theory is that it wrongly predicts that VP-internal *-(n)un*-marked NPs cannot be modified by quantifiers like *motun* ('every') or *taypwupwunuy* ('most'). That is, (23) is wrongly predicted to be ungrammatical since a VP-internal *-(n)un*-marked NP is modified by the quantifier *taypwupwunuy* ('most'):

(23) [IP John-un [VP taypwupwunuy sakwa-nun mek-ess-ta.]]
 John-Nom most apple-CF eat-Past-Ind
 'John ate most apples, (but not all).'

I account for such sentences by assuming that a sentence may be associated with two different types of operator-variable tripartite structures: one associated with topic operator-variable structure and the other associated with quantifier-variable structure. A VP-external *-(n)un* contributes to constructing a topic operator-variable tripartite structure and quantified NP contributes to constructing a quantifier-variable tripartite structure. Hence, (23) is associated with the following tripartite structures since it contains both VP-external *-(n)un*-marked NP and quantified NP:

(24) a. Top(x) [x is John] [x ate most apples]
 b. Most(x) [x is an apple] [John ate x]

The VP-external *-(n)un* contributes to constructing a topic operator-variable structure, as shown in (24a). The VP-external NP *John-un* results in the

restrictor of the topic operator and receives a topic reading and the VP-internal NP *taypwupwunuy sakwa-nun* ('most apples') results in the nuclear scope of the topic operator and receives a contrastive focus reading. Furthermore, the VP-internal NP *taypwupwunuy sakwa-nun* contributes to constructing a quantifier-variable structure, as shown in (24b). At LF, *taypwupwunuy sakwa-nun* undergoes the usual QR and then mapping to the quantifier-variable tripartite structure in (24b) will take place.

7. Conclusion

The present paper shows that a unified account of *-(n)un* can be given if the semantics of *-(n)un* is such that *-(n)un* introduces a presuppositional set and if at S-structure VP-internal *-(n)un*-marked NPs result in a contrastive focus reading and VP-external *-(n)un*-marked NPs result in a topic reading or a contrastive topic reading. When *-(n)un* is attached to a VP-external NP at S-structure, it makes that constituent the topic of the sentence. It induces an \bar{A} -movement of the NP at LF and creates a topic operator-variable structure.

When *-(n)un* attaches to a VP-internal NP at S-structure, it doesn't function as a topic marker. Instead, it results in a contrastive focus reading. That is, the sentence with such an NP implicates that the proposition doesn't apply to all the elements in the set except for the element picked out by the NP. The marker

-(n)un in VP-internal position doesn't induce any movement at LF. It doesn't have a quantificational force, cannot form a restrictive clause and hence cannot create a topic operator-variable structure.

The analysis of *-(n)un* presented in this paper shows that the function of the so called 'topic marker' *-(n)un* in Korean is not merely to mark the topic of the sentence. Rather, it's main function is to introduce the relevant presuppositional set and the marker functions as a topic marker only in certain syntactic environments.

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Department of Linguistics
619 Williams Hall
University of Pennsylvania
Philadelphia, PA 19104 U.S.A.

chunghye@babel.ling.upenn.edu